

Capacity Development Program Report to the Governor



September 2014

Background

The *2014 Capacity Development Program Report to the Governor* details the State of Delaware's strategy to meet the public health protection objectives of the federal Safe Drinking Water Act (SDWA). The strategy assists public water systems in acquiring and maintaining technical, managerial and financial capacity. If a strategy is not in place, 20 percent of the Drinking Water State Revolving Fund (DWSRF) grant will be withheld from the state's allotment.

Since 2002, Delaware Health and Social Services' (DHSS) Division of Public Health (DPH) has prepared three reports for the Governor's Office. The *2014 Capacity Development Program Report* is the second presented to Governor Jack Markell. The SDWA requires that a report shall be made to the Governor on the efficacy of the strategy and the progress made toward improving the technical, managerial, and financial capacity of public water systems in the state no later than two years after the date on which a state adopts a Capacity Development Strategy, and every three years thereafter. The reports are available to the public.

The Program

The Capacity Development Program primarily utilizes a non-regulatory proactive strategy. In developing the strategy, methods first were considered to identify and prioritize water systems in need of improving technical, managerial, or financial capacity. ODW established a baseline in 2000 to measure improvements in capacity. To establish a baseline, ODW reviewed the compliance history and other criteria of Delaware's 521 public water systems (PWS). Each water system was ranked according to their compliance level:

Level 1: Enforcement Targeting Tool Violators

The enforcement targeting tool (ETT) is the calculation method to determine a PWS's enforcement priority points. It is used to identify and prioritize systems for enforcement response. Any system with a score of 11 or greater must be addressed within six months. The Capacity Development Program will work with these systems to determine if they can be returned to compliance without formal state action.

Level 2: Systems with Health-Related Compliance Problems

Level 2 consists of systems currently in compliance with health-related regulations but with a history of compliance problems in the last three years. ODW conducts reviews for these types of violations: systems exceeding lead/copper action level, Total Coliform Rule, and Phase II-V (chemical contaminants). If problems are not addressed, a system's ranking could be moved to Level 1.

Level 3: Systems with Compliance Problems Non-Health Related

These systems typically lack a certified water operator or failed to submit a consumer confidence report. Other issues include sanitary defects identified during inspections, a large number of complaints, aging infrastructure, poor maintenance, financial problems, or a recently identified system that did not go through a capacity development review prior to opening.

Level 4: Systems Exhibiting Full Capacity

These water systems have no known compliance issues or other problems. They are well run and address problems before they become a potential violation.

In 2001 and 2002, ODW sent self-assessment surveys to all water systems. Upon reviewing the responses, ODW staff visited the systems and offered assistance. ODW still offers assistance to water systems having trouble maintaining compliance. ODW also contracts with the Delaware Technical and Community College Environmental Training Center (DTCC), and with the Delaware Rural Water Association (DRWA) to provide assistance and training. In addition, ODW refers some water systems to other sections within Delaware Health and Social Services, the Department of Natural Resources and Environmental Control (DNREC), and the Public Service Commission. This ensures that systems receive individually tailored assistance. Through feedback from systems and national trends, ODW determined areas in which systems commonly need assistance. Table 1 lists the assistance that ODW and its contractors can provide.

Table 1.

AVAILABLE ODW ASSISTANCE
1. Develop Emergency Plans Including Water System Security
2. Provide Information about Delaware Drinking Water Regulations
3. In Depth Water System Evaluation with Recommendations
4. Assist in Creating Operation and Maintenance Manuals
5. Water Treatment Technique Evaluations
6. How to Comply with Requirements of the Lead/Copper Rule
7. Evaluation of Operational Policies, Job Descriptions, and Organizational Charts
8. Calculating and Controlling Water Loss
9. Encouraging Customers to Practice Water Conservation
10. Asset Management
11. Utility Rates Setting and Cost Recovery
12. How to Develop a Long Term Capital Improvement Plan
13. Assistance in Completing a Drinking Water State Revolving Fund Loan Application
14. Developing a Source Water Assessment or Wellhead Protection Plan
15. Assist Operator in Obtaining or Maintaining Drinking Water Operators License
16. Promote and Encourage Consensus Building between Operators, Elected Officials and Customers of Municipal Water Systems

17. Assistance with compliance of operator certification requirements

One third of all public water systems are ranked annually to gauge the state of public water systems in Delaware. This ranking is also used to assess the effectiveness of the Capacity Development Program and to identify areas on which the program should focus, concerning compliance trends and assistance. Ranking provides the Capacity Development Program with a good general indicator of each individual system's assistance needs.

Since 1998, all water systems have had the opportunity to participate in the Capacity Development Program. Most accept ODW's offers for assistance and show improvement in compliance and thus in public health protection. The number of sanitary survey defects reduced considerably, and many more systems developed written emergency and maintenance plans. Much of this is due to contractors DTCC and DRWA offering regular trainings for water operators, which greatly enhances their knowledge. Another factor encouraging training participation is DPH's requirement for licensed drinking water operators to take 12 or 20 hours of continuing education every two years, depending upon the level of certification.

Changes in lead/copper rule (LCR) regulations in 2003, as well as current short-term and upcoming long-term revisions on the federal level to the rule, caused some compliance difficulties and confusion. This led to an overall decline in compliance with this rule. Although many of these systems appeared to possess sufficient technical capacities and have no history of non-compliance, many struggle to comply with regulatory changes.

To address the problem with LCR compliance, ODW staff has diligently provided assistance and sent reminder letters. Between 2012 and 2014, ODW provided technical assistance to 100 water systems, worked closely with 40 eligible systems to apply for LCR waivers, assigned accelerated reduced monitoring schedules, and sent over 500 reminder letters.

Typical Capacity Building Activities

The Capacity Development Program promotes safe drinking water in Delaware by serving as a liaison between the customer, the water system, and ODW's enforcement section.

Problem-Solving Assistance:

Starting in 2011, ODW worked with DRWA to help water systems improve on their asset management systems. Jean Hallow with DRWA helped eight systems install and set up the Check Up Program for Small Systems (CUPSS), and trained them how to use it. The eight assisted systems are: Georgetown Water Dept., Bridgeville Water Dept., Laurel Water Dept., Delmar Water Dept., Bethany Beach Water Dept., Harrington Water Dept., Milton Water Dept., and Smyrna Water Dept. Training is wrapping up. The program has been a big success and the water systems should get a lot out of it.

Security Projects:

Since the events of Sept. 11, 2001, public water system security is an issue at the forefront of the drinking water industry. ODW has proactively addressed water system security.

ODW funded a table-top security exercise at DTCC's Environmental Training Center. The exercise simulated a water-related emergency and brought together water system officials, ODW, and first responders to work alongside each other as they would in an actual incident. The class was very informative and taught the proper role of command and the importance of the NIMS Incident Command System.

In October 2013, Delaware joined other states in having a Water/Wastewater Agency Response Network (WARN). Delaware Water/Wastewater Agency Response Network (DEWARN) supports and promotes statewide emergency preparedness, disaster response, and mutual aid assistance for public and private water and wastewater utilities for natural and man-made events. By establishing this program, Delaware will be able to meet the eligibility requirements for federal grants and reimbursements before, during, and after an emergency. Program members will be part of a mutual assistance agreement and process to share resources among statewide water and wastewater agencies. Currently, Delaware's program has 16 members and covers approximately 90 percent of the population.

Drinking Water State Revolving Fund applicants:

The Drinking Water State Revolving Fund (DWSRF) is a loan fund established by the 1996 Amendments to the Federal Safe Drinking Water Act. The Division of Public Health's Office of Drinking Water administers the fund in Delaware. The loan fund assists public water systems replace aging infrastructure, add needed treatment, or complete other eligible projects.

All DWSRF applicants must have a Capacity Development Assessment. Water systems that do not comply with the National Primary Drinking Water Regulations are ineligible for DWSRF monies unless:

- a.) The system's owner or operator agrees to undertake feasible and appropriate operational changes, or
- b.) Financial assistance from the DWSRF will ensure long-term system compliance.

The Capacity Development Assessment covers compliance history, wellhead protection, emergency plans, maintenance plans, rates, capital improvement plans, and organizational structure. If the system lacks capacity, operators are assisted by capacity development staff, DRWA or DTCC.

All municipalities applying for DWSRF are required to attend financial and managerial training provided by DTCC on asset management, capital improvement planning, or rate setting.

Group Training Sessions

In addition to assisting individual water systems, the Capacity Development Program contractors held several group training sessions for system operators, supervisors, and elected and appointed officials.

Drinking Water Operator Training for Daycares and Schools:

Delaware's community water systems and non-transient non-community water systems are required to have a licensed drinking water operator. This requirement includes daycare centers, senior centers, and schools that provide drinking water from their private well for over 25 people daily. While all of these populations are generally considered the most vulnerable to contaminants, daycare providers are least likely to take daytime classes in water operations or have the funds to contract with a licensed water operator. To address this concern, ODW's Capacity Development Program, in conjunction with the Delaware Technical Community College's Environmental Training Center in Georgetown, provide training and testing to these facilities. Over the last three years, this training has been available to all operators of daycares, schools and senior centers. In the last three years, 20 operators were trained through this program. Without this specialized training, many of these water systems would either be out of compliance or burdened by hiring a water operator.

Office of Drinking Water Capacity Building Tools

Operator Training:

Delaware has required public water system operators to be trained and licensed since 1998. In 2000, DPH began issuing licenses. There is a significant need for training water operators about both the operation and maintenance of a public water system, as well as state and federal drinking water regulations. Delaware currently has over 700 licensed water operators.

Newsletter:

The Office of Drinking Water's newsletter, "*Tap Talk*," contains information about new and existing regulations, training opportunities, important information about water quality, and other developments in the water industry. The newsletter, sent to all public water systems and operators in the state three times a year, is another way ODW communicates with small systems that previously had limited means to obtain current information. This newsletter was updated to provide water operators with information to help them do their job, and we are receiving positive feedback on it. The newsletter is also sent out to all the other state drinking water programs to share what we are accomplishing in Delaware. One state requested our permission to reprint an article in their newsletter.

New System Authority:

DHSS has the authority to prevent the construction of new public water systems without the ability to ensure safe drinking water now and into the future. This provision assures that every new water system has technical, managerial, and financial capacity. This authority falls under 16 Delaware code 122(3) (c).

DWSRF:

The Drinking Water State Revolving Fund Program provides low interest loans to public water systems to replace aging infrastructure, add needed treatment, or to complete other projects.

Existing Programs:

Several other programs within the ODW build the capacity of water systems. The Capacity Development Program works closely with and complements these activities:

- § SANITARY SURVEYS: Sanitary surveys are performed on all public water supplies. The survey evaluates the water system's source, treatment, and storage facilities. Sanitary surveys discover defects that could compromise the water quality and safety, and help ensure compliance with all regulations.
- § TECHNICAL ASSISTANCE: ODW staff investigates various water system components to determine the cause of problems and suggest solutions. ODW staff provides advice about operating and maintaining equipment.
- § PLAN REVIEW: An environmental engineer reviews plans for new water systems or proposed changes to existing systems. Plan review assures the owners and users of public drinking water systems that systems are technically sound and can efficiently and safely deliver water to consumers.
- § MONITORING: Sampling and testing helps ensure the water quality of public water systems. Delaware does most of the monitoring for small and medium-sized systems. This approach provides fast laboratory results and ensures timely reporting and results.
- § APPROVED SAMPLER/TESTOR: This class was created to assist water systems that needed to conduct daily monitoring. It teaches an individual how to take daily chemical readings like chlorine or nitrate. By having someone certified to take daily readings, it is not required to have an operator on site every day. The class also certifies people to take bacteriological and chemical samples that are used for compliance, and lets the water system owner have a better understanding of their system.

Factors that Impair the Capability of Public Water Systems

Drinking Water as Ancillary Business:

Since producing drinking water is not the principal business of many water suppliers, they may have little understanding of regulations or expertise needed to operate a water system. This is especially true of non-community water systems. The managers of such industries or businesses may have even less knowledge, and therefore they do not provide adequate financial support to produce safe drinking water.

Asset management:

Officials of small municipalities are often subject to the political pressure of being re-elected and do not raise water rates. This results in many small water systems not having the financial capacity to maintain their system.

Drinking Water State Revolving Fund (DWSRF):

While this is an effective program for large projects, small water systems may be overwhelmed by the administrative process, state wage rates, federal cross-cutter requirements, and closing costs.

Political Rivalry:

Political rivalry between municipalities and between private utilities may thwart interconnection or consolidation of any part of the operation. Resisting change also prevents the study or implementation of new ideas. Interconnections could minimize equipment duplication, create an economy of scale, and share personnel. Interconnected municipalities would each profit from reduced costs. Moreover, municipalities would assure their customers of greater continuity of water service during emergencies or mechanical failures.

Future Projects

The Capacity Development Program will identify water systems needing assistance through the following control points:

1. The Capacity Development Program will continue to rank systems on their compliance at least every three years. Ranking systems allows ODW to identify systems that require assistance and to identify compliance trends throughout the state.
2. Capacity Development will continue to follow lead and copper compliance and provide individual assistance to systems that either fail to monitor for lead/copper, or that exceed the action level.
3. The program will continue to work vigorously with significant non-compliers, those with multiple violations within a three-year period, and

those that have an enforcement targeting tool (ETT) score greater than 10.

4. Each year, the Capacity Development Program will develop and distribute a new self-assessment survey to one-third of the water systems to help identify individual needs.
5. ODW will continue to review the compliance history of water systems submitting engineering plans to alter or expand their existing systems. Systems not in compliance are counseled about necessary steps they must take to achieve compliance before an approval to construct is issued.
6. ODW will continue to emphasize managerial and financial issues related to operating a water system. As water operators receive additional training, their expertise will reach a new level. However, even the most knowledgeable water operator can only achieve limited success unless the municipal or company management understands the importance of proper funding and maintenance of a water system.

Conclusion

Capacity development addresses technical, managerial, and financial capability of our public water systems to comply with National Primary Drinking Water Regulations.

The program works in partnership with ODW's Public Water System Supervision Program, DPH's Office of Engineering, the Delaware Department of Natural Resources and Environmental Control, and several outside agencies to form a network of support. The Capacity Development Program examines underlying issues that cause water systems to become non-compliant, thus compromising the quality of the public drinking water they provide and the public's health.

The program assists water systems in achieving compliance by educating water system operators about the importance of providing safe drinking water, and advising them about equipment, trainings, and processes needed to avoid non-compliance.

DPH attributes most of this non-regulatory program's success to the cooperative nature of its staff, the willingness of most water operators to improve operations, and to partnerships with Delaware Technical and Community College, the Southeast Rural Community Assistance Project, the Rural Utility Service branch of the U.S. Department of Agriculture, the Delaware Rural Water Association, and the Delaware Department of Natural Resources and Environmental Control.

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