

Capacity Development Program Report to the Governor



*DELAWARE HEALTH
AND SOCIAL SERVICES*
Division of Public Health
Office of Drinking Water

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Background

The 2011 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, the Delaware Health and Social Services' (DHSS) Division of Public Health (DPH) has prepared three reports for the Governor's Office. The 2011 Capacity Development Program report is the first 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 all of Delaware's 521 public water systems (PWS). Each water system was ranked according to their compliance level:

Level 1: Significant Non-Compliers (SNC)

Water systems who fall into the significant non-compliance category are chronic non-compliers. Chronic non-compliers are water systems that have ongoing and multiple violations within the same year. They are lacking in many technical, managerial and financial capacity areas. Delaware has a small number of significant non-compliers.

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, the systems' ranking could be moved to Level 1.

Level 3: Systems with Compliance Problems Non-Health Related

These systems are typically lacking a certified water operator or the system has 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 the Capacity Development Program 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 is to ensure that the system receives assistance tailored to the individual needs of each water system. Through feedback from systems and national trends, ODW determined areas in which systems commonly need assistance.

The following table contains the types of assistance ODW and its contractors can provide to water systems.

AREAS OF POTENTIAL 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 the public water systems are ranked annually to gauge the state of public water systems in Delaware. This ranking is also used as an evaluation tool to assess the effectiveness of the Capacity Development Program and to identify areas the program should focus on terms of 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 were 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, thus greatly enhancing their knowledge. Another factor encouraging participation in training is that DPH requires 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, have caused some compliance difficulties and confusion with many water systems, thus causing an overall decline in compliance regarding 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 been diligent in providing assistance and sending reminder letters. From 2009 to 2011, ODW provided technical assistance to 100 water systems regarding this rule, worked closely with 30 eligible systems to apply for LCR waivers, and assigned accelerated reduced monitoring schedules, and sent over 300 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:

In 2010 Delaware Rural Water Association (DRWA) started to offer a cross-connection control and back flow prevention training to water and waste water operators. There are three courses in the series. These include the Introduction to Cross-Connection, Surveyor and Assembly Tester course. The surveyor course teaches you how to perform an inspection on a facility that has back flow preventer and what to look for in a cross-connection. The assembly tester course teaches you how to perform tests on

the variety of back flow prevention devices available. These last two courses are a week long, with some hands-on participation. A short course for sprinkler irrigation system installer is now being offered. On January 5, 2011 DRWA received accreditation from the American Society of Sanitary Engineering (ASSE) for their cross-connection control and back flow prevention courses. Since the courses have been offered, the classes have been filled with water and waste water operators, plumbing inspectors, and several people in the ODW.

Security Projects:

Since the events of Sept. 11, 2001, public water system security is an issue at the forefront of the drinking water industry and ODW has taken initiative to address water system security.

ODW has continued funding table-top security exercises which takes place at DTCC's Environmental Training Center. These exercises simulated water-related emergencies which brought together water system officials, ODW, and first responders to work alongside each other as they would in an actual incident. This is very valuable; it allows participants to practice and familiarize themselves with emergency procedures and interact with each other, an opportunity which they would not normally get. The most recent exercise took place in July 2011. It was a successful class, with about 20 people attending. The class was very informative and it taught the proper rule of command and the importance of the NIMS Incident Command System.

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 fund is administered in Delaware by the Division of Public Health's Office of Drinking Water. The purpose of the loan fund is to assist public water systems to replace aging infrastructure, add needed treatment or to complete other 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 have 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 and 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 through the Environmental Training Center. In the last three years, 20 operators have been trained through this program. Without this specialized training, many of these water systems would have either been out of compliance or would have been burdened by hiring a water operator.

Office of Drinking Water Capacity Building Tools

Operator Training:

Delaware 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 quarterly newsletter "Tap Talk" contains information about new and existing regulations, training opportunities, and other developments in the water industry. The newsletter, sent to all public water systems in the state, is another way ODW communicates with small systems that previously had limited means to obtain current information. Due to a high staff turnover for the office, the publication of the newsletter has been sporadic. We were able to get a newsletter out in June. Once fully staffed, ODW will return to having quarterly newsletters published.

New System Authority:

DHSS has the authority to prevent the construction of new public water systems that do not have 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 of its consumers, as well as help insure 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 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 protect 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 assures 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 owner of the water system have a better understanding of what is happening with their water system.

Factors that Impair the Capability of Public Water Systems

Drinking Water as Ancillary Business:

Producing drinking water is not the principal business of many water suppliers, thus 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 not provide adequate financial support for producing 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.

DWSRF:

While this is an affective 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 municipalities and 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 both profit by reducing 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 based on their compliance at least every three years. Ranking systems will continue to be utilized as a tool by ODW to identify systems that require assistance as well as a means of identifying compliance trends throughout the state.
2. Capacity Development will continue to follow lead and copper compliance and provides individual assistance to systems that either fail to monitor for lead/copper, or which 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.
4. The Capacity Development Program will develop and distribute a new self assessment survey to 1/3 of the water systems annually to help identify systems 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 need to 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 public water system's technical, managerial, and financial capability to comply with National Primary Drinking Water Regulations currently and in the future.

The program works in partnership with ODW's Public Water System Supervision Program, DPH's Office of Engineering, 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 Department of Natural Resources and Environmental Control.

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