NEW YORK STATE OF OPPORTUNITY. Department of Health

REPORT TO THE GOVERNOR

AN ASSESSMENT OF THE PUBLIC WATER SYSTEM CAPACITY DEVELOPMENT PROGRAM

Federal Fiscal Years 2014 through 2016

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EXECUTIVE SUMMARY

In the 1996 Amendments to the Federal Safe Drinking Water Act (SDWA), Congress mandated that states develop capacity development strategies to enhance the ability of public water systems to provide safe drinking water. These strategies are aimed at helping water systems acquire and/or maintain the technical, managerial, and financial abilities needed to properly operate, manage, and finance their systems. With the assistance of a stakeholder group of State agencies, public water system owners, technical assistance providers, local government representatives, and environmental groups, the New York State Department of Health (the Department) issued their Capacity Development Strategy Report on August 6, 2000.

Each state's strategy had to include provisions for new water systems, for water systems applying for funding within the Drinking Water State Revolving Fund (DWSRF) program, and for existing water systems. Under this program, new and existing water systems are to be evaluated for their technical, managerial, and financial capabilities. The goal of New York's Capacity Development Program is to improve the capabilities of the approximately 9,000 public water systems throughout the state. Some of the key achievements made toward meeting this goal during this reporting period (FFY 2014 through 2016) include:

- Providing over $1 billion of financing (including short-term loans, long-term loans, grants and refinancing) to public water systems under the DWSRF program;

- Implementing the New York State Water Infrastructure Improvements Act (WIIA) Grant Program, which provides $1.4 billion over several state fiscal years to support drinking water and waste water infrastructure improvements throughout New York State. During the first two rounds of the grant program in 2015 and 2016, $107.5 million in grants were awarded for 63 drinking water infrastructure projects. Additional grants will be awarded in subsequent years;

- Providing, through the DWSRF Market Rate Program, access to preferred market rate financing for public water system projects that are not eligible for grants or interest subsidies;

- Implementing the Storm Mitigation Loan Program (SMLP), which offers interest-free financing and grants to eligible public water systems affected by Hurricane Sandy to enhance resilience to flood damage or natural disasters. The total financing assistance available through the SMLP is $67.9 million;

- Serving on the Water Quality Rapid Response Team, which was created by Governor Cuomo in 2016, and is charged with identifying and developing plans

to swiftly address critical drinking water contamination concerns, as well as related groundwater and surface water contamination problems across the state;

- Conducting 667 on-site visits to provide direct assistance to 327 public water systems;

- Conducting more than 16,000 sanitary survey inspections of public water systems;

- Reviewing emergency response plans and vulnerability assessments, and conducting security inspections of public water systems to increase each system's level of security and emergency preparedness;

- Partnering with other organizations such as the New York Section of the American Water Works Associations (NYSAWWA) to provide or sponsor education and training of water system owners, managers and operators, government officials, other water system professionals, and consumers;

- Reestablishing the Water and Wastewater Education and Outreach Committee to provide education to the general public on the value of water; and

- Providing approximately $15 million to assist local health departments to enhance their drinking water programs.

As a result of these achievements, during FFYs 2014, 2015 and 2016, 1,972 public water systems demonstrated improvements in system capacity; and 256 public water systems were no longer considered to be in "critical" need of capacity development.

The Capacity Development Program, along with other state resources, has helped public water systems in New York acquire and maintain the technical, managerial and financial capabilities necessary to properly operate, manage, and finance their systems. Although the goals of the Capacity Development Program are being achieved, the Department and its partners, including public water systems, must be vigilant in maintaining the capacity of public water systems. Sufficient technical assistance, owner and operator training, and financial assistance, particularly for economically distressed communities, must continue to be made available. This support will help to ensure public water system capacity, which furthers public health protection.

The 1996 SDWA Amendments require that each state submit a report to the Governor assessing the efficacy of its Capacity Development Strategy and documenting the progress made towards improving the technical, managerial, and financial capabilities of

its public water systems. This report satisfies the statutory requirements of the SDWA and assures that New York will not be penalized (i.e., withholding twenty percent of the DWSRF capitalization grant) for failure to comply.

GLOSSARY OF TERMS

Community water system (CWS) is a public water system with at least five service connections used by year-round residents or that regularly serves at least 25 year-round residents.

Drinking Water State Revolving Loan Fund (DWSRF) was created in 1996 as a result of New York State's enactment of Chapter 413 of the Laws of 1996 (Clean Water/Clean Air Bond Act) and passage of the 1996 Amendments to the Safe Drinking Water Act by the U.S. Congress.

New York State Department of Health (Department) is the agency responsible for administering the drinking water program in the state.

Noncommunity water system (NCWS) is a public water system that provides water to people in places other than their residences, such as restaurants, hotels/motels, campgrounds, and parks.

Nontransient noncommunity water system (NTNCWS) is a public water system that does not serve a resident population but serves at least 25 of the same persons, four hours or more per day, for four or more days per week, for 26 or more weeks, such as schools, offices and day care facilities.

Public water system (PWS) is a community, noncommunity, or nontransient noncommunity water system that provides piped water to the public for human consumption. The system must have at least five service connections or regularly serve an average of at least 25 individuals daily for at least 60 days out of the year.

Recommended Standards for Water Works (or "Ten State Standards") is a compilation of policies for the review and approval of plans and specifications for public water supplies compiled by the Water Supply Committee of the Great Lakes--Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers.

Safe Drinking Water Act (SDWA) is the federal law passed by the U.S. Congress in 1974 and amended in 1986 and 1996, which authorizes the United States Environmental Protection Agency (USEPA) and the states to oversee public water systems and set standards for drinking water to protect public health.

Significant noncomplier is a public water system that persistently violates drinking water standards specifically defined in USEPA policy.

Technical Assistance (TA) Provider is a person, organization or group who assists small public water systems with activities such as troubleshooting operational issues, conducting leak detection, developing emergency response plans, conducting security and vulnerability assessments, collecting water samples for analysis, and other tasks to help improve operations and achieve compliance with drinking water regulations.

United States Environmental Protection Agency (USEPA) is the federal agency responsible for overseeing the state drinking water programs.

1.0 INTRODUCTION

The objective of the 1996 Safe Drinking Water Act Amendments (Amendments) is to ensure that public water systems provide safe drinking water to the public. The Amendments seek to prevent compliance problems and associated health risks by ensuring that public water systems have the capability to produce safe drinking water now and in the future. To achieve these goals, the Amendments include provisions for several prevention programs – one of which is the Capacity Development Program.

Water system capacity is the ability to plan for, achieve, and maintain compliance with all applicable drinking water standards. There are three components to capacity: technical, managerial, and financial. Technical capacity refers to a water system's ability to operate and maintain its infrastructure. Managerial capacity refers to the expertise of the water system's personnel to administer the system's overall operations. Financial capacity refers to the financial resources and fiscal management that support the cost of operating the water system. Adequate capability in all three areas is necessary for the successful operation of a public water system.

Capacity development is the process by which water systems acquire, maintain, and build upon their technical, managerial, and financial capabilities to enable them to consistently provide safe drinking water to their customers in a reliable and cost-effective manner. The capacity development program provides a framework for state agencies, local governments, stakeholder groups or organizations, water systems, and the public to ensure that drinking water systems acquire and maintain the technical, managerial and financial capacity needed to achieve compliance with applicable state and federal drinking water regulations.

The 1996 SDWA Amendments also require that each state submit a report to the Governor assessing the efficacy of its Capacity Development Strategy and documenting the progress made towards improving the technical, managerial, and financial capabilities of its public water systems. The purpose of this report is to provide an assessment of the capacity development program in New York and the statewide strategy for assisting public water systems in need. The report highlights the progress made toward improving the technical, managerial, and financial capabilities of public water systems in New York as a result of the Department's Capacity Development Program. This report satisfies the statutory requirements of the SDWA and assures that New York will not be penalized (i.e., withholding twenty percent of the DWSRF capitalization grant) for failure to comply.

2.0CAPACITY DEVELOPMENT PROVISIONS IN THE SDWA

The 1996 SDWA Amendments included three capacity development provisions:

1. All new community water systems and all new nontransient noncommunity water systems that begin operation after October 1, 1999, must first demonstrate that they possess adequate capacity.

2. States are prohibited from providing Drinking Water State Revolving Fund (DWSRF) assistance to public water systems that lack adequate capacity, unless that assistance is directly related to improving the system's technical, managerial, or financial capacity.

3. States must develop and implement a strategy to assist existing public water systems in acquiring and maintaining the necessary capacity to remain a viable system over the long term.

2.1 NEW SYSTEMS PROVISION

Section 1420(a) of the Amendments, the new systems provision, applies to all new community water systems (CWSs) and all new nontransient noncommunity water systems (NTNCWSs) that begin operations after October 1, 1999. New York State was required to demonstrate to the United States Environmental Protection Agency (USEPA) that it had the legal authority to ensure that all new CWSs and all new NTNCWSs had the technical, managerial, and financial capacity to comply with all applicable state and federal drinking water regulations. On February 26, 1999 the USEPA determined that New York State met the guidance and statutory requirements under Section 1420(a). On October 1, 1999, New York State began implementing the new systems provision of the Amendments.

To date, the Department has submitted seventeen annual new systems progress reports to the USEPA. In those reports, the Department documented that the evaluation of new systems is ongoing and addresses the required capacity determinations for new water systems. Since 2004, the new systems progress report has been included in the overall program implementation report submittal entitled, *"Capacity Development Program Implementation Report."* The Implementation Report must be submitted to the USEPA annually.

2.2 DWSRF APPLICANTS

Section 1452(a)(3) of the Amendments applies to those public water systems that seek assistance from the DWSRF. Under this provision, states are prohibited from

providing DWSRF assistance to a public water system that lacks the technical, managerial, and financial capability to ensure compliance with the Amendments or that is in significant noncompliance with applicable state and federal drinking water regulations. However, states are allowed to provide DWSRF assistance to such a public water system if the use of the assistance will assure compliance, or if the owner or operator of the system agrees to undertake feasible and appropriate changes to acquire and maintain the system's technical, managerial, and financial capabilities over the long term.

To comply with the DWSRF provision of the SDWA Amendments, the Department and the New York State Environmental Facilities Corporation (EFC) conduct capacity assessments of all DWSRF applicants. New York State's capacity development review criteria for DWSRF applicants are described in each year's Intended Use Plan. An annual summary of the results of capacity assessments conducted on those systems seeking funding under the DWSRF is included in the Intended Use Plan, available on-line at www.health.ny.gov/environmental/water/drinking/water.htm.

2.2.1 Technical Capacity Assessment

To ensure adequate technical capacity, the applicant must demonstrate adequacy of source water, infrastructure and technical knowledge. The Department reviews central office and local office records to assure that the system is being properly operated and maintained. The water system must not have outstanding drinking water compliance problems unless the project is aimed at correcting those problems. The engineering report and plans and specifications for the proposed project are evaluated to ensure that the system has a reliable source for its drinking water and that it is adequately protected; that the project will maintain system compliance; and that the education, experience, and technical skills and capabilities of the system operator are appropriate for that system.

2.2.2 Managerial Capacity Assessment

To ensure adequate managerial capacity, the water system must have clear ownership identity and be appropriately staffed by personnel with expertise to administer overall water system policies and operations. The Department reviews the applicant's managerial capacity to assure that management is involved in the day-to-day supervision of the water system, is aware and responsive to all required regulations, is available to respond to emergencies, is capable of identifying and addressing all necessary capital improvements, is responsive to its customers, is capable of keeping accurate records, and ensures financial viability. The water system must

have a qualified water operator in accordance with the State's existing Operator Certification Program.

2.2.3 Financial Capacity Assessment

To ensure adequate financial capacity, the applicant must have sufficient rates, charges and revenues to cover necessary costs, demonstrate credit worthiness and fiscal condition in accordance with EFC criteria. The EFC reviews the applicant's financial capacity during the application process to determine financial viability before awarding financial assistance. The EFC's review includes, but is not limited to, the project budget, municipal bond resolution(s), annual financial reports to the Office of the State Comptroller, and other financial information to ensure adequate financial capacity of the applicant.

2.2.4 Systems with Inadequate Capacity

For all systems that seek funding under the DWSRF, the Department reviews any history of violations, outstanding compliance problems, reported source contamination or inadequacies, treatment failures, needs survey data, operations and maintenance issues, and operator and owner coverage to determine whether a system lacks adequate capacity. A system that requires improvements to obtain adequate capacity can apply to the DWSRF provided the improvements will ensure compliance and render the water system viable. Using the procedures outlined in Sections 2.2.1, 2.2.2, and 2.2.3 to evaluate the system's technical, managerial, and financial capacity, the Department assesses whether DWSRF assistance will help to ensure compliance. In addition, the Department consults with the local health department, which provides the daily oversight and regulation of the water system, to make this assessment.

2.3 EXISTING SYSTEMS PROVISION

Section 1420(c)(2) of the Amendments requires that New York State develop and implement a capacity development strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity. With the assistance of a stakeholders group of state agencies, public water suppliers, technical assistance providers, local government representatives, and environmental groups, the Department developed a comprehensive Capacity Development Strategy to assist public water systems in 1999 and 2000. The Strategy considered:

- identifying and prioritizing public water systems most in need of improving their technical, managerial, and financial capabilities;

- identifying the institutional, regulatory, financial, tax, or legal factors that encourage or impair capacity development at the federal, state, or local level;

- describing how the State will use the authority and resources of the Amendments to assist public water systems in need;

- establishing a baseline measure of public water system capacity and a means to measure improvements in capacity of public water systems; and

- identifying those persons with an interest in capacity development.

The Department submitted a Capacity Development Program Strategy Report: Improving the Technical, Managerial and Financial Capabilities of Public Water Systems in New York in August 2000. On September 29, 2000, the USEPA determined that the New York State capacity development strategy met the guidance and statutory requirements under Section 1420(c) of the Amendments. On October 1, 2000, the Department began implementing the existing systems provisions of the Capacity Development Strategy.

To date, the Department has submitted sixteen annual "Capacity Development Program Implementation Report"(s) to the USEPA. The Implementation Reports documents that the Department is implementing a fully functioning existing water system plan according to its capacity development strategy.

3.0 ASSESSMENT OF CAPACITY DEVELOPMENT STRATEGY

3.1 OBJECTIVES

In the Capacity Development Program Strategy Report, the Department identified and indicated that it would undertake the following activities:

- identify and prioritize those public water systems that need assistance with their technical, managerial, and/or financial capacity;

- establish a baseline measure of capacity for public water systems;

- establish a method of measuring improvements in system capacity;

- provide direct assistance to public water systems in need;

- identify and attempt to overcome a prioritized number of barriers to capacity development;

- utilize other available resources in New York State to assist public water systems with their technical, managerial, and/or financial capacity; and

- continue to involve the public in the capacity development of public water systems.

3.2 ACCOMPLISHMENTS

The Department has conducted a number of activities to fulfill the objectives specified in the Capacity Development Strategy Report. Below is a summary of these activities.

- The Department identifies systems in need of capacity development by utilizing a data management system, along with direct input from local health department staff. The data management system can prioritize systems in need of capacity development by evaluating the system against specific criteria established in the Capacity Development Strategy Report. Local health department staff review the prioritized list and provide additional information regarding the specific type of assistance needed. In addition, the local health department staff may request that particular systems be classified at a higher or lower priority based on their intimate knowledge of the systems within their jurisdictions.

- To establish the initial baseline measure of capacity for public water systems, local health department staff reviewed public water systems identified to be in need against the capacity development evaluation criteria and provided this data to the Department's capacity development coordinator. The evaluation criteria along with compliance information, sanitary survey information, and/or comprehensive performance evaluation information were used to establish the initial baseline measure of capacity for public water systems.

  Enhancements to the initial baseline were made as a result of improved methods of collecting and storing data related to public water system operations and new data reported by the local health departments. The data management system was created to prioritize systems in need of capacity

development by evaluating each system against the capacity development criteria.

- To measure improvements in the capacity of public water systems, the data management system determines a score for each individual public water system based on the capacity development evaluation criteria. The capacity score for each system can be compared from year to year to determine the improvements in system capacity (see Section 4 for specific details). In addition, local health department staff provide feedback on particular systems in need of assistance as another way to track progress in system capacity development.

- Department staff, in conjunction with the local health department staff, provide direct technical assistance to systems in need through ongoing sanitary surveys/inspections, security inspections, and direct technical advice. In addition, prior to taking enforcement action on a public water system that persistently fails to comply with drinking water regulations, the Department engages in activities designed to assist the troubled system to come into compliance. These activities include engineering support, training, and establishing compliance schedules. Also, the Department has contracted with the New York Rural Water Association (NYRWA) to provide technical assistance to small public water systems (see Section 4 for specific details).

- There were 165 factors identified in the Capacity Development Program Strategy Report that impair capacity development in New York State. Since it was not feasible to address each barrier, a prioritized number of barriers were selected to be addressed. Since implementing the capacity development strategy, the Department has addressed the following barriers that impair capacity development:

  - lack of capital resources of local municipalities
  - inability of local municipalities to get financing
  - lack of formal coordination among funding organizations;
  - lack of knowledge at the community level regarding capacity development issues, community water systems, and how the capacity development of a water system ties into a community's overall well-being;
  - lack of up-front money for water project engineering and planning purposes;
  - lack of emergency preparedness plans;
  - lack of a statewide well registration program and a certification program for well drillers;
  - cost of training and certification of operators;
  - lack of knowledge of source and land use around the source;

- public water system's lack of awareness of applicable drinking water regulations;
- public water system's lack of ability to keep up with regulatory changes;
- lack of adequate training for operators;
- lack of knowledge of the availability of loan and grant opportunities;
- numerous rules and regulations becoming burdensome to small governments;
- difficulty for staff at public water systems in keeping up with continuing regulatory changes mandated at the federal level (Numerous regulatory changes can be financially and technically burdensome to public water systems, particularly small water systems);
- lack of knowledge of local boards;
- local board failure to understand importance of training and proper staffing;
- lack of communication between government officials;
- lack of adequate staffing in local health departments to maintain oversight of public water systems in their jurisdiction; and
- lack of thorough sanitary inspections.

Addressing many of the barriers listed above involves ongoing efforts by the Department and its partners. For example, the Department, along with EFC, is successfully implementing the New York State Water Infrastructure Improvement Act Grant Program, which was established as part of the 2015-2016 New York State Budget and initially provided $200 million in grants over three State fiscal years (2015-16, 2016-17, 2017-18) to fund municipal wastewater and drinking water infrastructure projects that improve water quality and protect public health. Additional appropriations authorized by subsequent State budgets have increased the total grant funds available to a total of $1.4 billion, providing much needed capital resources to municipalities for water infrastructure projects.

To ease the burden of numerous drinking water rules and regulations on small local municipalities and small private water systems, the Department has sponsored and provided training throughout the state to water system operators at no cost to the operators. Much of the training opportunities provided by the Department were funded by a USEPA federal grant to the Department. This grant expired in 2012 and no further resources have been allocated to support this training. However, the Department is still able to provide occasional operator training through partnerships with organizations such as the NYRWA.

Another ongoing effort to address barriers to capacity development is training of Department and local health department staff. The difficulty of staff keeping up with regulatory changes was identified as a barrier to capacity development at the state and local levels. To address the training needs of the Department and local health department staff, the Department implemented a professional staff development program in which staff members are able to attend various training courses or workshops that provide continuing education credits for professional licenses. Through 2016, 9,078 continuing education credit hours have been awarded to 2,241 professional engineers. In addition, the Department and/or local health departments provided or sponsored training for staff. Some of the topics for which training has been conducted include:

- Total Coliform Rule
- Stage 2 Disinfectant/Disinfection Byproducts Rule
- Violations of Stage 2 Disinfection Byproducts Rule
- Long Term 2 Enhanced Surface Water Treatment Rule
- Filter Backwash Recycling Rule
- Groundwater Rule
- Arsenic Rule
- Water Treatment Technologies
- Operator Safety/National Institute Management System
- Water System Security
- Sampling Issues and Laboratory Certification
- Water Valves
- Water Pumps
- Pump Station Design
- Packaged Filtration Plants
- Source Water Protection
- Disinfection By-Products
- Disinfection Contact Time
- Sanitary Surveys of Ground Water and Surface Water Systems
- Concepts of Public Water Supply
- Realty Subdivision Laws, Regulations, and Design Plan Submittals
- Plan Review for Water Improvement Projects
- UV Disinfection
- Cross Connections
- Community Water Fluoridation
- Identification of Ground Water Sources Under the Direct Influence of Surface Water (GWUDI)
- Engineering Ethics

- Blue-Green Algae Bloom Response
- Climate Change and Health
- Water System Sustainability
- Small Water System Design
- Renewable Energy Systems
- On-Site Wastewater Design Regulations
- Testing Private Wells
- Distribution System Piping Design
- SCADA Control Systems
- Acoustic Leak Detection Equipment
- Chemical System Design and Safety

- The lack of knowledge of the availability of loan and grant opportunities was identified as a financial barrier to capacity development. The New York State Water & Sewer Infrastructure Co-funding Initiative was created to address this barrier. In the past, the New York State Water & Sewer Infrastructure Co-funding Initiative provided free workshops throughout the state that provided detailed information on available government funding and application processes and procedures. A co-funding committee continues to meet on a monthly basis to discuss issues related to sources of funding for water projects. In addition, the New York State Water & Sewer Infrastructure Co-funding Initiative maintains a website that provides detailed information on various funding opportunities for water and sewer projects. The free co-funding workshops may be continued in the future depending on the availability of funds.

- The Department's Drinking Water Enhancement (DWE) Program is another example of an ongoing effort to address several other barriers to capacity development. These barriers include lack of staffing, difficulty enforcing regulations, and lack of thorough sanitary inspections. The DWE Program provides grants to local health departments. The 2013-14, 2014-15 and 2015-16 state budgets included over $5 million for DWE grants. This funding helps support local health department public water system oversight activities.

- The Department utilizes other available resources in New York State to assist public water systems with their capacity needs. Various other government agencies within the State, as well as other organizations that partner with the Department on water supply issues, have programs, services, tools, and other available resources that public water systems can use to acquire, maintain, and build upon their technical, managerial, and financial capabilities. In addition to the Department of Health, the following agencies and organizations provide education and training to water system owners, operators, and managers; direct technical, managerial, and/or financial assistance to public water

systems; direct community assistance, training, and education to elected officials; and provide funding in the form of grants and loans to eligible systems in need:

  - New York State Department of State,
  - EFC,
  - New York State Public Service Commission,
  - New York State Department of Environmental Conservation,
  - New York Homes and Community Renewal and the Office of Community Renewal,
  - New York Water Environment Association,
  - New York Association of Towns,
  - New York Conference of Mayors,
  - New York State Association of Regional Councils,
  - NYRWA,
  - New York Section of the American Water Works Association,
  - Resources for Communities and People (RCAP) Solutions,
  - Tug Hill Commission, and
  - United States Department of Agriculture Rural Development.

- To involve the public in the capacity development of public water systems, the goals and principles of the statewide capacity development strategy are promoted through education and training of water system owners, managers and operators, government officials, other water system professionals, and consumers. This public outreach includes attending and participating in formal and informal meetings, making speaking engagements, and offering training or presentations to groups and individuals with an interest in the capacity development of public water systems. In addition, the Department posts relevant capacity development information on the Department's website.

4.0IMPROVING THE CAPABILITIES OF PUBLIC WATER SYSTEMS IN NEW YORK

The Department's Capacity Development Program is improving the operations of public water systems throughout the state, thus protecting the public health of all New Yorkers. Below is a summary of a number of specific achievements made towards implementing a successful capacity development program.

- The Department is a partner in the New York Water and Sewer Infrastructure Co-funding Initiative. The Co-funding Initiative was recommended in the Capacity Development Program Strategy Report and addresses key recommendations of the January 2001 report by New York State's Quality

Communities Interagency Task Force entitled, “State and Local Governments Partnering for a Better New York.” This initiative brings together those state and federal agencies that provide funding for drinking water and sewer projects to ensure optimum funding potential and assistance to New York’s communities.

- The Department, along with its partner EFC, continues to provide a short-term financing program within its successful DWSRF program. The short-term financing program provides short-term interest-free financing of up to three years in duration to recipients that are developing projects eligible for long-term DWSRF financing. In the three years since submitting the previous Report to the Governor (FFY 2014, FFY 2015, and FFY 2016), 46 short-term loans totaling $579,659,096 were provided to public water systems under the short-term financing program. During the same period, the Department and EFC also provided 76 long-term loans totaling $516,899,290 and 23 grants totaling $26,563,577. Overall, total financing and assistance of $1,123,121,963 was provided to public water systems under the DWSRF program.

- The Department, and EFC, continues to offer the DWSRF Market Rate Program. The program offers eligible DWSRF recipients (those with project scores below the funding line on the Project Annual List in the Intended Use Plan) access to a low-cost financing alternative that does not include the traditional interest subsidy of other types of DWSRF financing. During FFY 2016, there were 606 projects listed below the funding line on the Project Annual List in the Intended Use Plan.

- Under the New York State Water Infrastructure Improvement Act, municipal water systems may receive grant funding in an amount up to $3 million, not to exceed 60% of the project cost, for drinking water projects. Preference is given to projects located in hardship communities and projects that result in the greatest reduction in risk to public health. The funds are administered by the Department and EFC. Through State Fiscal Years 2015-16 and 2016-17, $107.5 million has been awarded to 63 drinking water infrastructure projects throughout New York. Additional grants are available for drinking water projects in subsequent years.

- The Department discourages the formation of new public water systems that lack technical, managerial, and/or financial capacity through a process of criteria and regulations. During FFY 2014 through FFY 2016, the Department approved 55 new community and nontransient, noncommunity public water systems to proceed with system development.

- During FFY 2014, FFY 2015, and FFY 2016, the Department determined that 72 DWSRF applicants possessed adequate technical, managerial, and financial capacity and were thus eligible to receive DWSRF assistance. None of the DWSRF applicants during this period were determined to have lacked capacity, which would have made them ineligible to receive DWSRF assistance. Two of the 62 applicants that received DWSRF assistance were in significant noncompliance with applicable state and federal drinking water regulations. Providing financing to these applicants helped them achieve compliance by improving their water systems.

- The Department provided technical, managerial, and financial assistance directly to public water systems in need to help them achieve and maintain compliance with applicable state and federal drinking water regulations. As a result of this initiative, during FFY 2016, 660 public water systems demonstrated improvements in system capacity relative to the previous year. Also, during FFY 2016, 62 public water systems were no longer considered to be in "critical need" of capacity development when compared to the previous year.

- Since March 2005, the Department has contracted the NYRWA for a "circuit rider" assistance program to provide technical assistance to small community water systems and non-community water systems throughout the state. The current contract expires on July 31, 2018. The circuit riders are assigned tasks that include improving the capacity of the public water systems identified as being in need of capacity development. Between FFY 2014 and FFY 2016, the circuit riders conducted approximately 670 on-site visits to provide direct assistance to approximately 330 public water systems. The assistance provided to small public water systems included, but was not limited to:

  - Assisting with compliance;
  - Identifying, evaluating, and troubleshooting problems and violations;
  - Educating water operators, municipal officers, elected officials, and system owners;
  - Providing necessary training (on-site or in classrooms);
  - Assisting with the development of Emergency Response Plans;
  - Assisting with security and vulnerability assessments;
  - Assisting in developing rate structures;
  - Assisting with leak detection programs;
  - Collecting water samples for analysis;
  - Evaluating current operating procedures;
  - Locating funding and assisting with funding applications; and
  - Coordinating activities with other technical assistance providers.

- The Department continues to work on increasing the level of security and emergency preparedness at public water systems. These efforts have included training of water system personnel; reviewing water system Vulnerability Assessments and Emergency Response Plans; notifying systems of potential and real threats; developing response protocols; and providing financial assistance to systems.

- In 2001, the Department amended the Operator Certification regulations to ensure that all water system operators are properly certified and have sufficient technical and managerial training and experience to operate their public water systems. Since submitting the previous Report to the Governor in 2014, the Department has certified over 1,025 new operators and has renewed the certification of over 5,300 operators.

- Although federal funding for the Operating Training Program is no longer provided, the Department will continue to sponsor and/or provide training to water system operators when feasible. Since the last triennial Report to the Governor, training was provided to approximately 45 operators. Two training sessions were conducted on the topic of Water Operator Ethics.

- The Department's Sanitary Survey Program provides for complete and detailed assessments of public water system physical plants, maintenance and operations, and administrative abilities. One of the goals of this ongoing program is to review and evaluate the capabilities of existing facilities to determine if they can ensure compliance with current and future drinking water standards and regulations. During FFY 2014 through FFY 2016, approximately 17,000 sanitary surveys/inspections were completed.

- The Department takes enforcement actions against public water systems that persistently fail to comply with state and federal drinking water regulations and demonstrate a lack of capacity. Prior to taking enforcement action against a public water system that persistently fails to comply with state and federal drinking water regulations, the Department engages in activities designed to assist the troubled system to come into compliance. These activities include engineering support, training, and establishing compliance schedules.

- The 2013-14, 2014-15 and 2015-2016 state budgets each included $5,017,000 to assist local health departments with maintaining and enhancing their drinking water programs. This funding is used by local health departments to maintain/enhance their capacity to enforce state sanitary code regulations, conduct sanitary surveys/inspections, and assist in helping to improve the

technical, managerial, and financial capabilities of New York's public water systems.

- As part of the DWSRF program, the Department promotes the regionalization and interconnections for public water systems in an effort to enhance water systems' managerial, technical, and financial capacity. Therefore, for projects seeking financial assistance, potential interconnections to other water systems must be a carefully considered alternative when the possibility to interconnect to another public water system exists. If the system applying for DWSRF assistance decides not to pursue a possible interconnection alternative when the possibility exists, a detailed justification satisfactory to the Department must be provided demonstrating that the interconnection is a technically, financially, or managerially disadvantageous option.

- Through the DWSRF program, the Department encourages communities that apply for financing to prepare and submit an asset management plan for their project. Asset management plans support communities by encouraging the building of sustainable infrastructure. The Department may require an asset management plan for any project that has shown deficiencies with respect to technical, financial, and managerial capacity.

- In response to Hurricanes Irene and Sandy and Tropical Storm Lee, the Department, in conjunction with local health departments and other state and federal agencies, provided disaster response and recovery assistance to affected communities. In addition, the Department implemented the Hurricane Emergency Loan Program (HELP), which offers short term (up to 5 years) interest-free financing of up to $1 million for critical assessment and repairs to municipal drinking water, storm water and/or wastewater treatment infrastructure damaged by Hurricane Irene or Tropical Storm Lee. The Department also implemented the Storm Mitigation Loan Program (SMLP), which offers financing (75% interest-free / 25% grant) for municipally-owned treatment works and community water systems to reduce flood-damage risk and vulnerability or to enhance resilience to rapid hydraulic change or a natural disaster. These funds were available to public and non-profit entities in the 14 counties declared disaster areas from Hurricane Sandy. The SMLP is funded through the federal Disaster Relief Appropriations Act (DRAA), and a state match of 20%. The total financial assistance available through the DWSRF for the SMLP is $67.9 million ($56.6M from DRAA and $11.3M state match).

5.0CHALLENGES REMAIN FOR NEW YORK'S PUBLIC WATER SYSTEMS

There are many factors that impair the capacity development of public water systems. Since implementing the statewide capacity development strategy, some of these barriers have been overcome (see section 3.2). In subsequent years, the Department will

continue to meet the challenges faced by New York's public water systems and assure the safety of the State's public drinking water. The Department and its partners, including public water systems, will need to be ever-vigilant in maintaining the necessary technical, managerial, and financial capabilities of public water systems, especially smaller systems. Sufficient technical assistance, owner and operator training, and financial assistance, particularly for economically distressed communities, must continue to be made available.

5.1 LONG-TERM CHALLENGES

Public water systems continually install, upgrade, and replace the infrastructure on which the public depends for safe drinking water. The cost of infrastructure investment is borne primarily by water system customers in the form of water rates. However, general revenues from federal, state, and local governments may supplement revenues from users. For major capital improvements, long-term financing is often critical; it allows communities to spread out the cost of improvements over the expected life of a project, thereby allocating the costs to those customers who benefit from the improvements. Despite the importance of these projects for protecting public health, many public water systems may encounter difficulties in obtaining affordable financing for such improvements. The DWSRF Program, along with other federal, state, and local programs can provide financing for improvements necessary to protect public health and comply with drinking water regulations.

To help meet this challenge, the Department and the EFC enhanced the DWSRF Program such that a larger pool of water system infrastructure projects are eligible to receive subsidized interest rate financing. This change makes interest rate subsidy available for more projects with chronic health risks while continuing to assist those systems with projects that address acute public health risks. This change also provides a more affordable funding alternative to many compliant public water systems that require drinking water infrastructure improvements to remain compliant and thereby continue to protect public health.

Also, as discussed in Section 3.2, the Department is successfully implementing the Water Infrastructure Improvement Act Grant Program that provides municipalities throughout New York with funding for water infrastructure projects. A total of $1.4 billion will be available to fund such projects. Such funding will help many public water systems maintain viability in the future.

Despite this enhancement to the DWSRF Program and the influx of grant funds, a significant gap still remains between the necessary capital improvements and the amount of available financing. It is estimated that, over the next 20 years, New York State will need over $39 billion to address aging drinking water infrastructure. This challenge is amplified by the decrease in federal funding for the DWSRF and

public water supply program. In addition to funding, public water systems are challenged by an aging workforce. According to national statistics, it is estimated that 30% of the drinking water professionals are expected to retire in the next five years. Recruiting and maintaining a skilled workforce is a key element in maintaining a water system's capacity.

For most public water systems in New York, there is no mandated review of the rates that systems charge customers and no means to enforce appropriate rate structures. A public water system that is unable to raise the necessary revenues to support its operating expenses, risks its ability to produce safe drinking water. Legislation, regulations, and/or incentives that will encourage public water systems to review their water rates periodically, and adjust them as necessary, need to be considered.

Many public water systems, particularly small systems, have difficulty in understanding and complying with ever more comprehensive federal and state drinking water regulations. For many years, the Department has taken the lead in developing and implementing training programs to assist small public water system owners and operators to understand current and future drinking water rules and regulations. Unfortunately, the federal grant that supported the majority of the Department-offered training programs expired in 2012 and no additional funds have been allocated to support that training. In addition, the Department continues to use the DWSRF to ease the economic impact on public water systems that must comply with new drinking water rules and regulations.

The events of September 11, 2001, Tropical Storms Irene & Lee and Superstorm Sandy have resulted in greater awareness of the vulnerabilities of drinking water systems to intentional acts of terrorism as well as natural disasters. As drinking water infrastructure ages, it becomes more susceptible to failure, particularly during such extreme circumstances. The enhancement of security and emergency preparedness are essential to maintaining reliable supply and delivery of drinking water. The Department's Office of Health Emergency Preparedness is responsible for the coordination and management of all activities for public health and healthcare facility preparedness. This includes preparedness planning, and ensuring emergency plans work in drills, exercises and real life. The Department must continue to work closely with local health departments and other key partners to ensure every county will be prepared for the unexpected.

Recent discoveries of emerging contaminants in water sources in New York State have also resulted in a greater awareness of the vulnerabilities of drinking water sources. The health risk posed by some of these contaminants is not yet fully understood. It is important that the Department be prepared to effectively and quickly address such contamination events. The Department and DEC, along with other State agencies as necessary, are leading the Water Quality Rapid Response

Team, which addresses water quality issues raised by municipalities and concerned citizens, and has provided recommendations to strengthen the state's existing drinking water, groundwater and surface water protection programs.

6.0 CONCLUSION

This report provides an assessment of the capacity development program in New York and the statewide strategy for assisting public water systems in need. In addition, this report summarizes the progress made toward improving the technical, managerial, and financial capabilities of public water systems in New York as a result of the Department's Capacity Development Program. Overall, New York State is achieving its goals through the effective implementation of capacity development strategy; however, challenges remain over long-term funding, aging infrastructure, and an aging workforce. The state's Capacity Development Program, along with other state resources, has helped public water systems in New York acquire and/or maintain the technical, managerial, and financial abilities needed to properly operate, manage, and finance their systems. The Department will continue to strive to achieve the fundamental goals of the Capacity Development Program, and increase the awareness of public water system stakeholders, including the general public, about new challenges and issues related to water system capacity as they arise.