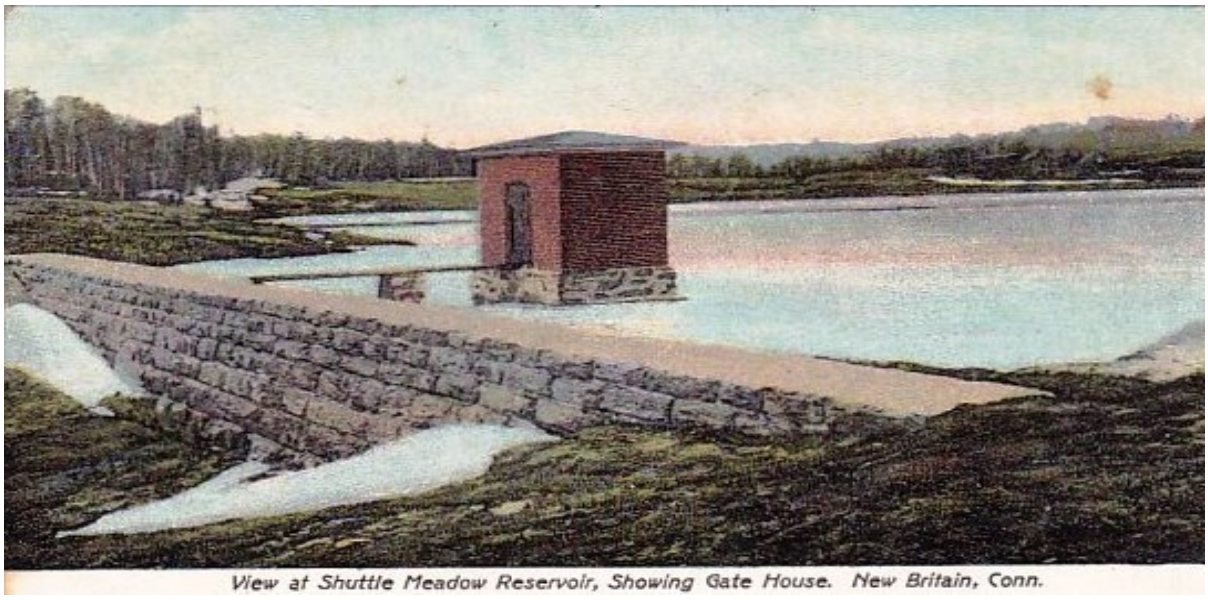
# State of Connecticut

## Department of Public Health Drinking Water Section



*View at Shuttle Meadow Reservoir, Showing Gate House. New Britain, Conn.*

# Annual Capacity Development Report

## For the Period of July 1st, 2015 – June 30th, 2016

DPH Keeping Connecticut Healthy

September 26th, 2016

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## Executive Summary

The Connecticut Department of Public Health (DPH) is the state's primacy agency that implements and enforces the Federal Safe Drinking Water Act (SDWA). The 1996 SDWA Amendments require states to develop a Capacity Development Strategy to address the technical, managerial and financial (T/M/F) needs of public water systems (PWSs). Annual reports must be submitted to the U.S. Environmental Protection Agency (EPA). The reports must address programmatic content that is consistent with that provided by the EPA's Office of Ground Water and Drinking Water in the Reporting Criteria for Annual State Capacity Development Program Implementation Reports. To gain a more detailed understanding of a state's on-going implementation efforts the EPA encourages reporting additional data like program highlights and remaining obstacles and challenges. The FY2015 report provides the required content in the recommended standard format along with an opening section that highlights major accomplishments and a closing section that details challenges that lie ahead.

Connecticut's small geographic footprint contains a large number of public water systems (PWSs) as 517 community water systems (CWSs) serve residential populations and 529 non-transient non-community (NTNC) systems and 1,446 transient non-community (TNC) systems serve non-residential populations. The DPH diminishes the associated regulatory burden imposed by this large number of systems through proactive prevention. Early detection of water quality problems and promoting the sustained use of high quality sources for public drinking water are critical aspects. The DPH has long had a strong and unique State Capacity Development Strategy (Strategy) to address this proliferation of small water systems. The State established 'core elements' of the Strategy in state law prior to the Federal mandate for capacity development in 1996 SDWA Amendments. The Strategy strives to maintain systems that have adequate T/M/F capacity and, when not, attempts to enhance T/M/F capacity through technical and financial assistance and training. Systems that lack capacity in one or more of the T/M/F areas are identified through a prioritization process using "triggers" that identify systems of concern. The triggers include designation on the annual non-compliance list, water quality monitoring and/or reporting violations, failure to employ certified operators, and deteriorating infrastructure. Small systems are more apt to be non-sustainable. These systems bear similar regulatory compliance costs as large water systems yet generate much less capital due to a smaller customer rate base. Many small systems lack the T/M/F expertise that promotes long term sustainability. The DPH encourages and helps to facilitate the consolidation of small systems when feasible to achieve economies of scale. Restructuring systems occurs through formal enforcement actions, direct acquisition by another water system, contracting out certain services to larger systems under receivership, and other alternative solutions as approved by the DPH and the Public Utilities Regulatory Authority (PURA).

Outreach activities, public participation, and creating and maintaining external partnerships are essential to the Strategy. This year brought in the request for proposal (RFPs) and the start of an implementation plan to complete the statewide Water Utility Coordinating Committee (WUCC) regional planning process activity, refining the small system Capacity Assessment Tool (CAT) concept, and increased educational circular letter mailings. These activities help to forge new partnerships and strengthen old partnerships. Partnerships are critical in the on-going public discourse that will define the state's long-term future water resource and drinking water goals. Connecticut is fortunate that high quality waters remain available for human

consumption here unlike in 48 other states. The inherent limitations of high quality source waters and new state minimum stream flow standards are why PWSs must acquire and maintain adequate supply capacity now to meet their public drinking water obligations for current customers and future new customers.

Capacity development was a major impetus of the last reorganization of the Drinking Water Section (DWS). The consolidation of programmatic activities has resulted in more cohesive and consistent technical efforts. That direction points to where the DWS's resources can be applied most effectively to create the intricate weave of technical activities that is critical for successful capacity development. The revisions to Connecticut's EPA approved Capacity Development Strategy will provide details of the results already achieved through the reorganization. The Strategy will establish a new direction for the State to supports viable small community PWSs that are willing to make efforts to achieve adequate capacity development and to eliminate failing small community PWSs that are unable and/or unwilling to achieve adequate capacity development. The approved Strategy has provided positive results for the state's public water systems and has raised much needed public awareness of water resources and drinking water issues that is critical to capacity development moving forward. The Strategy will be maintained with continuing critical reviews conducted to assess the need for modifications or revisions. The initial modifications to the August 2000 EPA approved Capacity Development Strategy were made in the fall of 2010. The draft modifications were sent to Region 1 for review and comment in December 2010. The revised Strategy that the DPH will submit in the Spring/Summer of 2017 will address the EPA's comments that were received on February 14, 2013. The changes that are required to revise the Strategy will not change implementation. The implementation of capacity development will remain consistent with Connecticut's current EPA approved Strategy.

## Capacity Development Accomplishments - July 1st, 2015 - June 30th, 2016

- ☑ The Drinking Water Section (DWS) effectively regulated and protected public health at five hundred seventeen (517) CWSs, five hundred twenty nine (529) NTNC systems, and one thousand four hundred and forty-six (1,446) TNC systems.

- ☑ Thirty six (36) new PWSs were added in the July 1st, 2015 to June 30th, 2016 time period. One (1) new NTNC and one (1) new TNC systems were created through the Certificate of Public Convenience and Necessity (CPCN) process. These two (2) systems are highlighted in green in 'Appendix B – Listing of New Systems'. The other thirty four (34) systems were newly 'discovered' systems. Two (2) of the 'new' systems; both TNC systems, scored eleven (11) or more on the EPA's ETT system enforcement criteria. These two (2) systems are highlighted in red in 'Appendix B – Listing of New Systems'. Robbs Farm LLC's score was attributed Nitrate Maximum Contaminant Level (MCL) violations and a Monitoring & Reporting (M & R) violation. Freund's Farm Market & Bakery's score was attributed to a Total Coliform (Acute) MCL and a public notification violation.

- ☑ The DWS Enforcement Unit issued four (4) Notices of Violation with Civil Penalties, six (6) Consent Orders, and thirty-four (34) Administrative Orders.

- ☑ The Federal Government Performance Results Act (GPRA) for the period ending March 31, 2016 indicates that Connecticut ranks 15th out of sixty –six (66) primacy agencies in percentage of population served by CWSs that meets applicable health based drinking

water standards, effective treatment, and source protection. The state ranks 23rd in the percentage of person months that CWSs provide drinking water that meets applicable health-based standards and 36th in the percentage of CWSs that provide drinking water that meets applicable health-based standards, effective treatment, and source protection.

☑ Five Hundred Eighty Seven (587) sanitary surveys were conducted. The systems included twenty-five (25) subpart H systems, one hundred-fifty (150) CWSs, one hundred twenty one (121) NTNC systems, and two hundred ninety one (291) TNC systems.

☑ Seventy-two (72) water companies comprised of two hundred and fourteen (214) separate, individual CWSs submit water supply plans. Each company's plan has been updated and approved by the state agencies since the original legislation passed in 1985. Technical worksheets were developed to help ensure that future water supply plans report and accurately capture system safe yield, available water, and margin of safety. The worksheets are intended to help water companies and their consultants understand the regulations and generate water system capacity values that are logical and reliable.

☑ Five (5) Sale of Excess Water (SEW) permit applications were reviewed for sales of bulk water from one public water system to a neighboring public water system. Four (4) SEW permits were granted to the water companies that met the regulatory requirements.

☑ CGS section 25-33q requires the DPH Commissioner to prepare a High Quality Source (HQS) List to ensure that the highest quality source waters are available to provide water for human consumption. The list must be updated annually. CGS section 16-27a further requires that any revisions made to the State Conservation and Development (C & D) plans must provide consideration to the DPH's HQS list. The initial list was prepared in consultation with the state's Water Planning Council. The second annual update to the High Quality Source list was published on January 26th, 2015. The list is instrumental in helping to preserve the state's highest quality source waters for human consumption. The list also helps to protect the adequacy of public water systems in the classification process that is being utilized to implement Connecticut's new stream flow standards.

☑ The DWSRF Program continued to provide funding for important infrastructure projects resulting in both a high pace level and further reduction in unliquidated obligations (ULOs). The DPH's pace rate went from 65% as of 6/30/2011 to 92% as of 6/30/2015.

☑ The DWSRF Emergency Power Generator Program that was instituted in 2012 continues to provide much needed funding to CWSs for emergency power. During SFY2016, eight (8) more funding agreements were executed for generator system installations.

☑ Data collection for the 2015 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) was completed in February 2016. Based on this information, the DPH expects the overall need to have increased since 2011. The official report from EPA is expected to be released during 2017. The 2011 DWINSA results indicated $3.58 billion

of drinking water infrastructure needs for Connecticut in the twenty (20) year period ending in 2030.

☑ The Operator Certification program ensured that the five hundred seventeen (517) CWSs and five hundred twenty nine (529) NTNC public water systems in Connecticut had certified operators. Violations were issued to four (4) NTNC systems for the failure to have a certified operator.

☑ Two (2) take-over proceedings for two (2) CWSs were initiated. Both case proceedings are currently in the hearing stage and under review of the agencies.

☑ DPH worked to pass new legislation under Connecticut General Statute 20-278hthat requires bulk water haulers to be licensed by the DPH. Transport companies that haul and sell bulk water to PWSs are inspected and required to correct sanitary deficiencies prior to obtaining a license. The licensure program is now established as part of the Capacity Development Coordination unit. There are currently five (5) licensed bulk water hauling companies, totaling ten (10) tanker trucks that have received licensure to operate through the Department.

☑ Several circular letters were sent to PWSs following the Flint Michigan event reiterating protocols and guides to ensure full compliance in implementing the Lead and Copper Rule (LCR), increase transparency of data and information and promote prompt notifications to consumers. And further DPH DWS developed a Lead Team to address the systems with Lead exceedances and assure appropriate protocols were being upheld

☑ Approximately seventy five (75) engineering projects such as water treatment plant upgrades, water storage tanks, pump stations, and transmission mains were reviewed and approved. Guidance manuals and recommended procedures are also produced to assist PWSs and their contracted consultants in preparing design plans and specifications that meet state and federal regulations.

☑ The standard practice of drafting Circular Letters for critical drinking water issues was again increased to promote more awareness and inclusiveness of water stakeholders.

☑ DPH has developed and utilized a capacity development tool to analyze the system capacity for small public water systems statewide. Known as the CAT or Scorecard this tool was developed and utilized to assess the capacity of the state small community water systems and is in active use under the WUCC process which was convened statewide in June 2016.

☑ Continued to implement the Three Storm Strategy that concerns the capacity of the state small public water systems. This Strategy is updated consistently and is used to set the direction to address small system capacity issues. (Add to appendix)

## Introduction

There are 3 types of public water systems that are regulated in the State of Connecticut:

***Community Water Systems (CWS):*** Water systems that provide service to 25 or more residents at least 60 days per year. Systems can range widely in size from large municipal or privately owned systems to small rural neighborhoods that share a common water supply.

***Non-Transient Non-Community (NTNC) Systems:*** Non-residential water systems that serve 25 or more of the same people at least 6 months out of the year that include schools, daycare centers, factories, and office buildings.

***Transient Non-Community (TNC) Systems:*** Non-residential water systems that serve 25 or more people, but not necessarily the same people each day, for at least 60 days out of the year that include restaurants, parks, campgrounds and gas stations.

The DPH, as a SDWA primacy agency, must implement a Capacity Development Strategy (Strategy) that addresses PWSs technical, managerial and financial (TMF) needs as defined here:

***Technical capacity*** refers to a PWSs ability to operate and maintain water system infrastructure and includes elements such as source water adequacy, infrastructure condition and the technical knowledge of its operators.

***Managerial capacity*** refers to a PWSs ability to properly administer water system operations and includes elements such as organizational structure, asset management programs, capital improvement planning, operator training, record keeping, customer service and an understanding of regulatory responsibilities.

***Financial capacity*** refers to a PWSs ability to properly manage system financial obligations while generating sufficient reserve funds to maintain infrastructure and includes elements such as rate structure, budget preparation, collection services and credit worthiness.

This Annual Capacity Development report covers the period of July 1$^{st}$, 2015 – June 30$^{th}$, 2016. The DPH submitted the state's initial Strategy to the EPA Region 1 on August 4$^{th}$, 2000 and became the first state in New England to have an accepted Strategy on December 1$^{st}$, 2000. The Strategy consolidates the DWS's programmatic activities into cohesive and consistent efforts and focuses on the proactive protection of public health by attempting to identify and prevent PWS capacity weaknesses before formal enforcement actions are required. In establishing the directive to support sustainable systems and to eliminate systems unable to sustain acceptable levels of capacity, the Strategy defines where resources can be effectively applied to achieve the best results. Capacity elements presented in this report are the tools used by the DWS that together form the Strategy that is the foundation of the DPH's Capacity Development program.

## Capacity Development New Systems Program

Connecticut is required by the federal SDWA to have the authority to implement a program that assesses the TMF capacity of all new CWS and NTNC systems. The DPH's Strategy includes mechanisms to prevent the proliferation of new small PWSs by requiring new systems to obtain a Certificate of Public Convenience and Necessity (CPCN) pursuant to CGS section 16-262m prior

to construction. The CPCN regulatory review process requires that prospective new systems must first evaluate feasible interconnection with existing PWSs. If such interconnections are not feasible, the CPCN regulations establish minimum design standards for new water systems and require new systems to demonstrate acceptable levels of T/M/F capacity prior to the issuance of a CPCN. Legislation has passed this past legislative session to assign the CPCN regulatory review process strictly to the DPH. When a designated Water Utility Coordinating Committee (WUCC) Exclusive Service Area (ESA) provider exists, the CPCN process requires a designated ESA provider to own any new CWS system created in the approved service area. The ownership of CWSs ensures additional financial, managerial, and technical capacity and a larger customer base to support and finance satellite system operations.

The DPH recognizes that early identification of potential new systems is critical. To achieve success requires coordination and involvement at the local community level. Local planning and zoning agencies, regional planning organizations and local health departments play a critical role in identifying potential new PWS. The DPH continues to hold or participate in educational forums to help local authorities understand the CPCN requirement and refer developers to the DPH for a CPCN determination before any local permits are issued for a project. Local health departments use forms developed by the DWS to screen development projects to determine if a CPCN may be required. Local controls are essential to an effective new systems program. Pursuant to CGS section 8-25a; municipalities are responsible for the operation of any new water company that is created without a CPCN, except a water company supplying more than two hundred fifty service connections or one thousand persons, if that new water company is at any time unable or unwilling to provide adequate water service.

*The following section addresses required reporting criteria in the recommended report format:*

1. ***Has the State's legal authority (statutes/regulations) to implement the New Systems Program changed in the previous reporting year? If, so, please explain and identify how this has affected or impacted the implementation of the New Systems Program. Documentation, including an Attorney General (AG) statement or a statement from a delegated department attorney, may be required. If not, no additional information on legal authority is necessary.***

**Answer:**

Public Act No. 16-197 signed on June 7, 2016 (effective October 1, 2016) will expedite the review of an application for a certificate of public convenience and necessity (CPCN). A CPCN is required for the construction and expansion of public water systems. DPH's review of a CPCN involves an evaluation of the safety and adequacy of the source of water supply and that construction meets engineering guidelines. Under P.A 16-197, the DPH will review CPCN applications and issue CPCNs for community (residential) water systems as is currently done for non-community (non-residential) water systems. For those systems that are regulated by the Public Utilities Regulatory Authority (PURA) or when ownership is not being assigned to an exclusive service area provider pursuant to C.G.S. section 25-33g, PURA will conduct the financial capacity review of the proposed system. Under the current statute, DPH and PURA jointly review CPCN applications and issue CPCNs for community water systems. The proposed

changes in P.A 16-197 will reduce redundancies in the CPCN process by ensuring there is no duplication of efforts between our agencies.

2. ***Have there been any modifications to the States' control points? If so, describe the modifications and any impacts these modifications have had on the implementation of the New Systems program. If not, no additional information on control points is necessary.***

**Answer:** There have been no modifications to the State's control points.

3. ***List new systems (PWSID & Name) in the State within the past three years, and indicate whether those systems have been on any of the annual Enforcement Targeting Tool (ETT) lists (as generated annually by EPA's Office of Enforcement and Compliance Assurance).***

**Answer:** Appendix B fulfills the federal requirement by listing the thirty-six (36) new systems with associated PWSID's that were added to the state's public water system inventory during the July 1st, 2015 to June 30th, 2016 time period. Two (2) systems; one (1) NTNC and one (1) TNC system, were constructed through the Certificate of Public Convenience and Necessity (CPCN) review process. Each received comprehensive T/M/F capacity evaluations. These two (2) systems constructed through the CPCN process are highlighted in green in 'Appendix B – Listing of New Systems'.

The other thirty-four (34) systems; one (1) CWS, four (4) NTNC and thirty-one (31) TNC systems, existed and, in instances, had been operating for years. Some commercial properties changed ownership and subsequently become PWSs when the new business operations expand resulting in exceedance of population thresholds. Each of the thirty-four (34) 'discovered' systems received the required regulatory compliance information.

The DPH uses the EPA's Enforcement Targeting Tool (ETT) point-based system to identify compliance problems. Any PWS that scores eleven (11) or more points is prioritized for enforcement actions under the EPA's Enforcement Response Policy. Zero (0) newly constructed systems and just two (2) of the 'new' systems; both TNC systems, scored eleven (11) or more on the EPA's ETT system enforcement criteria. These two (2) systems are highlighted in red in 'Appendix B – Listing of New Systems'. Robbs Farm LLC's score was attributed to a Nitrate Maximum Contaminant Level (MCL) violation and a to Monitoring & Reporting (M & R) violation. Freund's Farm Market & Bakery's score was attributed to a Total Coliform (Acute) MCL and a public notification violation.

## Capacity Development Strategy Implementation – Existing Systems

The Drinking Water Section (DWS) is responsible for ensuring the purity and adequacy of the state's public drinking water systems and sources of supply including approximately 2,550 Public Water Systems' (PWS) and approximately 4,000 sources of public drinking water supply. Consistent with its federal and state drinking water mandates, the DWS oversees water quality monitoring and reporting, approves treatment systems, infrastructure upgrades and new sources of supply, source protection, water conservation, water supply planning and the completion of sanitary surveys. The DWS also funds a portion of the Laboratory Certification Program, housed within the Environmental Health Section which certifies and oversees the laboratories that test drinking water samples for regulatory compliance. The DWS provides

technical services and web based information and educational materials to PWS's, local health departments and the public. The functional elements of the DWS work in concert to provide an effective means of not only regulating drinking water, but in providing the structure for improved drinking water system sustainability. The Strategy includes mechanisms to ensure that existing PWSs remain sustainable and capable to deliver a safe and adequate supply of water to customers now and into the future. The Strategy promotes consolidation of small systems with large systems to achieve an economy of scale for the water rates that will be required to maintain long-term infrastructure sustainability. Small systems have difficulties now meeting existing compliance, operations and infrastructure maintenance costs let alone costs for future new regulations that will be faced. If consolidation is not feasible or desired, the Strategy includes mechanisms to assist small systems with compliance and sustainability through technical assistance, financial assistance, training and, when required, formal enforcement and/or take-over proceedings.

*The following section addresses required reporting criteria in the recommended report format:*

1. ***In referencing the State's approved existing systems strategy, which programs, tools, and/or activities were used, and how did each assist existing PWS's in acquiring and maintaining TMF capacity? Discuss the target audience these activities have been directed towards.***

**Answer:** Descriptions of the DWS functional units, programs, tools and activities that assist public water systems with technical, managerial and financial capacity are provided in the following distinct sections. Several "triggers" used to identify and prioritize existing PWSs that need capacity development assistance are described in said sections.

## Enforcement Unit - Compliance with State and Federal Regulations

The DWS Enforcement Unit's activities are coordinated through the Compliance Section's Supervising Environmental Analyst/Enforcement Coordinator. The DWS's 2001 EPA approved Enforcement Strategy is used as a guide for the enforcement of violations of state statutes and regulations that regard PWSs. The Enforcement Strategy helps provide consistency when prioritizing and initiating enforcement actions against systems that involve a public health hazard or risk. The population at risk is also considered in the prioritization of enforcement actions to provide flexibility to maximize public health protection by placing higher priority for enforcement actions on larger public and risk-sensitive small populations, (e.g., nursing homes, day care centers, schools).

Two Enforcement Strategy Standard Operating Procedures have been developed and approved in 2015. The first one is for Ground Water Rule Treatment Technique Violations. A staged approach has been developed for addressing significant deficiencies identified at public water systems during site visits. The goal is to have the significant deficiencies resolved prior to becoming treatment technique violations. The public water system will be contacted at 30 day intervals to determine their progress towards resolving the significant deficiency. If the public water system has not resolved the significant deficiency or entered into an approved corrective action plan after 90 days they will be sent a letter telling them that they have 30 days to be in

compliance or an Administrative Order will be issued requiring the treatment technique violation to be resolved and public notification issued.

The second one is for Maximum Contaminant Level (MCL), Action Level Exceedances and Monitoring/Reporting Violations. One Acute MCL violation will trigger a review of the public water systems compliance history and then a site visit will be conducted. Two or more total coliform MCL violations in the past 12 months or MCL violations for two consecutive quarters for Chemical and Radiological parameters will result in a review of the public water systems compliance history. This Enforcement Strategy will be revised to reflect the Revised Total Coliform Rule. Formal enforcement will be initiated for each situation if necessary. In addition, any failure to comply with a Lead and/or Copper Exceedance will result in the issuance of a formal enforcement action.

The unit is responsible for issuing violations of state and federal drinking water regulations related to failure to monitor or report water quality test results. The unit is responsible for preparing and issuing all formal enforcement actions (i.e., Notice of Violation with Civil Penalty, Consent Orders and Administrative Orders); entering formal enforcement compliance requirements into the DWS database; and tracking compliance with specific requirements. Any follow-up that is required as a result of requests for Administrative hearings or referrals to the Office of Attorney General for court action are also handled by this program. This program provides quarterly updates to the Environmental Protection Agency (EPA) on systems that have been identified as priority systems for enforcement by the EPA Enforcement Targeting Tool and works closely with this federal agency on all enforcement activities.

The Enforcement Unit's role in ensuring safe and adequate public water supplies that maintain adequate capacity now and into the future is assisted by a newer tool developed by the USEPA. The EPA's Enforcement Targeting Tool (ETT) is the primary enforcement mechanism used to identify PWSs that have capacity development problems. The systems that get to the point of enforcement are most likely systems that do not practice infrastructure replacement and have not responded proactively to technical assistance from other DWS functional units. The ETT is a great tool to identify such PWSs for priority enforcement actions. The ETT ensures that PWSs with significant regulatory compliance problems receive priority attention from primacy states and that formal enforcement proceedings are initiated if needed. A tiered enforcement approach is used in most cases to return systems to compliance with the first tier being issuance of a Notice of Violation with Civil Penalties. The second tier is a formal Consent Order that is a voluntary and binding agreement between the PWS and the DPH that establishes a plan and timetable to return to compliance. The third tier is a formal Administrative Order that orders non-voluntary compliance that can be appealed. This year the Department enacted a policy of issuing Administrative Orders to all public water systems that incur a Lead Exceedance to ensure public health is protected. The Orders require shorter compliance schedules for public notification, lead public education requirements, submittal of corrosion control treatment proposals and installation of treatment. Eighty-seven (87) PWSs appeared on the EPA's ETT list during the July 1$^{st}$, 2015 to June 30$^{th}$, 2016 time period that had equal to or above 11 points. In the same time period, the unit issued Notices of Violation with Civil Penalties to four (4) PWSs, Consent Orders to six (6) PWSs, Administrative Orders to thirty-four (34) PWSs. Many water systems return to compliance through corrective actions and monitoring prior to the need for formal enforcement actions.

## Safe Drinking Water Rule Implementation Unit

The DWS Safe Drinking Water Rule Implementation (SDWRI) Unit closely monitors regulatory compliance through the Safe Drinking Water Information System (SDWIS) database. The DWS electronically receives drinking water analytical results from public water systems and laboratories certified by the State of Connecticut. SDWIS analyses water quality compliance data and reports the subsequent regulatory compliance violations that occur. Engineers from the DWS Safe Drinking Water Rule Implementation (SDWRI) Unit receive the compliance reports on an on-going basis and contact the PWSs that incur violations to determine potential cause. In most cases the quick attention and technical assistance provided for violations by our engineers to assist systems results in the PWS returning to compliance before ever reaching the ETT list. In other cases, the engineers are able to determine early on when a PWS is struggling in one of the TMF areas and more in depth assistance is then provided by the appropriate DWS program. This proactive attention provided for compliance problems that occur is central to the Strategy. The Safe Drinking Water Rule Implementation Unit is critical to the state's capacity development efforts through the coordination, operation, management and maintenance of the various databases and related activities described below:

***SDWIS Maintenance*** - The Safe Drinking Water Information System (SDWIS) is used to enforce the federally mandated Safe Drinking Water Act and as such is the sole database of record for the state's drinking water regulatory information. SDWIS maintains inventory, water quality, violations, enforcement, and allows a standardized reporting format for PWS information. Software will be updated as needed as new drinking water rules and regulations are promulgated. Routine upgrades ensure continued viability of business and efficiently manages new regulations which may impact public health protection. The unit must ensure that (SDWIS) is kept in good working order, maintained to eliminate down times, updated as necessary to support the section's reporting mandates to the EPA. The data management activities within the unit include rule implementation, information system development and support, and the investigation of new technology, in accordance with the State of Connecticut Software Management Policy Manual. The unit also maintains Laser fiche, an electronic document management system. Laser fiche is the primary repository for the Section's official documents and enables the Section to meet all State and Federal document retention requirements.

***Public Water System Compliance Schedules and*** **Monitoring** ***and Sampling Plans*** – The unit develops and maintains sampling, monitoring and operating schedules for all PWSs in compliance with applicable federal rules and state regulations. Staff oversees the review and approval of all monitoring and sampling plans that are submitted in compliance with federal or state mandates. The unit also tracks compliance with all applicable monitoring and reporting requirements and follow-up with deficient systems.

***Compliance Assistance Database*** - SDWIS is supplemented with a Compliance Assistance Database (DWSCAD) that provides support to all DWS Programs to implement drinking water rules, track engineering project reviews, water supply plan reviews, sanitary surveys, DWSRF projects, cross-connection control program requirements, certificate projects, and watershed surveys among other elements.

## Technical Review & Field Assessment/Capacity Development Units

The DWS Technical Review & Field Assessment (TR&FA) Unit, and the DWS Capacity Unit for transient non-community systems, is charged with goals to ensure that community and non-community public water systems implement and comply with all applicable state and federal drinking water mandates. This includes ensuring that system capacity is maintained in a condition that affords and assures the safety and protection of public health. Routine sanitary surveys are conducted every three (3) years for CWS and every five (5) years for NTNC and TNC systems to assess the compliance and capacity of the state's PWSs. During a sanitary survey the physical condition of the water system infrastructure is assessed, records of regulatory compliance are reviewed, and information is gathered regarding the managerial and financial health of the system. Field engineers from the two units provide technical assistance to system owners and operators during the survey and issue a formal sanitary survey report to the owner that identifies any significant deficiencies, regulatory violations, and recommendations for improved operations. The system must submit a corrective action plan that addresses significant deficiencies and/or regulatory violations cited in the sanitary survey report. Field engineers have been instructed to triage significant T/M/F weaknesses identified during a survey to more appropriate DWS programs or staff for follow-up assistance. Triaging can include financial assistance from the Drinking Water State Revolving Fund (DWSRF) when significant infrastructure improvements are required. Other additional non-routine sanitary surveys are conducted when regulatory compliance and/or other problems such as water quality violations, security incidents or customer complaints are encountered. Face to face interaction is critical to building a strong working relationship between the regulatory agency and the regulated community and provides additional opportunity to observe the physical condition of water system components to understand how the water system operates and observe potential capacity weaknesses. The two units conducted a total of five hundred eighty seven (587) sanitary surveys during the July 1st, 2015 to June 30th, 2016 time period. The total surveys conducted were made up of twenty five (25) subpart H systems, one hundred fifty (150) CWSs, one hundred twenty one (121) NTNC systems, and two hundred ninety one (291) TNC systems. The staffs of both units also provide general technical assistance, handle consumer complaints, and respond to any reported security and emergency incidents. The unit also inspects bulk water haulers for any sanitary defects to ensure licensure and regulatory compliance. Licenses must be reviewed and renewed every two (2) years. There are currently five (5) licensed bulk water haulers operating in the State of CT.

## Water Supply Plans

Seventy-two water companies that serve more than 1000 people must submit individual WSPs to the DPH, DEEP, the Office of Policy and Management (OPM) and regional planning agencies every six to nine years. The every nine year submittal requirement is granted only to systems that meet all water quality and quantity obligations mandated by Federal and State regulations including maintaining a minimum adequate margin of safety and acquiring Sale of Excess Water permits for bulk water sales to another water company. The 72 water companies that are required to submit plans are further comprised of 214 individual CWSs as many water companies have multiple distinct divisions addressed within their individual plan. This generally unrecognized element of Connecticut's program ensures that about 37% of the state's existing CWSs, many of which are small satellite CWSs owned by large water companies, are provided additional technical, managerial, and financial capacity elements reviews that are part and parcel in DPH's water supply planning review process. The core elements of these plans are:

- A description of the existing water supply system including sources of water, available water and margin of safety.

- Analysis of present and future supply demands for the 5, 20 and 50 year plan periods.

- Assessment of potential alternative sources of supply.

- Water supply emergency contingency plan that encompasses contamination of water, power outages, drought, flood, and the failure of any or all critical system components.

- Necessary system improvements including new sources of supply, storage facilities, treatment processes, and distribution/pumping system upgrades that will ensure an adequate quantity and quality of supply and an effective delivery of water service for all system operating demand conditions for the 5, 20 and 50 year planning periods.

- Forecasted land sales including address, associated source of supply and acreage for each parcel of land anticipated to be sold in the 5, 20 and 50 year planning periods.

- A strategic ground water monitoring plan and an evaluation of source water protection measures including an analysis of potential hazards to public water sources of supply.

- An analysis of the impact of water conservation practices and a strategy for implementing supply and demand management measures.

Comprehensive WSPs are intended to ensure that larger CWSs have detailed sustainability plans and are able to meet present and future challenges. The WSPs undergo thorough review and must be approved by the DPH, the Department of Energy and Environmental Protection (DEEP), and the Public Utilities Regulatory Authority (PURA) where applicable. During the time period of July 1st, 2015 to June 30th, 2016 the DPH reviewed water supply plans from nine (9) of the seventy-two (72) water companies that are required to submit individual WSPs on a routine schedule. Since the water supply planning regulations were passed in 1985 each individual water company's water supply plan has been approved multiple times by the state agencies. To ensure that future water supply plans are reporting and capturing accurately the systems' safe yield, available water and margin of safety; worksheets were developed to assist the systems in understanding the regulations and generating system capacity values that are logical and reliable. The DWS also reviews any agreements between CWSs that involve the sale of excess water (SEW) to ensure that the sales will not have adverse impact on the seller's available water for consumers. The DWS reviewed five (5) SEW permit applications in the July 1st, 2015 to June 30th, 2016 time period. Four (4) SEW permits were approved for water companies that met the regulatory requirements.

## Drinking Water State Revolving Fund (DWSRF) Unit

The Drinking Water State Revolving Fund (DWSRF) program assists community and non-profit, non-community PWSs in financing drinking water infrastructure improvement projects such as upgrades and renovations to water storage tanks, water treatment facilities, pump stations and

water mains. Funding is provided as long-term, low-interest loans that can be repaid in terms of up to twenty (20) years with interest rates approximately half of the market rate. During the reporting period of July 1st, 2015 through June 30th, 2016 the DWSRF provided eighteen (18) loans to ten (10) different PWS totaling $25.1 million. A locational map with the type of each project and loan amounts is provided in the report as Appendix C. Since 2010, federal appropriations have required a portion of the funding be provided as subsidization. During the July 1st, 2015 to June 30th, 2016 time period over $1 million was provided in federal capitalization grant subsidization.

The DWSRF is supported with annual capitalization grants awarded by the USEPA and is a subaccount of the Connecticut Clean Water Fund (CWF). The Department of Energy and Environmental Protection (DEEP) receives an annual capitalization grant from EPA to provide financing for wastewater infrastructure projects. The Office of the State Treasurer's (OTT) Revenue Bond Program is the leveraged financing strategy implemented by the CWF that maximizes the financing capacity of the federal capitalization grants, the required 20% state match for these grants and the CWF's assets. Based on this strategy, the CWF issues revenue bonds and uses the proceeds to provide financing for drinking water and wastewater projects. This strategy provides additional lending capacity that could not be achieved using the capitalization grants directly for these loans.

The DWSRF is a competitive loan program with a limited amount of funding available each state fiscal year (SFY) to meet the loan demand. Historically, the DWSRF Program receives more applications for funding then there are funds available. The DPH utilizes an established priority ranking system to determine which projects to direct the available funds to each year. The priority ranking system (PRS) is a point based system weighted most heavily towards projects that are required for public health protection and regulatory compliance. A minimum of 15% of the available funds are reserved for small PWS projects. The PRS recognizes and supports strong infrastructure sustainability programs that emphasize prevention as a capacity development tool to ensure long-term safe, adequate and affordable drinking water to Connecticut's residents.

The Emergency Power Generator Program (EPGP) was established in SFY 2012 in response to two extreme weather events that occurred in the late summer and fall of 2011. These events left many customers, in particular customers of small PWSs, throughout Connecticut without water service for extended periods of time due to power outages, which is a public health concern. During 2012 and 2013, two additional severe weather events occurred furthering the need to ensure that all PWSs have backup power systems capable of providing continued water service to customers during prolonged power outages. The EPGP allows eligible PWSs with projects costing less than $100,000 to obtain low-interest loans and subsidies to purchase and install generators to be used in the event of power outages. Subsidization provides up to 25% or 45% of the cost of eligible components of each generator project that receives DWSRF funding. The amount and percentage of subsidization depends on the amount of the request and if the generator is for replacement or if purchasing for the first time. The Emergency Power Generator program's high rate of subsidy brought to the program many small systems that may not normally participate in the DWSRF. To assist these small PWSs, the DPH significantly

streamlined traditional DWSRF environmental reviews, contract procurement requirements and legal expenses associated with loans for generator projects costing less than $100,000. The program has been very successful and since its inception the DPH has received over one hundred and twenty (120) applications for funding and executed forty-five (45) loan agreements through June 30th, 2016, totaling over $1,290,000 for the installation on 49 generator systems. The 2016 generator projects are included on the locational map provided in Appendix C.

Efforts to improve the DWSRF Program have resulted in significant improvements in the pace of new loan agreement executions. As of June 30th, 2011 the DPH converted available DWSRF funds into executed loan agreements, or pace, at a rate of 65%, as measured by EPA, which was one of the lowest in the country and far below the national average of 92.2%. By June 30th, 2015 the DPH increased the pace to 92%. DPH's rate increase includes the execution of eighty-six agreements from FY 2012 through FY 2015, totaling over $97.5 million. These cumulative efforts have resulted in a significant reduction in the amount of ULOs, as indicated in a national ULO report issued by the EPA on June 1st, 2016.

The DPH issues a "Call for Projects" notice every two years to seek PWS applications for funding. The DWS annually prepares an Intended Use Plan (IUP), which includes a Project Priority List (PPL) for each of the two (2) SFY's in the biennial capital budget period. PWS that are ready to proceed with projects are placed on the PPL, up to the amount of funds available for that SFY. The draft IUP is then published for a thirty (30) day public comment period that is followed by a formal public hearing. After considering all public comments received, the DPH prepares the final IUP, including final PPL, and requests complete financial assistance applications for projects on the PPL. During this reporting period the DWSRF Program continued to place emphasis on providing subsidized loans to projects for small PWS that serve fewer than 10,000 persons and projects located in economically challenged communities that appear on the "Distressed Communities" list prepared by the Department of Economic and Community Development.

All PWS that apply for DWSRF funding must demonstrate adequate TFM capacity in order to obtain a loan. Reviews of financial qualification are conducted by the OTT and, if the PWS is a privately owned rate-regulated utility, by the PURA. Technical and managerial reviews are performed by the DWS and include a historical review of regulatory compliance as well as infrastructure deficiencies that were identified during the most recent sanitary survey. Any financial issues that are identified must be corrected before a PWS is qualified to receive a loan. Any technical or managerial violations that are identified must be addressed either prior to receiving a loan or as part of the project that receives a loan. Since 2011, the DWSRF Program has placed additional incentives for PWS to enhance TFM capacity through asset management (AM) planning. PWS with existing AM plans are provided additional priority points in the PRS to increase project(s) ranking on the DWSRF Project Priority Lists. The DWSRF Program continues to provide incentives for small PWS to implement AM plans by offering an additional subsidization towards project(s) if systems had existing AM plans or would undertake AM planning as part of the project(s). The DWSRF Program plays a critical role in supporting the capacity development needs of PWS in Connecticut and provides a low-cost financing approach to help meet these needs and ensure drinking water infrastructure remains safe and reliable for future generations.

The 2011 national Drinking Water Infrastructure Needs Survey (DWINSA) conducted by the EPA reveals that Connecticut needs to invest $3.58 billion over a 20 year period to meet the capital improvement needs for public drinking water infrastructure. The 2015 DWINSA data collection was recently completed, and based on this information the DPH expects the overall need to have increased since 2011. The official report from EPA is expected to be released during 2017.

The DWSRF Program maintained its progress during this reporting period and continues to progress at an accelerated pace. The DPH is committed to this effort and has built a pipeline of existing drinking water infrastructure projects in excess of $200 million for funding in future years. In addition, in May of 2014 Public Act 14-98 was enacted which appropriated $50 million in state funds for a Public Water System Improvement Program that will be used to provide supplemental grants-in-aid, in the form of principal forgiveness, to eligible PWS that receive DWSRF loans from the DPH after July 1st, 2014, for certain eligible projects. The supplemental subsidization funds will provide PWS with additional capacity to undertake other important drinking water projects. During the Spring 2016 legislative session, this amount was reduced to $20 million. As of June 30, 2016, this financing option has not yet been allocated by the State Bond Commission.

## Source Assessment and Protection Unit

The DWS Source Assessment and Protection Unit enforce state statutes and regulations and implements state policies that pertain specifically to the protection of public drinking water sources. The SA/P Unit also administers the Water Utility Coordinating Committee Planning Process. Connecticut has approximately 4,000 surface and ground water drinking water supply sources that require protection and preservation. The unit maintains the DWS webpage and Geographic Information System (GIS) that that are central tools to ensure that information is readily available to those that need it. The GIS system supports provides analysis and visualization of a large amount of data and is used daily by the Section's planners, engineers, and analysts. The unit has a five year strategic plan that is intended to guide the protection of the state's public drinking water supplies through emphasis on source water protection implementation and links to public health initiatives and existing public health law. The following initiatives have been identified by the DWS as critical to drinking water source protection, achieving minimized risk to public health and supporting capacity development:

**Source Protection Permitting, Education and Training Program**

- ✓ Review and, when appropriate, approve sale of water companies and water company lands.
- ✓ Review and approve, if appropriate, siting of new/replacement sources for public systems.
- ✓ Review and approve, when appropriate, water company land permits.
- ✓ Review and approve, when appropriate, water company land recreational use permits.
- ✓ Review and approve, when appropriate, aquatic pesticide applications in drinking water source areas.
- ✓ Work with state and local agencies on topics that protect sources of drinking water.
- ✓ Review and comment on annual watershed survey reports.
- ✓ Review and comment on projects from other state agencies.
- ✓ Educate local land use officials and local health directors.
- ✓ Integrate drinking water source protection with water supply management planning.

- ✓ Initiate the development of drinking water quality management plans.
- ✓ Develop consistent local land use review processes to protect public drinking water sources.
- ✓ Work with state agencies on responsible growth & policies that affect public drinking water.
- ✓ Review and track emerging issues that may affect public drinking water sources.
- ✓ Review and approve, if appropriate, Source Water Abandonment Permit applications pursuant to CGS section 25-33k.
- ✓ Review, comment, and collaborate with the DEEP on PWSs Diversion Permit applications.
- ✓ Review the creation of new public water systems pursuant to the Certificate of Public Convenience and Necessity Process.
- ✓ Conduct environmental reviews pertaining to water company lands.
- ✓ Maintain and foster source water collaborative to identify risks to drinking water supply sources and to develop processes for permanent protection of drinking water sources.
- ✓ Provide review comments to state and local agencies on proposed development projects.
- ✓ Maintain GIS to improve the analysis of date pertinent to public water systems.

## High Quality Source (HQS) List

CGS section 25-33q requires *"the Commissioner of Public Health ... shall prepare a list designating sources or potential sources of water that require protection so that highest quality waters are available to provide water for human consumption."* A companion statute section 16-27a requires that State Conservation and Development Plans give consideration to the DPH Commissioner's HQS List and state water policies pursuant to CGS sections 22a-380 and 25-33c. Connecticut is fortunate to have safe and adequate public drinking water supplies. A unique public health protection involves protecting drinking water sources from wastewater and treated wastewater. Connecticut's historic drinking water protections minimize the risk of water supply catastrophes like the recent one in West Virginia owing chiefly to the state's prohibition of sewage and industrial discharges to public supplies and the use of highest quality source waters for human consumption. The mandate to prepare the Commissioner's HQS List and conduct and prepare updates for the list on at least an annual basis provide the framework required to integrate drinking water source protection, water supply planning, and safe and successful implementation of the new state stream flow standards. The second annual update for the High Quality Source list was published on January 26th, 2015. The list is an instrumental tool to help preserve the use of the state's highest quality source water for drinking water and to protect the adequacy of public water systems supplies during the classification process to implement new state stream flow standards, and to ensure these sources are an integral component of the Water Utility Coordinating Committee Planning

## Regional Water Supply Planning

"An Act Concerning a Connecticut Plan for Public Water Supply Coordination" (Public Act 85-535) was passed by the Connecticut General Assembly in the 1985 legislative session. The Legislature found that "in order to maximize efficient and effective development of the state's public water supply systems and to promote public health, safety and welfare, the DPH shall administer a procedure to coordinate the planning of public water supply systems." The act provides for a coordinated approach to long-range water supply planning by addressing water quality and quantity issues from an area-wide perspective. The process is designed to bring

together PWS representatives and regional planning organizations to discuss long-range water supply issues and to develop a plan for dealing with those issues.

Common problems faced by public water systems when the process was developed were: uncoordinated planning among PWSs, competition between PWSs for expansion of service areas, increasing regulatory requirements, aging and substandard infrastructure, inadequate source protection, difficulty in developing new water sources, inadequate financing, poor management, and a significant lack of adequate communication between water companies and with local elected officials of the communities serviced. It was felt that many of the problems lend themselves to an area wide analysis which would result in the most appropriate solutions.

Thus, the state was originally divided into seven (7) Water Utility Coordinating Committee (WUCC) management areas based upon a number of factors including similarity of water supply problems, proliferation of small water systems, groundwater contamination problems, and over allocated water resources. The WUCC planning process was designed to bring water utility representatives and both regional and local planning officials together to discuss long-range water supply issues and develop a coordinated water supply plan that addressed these issues in each management area. The coordinated plans were to be built upon individual water supply plans required to be produced by public water systems that serve over 1,000 people pursuant to CGS 25-32d. The coordinated water supply plan was to include an assessment of water supply problems and conditions within the management area, exclusive service area designations, and integration of the area's individual water supply plans into a cohesive area wide plan emphasizing cooperation and coordination between public water systems.

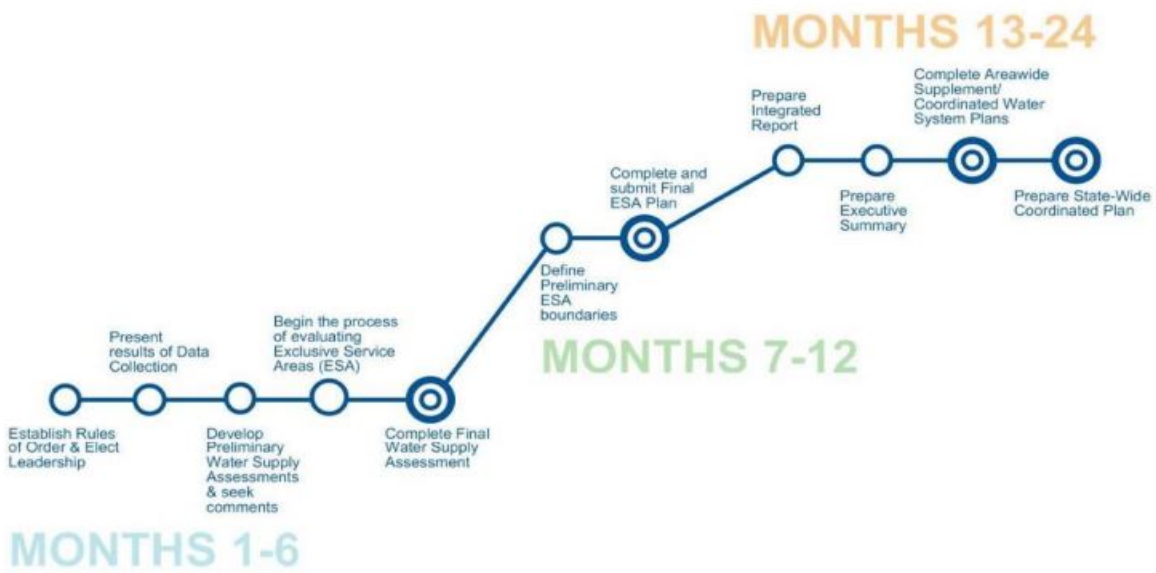



Diagram 1. *2-year timeline for WUCC planning process*

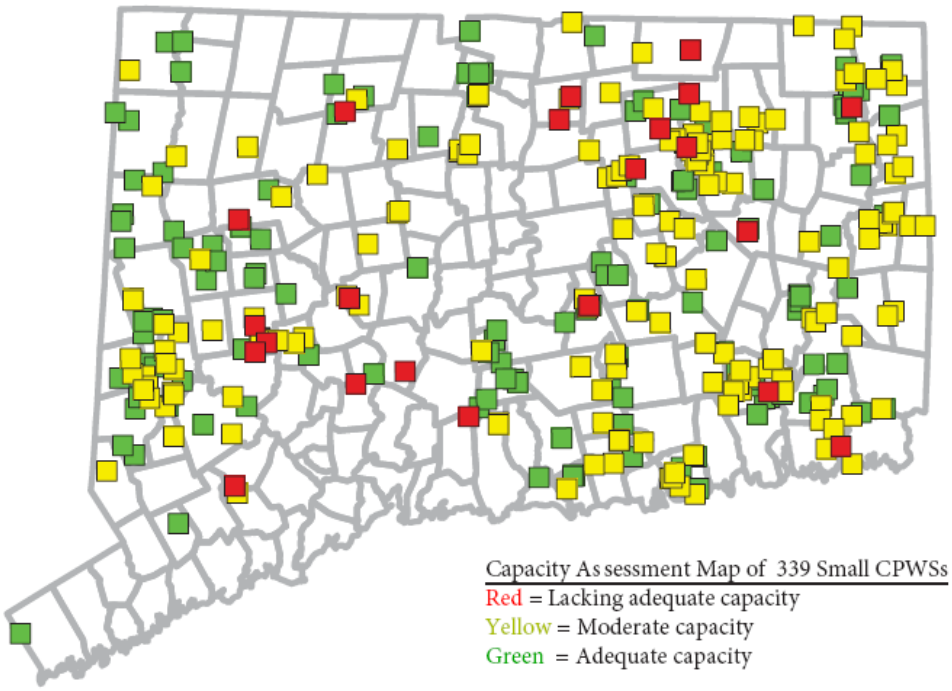
It was expected that water utility representatives and local officials would use a team or consensus approach to solve the problems identified in each management area. The WUCC, which is convened by the DPH, would then have a vested interest in the plan and its implementation because it is their plan rather than a State conceived solution. Each WUCC would then reconvene periodically to revise the area wide supplement to reflect the changing status of the individual plans and current planning issues at that time. It was felt an iterative process like the WUCC would result in a living document that would require regular updates to reflect the changing status of individual water supply systems, the economic impacts to projected demographics and the environmental impact on drinking water supplies.

The DPH reduced the seven (7) WUCC water supply management areas to three (3) WUCC management areas that better reflect the factors outlined RCSA 25-33h. The three (3) newly delineated management areas will convene WUCCs and prepare coordinated water system plans which must be submitted to the Commissioner of Public Health not more than two years after the first meeting. The Western WUCC convened on June 14, 2016, the Central Corridor WUCC convened on June 15, 2016, and the Eastern WUCC convened on June 17, 2016. At these initial meetings, all three WUCCs elected Chairs and recording secretaries, adopted bylaws, and initiated the two year planning process. The two year process was enacted by the Connecticut legislature and is outlined in the above diagram (Diagram 1):

## Capacity Assessment Tool

In the period between June 30, 2015 and July 1, 2016, 339 small Community Public Water systems were assessed for technical, financial and managerial capacity (see Figure 1). The rationale for this assessment was to ensure that the WUCCs were provided with a complete picture of the regional needs pursuant to CGS Sec. 25-33g: Assessment of water supply conditions and problems. The assessments were completed using existing data that was

Figure 1: Small Community Public Water System Capacity Assessment Map



imported into an assessment form with points assigned to criteria within the three capacity categories. Each CPWS was assigned a score for each category, and these three scores were averaged to calculate a total score. Of the 339 CPWSs, 13 systems were assessed to be lacking adequate capacity, 184 had moderate capacity, and 142 were deemed to have adequate capacity.

## Take-Over Proceedings

Pursuant to CGS section 16-46(a), a water company may not cease operations, or unilaterally discontinue the provision of water service to customers, without the consent of *both* the Public Utilities Regulatory Authority ("PURA") and the Department of Public Health ("DPH") (collectively, "the Departments"). The statute requires the Departments, upon receipt of a request to cease operations or discontinue service, to hold a hearing in accordance with the provisions of CGS sections 4-176e, 4-177, 4-177c and 4-180 and issue a final decision setting forth the actions that the water company shall take to ensure a continuous supply of potable water at adequate volume and pressures, in accordance with the procedures and criteria set forth in CGS sections 16-262n to 16-262q, inclusive. CGS section 16-262n(c) requires the Departments, whenever a request from a water company is filed pursuant to CGS section 16-46(a) or whenever a water company fails to comply with an order issued pursuant to CGS sections 16-11, 25-32, 25-33 or 25-34, to determine the actions that may be taken and the expenditures that may be required, including acquisition of the water company by a suitable public or private entity, to assure the availability and purity of water at adequate volume and pressure to the persons served by the water company at a reasonable cost. Once a proceeding has been conducted pursuant to CGS section 16-262n, upon a determination that the costs of improvements to and the acquisition of a water company are necessary and reasonable, CGS section 16-262o authorizes the Departments to order the acquisition of the water company by the most suitable public or private entity. The process is often referred to as a 'take-over' proceeding. Two (2) take-over proceedings for two (2) distinct Community PWSs were initiated in July 1$^{st}$, 2015 to June 30$^{th}$, 2016 time period for this report. Both take-over proceedings are currently in hearings and under review.

## Engineering Reviews

DWS staff engineers from the Technical Review & Field Assessment (TR&FA) and Capacity Development Units review and approve the design and construction of expanded water works, treatment facilities, and upgrades for all PWSs; as well as the design and construction of new systems. The staff reviews of PWS water and treatments works infrastructure projects ensure compliance with regulatory requirements and recognized drinking water industry standards. These projects include water treatment plant upgrades, water storage tanks, pump stations and transmission mains. Guidance manuals and recommended procedures are produced by the DWS to assist PWSs and consultants in preparing design plans and specifications that meet state and federal regulations as well as industry standards. Engineers review and approve

treatment proposed to correct exceedances of maximum contaminant and/or action levels; and to mitigate water quality concerns related to aesthetics. To maintain consistency in the review and approval process, the "Guidelines for the Design and Operation of Public Water System Treatment, Works, and Sources, January 1999" document was developed. The purpose of the referenced guidance document is to provide review criteria to be utilized by DWS staff as the basis for approval of water supply projects. To meet the objective of protecting the public health, the guidance document was developed to ensure that drinking water facility construction and operations are in compliance with applicable CT Public Health Code Regulations, CT General Statutes, and other standards. In addition to providing engineering design standards, the guidelines include statutory regulatory requirements that must be complied with, and are legally enforced. Seventy five (75) engineering reviews were conducted during the June 30th, 2015 to July 1st, 2016 period. The Technical Review & Field Assessment Unit also provides oversight of mandatory filtration for the state's surface water supplies. Public water systems in Connecticut are required under the Surface Water Treatment Rule to filter surface water supplies. The DWS has reviewed and approved all filtration plants that were constructed or upgraded following implementation of this rule as were certain others prior to then. All surface water supplies are filtered or have been replaced by groundwater sources.

## Security and Emergency Response

The DWS provides technical assistance to PWSs on security and emergency response related matters. The DWS continues to partner with the drinking water and wastewater industries in the development of the Connecticut Water/Wastewater Agency Response Network (CTWARN). CTWARN and the national WARN network are designed and intended to support and promote statewide emergency preparedness, disaster response, and mutual assistance matters for public and private water and wastewater utilities. The DWS has been a member of the CTWARN Steering Committee since its inception and has provided funding to support CTWARN operations. The DWS has taken steps to establish a Public Drinking Water board in Connecticut's Web EOC emergency notification system. The board will allow the state's CWS to report operational status directly to the State EOC during emergency incidents.

The DWS also utilizes the DPH Emergency Notification System to provide important information to select stakeholders. The DPH currently utilizes an Everbridge notification software/system that allows the DPH and the DWS to share information with local health departments, PWSs, local Chief Elected Officials and other stakeholder groups simultaneously. The network saves a tremendous amount of time getting important messages out to stakeholders in a timely manner during real public health emergencies. The DWS responds to events that range from E. coli contaminations to suspicious activities in and around drinking water infrastructure. Examples of the DWS response activities are pre-storm and post-storm responses that included cautionary Boil Water Advisory to hundreds of small CWSs during Hurricane Irene and Super Storm Sandy. Such activities reveal how the DWS security and emergency response capabilities have evolved and how quickly and effectively staff is able to respond to the needs of the 2.9 million people in Connecticut that rely on public drinking water.

## Outreach and Public Participation

The DWS makes extensive use of the DPH's website to provide timely information to public water systems, local health departments, the general public and other stakeholders. The website provides individual webpages for each major DWS program or activity. The website

includes routinely updated compliance schedules for public water systems and violation data is made available to local health departments. Forms, guidance documents, fact sheets and other drinking water information that assists PWSs with regulatory compliance are available on the website. The DWS has instituted a standard practice of drafting DWS Circular Letters for critical drinking water related issues. The letters are provided to a very large range of stakeholders to promote awareness and inclusiveness. The DPH Communications Office also issues press releases when critical public health information regarding drinking water needs to be provided to the public on a statewide basis. The DWS routinely provides drinking water subject area experts to various organizations to speak at conferences, seminars, workshops and other functions related to public drinking water.

## Grants and Administration Management

The staff of the DWS Grants and Administration Unit coordinates activities for the Section including grant management and progress reporting for required EPA program management reports. Staff also prepares contracts related to technical assistance to PWSs to assist in capacity development efforts and coordinate the preparation of DWSRF loan agreements with the DPH Fiscal Office, the Office of Grants and Contracts and the Office of the State Treasurer. The Unit assists the DWS in providing and developing communication activities and conducts general office functions to support the PWSS and DWSRF Programs. Staff also prepares publications (i.e. fact sheets, brochures, pamphlets, etc.), the Quality Management Plan, Quality Assurance Project Plans, Standard Operating Procedure documents, and coordinates external and internal training. The development and maintenance of QAPP's, SOP's, and QMP's is essential in providing consistent operating procedures within the various programmatic functional units. Operational reviews are conducted with the DWS Public Health Section Chief/Quality Assurance Manager and DWS Supervisory staff on a routine basis. The Unit recently has subsumed responsibility for the Operator Certification and Cross Connection Control programs. Distinct responsibilities of the Grants and Administration Unit include:

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• ***Grant/Contract Development and Implementation*** – prepares guidance documents, work plans and long-term strategies for DWSRF program management and EPA required program management reports; develops, negotiates and monitors grants and contracts; plans program

goals, objectives and evaluation of achievements; coordinates and monitors DWS development of standard operating procedures; DWSRF Unit support- coordinates DWSRF full assistance application reviews, DWSRF loan agreements, and DWSRF Loan Closings.

• ***Regulation Development*** – assists in the preparation and tracking of drinking water regulatory changes for submission to the State Legislature by the department. The unit also conducts legislative research concerning statutory or functional intent of specific sections of the Connecticut statutes or regulations when needed by the section. The regulatory development, adoption process and implementation procedures are documented in the New England States' Drinking Water Programs Quality Assurance Project Plan (DWP QAPP), prepared jointly by representatives of the Drinking Water Programs of the Six New England States, with assistance from EPA New England.

• ***Public Outreach*** – assists in providing and developing all communication planning (i.e. press releases, public meetings/notices), publications (fact sheets, brochures, pamphlets, etc.), internal training, electronic public information services (email, webpage, Everbridge), technical assistance initiatives, planning, and assessment. The program coordinates with PWSs, businesses, and trade associations to provide speakers and to initiate conferences and workshops.

• ***Operator Certification*** - The Operator Certification program is accountable for DPH oversight of the qualifications of individuals who operate and maintain PWSs. This program ensures that approximately five hundred seventeen (517) CWSs and five hundred twenty nine (529) non-transient non-community PWSs are operated by qualified and skilled certified operators. Certifications are issued for treatment plant, distribution system, small water system operators, backflow prevention device testers, and cross connection survey inspectors based on criteria established in regulation. Certification applicants must meet a combination of education, experience and examination requirements to become certified pursuant to requirements specified in regulations that include provisions for renewal, reciprocity and enforcement. The Operator Certification program is responsible for providing training and guidance to certified operators related to their duties and responsibilities and exercises quality control over the certification examination. Operators are required to maintain minimum training contact hours to renew their certification. Training sessions cover subject matter including operator duties/responsibilities, regulatory compliance, source protection, water quality, sampling, infrastructure components, customer service, safety and management. The unit also approves other operator training course providers, operator training course curriculum and coordinates internal staff training for the Section. In a recent effort to streamline the certification process, the DWS implemented an E-Licensure program which allows all licensure activities to be completed online. The certification database allows the DWS to monitor operator compliance as licensed professionals are essential to maintain the delivery of safe and adequate drinking water supply. When a CWS or NTNC system does not meet minimum operator certification requirements this is a trigger of capacity weakness. The program is drafting revised regulations that will further improve identification of capacity weakness in professional system operations. Staff provides technical assistance to those systems that are in violation to help achieve compliance. If compliance cannot be achieved through technical assistance then formal enforcement actions are initiated. During the time period of July 1$^{st}$, 2015 to June 30$^{th}$, 2016 the

DWS issued violations for operator certification requirements to four (4) NTNC public water systems.

• ***Cross Connection Control*** - The program ensures that PWSs conduct inspections for cross connections and test backflow prevention devices. The intent is to prevent contamination of drinking water through the proactive identification of any improper connections to the drinking water distribution system and through testing the devices that restrict the backflow of contaminants. Systems that are unable to conduct programs demonstrate a lack of capacity to provide safe drinking water to the public. The DWS received six hundred twenty one (621) cross connection survey reports. Five hundred thirty eight (538) were assessed for completeness in the July 1st, 2015 to June 30th, 2016 time period. The DPH's regulations require the certification of Backflow Prevention Device Testers ("Testers") and cross connection survey inspectors ("Inspectors"). The program issues and renews certificates for backflow personnel and there are currently 961 active DPH certificates as Testers and/or Inspectors. Staff participates in the training for "Testers" and "Inspectors" and provides technical assistance to the water industry, PWSs, local health departments, building inspectors and the general public.

## Laboratory Certification Program

The DPH Environmental Health Section approves and/or certifies environmental laboratories (private, municipal, and state operated) that test drinking water, sewage, solid waste, soil, air, food, and environmental samples for bacteria, inorganics, organics, and radiochemicals. The program enforces EPA regulations for the laboratory testing of public drinking water, waste effluent and solid waste. The goal is to ensure that approved laboratories meet minimum testing standards as established by the EPA, the FDA, and the State of CT. The program provides technical consultation to the regulated laboratory community as well as to the users of the generated data. The DWS is reliant on the DPH laboratory and approved contract laboratories for analysis of water quality samples. Laboratories are required to meet minimum testing standards and procedures outlined in relevant regulations and policies. The state principal laboratories calibrate and maintain their instruments as required by instructions given in the various EPA-approved analytical methods. EPA Region I verifies during its periodic on-site evaluations of these laboratories that all method requirements are appropriately performed. Water quality data submitted by PWSs to the DWS for compliance purposes must be reported from samples analyzed by an approved laboratory. All samples taken from DWS field staff while conducting inspections and investigations are sent to the DPH laboratory for analysis.

## Assessment of the Efficacy of the Capacity Development Program

Congress amended the SDWA in 1996, providing for a variety of initiatives to assist States and PWSs in providing safe drinking water to the public. Capacity development, the Drinking Water State Revolving Fund (DWSRF), operator certification programs, and such resources as the Environmental Finance Centers and Small System Technical Assistance Centers, were instituted to provide assistance to States and CWSs. Congress established capacity development with the intent of focusing on those systems most in need of assistance. These were primarily small systems (serving populations of 3,300 or less). Over 90% of Connecticut's five hundred seventeen (517) CWS's are small systems. In 2016, small systems face even greater challenges than in the past. Regulations have become more stringent and complicated including the new federal Groundwater Rule (GWR) and the Revised Total Coliform Rule (RTCR). The GWR and the

RTCR will affect all small systems as they rely predominantly on groundwater sources of water supply. Many of these systems have inadequately protected groundwater sources that will likely require the installation of water treatment systems or new protected groundwater sources to be found and installed. With a small customer base, the increased cost of compliance, operations, capital improvements and planning efforts must be passed on to the rate payers in order to achieve long term sustainability. This challenge is even greater during tough economic times as collection services for non-payment of water bills do not exist for most small systems and the revenues necessary for sustainability suffer from these losses.

*The following section addresses required reporting criteria in the recommended report format:*

1. ***Based on the existing system strategy, how has the State continued to identify systems in need of capacity development assistance?***

**Answer:** The DPH identifies and prioritizes existing systems for capacity development assistance using compliance data including data contained in the SDWIS State database and data obtained from sanitary surveys. The selection of PWSs requiring additional assistance is primarily accomplished by two mechanisms. The first mechanism is the sanitary survey process and the resulting compliance determinations. During a sanitary survey the physical infrastructure of the water system is assessed to determine if there are significant violations or deficiencies that could present long and/or short term sustainability problems. For most community water systems much of their water system assets are buried (i.e. distribution and transmission water mains) and cannot be inspected during sanitary surveys. The DWS has incorporated many additional question sets into the sanitary survey process to determine if systems are adequately employing sustainability concepts. These question sets include discussions on financial and managerial capacity topics including asset inventories, asset management, capital improvement plans, budgeting and rate setting. These areas of financial and managerial analysis are particularly important when visible infrastructure deficiencies are identified that may have resulted from neglect, insufficient revenue/reserve funds or an inadequate sustainability program. Sanitary surveys are conducted at least every three (3) years for CWSs and every five (5) years for NTNC and TNC systems.

The second mechanism used to identify systems in need of capacity development assistance is the ability of a system to respond to the compliance requirements for prescribed regulations and to report this compliance data to the DWS. Compliance data is managed in SDWIS and compliance determinations are run on a continual basis. Examples of data that may identify a system in need of assistance would include MCL violations, M&R violations and Treatment Technique violations among others. Greater than one monitoring and reporting violation in a 12-month period is used as a trigger of possible deficiencies in managerial and possibly financial capacity and formal enforcement actions are initiated. This approach attempts to avoid systems from being placed on the ETT list. Systems that are, or become placed on the ETT list are given priority technical assistance consistent with Connecticut's existing Strategy.

Additional prioritization and identification of capacity needs for small community water systems has been determined through the state's Capacity Assessment Tool (CAT). This tool assesses the system's capacity achievements and shortcomings through a carefully selected series of technical, managerial, and financial indicators. Similarly to the above methods, these

indicators combine queries regarding compliance history with other financial and managerial information in order to determine a comprehensive capacity assessment for each small community water system. The assessment through awarding systems a weighted number of points based on their compliance with each of the assessment's indicators. Systems receiving scores lower than 30 are considered lacking capacity, and therefore require the most assistance. Systems receiving 70 to 100 points are considered to have adequate capacity, indicating that they are not in need of capacity development assistance.

Operator certification problems can also be a trigger for the need for capacity development assistance. There can be numerous problems with the certification of public water system operators. Some water systems lack the required operator. Common reasons for systems not having a certified operator include: failure of operators to renew their certification, Conditional (grandfathered) Operators that leave a system, change of system ownership, and termination of contracts with operators. Operator certification problems are addressed through technical assistance by the Enforcement Unit, followed by progressive enforcement (violation letter, order, civil penalty). Some water systems have numerous monitoring and reporting violations. The Enforcement Unit follows up with technical assistance and uses this as a trigger for possible disciplinary action against operators. The Enforcement Unit utilizes a database query to automatically generate lists of systems with numerous violations or multiple systems operated by the same operator with numerous violations. These lists are generated on a continual basis. This data is used to set up technical assistance meetings with operators, and to begin the disciplinary action process, if necessary. Water systems may have questions or appeals on enforcement actions. This could be an indication of operators not understanding the regulations. In some instances, certified operator misconduct is an issue. The department can take disciplinary actions, such as suspension or revocation of certification, for actions such as fraud, deception, negligence or incompetence. The Enforcement Unit has a standard operating procedure for disciplinary actions against certified operators.

Water supply plans and the Water Utility Coordinating Committee (WUCC) planning process also identify potential solutions to local and regional public drinking water supply issues and assist in assuring future availability, viability, and purity of the state's public drinking water supplies. Sustainability issues, including the necessary infrastructure investments required for the state's existing large public drinking water suppliers, are also identified, scheduled and tracked within water supply plans. Long term water supply planning both at the local and regional level helps keep our state healthy and competitive in terms of attracting the new industry and businesses required to create additional employment opportunities. A CWSs ability to build consumer confidence in the drinking water they provide is also considered an important capacity development element so proper consumer confidence reporting and number of consumer complaints is also used as a trigger for technical assistance.

2. ***During the reporting period, if statewide PWS capacity concerns or capacity development needs (TMF) have been identified, what was the State's approach in offering and/or providing assistance?***

**Answer:** The sanitary survey process has been successful in recognizing common trends in sustainability deficiencies with all PWSs. Smaller systems fail to recognize the need to plan for the future and make necessary adjustments to their water rates (or business profits in the case

of most non-community systems) to have sufficient reserve funds for capital improvements. They also are challenged in understanding and complying with the ever increasing number of new regulations being developed and implemented. Many small CWSs charge flat rates for water and do not periodically review these rates as compliance and operational costs increase and their water system infrastructure depreciates. DWS Units within the Compliance Section promote mutual aid among public water systems and participate in community outreach and regional planning in areas where system consolidation is feasible or where drinking water infrastructure requires improvement. When consolidation is not a feasible option, troubled small CWS are encouraged to achieve sustainability by:

- Inventorying their assets
- Preparing asset management plans
- Preparing capital improvement plans
- Preparing a budget with capital reserve contingencies
- Reviewing and adjusting their water rates annually
- Ensuring customer payment of water bills
- Having a sound organizational structure
- Having operational and emergency procedures
- Having well trained operators

The Capacity Unit makes use of EPA sustainability handbooks and DWSRF program outreach to provide the pathway and financial means of achieving compliance and sustainability. Some small systems are not capable or willing to implement these sustainability measures and will continue to fall further out of compliance. The failure of an existing CWS to comply with either the PURA or the DPH regulations could require joint hearings to determine the system's economic viability. If it is determined that the CWS is not viable, the PURA, with DPH's consultation, may order the acquisition of the CWS by the most suitable entity. This is a two-step process; the first step is a thorough evaluation of the CWSs ability to provide T/M/F capacity. The second step is to determine possible restructuring or acquisition by a more reliable and sound CWS. The "take-over" process has typically resulted in more viable systems or the elimination of an existing CWS. Non-viable CWS's tend to chronically fail to achieve compliance in areas such as water quality monitoring, difficulty meeting the more comprehensive treatment requirements, infrastructure deficiencies and financial constraints due to the smaller customer base. The process has proven to help prevent system failure, water service interruption, lack of monitoring and/or reporting, etc. Elimination of non-viable systems has had positive impacts on application of resources, risk reduction and compliance success.

Similarly, compliance tracking by the Enforcement Unit has resulted in recognizing common trends with different types and sizes of systems. This compliance data has revealed the specialized needs of small water systems and has resulted in adjustments to the training curriculum of small system operators that is provided by the Capacity Unit. It has been noted in cases that small systems rely heavily on their certified operators to maintain compliance with drinking water regulations and perform or arrange for all preventive and corrective maintenance to the system. In contrast to the broader overview of the small system operator training offered by the DWS, the training curriculum for larger systems with multiple treatment and distribution systems operators may be more specialized to a specific operator's duties.

The DWS has a multi-year contract with RCAP Solutions, funded through the DWSRF Small System Technical Assistance Set-aside. Through this contract, RCAP will conduct group asset management workshops for small community water systems in Connecticut, provide direct technical assistance to small systems to assist them in completing an asset management plan, and promote the DWSRF Program to eligible small PWS during technical assistance visits.

The DWS also uses the website to provide a broad range of information to public water systems to assist in achieving compliance and provide access to important information.

3. ***If the State performed a review of implementation of the existing systems strategy during the previous year, discuss the review and how findings have been or may be addressed.***

**Answer:** The state's small geographic footprint contains an inordinate amount of public water systems (PWSs). There are five hundred seventeen (community public water systems that serve residential populations. Furthermore, there are five hundred twenty-nine (529) non-transient non-community systems and one thousand four hundred forty-six (1,446) transient non-community systems that serve non-residential populations. The DPH attempts to diminish the regulatory burden imposed by this large number of systems through proactive prevention that includes the early detection of water quality problems and promoting the sustained use of high quality sources for public drinking water. The DPH has long known that a strong, unique state Capacity Development Strategy would be needed to address so many systems and had the core of the state's 'Capacity Development' Strategy established into law eleven (11) years prior to the 1996 SDWA Amendments. The core element of the Strategy for *new systems* was passed into state law in 1985 as the Certificate of Public Convenience and Necessity (CPCN) regulations. The CPCN process restricts the creation of new systems by requiring interconnections when existing systems have adequate capacity to serve and set minimum standards for the design, management, and ownership of new small water systems when interconnections are not feasible. This aspect of capacity development in Connecticut has been very successful and the DPH continually reviews and refines the process to keep with the times.

The core elements of the Strategy for *existing systems* were passed into state law in 1985 as companion statutes. Connecticut General Statute (CGS) sections 25-32d and 25-33c created public water supply planning and coordinated, regional Water Utility Coordinating Committee (WUCC) planning processes, respectively. The statutes allow the state to approve Exclusive Service Area (ESA) providers for a geographical service area when adequate technical, managerial, and financial (TMF) capacity and sufficient Margin of Safety (MOS) exist for a system to effectively serve for five, twenty, and fifty year planning periods. The DPH attempts to confirm that PWSs that have claimed ESAs meet all public water supply regulatory obligations and have sufficient supply and adequate MOS for at least the five and twenty years periods to properly serve these geographical areas. The 1985 mandate for individual public water system planning and regional coordinated WUCC public water system planning process minimally ensures that existing public health and safety conditions are maintained. Due to elimination of the funding to complete the WUCC planning process it was not completed. The DWS is drafting a revised state Capacity Development Strategy that will be provided to the EPA Region 1 for review and comment in late calendar year 2016.

4. ***Did the State make any modifications to the existing system strategy? If so, describe.***

**Answer:** As noted above, the DWS is in the process of preparing a revised Strategy to provide to the EPA Region 1 for review and comment. A significant factor moving forward with capacity development in Connecticut is the increased public awareness and greater understanding of the challenges that face the state's public water suppliers. The DPH's on-going capacity development efforts coupled with stream flow standards and the University of Connecticut's high-profile search for supplemental water supply have raised collective knowledge and interest across the state to a great level. The WUCC process as it now is being undertaken and completed will provide a method to face serious challenges to public water supplies.

A successful WUCC public water system planning process may be the answer for Connecticut's many small 'existing systems'. Potentially a baseline capacity development assessment tool will be implemented for small CWSs. A baseline Capacity Assessment Tool (CAT) is a hands-on, detailed system specific one-to-one evaluation of a PWSs T/M/F capability. Baseline CAT's will identify T/M/F developmental needs for water systems that can then be effectively measured, on a three year cycle moving forward, for the Governor's Capacity report. The report can then provide the Governor an accurate assessment of the state's infrastructure needs and monitor individual public water system progress, or regress, to provide accurate future needs. Following a CAT, staff will offer direct assistance, on a priority basis dependent on system grade, to help receptive water systems implement the CAT recommendations. A top priority will be systems most in need from the target audience of the 332 small CWS, which RCAP Solutions was contracted to work with and that the PURA report titled A Review of Financial and System Viability of Connecticut's Small Community Water Systems Prepared for the State of Connecticut Public Utilities Regulatory Authority submitted to the legislature was intended to identify and address. Subsequently, investments must occur at the state, regional, and local levels to meet these challenges moving forward. The expansion of larger CWSs that have sufficient water supply to consolidate small systems is one option and an option that is strongly supported by the DWS. However, such expansions can be costly and new sources of drinking water supply may be needed to meet these demands. Incentives at the state and federal levels for larger CWSs to expand need to be discussed and explored for possible options. Other options include non-connected satellite ownership of small systems by larger systems where the costs associated with operating and maintaining small satellite system can be distributed across the larger customer based thereby achieving economies of scale for smaller systems.

Other challenges include the potential for decreased levels of federal support for SDWA primacy agencies and the DWSRF. The DWS relies heavily on the federal Public Water System Supervision grant and DWSRF capitalization grants to fund program staff and activities. On June 2, 2016, Governor Malloy signed into law Public Act No. 16-2 (May Sp. Sess. 2016) ("the Act"), An Act Concerning Adjusting the State Budget for Biennium Ending June 30, 2017, which provides in section 17 for the Commissioner of Public Health ("the Department"), in consultation with the Water Planning Council, to prepare a report concerning the expenditures necessary to ensure the continued administration of safe drinking water standards for public drinking water. Such report shall include, but not be limited to: (1) A projection of the costs of administering safe drinking water standards for public drinking water for the fiscal years ending June 30, 2018, to June 30, 2022, inclusive, (2) a projection of available state and federal funds to support the Department of Public Health's efforts to keep drinking water safe, and (3)

recommendations regarding fees or other means of sustaining said department's efforts to keep public drinking water safe. Section 17 of the Act requires that the Commissioner of Public Health develop the report in consultation with the Water Planning Council established pursuant to section 25-33o of the general statutes. Finally, Section 17 of the Act requires the Commissioner of Public Health to submit the report to the Joint Standing Public Health and Environment Committees of the General Assembly not later than January 15, 2017.

The DWSRF also provides millions of dollars each year to finance important community drinking water projects. Competition for federal funding is very high in the current economic climate and federal budgets are being cut. The importance of safe drinking water must be communicated effectively to congressional leaders so that financial support for state SDWA primacy programs and the DWSRF continue. As a result of these challenges, two public acts (i.e. P.A. 14-98 and P.A. 13-298) were passed in the past two years in the attempt to ease some of the difficulties faced by the small public water systems. P.A. 13-298 directed the PURA, in consultation with the DPH, to study the financial capacity and the system viability of small community water companies. The review was to include a review of potential factors that affect the costs required to maintain and operate such systems safely and effectively and the potential benefits that could be derived from creating a financial assistance account to help such systems defray the costs of essential infrastructure improvements. The study was completed and submitted to the Water Planning Council for review, evaluation, and formal recommendations on approach needed to ease the financial burden of the small water systems. Subsequently, P.A. 14-98 was more direct in tackling the financial challenges of the small systems by appropriating up to $50 million in state funds that will be used to provide supplemental grants-in-aid to eligible PWS that receive DWSRF loans from the DPH after July 1$^{st}$, 2014. The supplemental subsidization funds will provide PWSs additional financial capacity to undertake critical projects. However, as previously stated the total amount has been reduced to $20 million and not yet allocated by the State Bond Commission.

Outreach activities, public participation, and creating and maintaining partnerships are essential parts of the Strategy. The DWS has continued, and even increased, the practices of drafting timely circular letters on critical public drinking water topics and hosting forums for municipalities, regional planning organizations, local health officials, environmental advocates, and other stakeholders to forge new partnerships. Such practices have helped actively promote the public discourse needed to define the state's goals and provide framework for drinking water solutions in local communities. Continuing discussions can lead to an agreed upon balance that satisfies the entire spectrum of water stakeholders in Connecticut.

The DWS addresses capacity development early and from end to end through the use of high quality water sources, close regulatory oversight, technical assistance, and as a final resort enforcement action. The functional units within the DWS work closely together so that a comprehensive view of a PWS's performance is evaluated and discussed when compliance problems surface. Working cohesively as a team by identifying and correcting PWS weaknesses long before a more serious problem develops. Long term sustainability of PWSs is always preferred over more short-term goals. To this extent, the strategy has worked well in Connecticut and is consistent with USEPA's Sustainability Policy released in 2010. The DWS reviews key aspects of the Strategy regularly to ensure that the critical need of the state's PWSs continue to be met. A revised capacity Development Strategy will be submitted to the EPA Region

1 no later than the end of calendar year 2016. The 2016 report that covers the period of July 1st, 2015 – June 30th, 2016 is available to the public on the DPH's webpage at www.ct.gov/dph.

## Appendix A - Acronyms

| | |
|---|---|
| CAD | Compliance Assistance Database |
| CWS | Community Public Water System |
| CGS | Connecticut General Statutes |
| CPCN | Certificate of Public Convenience and Necessity |
| CUPSS | Check Up Program for Small Systems |
| CWF | Clean Water Fund |
| DEEP | Connecticut Department of Energy Environmental Protection |
| DOE | Connecticut Department of Education |
| DPH | Connecticut Department of Public Health |
| DWS | Connecticut Department of Public Health - Drinking Water Section |
| DWESAC | Drinking Water Emergencies and Security Advisory Committee |
| DWSRF | Drinking Water State Revolving Fund |
| USEPA | United States Environmental Protection Agency |
| EPGP | Emergency Power Generator Program |
| ETT | Enforcement Targeting Tool |
| GAF | General Application Form |
| GIS | Geographic Information System |
| GWR | Groundwater Rule |
| HAN | Health Alert Network |
| MCL | Maximum Contaminant Level |
| NTNC | Non-Transient Non-Community Public Water System |
| OTT | Office of the State Treasurer |
| PWS | Public Water System |
| PWSS | Public Water System Supervision |
| PURA | Public Utility Regulatory Authority |
| SDWA | Federal Safe Drinking Water Act |
| SDWIS | Safe Drinking Water Information System |
| SNC | Significant Non-Complier |
| TMF | Technical, Managerial, and Financial Capacity |
| TNC | Transient Non-Community Public Water System |
| WANS | Wide Area Notification System |
| WEAR | Water Emergency Assessment and Response Team |
| WPC | Water Planning Council |
| WSP | Water Supply Plan |
| WUCC | Water Utility Coordinating Committee |

## Appendix B - Listing of New PWSs and Newly Discovered PWSs

| Listing of New PWSIDs created through the CPCN Process and Newly Discovered PWSs | NAME | PWS_ST_TYPE_CD |
|---|---|---|
| CT1085061 | OXFORD TOWN CENTER SYSTEM | C |
| CT0408034 | BRIGNOLE VINEYARDS, LLC | NC |
| CT1378094 | THE OPEN DOOR BAPTIST CHURCH | NC |
| CT0279054 | CHAMARD VINEYARDS | NC |
| CT0286024 | PRIUM VINEYARDS | NC |
| CT0900154 | GRACE COMMUNITY CHURCH | NC |
| CT1609154 | WILLINGTON DUNKIN DONUTS | NC |
| CT0798044 | 17 NORTH MAIN STREET | NC |
| CT0999074 | EVENTUS CATERING | NC |
| CT0969404 | 358 DANBURY ROAD | NC |
| CT1311084 | PERRY PLAZA | NC |
| CT0798054 | THE FARM AT CARTER HILL | NC |
| CT0235084 | GIV COFFEE ROASTERY AND CAFE | NC |
| CT0614104 | 1564 SAYBROOK ROAD | NC |
| CT1429224 | CROSS FARMS COMPLEX | NC |
| CT0969424 | 28 MERRYALL ROAD | NC |
| CT0969414 | BRIDGES RESTAURANT | NC |
| CT0839054 | MINER HILLS FAMILY GOLF LLC | NC |
| CT0859114 | 500 PURDY HILL ROAD | NC |
| CT0969434 | THE GREEN SPOT | NC |

| | | |
|---|---|---|
| CT1169044 | 32 - 44 NORWICH ROAD | NC |
| CT0429194 | SPORTS ON 66 | NC |
| CT1099234 | 10 PUTNAM ROAD | NC |
| CT0609114 | NEW HAVEN SPORTSMAN'S CLUB INC. | NC |
| CT1000234 | FREUNDS FARM MARKET & BAKERY | NC |
| CT0549054 | ROBBS FARM LLC | NC |
| CT0549064 | E. DRAGHI & SONS, LLC | NC |
| CT0869134 | WIDE WORLD OF INDOOR SPORTS | NC |
| CT0530344 | ARROWHEAD ACRES, LLC. | NC |
| CT1270244 | SHERMAN LIBRARY | NC |
| CT1270234 | SHERMAN SENIOR CENTER | NC |
| CT1099244 | 94 NORWICH ROAD | NC |
| CT0750113 | FIRST CONGREGATIONAL CHURCH | NTNC |
| CT0081143 | THE GRADUATE INSTITUTE | NTNC |
| CT0419223 | CHESTELM ADULT DAY SERVICES, INC. | NTNC |
| CT0286013 | THE CARING COMMUNITY OF CT, INC. | NTNC |

## Appendix C - Locational Map of DWSRF Projects

# Drinking Water State Revolving Fund
# 2016 State Fiscal Year Projects

- Wethersfield Water Main Replacement $2,486,096
- Hartford Water Main Replacement $1,538,049.45
- Bloomfield Water Main Replacement $3,302,030
- Southington Water Storage Tank and Pump Station $4,073,690
- Hartford Water Main Replacement $2,516,325
- Generator - Cobblestone $53,900
- Generator - Linsley Lake $60,340.50
- Generator - Tolland $27,581.40
- Generator - Killingly $16,151.34
- Generator - Middlebury $25,978.42
- Generator - Woodbury $22,377.30
- Generator - Bloomfield $11,248.88
- Generators - Woodbury $40,145
- Hartford Transmission Main Replacement $3,333,841.35
- Bloomfield Water Main Replacement $825,335
- West Hartford Storage Tank Construction $3,411,469.38
- Meriden Water Main Replacement $1,721,021
- Valve Replacement & East Hartford Water Main Replacement $1,619,546.87