

State of Connecticut  
Department of Public Health  
Drinking Water Section

Annual Capacity Development Report  
for the period  
July 1, 2006 – June 30, 2007



Keeping Connecticut Healthy  
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Governor M. Jodi Rell  
Commissioner J. Robert Galvin, M.D., M.P.H.

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## **Introduction:**

The Federally approved Capacity Development Strategy for Connecticut has served to consolidate all programmatic activities within the Drinking Water Section (DWS) into a more cohesive, consistent effort. In establishing a directive to support viable systems and eliminate those systems unable to sustain acceptable levels of capacity, the Capacity Development Strategy has defined the direction toward which the DWS's resources can be applied effectively. It has also identified an intricate weave of program activities critical to its implementation.

As such, the Strategy has been determined to be positive and will be maintained. However, a modification of the DWS Capacity Development Strategy (August, 2000) must be prepared to include a change in emphasis, redirection and elimination of some elements. Updated documents, procedures and program areas will need emphasis in the modified Strategy as the DWS moves forward. The updated DWS Capacity Development Strategy will be completed by December 31, 2008.

The FFY2007 annual on-going implementation report has been modified to reflect the Reporting Criteria for Annual State Capacity Development Program Implementation Reports provided by the EPA Office of Ground Water and Drinking Water. The following sections are arranged to reflect this reporting criteria.

### **A. New Systems Program Annual Reporting Criteria**

1. ***Has the State's legal authority (statutes/regulations) to implement the New Systems Program changed within the previous reporting year? If so, please explain and identify how this has affected or impacted the implementation of the New Systems Program. Additional 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:** For the reporting period of July 1, 2006 to June 30, 2007 the State's legal authority to implement the New Systems Program did not change. However, changes to the Connecticut General Statutes (CGS) Section 16-262m are provided and become effective October 1, 2007 have been made which will be detailed in the 2008 Annual On-going Implementation Report.

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 Significant Non-Compliers (SNC) lists (as generated annually by EPA's Office of Enforcement and Compliance Assurance).***

**Answer:** Attachment 1 provides the list of new systems created through the Certificate of Public Convenience and Necessity process during the period of July 1, 2004 and June 30, 2007. Attachment 2 provides a list newly discovered existing water systems that were identified by or reported to the DWS. Attachment 2 also lists new water systems that were created by existing regulated public water systems that were technically (engineering) approved by this office but did not need financial or managerial capacity evaluations.

Of the 18 new systems created during the period of July 1, 2004 to June 30, 2007 through the CPCN process there were 4 new community water systems (CWS), 5 new non-transient non-community (NTNC) systems and 9 transient non-community (TNC) systems. These systems received comprehensive technical, managerial and financial capacity evaluations and were not identified on any of the annual SNC list during the same period.

Ninety of the 95 systems listed on Attachment 2 were newly discovered existing systems that were identified after the systems had been built and placed into operation. Most of these systems were non-community systems that had been in operation for many years and escaped recognition. Some of these systems were existing commercial properties that changed ownership and business operations which subsequently resulted in them becoming public water systems by exceeding the population threshold. Others were new systems that were approved at the local level without complying with the CPCN Requirements. Of the 90 systems that were newly discovered existing systems during the period of July 1, 2004 to June 30, 2007 there were 3 new CWS, 22 new NTNC systems and 65 TNC systems. These systems were provided the necessary regulatory compliance information and sanitary surveys were conducted. Of these 90 systems, 3 NTNC systems and 4 TNC systems were identified on the annual SNC list during the same period.

Five of the 95 systems identified on Attachment 2 were reviewed and approved by the DWS. One new CWS was built by an existing regulated community water system as an independent non-connected satellite system. The remaining 4 CWSs were built as connected consecutive systems to another CWS. These 5 new systems received engineering reviews (technical) and approvals by the DWS but did not warrant managerial or financial capacity evaluations. None of these 5 systems were identified on the annual SNC list during this same period.

Based on the data presented some conclusions were drawn:

- New systems that received approval through the CPCN process appear to understand their regulatory responsibilities resulting in better regulatory compliance (i.e. 0 of 18 systems identified as SNCs).
- New systems that were built by existing CWSs understand their regulatory responsibilities resulting in better regulatory compliance (i.e. 0 of 5 systems identified as SNCs).
- Newly identified existing systems that were provided regulatory compliance information and technical assistance during sanitary surveys are more likely to have regulatory compliance violations than those systems that were approved through the CPCN process (i.e. 7 of 90 systems were identified as SNCs).
- More education is necessary at the local level to ensure that new development projects proposed by future water companies are identified and referred through the CPCN process so that technical, financial and managerial evaluations are conducted.

To address the fourth bulleted item, the DWS did provide two training events for local health departments and local town planners in September and October of 2006 to make them aware of the statutory and regulatory requirements for new water companies. An additional two training sessions were provided for local health departments in February and March of 2007. During these training sessions local officials were given presentations on the Certificate of Public Convenience and Necessity (CPCN) process (CGS Section 16-262m) for creating new water companies. They were also reminded of the provisions of CGS Section 8-25a whereby no local planning and zoning agency may approve a development project proposed by a water company until a CPCN has been issued jointly by the DPUC and the DPH. These training events have resulted in improved State and local coordination of new system applications particularly for new NTNC and TNC systems.

## **B. Existing Systems Strategy**

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 assistance public water systems with technical, managerial and financial capacity are provided in the following paragraphs.

## **Compliance Section Activities**

The Compliance Section ensures that all public water systems (PWSs) are implementing and complying with all State and Federal mandates. The Compliance Section also ensures that the systems' capacity is maintained in the best feasible condition to afford and assure the safety and protection of public health. This assurance is managed in three integral units.

**Monitoring, Reporting & Enforcement (MRE) Unit:** The MRE Unit is responsible for several tasks including maintenance of PWS inventory data and water quality monitoring schedules in the SDWIS/STATE database. Violations for failure to comply with health based standards, water quality monitoring, reporting and treatment technique requirements for all federal and state rules are issued by the MRE Unit. The Unit also tracks and cites violations for failure to comply with public notification and consumer confidence reporting requirements. The MRE Unit is responsible for drafting State regulations to match the Federal rules and prepare & educate public water systems on the new rules. The MRE Unit is also responsible for preparing, issuing and tracking formal enforcement actions (Administrative Orders, Consent Orders and Notices of Violation with Civil Penalty), and making referrals to the Office of Attorney for court action. With these responsibilities, this unit tracks and monitors the systems technical ability to maintain and sustain the safety, purity and adequacy of the drinking water, and the systems managerial and or financial capacity to implement a response plan and assure compliance with the reporting and notification requirements.

**Implementation & Response Unit:** The Implementation & Response Unit (IRU) assigns sanitary engineers to assess the cause or triggers of violations at PWSs and assists these systems in recognizing the corrective technical, financial or managerial measures that need to be undertaken in order to return into compliance with the rules and the regulations. The IRU also assesses the systems' compliance and capacity by conducting sanitary surveys of all PWSs as required by the State regulations and the SDWA. IRU staff provides technical assistance to systems during and after these inspections to help them address and correct violations and deficiencies that were identified. Systems that chronically fail to correct their violations are referred to the MRE Unit for preparation of formal enforcement actions and possibly take-over hearings or court action, while systems in need of financial and or managerial capacity assistance are referred to the CRS Unit. In addition to these routine surveys, specialized sanitary surveys are conducted when systems incur water quality violations and/or operational failures.

From 7/1/06 through 6/30/07 the DWS conducted 253 sanitary surveys of CWS and 124 sanitary surveys of NTNC systems which provided technical assistance to correct identified deficiencies. During that same time period, sanitary surveys were conducted at 4 of the 4 CWS and 3 of the 4 NTNC systems that incurred E. coli bacteria violations. Sanitary surveys were conducted at 34 of the 47 CWS and 13 of the 25 NTNC systems that incurred total coliform bacteria violations.

**Capacity Development at Public Schools:** The initiative of ensuring Capacity Development at public schools across the state has continued, and many schools have opted to install completely new facilities. Thirty-eight (38) schools were identified as needing completely new water systems. Of these, thirty-three (33) have completed these projects and the remaining five (5) will be completed in the near future. Seventy (70) schools were identified as needing major improvements, of which sixty-five (65) schools have completed those improvements and five (5) schools still need to make major improvements. Thirty-four (34) schools have implemented consolidations. Twenty-eight (28) of these schools were consolidated by connecting to larger community public water systems, while six (6) schools were consolidated into two regional campus type systems. DWS staff continues to assist these systems and continue to link them with the Schools Facilities-Grants Unit under the Division of Grants Management, State Department of Education. Schools who sign DWS Consent Orders are eligible for grants ranging from 20-80% (based upon the respective town/district's reimbursement rate) of the entire project to correct both existing CT Public Health Code violations and system capacity deficiencies. This school capacity project will continue to be prioritized by DWS over the next few years until all public schools have adequate capacity.

**Capacity Review & Standards (CRS) Unit:** The CRS Unit performs the following functions within Compliance Section of the DWS:

Engineering Reviews: The CRS Unit's Technical Review Team (TRT) reviews plans and specifications for PWS construction projects, including new systems, and may conduct field inspections during and after project completion. The TRT provides technical assistance to PWSs and develops engineering guidelines, informational materials and application forms to assist PWSs in maintaining or developing sound technical facility infrastructure. Materials developed are used to supplement and/or support existing drinking water regulations and aid PWSs in preparing and submitting plans and specifications that require DWS approval. Non-regulatory guidelines are based on sound engineering practices and/or existing drinking water industry standards.

Financial and Managerial Capacity: The CRS Unit works in cooperation with the Department of Public Utility Control (DPUC) to review the financial and managerial (FM) capacity of new CWS and NTNC systems as part of the CPCN review process. The process restricts the creation of new small water systems by requiring interconnections with existing PWSs whenever feasible. If an applicant cannot interconnect with an existing utility, the CPCN process provides the technical, financial and managerial regulatory requirements for DPUC and DPH approval of the proposed new water system.

Part of the CPCN process reviews and evaluates whether the applicant for the proposed project understands the responsibility and requirements involved with owning and operating a PWS. That is, whether the applicant has the 'capacity' to develop and maintain a viable PWS that will remain in compliance with all applicable regulations once the water system is operational. Overall capacity is separated into three categories – technical, managerial, and financial. These three categories are interrelated in the overall operation of a water system. This is accomplished through short and long-term planning, assurance of sufficient water supply and infrastructure for the future, and meeting regulatory responsibilities in order to provide safe, adequate and reliable drinking water supply.

Special FM capacity evaluations are conducted by DWS for existing CWSs when:

- there is a change of ownership during the sale of water company owned lands
- the results of a sanitary survey flag a weakness in FM capacity
- enforcement actions are initiated by the DWS and a FM review is deemed appropriate

The CRS Unit promotes asset management concepts including budgeting, inventories, capital improvement plans and rate adjustment for all CWSs. EPA capacity development handbooks on these subject matters are provided to systems along with technical assistance to try to provide systems pathway to long-term sustainability.

Drinking Water State Revolving Fund: The DWS has used the sanitary survey process as a mechanism of promoting interest and use of this low interest loan program as a mechanism to fund water system infrastructure improvements. Staff from the CRS Unit provide assistance to systems to help them understand the requirements of the DWSRF and assist them with submitting their loan applications.

### **Operator Certification Program Activities**

The Drinking Water Section (DWS) has consolidated the Operator Certification Expense Reimbursement Grant into the Operator Certification Program (OCP). The DWS has had a long standing OCP and the additional Federal funding has allowed us to expand this program to NTNC systems and to institute the requirement for renewal training. The Operator Certification Program work plan includes a DWS training program for operators. It has been long recognized that properly trained and certified water supply professionals improve compliance and reduce enforcement actions.

### **Local Health Departments:**

The DWS continues to foster and strengthen its relationship with local health departments on capacity development initiatives with TNC systems. The majority of TNC systems in the CT inventory are food

service establishments that are licensed and inspected locally. State and local drinking water requirements for food establishments overlap in some areas including well construction and water quality. The DWS continues to provide periodic training to local health departments to assist them with inspecting these water supply wells during their licensing inspections and addressing any violations that are identified. The DWS also notifies LHDs when MCL violations or M&R violations occur with all TNC systems. Often times, joint food inspections/sanitary surveys are done when MCL violations occur at food establishments so local and State enforcement actions can be coordinated and corrective actions implemented. Food establishment compliance with DPH drinking water regulations has improved tremendously since this strategy was implemented in 2000.

2. ***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 systems for capacity development assistance using compliance data including data contained in the Safe Drinking Water Information System (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 be caused from neglect, insufficient revenue/reserve funds or an inadequate sustainability program. Sanitary surveys are conducted at least every 3 years for community water systems and every 5 years for non-community (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 regulation implementation and to report this compliance data to the DWS. Compliance data is managed in SDWIS and compliance determinations are run on an on-going basis. Examples of data that may identify a system in need of assistance would include Maximum Contaminant Level (MCL) violations, Monitoring and Reporting (M&R) violations and Treatment Technique (TT) 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 becoming SNCs. Systems that are, or become, SNCs are given priority technical assistance consistent with Connecticut's existing strategy.

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 are without operators. Some common reasons for systems not having a certified operator include failure of operators to renew their certification, Conditional (grand fathered) 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 OCP, followed by progressive enforcement (violation letter, order, civil penalty). Some water systems have numerous monitoring and reporting violations. The MRE Unit refers these systems to the OCP. The OCP then follows up with technical assistance and uses this as a trigger for possible disciplinary action against operators. The OCP 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 an on-going 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. These issues are also referred from the MRE Unit and the OCP

follows up with technical assistance. 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 OCP has developed a standard operating procedure for disciplinary actions against certified operators.

A CWS's ability to build consumer confidence in the drinking water they provide is also considered an important capacity development element. A CWS's compliance with the consumer confidence reporting is also used as a trigger for technical assistance.

3. *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 public water systems. 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 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 CWS charge flat rates for water and do not periodically review these rates as compliance costs increase and their water system infrastructure depreciates.

The IRU staff is very involved in promoting mutual aid among public water systems, and in preaching community outreach and regional planning in areas where systems' consolidation is feasible or where drinking water infrastructure needs improvement. This is especially true with small water systems. Public water system consolidations that occurred during the period of 7/1/06 through 6/30/07 include 10 CWS, 17 NTNC, and 12 TNC systems. Small systems are always encouraged to pursue interconnections with larger CWS when feasible interconnections exist as a method of resolving their violations and capacity deficiencies.

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 CRS Unit makes extensive 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 they continue to fall further out of compliance. The failure of an existing CWS to comply with either the DPUC 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 DPUC, 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 CWS's ability to provide TMF capacity. The second is the determination of 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. Successful “take-overs” also result in a deterrent to other PWS’s operating in inefficient or ineffective manners.

Similarly, compliance tracking by the MRE 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 OCP. It has been recognized 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. This training curriculum provides small systems operators a broader overview of the compliance requirements and sustainability concepts that small systems need to implement. Whereas, the training curriculum for larger systems with multiple treatment and distribution systems operators may be more specialized to a specific operator’s duties. The OCP offers quarterly basic small system class for small systems operators that cover’s a broad range of topics including monitoring/reporting, public notification, new drinking water rules/regulations, infrastructure design/maintenance, backflow prevention and cross connections. The OCP also offers small system operators a regulations course on an annual basis and a course for school operators also on an annual basis.

The DWS also makes extensive use of our website to provide a broad range of information to public water systems to assist them with achieving compliance and providing them with access to important information.

4. *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:** No review was performed on the existing systems strategy during the previous year. However, the DWS Capacity Development Strategy is going to be reviewed in 2008 with a revised strategy submitted to EPA Region 1 by December 31, 2008.

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

**Answer:** No