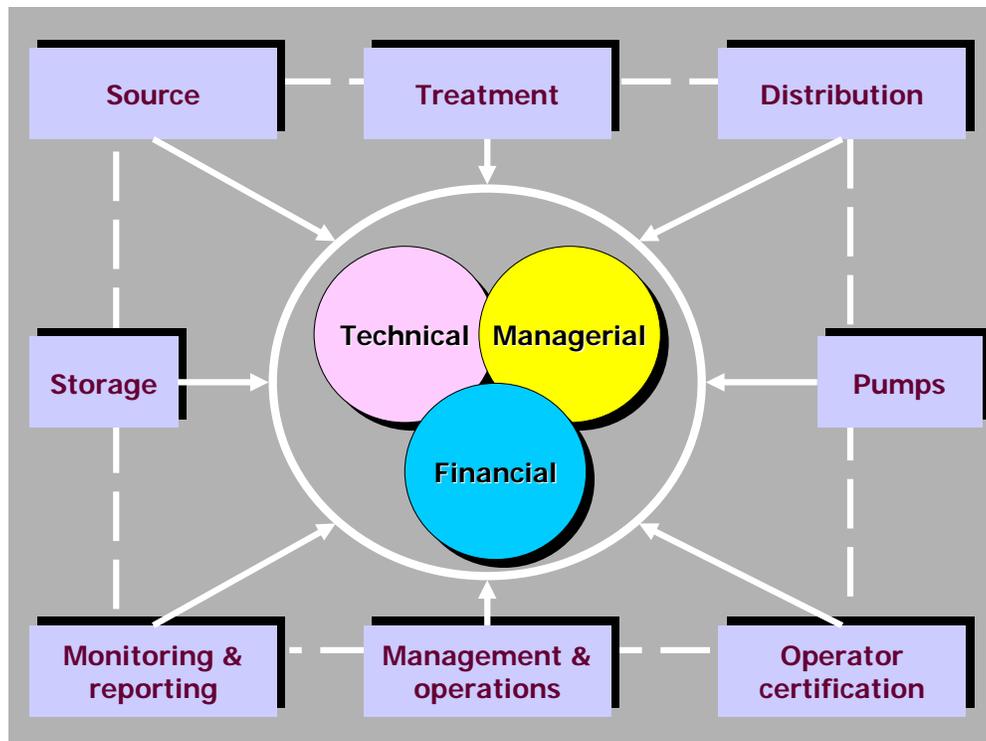


## Capacity Development Program Implementation



Prepared By  
Water Supply Division  
Department of Environmental Conservation

September 2008

# **Table of Contents**

**Executive Summary**

**Glossary of Terms**

**1. Introduction**

**2. Capacity Development Provisions in the Safe Drinking Water Act**

**2.1. New Systems Provision**

**2.1.1. New Water System Capacity Reviews**

**2.1.2. Most Recent Four Year Record**

**2.2. DWSRF Applicants Provision**

**2.3. Existing Systems Provision**

**2.3.1. Vermont Public Water Systems Demographics**

**2.3.2. Objectives**

**2.3.3. Implementation of the Existing Capacity Strategy**

**3. State's Approach in Offering or Providing Assistance**

**4. Review of Implementation of the Existing System Strategy**

**ATTACHMENT 1 - Vermont WSD Operator Certification Program Annual Report for Calendar Year 2007, dated July 1, 2008**

## Executive Summary

In the 1996 Amendments to the Federal Safe Drinking Water Act (SDWA), Congress mandated that states develop capacity development strategies to enhance the ability of public water systems to provide safe drinking water. These strategies are aimed at helping water systems acquire and/or maintain the technical, managerial, and financial abilities needed to properly operate, manage and finance their systems. With the assistance of a stakeholder group of State agencies, public water suppliers, technical assistance providers, local government representatives, and environmental groups, the Vermont Water Supply Division issued their initial Capacity Development Strategy Report on August 28, 2000.

Each State's strategy had to include provisions for new systems, for systems applying for funding within the Drinking Water State Revolving Fund (DWSRF) program, and for existing systems. Vermont's strategy requires all new NTNC, PCWs and systems applying for DWSRF funding to obtain a capacity determination. Existing systems not applying for funding are given direct assistance with Capacity issues.

The 1996 SDWA Amendments also require that each State submit an annual report of its Capacity Development Strategy and document the progress made towards improving the technical, managerial, and financial capabilities of its public water systems. This report satisfies the statutory requirements of the SDWA and assures that Vermont will not be penalized twenty percent of the DWSRF capitalization grant for failure to comply.

The Safe Drinking Water Act (SDWA) as amended in 1996 brings significant improvements to the national drinking water program. Capacity development is an important component of the Act's focus on mitigating drinking water issues. The capacity development provisions offer a framework within which States and water systems can work together to ensure that systems acquire and maintain the technical, financial, and managerial capacity needed to achieve the public health protection objectives of the SDWA.

The report is divided into four sections.

- ❖ Section 1 provides a general overview of the SDWA and the Capacity Development Program.
- ❖ Section 2 describes the capacity development review provisions that apply to new systems, existing systems applying for a DWSRF loan, and other existing systems. The new system provision requires all new Community Water Systems (CWSs) and all new Non-Transient Non-Community water systems (NTNCs) that begin operation after October 1, 1999 to demonstrate adequate capacity. The Drinking Water State Revolving Fund provision prohibits states from providing Drinking Water State Revolving Fund assistance to public water systems that lack adequate capacity. The existing system provision is intended to provide direct assistance to existing PWSs to help them acquire and maintain the necessary capacity.

Five objectives were identified in the Capacity Development Strategy:

- (1) Identify methods or criteria that the State will use to identify and prioritize the PWSs most in need of improving capacity.
- (2) Identify institutional, regulatory, financial, tax, or legal factors at the federal, State, or local level that encourage or impair capacity development.
- (3) Describe how the state will use the authorities and resources of the SDWA to: assist PWSs in complying with applicable laws and regulations; encourage the development of partnerships among PWSs; assist with the training and certification of water system operators; and establish methods for establishing a baseline and measuring improvements in capacity.
- (4) Identify interested stakeholders.
- (5) Utilize other available resources in the State of Vermont to assist PWSs with their technical, managerial, and financial capacity.

Additionally, a variety of initiatives were undertaken to address the objectives, and a summary of the status of each initiative is provided.

- ❖ Section 3 describes the state's approach in offering or providing assistance.
- ❖ Section 4 describes the progress made assisting public water systems to improve their technical, managerial, and financial capabilities. The successes are measured through existing programs and new initiatives that assist public water systems to acquire, maintain, and build upon their technical, managerial, and financial capabilities.

## **Glossary of Terms**

**Agency of Natural Resources (ANR)** is the agency that oversees the Department of Environmental Conservation (DEC), Department of Fish and Wildlife (FWD) and Department of Forests, Parks and Recreation (FPR).

**Department Of Environmental Conservation (DEC)** is the department that administers most of the Agency's regulatory programs plus several voluntary pollution and waste reduction programs. Program areas include: air quality, environmental assistance, public facilities engineering, geology, environmental permits, solid waste, hazardous waste, surface water quality, watershed planning, stormwater management, drinking water supply and wastewater management.

**Water Supply Division (WSD)** is the division within DEC responsible for administering the public drinking water program in the State of Vermont.

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

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

**Significant Non-Complier (SNC)** is a public water system that persistently violates drinking water standards specifically defined in EPA policy.

**Public Water System (PWS)** means any system(s) or combination of systems owned or controlled by a person or entity, that provides drinking water through pipes or other constructed conveyances to the public and that has at least fifteen (15) service connections or serves an average of at least twenty five (25) individuals daily for at least sixty (60) days out of the year.

**Public Community Water System (PCWS)** means a public water system which serves at least fifteen (15) service connections used by year-round residents or, regularly serves at least 25 year-round residents.

**Non-Transient Non-Community water system (NTNC)** is a public water system that that regularly serves at least 25 of the same persons daily for more than six months per year. Examples: schools, factories, office buildings.

**Transient Non-Community water system (TNC)** is a public water system that serves 25 or more different persons for more than 60 days of the year. Examples: restaurants, motels, campgrounds.

## ***1. Introduction***

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

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

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

The purpose of this report is to provide an assessment of the capacity development program in Vermont and the statewide strategy for assisting public water systems. The report highlights the progress made toward improving the technical, managerial, and financial capabilities of public water systems in Vermont as a result of the Vermont Water Supply Division Capacity Development Program.

## ***2. Capacity Development Provisions in the Safe Drinking Water Act***

The Amendments included three capacity development provisions.

- 1) All new community water systems (CWS) and non-transient non-community (NTNC) water systems that begin operation after October 1, 1999 must first demonstrate that they possess adequate capacity.
- 2) States are prohibited from providing Drinking Water State Revolving Fund (DWSRF) assistance to public water systems that lack adequate capacity, unless that assistance is directly related to improving the system's technical, managerial or financial capacity.
- 3) States must develop and implement a strategy to assist existing public water systems acquire and maintain the necessary capacity.

### ***2.1. New Systems Provisions***

Section 1420(a) of the Amendments, the new systems provision, applies to all new CWSs and NTNCs that begin operations after October 1, 1999. Vermont had to demonstrate to the United States Environmental Protection Agency (EPA) that it had the legal authority to ensure that all new CWSs and NTNCs had the technical, managerial, and financial capacity to comply with all applicable State and Federal drinking water regulations. On February 26, 1999, the EPA determined that Vermont met the guidance and statutory requirements under Section 1420(a). On October 1, 1999, Vermont began implementing the new systems provision of the Amendments.

To date, the Department Of Environmental Conservation (DEC), Water Supply Division (WSD) has submitted to the EPA eight annual new systems progress reports. In those reports, the Division

documented that the evaluation of new systems is ongoing and it addresses the capacity requirements for new water systems. In recent years, the new systems progress report has been included in the overall program implementation report submittal entitled, "Vermont New Water System Capacity Review Annual Report." Since September 2004, the WSD has been the sole governmental unit that exercises its authority to ensure the demonstration of new systems capacity. Before then, capacity reviews for NTNCs were divided between the Department's Wastewater Management Division and WSD. There have been no modifications to the WSD control points, which are integrated with the WSD construction permit and operating permit programs.

**2.1.1. New Water System Capacity Reviews**

There were two new CWSs and six new NTNCs reviewed during state fiscal year 2008. The information is summarized below in Table 1.

<b>Table 1</b> <b>Vermont Annual Capacity Program Report</b> <b>New CWSs &amp; NTNCs</b> <b>July 1, 2007 - June 30, 2008</b>				
# CWSs	Proposed New CWSs	PID # (internal tracking)	Approved	Reason Not Approved
1	Wheeler Brook Housing	C-1965-07	Yes	
2	Grange Hill Housing	C-2122-08	No	Pending Review
# NTNCs	Proposed New NTNCs		Approved	Reason Not Approved
1	Northeast Waste	N-1868-06	Yes	
2	Industrial Lane- Lot 12	N-1972-07	Yes	
3	Laroe Mixed Use	N-2037-07	Yes	
4	The Pines Office Building	N-2029-07	No	Pending Review
5	Pidgeon Water	N-2114-08	No	Pending Review
6	World of Discovery Daycare	N-2125-08	No	Pending Review

**2.1.2. Most Recent Four-Year Record**

In any given fiscal year, the WSD receives 20-30 inquiries from developers, landowners, and other entities about creation of new public water systems. In most cases, the WSD promotes alternatives to creating a new public water system, such as consolidation with, or annexation by, existing public water systems. The Vermont Legislature recently passed H806, *An Act Relating to Public Water Systems (Act #156)*, which authorizes consecutive water systems serving less than 500 persons to qualify for an exemption from Federal and State Drinking Water Regulations. This act has the rare distinction of authorizing less regulation, not more, without diminishing public health protection. The Act took effect July 1, 2008, so there were no systems recognized during the 2008 Fiscal Year. Those systems that are recognized as 'exempt' consecutive water systems will be summarized in next year's report.

Table 2 below shows the operational status of the new Vermont PWSs permitted during the past three state fiscal years and reported on in the annual new systems capacity reports. There are probably another 5-10 entities who have submitted proposals to the Division for creation of a PWS who have not yet proceeded to engineering design or construction.

<b>Table 2</b> <b>New Public Water System Activity</b> <b>7/1/2005 – 6/30/2008</b>			
PWS Number	PWS Name	PWS	SNC List Ever?

		Type	
VT0000836	MOUNT SNOW BASE AREA WATER SYSTEM	C	NO- under construction
VT0021121	WHEELER BROOK HOUSING DEVELOPMENT	C	NO- under construction
VT0021127	INDUSTRIAL LANE LOT 12	NTNC	NO
VT0021002	ANGELERI DEVELOPMENT	C	NO
VT0021085	NORTH COUNTRY CAREER CENTER LAND LAB	NTNC	NO
VT0021072	HWVCA WELL-HISTORIC WAITSFIELD HOUSE	NTNC	NO
VT0021057	ANTONUCCI DEVELOPMENT	C	NO
VT0021035	CANNON PROJECT	C	NO
VT0021033	NEW HORIZONS CHILDREN CENTER	NTNC	NO
VT0021015	CHAMPLAIN VALLEY CO HOUSING	C	NO
VT0021018	LINCOLN PEAK BASE AREA	C	NO- under construction
VT0021005	SUNDANCE SUBDIVISION	C	NO
VT0021003	GROTON VILLAGE REVITALIZATION	NTNC	NO
VT0020999	DELTA INDUSTRIES LLC	NTNC	NO
VT0021083	LINCOLN CORNER	NTNC	NO
VT0021094	GRANGER ROAD INDUSTRIAL PARK	NTNC	NO
VT0021037	VA MEDICAL CENTER	NTNC	NO
VT0021021	BERLIN PROFESSIONAL OFFICES	NTNC	NO
VT0021029	WEST RIVER VALLEY SENIOR HOUSING	C	NO
VT0005529	BERLIN HEALTH REHABILITATION	C	NO

## 2.2. *DWSRF Applicants Provision*

Section 1452(a)(3) of the Amendments applies to those public water systems that seek assistance from the DWSRF. Under this provision, states are prohibited from providing DWSRF assistance to a public water system that lacks the technical, managerial, and financial capability or that is in significant noncompliance with applicable State and Federal drinking water regulations. However, states are allowed to provide DWSRF assistance to such a public water system if the use of the assistance will assure compliance, or if the owner or operator of the system agrees to undertake feasible and appropriate changes to acquire and maintain the system's technical, managerial, and financial capabilities over the long term.

The WSD will make a determination on system capacity based on information available in WSD records, the priority list application, loan application and, most importantly, completion of a capacity evaluation at a meeting between the applicant and the WSD or their technical assistance provider (Vermont Rural Water Association). Some components of the capacity evaluation include discussions related to source capability, monitoring and reporting compliance, water loss, water and energy efficiency, managerial competency, and fiscal responsibility. Discussions regarding financial capacity will also consider current and projected water rates, delinquent water accounts, and financial planning. The presence of an active organization with identified responsible officials and business practices are considerations in managerial capability determinations. If a loan applicant is determined to have a lack of capacity in some areas, generally, a corrective action plan will be established and included as a loan condition. The WSD, with VRWA, continues to update the survey as needed to reflect the changing needs of the program. More emphasis is now placed on implementation of the Capacity Improvement Plan with consideration being given to withholding construction funding, including planning loan forgiveness, through the DWSRF until certain capacity milestones are achieved.

### **2.3. Existing Systems Provision**

Section 1420(c)(2) of the Amendments required that Vermont develop and implement a capacity development strategy to assist public water systems acquire and maintain technical, managerial, and financial capacity. With the assistance of a stakeholders group formed in 2000 consisting of federal, state, and local government, water districts, fire districts, homeowners associations, mobile home parks, school districts, daycare centers, camps, and consulting engineers, the Division developed a comprehensive capacity development implementation strategy to assist public water systems. The strategy considered many factors that encourage or impair Capacity and worked to develop initiatives to address them. The initial set of initiatives has been discussed at length in past reports and will only be listed below. Since the initial 18, there have been a number of newly introduced initiatives; their progress is summarized below. The Vermont Water Supply Division submitted a Capacity Development Program Strategy Report: "Improving the Technical, Managerial and Financial Capabilities of Public Water Systems in Vermont," in August 2000. In September 2000, EPA determined that the Vermont Capacity Development Strategy met the statutory requirements under Section 1420(c) of the Amendments.

On October 1, 2000, the Division began implementing the existing systems provisions of the Capacity Development Strategy. To date, the Division has submitted to the EPA seven annual "State Of Vermont Capacity Development Program Strategy Implementation" reports. These reports document that the WSD is implementing a fully functioning existing water system plan according to the capacity development strategy.

#### **2.3.1. Vermont Public Water Systems Demographics**

There are 1371 public water systems in Vermont that fall into three different categories.

*Public Community water systems* regularly serve at least 25 year round residents or have 10 or more connections. There are 446 systems serving an estimated aggregate population of 450,470. About half of these Community systems are privately owned home-owners associations or mobile home parks; approximately 16 are private-for-profit water systems that are regulated by the Public Service Department.

*Non-Transient Non-Community water systems* serve at least 25 of the same persons daily for more than six months per year. Schools, factories, and office buildings meet these criteria. There are 247 systems in this category serving an aggregate population of 42,938. More than half of these systems are small rural schools, the remainder are mostly privately owned businesses.

*Transient Non-Community water systems* serve more than 25 persons a day for at least 60 days during the year. Restaurants, motels, and campgrounds are examples. Approximately 672 systems are classified as transient non-community water systems. Nearly all of the transient systems are privately owned businesses

Also, there are approximately 6 water bottling companies whose sources are in Vermont and are regulated by the Water Supply Division.

Regulatory requirements vary for the different types of systems and the major focus of the Strategy is on CWSs and NTNCs. Factors weighing on strategy development and implementation are system size and ownership type. Economies of scale are dramatic for water system operation and maintenance costs and have a major impact on the ability of small volunteer or part-time system operators to maintain their systems in compliance with the ever increasing and more complex EPA and State regulatory requirements. Our Capacity Improvement Program is focused primarily, although not exclusively, on those most in need of assistance, the very small community system and small rural school system. A significant number of these systems would not be able to comply with regulatory requirements and protect public health without the technical and financial assistance provided through this program. This strategy has proved successful and we are now working to focus

more on small municipalities and systems on the verge of enforcement action with onsite managerial assistance.

### **2.3.2. Objectives**

In the Capacity Development Program Existing Strategy Report, the Water Supply Division identified and indicated it would undertake the following activities:

- Identify methods or criteria that the State will use to identify and prioritize the water systems most in need of improving capacity;
- Identify institutional, regulatory, financial, tax, or legal factors at the federal, State, or local level that encourage or impair capacity development;
- Describe how the State will use the authorities and resources of the SDWA to:
  - Assist water systems in complying with applicable laws and regulations;
  - Encourage the development of partnerships among water systems;
  - Assist with the training and certification of water system operators;
  - Develop methods for establishing a baseline and measuring improvements in capacity;
- Identify interested stakeholders; and
- Utilize other available resources in the State of Vermont to assist water systems with their technical, managerial, and/or financial capacity.

### **2.3.3. Implementation of the Existing Capacity Strategy**

Vermont has a long history of providing both financial and technical assistance to water systems. The 1996 Amendments to the Safe Drinking Water Act provided an opportunity to use federal and state dollars to improve and expand this program to more nearly meet the need. A series of meetings with owners, operators, representatives of state and federal organizations, consulting engineering firms and others were held in the spring of 2000 to identify needs, and obtain suggestions for new and revised programs. Based on public input, the Vermont Existing Public Water System Capacity Strategy was developed and submitted to EPA in July of 2000. Reference should be made to prior reports for a detailed summary of achievements for each initiative. New initiatives or capacity undertakings are included in detail below. Major components of any capacity program are technical and financial assistance, and training opportunities, but the Division is currently focusing on providing managerial assistance as the backbone for overall Capacity Development. We believe emphasis on each of these components will be most successful in assuring Vermont water systems are able to comply with regulatory requirements and protect public health.

The Capacity Development Strategy discussion below includes ongoing work related to the original initiatives detailed in the Vermont Existing Public Water System Capacity Strategy of July 28, 2000, as well as initiatives introduced since then.

#### Initial set of Capacity initiatives

1. Monitoring Cost Study- completed
2. DWSRF Program Changes- ongoing
3. Training and Assistance- ongoing
4. Legal Assistance-ongoing activity; managed by the DWSRF TA contract
5. Engineering Technical Assistance- completed

6. Small System Templates and Self-Assessment- completed
7. User Rate Reviews and Budgeting/Assisting in the Development of Financial Capacity- ongoing; will be using the CUPSS program as we go forward
8. Public Service Board (PSB) Technical Assistance- completed
9. Board Member-Owner Manual- still in development
10. Small System Design Guidance Manual- ongoing
11. Consolidation Study- replaced Consolidation Study with a Facilitation and Mediation contract beginning in June 2008 continuing through June 2009
12. Water Supply Divisional Newsletter- ongoing
13. Communication Workgroup- completed

#### Modifications to the Capacity Strategy

The following initiatives were added since the original set was developed in 2000, representing modifications to the Capacity Development Strategy for Existing Systems. Funding for these additional initiatives is provided from DWSRF set-asides.

14. Development of a Cross-Connection Guidance Manual- initiative dropped
15. Reservoir Water Quality Study- completed
16. Comprehensive Performance Evaluation Program- completed
17. Operation & Maintenance Manual Template for Small Surface Water Systems- initiative dropped; however, we are perusing a contract for O&M Manual preparation for small water systems
18. Small System Engineering Evaluations- completed; extremely successful initiative
19. Regulation of Consecutive Water Systems and New Waterline Extensions- successful passage of H806 to Act 156 *An Act Relating to Public Water Systems*
20. Asset Management- new initiative beginning this Fall; we will be using the EPA-developed CUPSS tool to help systems develop an asset management program. Fair Haven has volunteered to pilot our efforts in Vermont.
21. Determination of Non-Profit Status- after exhaustive research, the WSD was given the authority to determine if a water system was not-for-profit without being a tax-exempt (through the IRS) entity. This distinction is beneficial in it reduces a potentially significant time and money delay in the DWSRF loan process
22. WaterSense Pilot Project at Windy Hill Acres MHP- in past years the Windy Hill Acres MHP in Springfield, VT has experienced episodes of water shortages, with the added restriction of not being able to expand the park because of limited source yield. The WSD will be working with the Park to replace fixtures in residence's homes that meet WaterSense criteria for efficiency in an effort to reduce water consumption. Along with replacing fixtures, a significant education component will be part of the project. Additionally, the project also hopes to show energy savings along with water savings at the end of the two year pilot.

#### Specific forms of Financial Assistance

1. Low Interest Loans for Water System Improvements
2. Zero Interest Loans for Planning & Final Design
3. Low Interest Loans for Land Purchase and Conservation Easements for Source Water Protection
4. Negative Interest Construction Loans to Low Income Communities with High Water Rates
5. Planning and Final Design Loan Forgiveness for Small Municipalities
6. Up to \$25,000 Construction Loan Forgiveness for Municipal School System Improvement Projects.

### 3. State's Approach In Offering Or Providing Assistance

As indicated in the original strategy, prioritization of systems for technical assistance and training is not required because assistance is available to meet all requests. However, if the situation arose, established Drinking Water State Revolving Fund (DWSRF) procedures would be used to prioritize systems requesting loans, including planning and source water protection loans. Alternately, we have given priority to water system evaluations for community and school systems serving populations of less than 1000 by changing the ranking system for DWSRF loans. This change has had the intended effect of increasing the number of small systems receiving loans.

In the future, if the need for *technical assistance* exceeds WSD staff or contract assistance resources, WSD will prioritize systems using a number of factors including, but not limited to:

- DWSRF priority list status
- System ownership (municipal, private non-profit, private profit)
- System type (CWS, NTNC, TNC)
- System size (design population)
- Permanent residents

Currently, the Division is actively providing ongoing Capacity assistance to:

- Irasburg FD #1
- Whiting Water Corporation
- Barnet Water System/Barnet FD #2
- Pownal FD #3
- Fair Haven
- Windy Hill Acres MHP
- Castleton FD #1
- South Alburgh FD#2/Village of Alburgh

### 4. Review of Implementation of the Existing System Strategy

There is a great deal of flexibility in program administration and implementation as it relates to providing capacity assistance. This has been instrumental in making the Capacity program work for those systems that need it most. The WSD does not conduct regularly scheduled reviews of the implementation of its Capacity Development Program, however, there is significant interest in re-visiting the efficacy of the initial Capacity Initiatives and how they relate to program goals. The objective of re-visiting would be to re-establish, re-write and/or develop new initiatives given the program is approaching the 10 year mark and significant experience was gained during that time. Additionally, there is a push from within the program to re-work initiatives and incorporate the principals of the Four Pillars of Sustainable Infrastructure that the Environmental Protection Agency has called out as the 'way forward'.

#### Availability of the Report to the Public

The WSD posts its annual Capacity Development Program Report to EPA on its web site at: <http://www.vermontdrinkingwater.org>.

Prepared by:                   /s/ Ashley J. Lucht                    
Ashley J. Lucht  
Vermont Capacity Development Coordinator

Date:           10/1/2008

**ATTACHMENT 1**  
**Vermont Water Supply Division**  
**Operator Certification Program**  
**Annual Report for Calendar Year 2007**  
**July 1, 2008**

This Annual Report documents Vermont’s program compliance with the EPA Operator Certification Guidelines for the calendar year ending December 31, 2007. The US Environmental Protection Agency published guidelines for the “Certification and Recertification of the Operators of Community and Non-transient Non-community Public Water Systems” on February 5, 1999. Vermont revised its requirements through the adoption of the Vermont Water Supply Rule on December 29, 2000 to comply with the EPA guidelines. EPA approved the State of Vermont Operator Certification Program on February 14, 2001 and awarded the Operator Certification Expense Reimbursement Grant (ERG) in January 2002. On September 7, 2007, the Department of Environmental Conservation executed EPA’s Assistance Amendment for the ERG, which authorized an extension to receive and use ERG funds until 12/31/2009.

**Program overview and Enforcement efforts**

The total number of certified operators serving Community, Non-Transient Non-Community, and Transient Non-Community systems is 1312.

Vermont has not grandparented operators since 1992, when we adopted the initial operator certification rules. The goal was to assist those operators already operating public water systems to become certified. All grandparented operators are required to maintain their renewal credits for their class each renewal cycle. We currently have 112 grandparented operators in our certification database (SWOCS).

Vermont offers Operator-in-Training and Provisional Certification to help new water systems and operators become fully certified. SWOCS currently lists 88 with Operator-in-Training Certification and 5 operators with Provisional Certification.

The number of systems without certified operators as of 12/31/07 is listed in the table below.

System type	Number of systems <sup>1</sup>	Number of systems with no certified operator
Community	440	4
Non-Transient Non-Community	242	3
Transient Non-Community*	651	91

\* TNC certification requires registration for Class 1A . TNC certification is not mandated by EPA.

The Division Certification Officer continues to work closely with new and delinquent community and non-transient non-community water systems to help them obtain a certified operator. The Certification Officer runs a report monthly to identify community and non-transient non-community systems without a certified operator. The Certification Officer will call these systems and follow up with an initial warning letter, if necessary. The water system has thirty days to notify the Water Supply Division in writing of their certified operator. If the system does not obtain a certified operator, we will issue a Notice of Alleged Violation (NOAV) shortly after the thirty-day period. At this stage, most water systems comply with the NOAV. For the few remaining, the Division attorney calls them and warns them of potential enforcement actions. If the system still does not obtain a certified operator, we will refer the system to the Agency of Natural Resources Enforcement Division for further action.

---

<sup>1</sup> These figures differ from those listed in the Capacity Report. The difference is the result of slightly different reporting dates.

Most community and non-transient non-community water systems without certified operators have this status due to operators failing to renew in a timely way. In calendar year 2007, the division did not issue any NOAVs to systems for failure to have a certified operator. This is attributed to the outreach the Certification Officer provided to these systems that needed operators. This new approach was successful in reducing the number of systems without a certified operator.

The Agency of Natural Resources has the authority to revoke or suspend an operator's certificate. Failure to comply with the regulations may require revocation or suspension. In calendar year 2007, we requested no operators to surrender his or her certificate, nor were revocation or suspension actions taken.

### **Training and exams**

The operator training program is coordinated with the Vermont Rural Water Association (VRWA). Communication between the VRWA Coordinator and the Water Supply Division's Compliance & Certification staff occurred frequently throughout the year. For the second year, the VRWA coordinated a full semester water treatment college course with the New Hampshire Community Technical College. Additional courses have been coordinated with the Green Mountain Water Environment Association (GMWEA) and the New England Water Works Association (NEWWA). The GMWEA utilized funds allocated from the EPA Expense Reimbursement Grant to subsidize these courses to reduce the course fees.

Ongoing training coordination occurred throughout the year between the Water Supply Division, VRWA, and GMWEA. In calendar year 2007: approximately 4900 training contact hours were awarded to operators who attended classes funded by ERG (see list of courses which were offered through the ERG below), 76 operators were reimbursed exam fees using ERG funds and 156 operators were reimbursed certification application fees using ERG funds.

We continue to hold courses in various locations throughout the state to reach small water systems. Our courses were publicized on our web site, listed in our newsletter, and mailed to operators before a renewal period. In calendar year 2007, we provided approximately 4900 hours of training contact. 1372 water professionals were trained using ERG funds (see the attached list of courses which were offered through the ERG grant). The attendance for each class ranged from 10-20 participants (depending on location).

Exams were again administered in the spring and fall, on the same day (typically, the first Friday in May and November) at two different locations in the state (Rutland, Waterbury). 106 individuals took the exams.

### **Stakeholder Involvement**

The Vermont Operator Certification Advisory Committee met 4 times in 2007. The following major topics were reviewed and discussed: core curriculum, owner responsibilities, operator duties and responsibilities, aging operator community, hiring new water system operators, and committee organization. A guidance document was adopted and modified from NEWWA Guidance on Water System Operations. The VT WSD adopted the Guidance Document and placed it online ('How to Hire a Water System Operator'). The committee also discussed Chapter 21-12 of the VT Water Supply Rule and started a list of changes to the rule that would be of interest to water system operators. Exam review was also initiated for Class II, and the revised Class II exam was used in November 2007.

### **ERG expenditures**

Operator reimbursement and use of the Operator Certification Expense Reimbursement Grant continues. The Division has received favorable response regarding reimbursement for expenses. As of December 31, 2007, the Division has allocated approximately \$1,008,000 of the ERG funds.

Training provided/coordinated January 1, 2007 – December 31, 2007

Month 2007	Courses	Training Credit Hrs	# of attendees	Training Cont. Hrs
Vermont Rural Water Association (VRWA) Courses				
January	Small water Systems Vulnerability Assess and Emerg. Resp.	3	9	27
	Advance Drinking Water System Operation Session #1 1/23	3.5	26	91
	Advance Drinking Water System Operation Session #2 1/30	3.5	26	91
	Affordable Control/Telemetry for Water and WW Systems	3	14	42
	Capacity on-site training by Paula Jackson	2	2	4
	Capacity on-site training by Paula Jackson	4	4	16
	Capacity on-site training by Elizabeth Walker	2	1	2
February	Advanced Drinking Water System Operation Session #3	3.5	25	87.5
	Advanced Drinking Water System Operation Session #4	3.5	18	63
	Advanced Drinking Water System Operation Session #5	3.5	17	59.5
	Advanced Drinking Water System Operation Session #6	3.5	24	84
	Preventative Maintenance Program and Std Operating Proced.	4	17	51
	Affordable Control/Telemetry for Water and Wastewater System	3	6	18
	Stage 2 Rule Disinfectants & Disinfection Byproducts	4	7	28
	Small Water System Vulnerability Assessments and Emergency Response Plans	3	18	54
	Application and Maintenance of Progressive Cavity Pumps	4	18	72
	Capacity on-site Training-Elizabeth Walker- Vermont MHP	1	1	1
	Capacity on-site Training-Elizabeth Walter-Flood Brook School District	1	1	1
	Capacity on-site Training-Forest and Parks-Paula Jackson	5	5	25
	Capacity on-site Training-Forest and Parks-Paula Jackson	3	6	18
March	Advanced Drinking Water Systems Operation Session #7	3.5	12	42
	Advanced Drinking Water Systems Operation Session #8	3.5	22	77
	Advanced Drinking Water Systems Operation Session #9	3.5	20	70
	Advanced Drinking Water Systems Operation Session #10	3.5	19	66.5
	Safety Basics for Operators	3	17	51
	Pumps and Pumping Systems	3	6	18
	How to Prepare for a Sanitary Survey	3	15	45
	Stage 2 Rule Disinfection Byproducts Implementation St. J	2	14	56
	Planning for a Pandemic	4	19	76
	Stage 2 Rule Disinfection Byproducts Implementation Rutland	2	18	72

Month 2007	Courses	Training Credit Hrs	# of attendees	Training Cont. Hrs
	AWWA Webcast-Developing A Mutual Aid Response Network	2	11	22
	Application and Maintenance of Progressive Cavity Pumps	4	12	48
	Affordable Control/Telemetry for Water and Wastewater System	3	9	27
	On-site Training- Paula Jackson- Champlain Water District	3.5	11	38.5
	Capacity on-site Training-Elizabeth W.-Battleground Condos	1	1	1
	On-site Training-Paula Jackson-Ludlow	3	4	12
April	Advanced Drinking Water System Operation Session 11	3.5	22	77
	Advanced Drinking Water System Operation Session 12	3.5	19	66.5
	Advanced Drinking Water System Operation Session 13	3.5	16	56
	Introduction to Excel-Springfield	5	15	75
	Intermediate Excel-Springfield	5	13	65
	What to Expect From a VOSHA Inspection-Waterbury	3	12	36
	Small Systems Certification Course-(Waterbury & Rutland)	3.3	57	188.1
	Waterworks Math Review-Rutland	4	8	32
	Waterworks Math Review-Waterbury	4	4	16
	Small Systems Certification Exam Review (Class2)-Waterbury	3	7	21
	Capacity on-site training-Elizabeth Walker-Dorset Elementary	1	1	1
	Capacity on-site training-Elizabeth Walker-Friends of the Mad River	10	2	20
	On-site training-Paula Jackson-Essex Jct.	3	3	9
	VRWA Annual Conference:			
	Mutual Aid Agreement	1	26	26
	Preparing for a System Upgrade	1	26	26
	Regulatory Roundtable for Water Systems	1	60	60
	Water Tank Inspection Demonstration	1	45	45
May	Vermont Rule Update and Sampling Seminar-Rutland	5	17	85
	Campground Water System Operations and Maintenance-St. Albans	3	9	27
	Standby Disinfection-Morrisville	3	17	51
	Water System Audits -Rutland	3	11	33
	Rate Setting-Rutland	3	12	36
	Standby Disinfection-Rutland	3	18	54
	Vermont Rule Update and Sampling Seminar-Waterbury	5	18	90
	On-site Training-Brent Desranleau-Newbury Village	4	1	4
	On-site Training-Paula Jackson-Milton Water District	2.5	4	10
	On-site Training-Elizabeth Walker-East Haven School	1	1	1

Month 2007	Courses	Training Credit Hrs	# of attendees	Training Cont. Hrs
June	How to Prepare for a Sanitary Survey-Paula Jackson-Waterbury	3	14	42
	Small Water System Vulnerability Assessments and Emergency Response Plans-Paula Jackson-St. Albans	3	7	21
	Confined Space Entry Seminar-Paula Jackson-Waterbury	3	20	58**
	Trenching Safety Seminar-Paula Jackson-Waterbury	3	18	54
	INFLO-Water Tank Cleaning and Inspection Procedures-Shaun Fielder-Worcester	2	5	9*
	Water System Audits-Paula Jackson-Essex Jct.	3	7	21
	Water System Rate Setting-Phil Acebo-Essex Jct.	3	6	18
July	Vermont Rule Update-Phil Acebo-Springfield	5	15	75
	Chemical Feed Pumps-Phil Acebo-Waterbury	3.5	22	77
	Capacity On-site training-Paula Jackson-Lamoille Union High School	5	3	15
August	Metering-Waterbury	3.5	14	49
	NHCTC Advanced Drinking Water System Operations-VTC - #1	5	15	75
September	NHCTC Advanced Drinking Water Systems Operators-VTC- #2	5	16	80
	NHCTC Advanced Drinking Water Systems Operators-VTC- #3	5	15	75
	Advanced Drinking Water Systems Operators-VTC-#4	5	14	70
	Fluoridation and Water Systems-Rutland	5.5	8	44
October	NHCTC Advanced Drinking Water Systems Operators-VTC-#5	5	14	70
	NHCTC Advanced Drinking Water Systems Operators-VTC-#6	5	15	75
	NHCTC Advanced Drinking Water Systems Operators-VTC-#7	5	14	70
	NHCTC Advanced Drinking Water Systems Operators-VTC- #8	5	13	65
	NHCTC Advanced Drinking Water Systems Operators-VTC-#9	5	14	70
	LT 2 Enhanced Surface Water Treatment Rule-Waterbury	3	21	63
	Fluoridation and Water Systems-Waterbury	5.5	12	66
	Small Systems Certification Class-Rutland	12	12	144
	Small Systems Certification Class-Waterbury	12	15	180
	Small Systems Certification Math Review Rutland	3	5	15
	Small Systems Certification Exam Review Rutland	4	5	20
	Small Systems Certification Math Waterbury	3	16	48
	Small Systems Certification Exam Review-Waterbury	4	14	56
	Capacity on site by Paula Jackson	4	1	4
November	Trenching Safety Seminar-Berlin-Dan Whipple-VOSHA	3.5	11	38.5
	Confined Space Entry-Berlin-Dan Whipple, VOSHA	3.5	16	56
	Planning for a Pandemic-Springfield	4	9	36

Month 2007	Courses	Training Credit Hrs	# of attendees	Training Cont. Hrs
	Lockout/Tagout-Springfield-Dan Whipple-VOSHA	4	12	48
December	Comparing Alternative Disinfection-Enosburg-Mike Harrington	6	15	90
	Verifying the Water/Wastewater Treatment Process-Montpelier-Mike Harrington	6	8	48
	Ultraviolet-Common Sense Disinfection Technology for the 21st Century-Middlebury-Mike Harrington	4	10	40
	Stage 2 Disinfection Byproducts	3	6	18
<b>GMWEA</b>	<b>Courses</b>			
January	Sound Procedures for Drinking Water Sampling	3	4	12
February	Fundamentals of reading blueprints	6	3	18
April	Pumps and Pumping Overview	6	9	54
		385.8	1372	4888.1