

Capacity Development Program Implementation



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Executive Summary

In the 1996 Amendments to the Federal Safe Drinking Water Act (SDWA), Congress mandated that states develop capacity development strategies to enhance the ability of public water systems to provide safe drinking water. These strategies are aimed at helping water systems acquire and/or maintain the technical, managerial and financial (TMF) abilities needed to properly operate, manage and finance their systems. With the assistance of a stakeholder group made up 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 from the Drinking Water State Revolving Fund (DWSRF) program, and for existing systems. Vermont's strategy requires all new community and non-transient non-community water systems, and systems applying for funding from the DWSRF 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 TMF 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 SDWA as amended in 1996 brought significant improvements to the national drinking water program. Capacity development is an important component of the Act's focus on mitigating drinking water issues. Capacity development provisions offer a framework within which States and water systems can work together to ensure that systems acquire and maintain the TMF 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 non-transient non-community water systems (NTNCs) that begin operation after October 1, 1999 demonstrate adequate capacity. The Drinking Water State Revolving Fund provision prohibits states from providing DWSRF assistance to public water systems that lack adequate capacity, unless the project for which funding is requested will ensure compliance with the SDWA. The existing system provision is intended to provide direct assistance to existing public water systems to help them acquire and maintain adequate capacity.

Five objectives that were identified in the Capacity Development Strategy:

- (1) Identify methods or criteria that the State will use to identify and prioritize the water systems most in need of capacity assistance;
- (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 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; and develop methods for establishing a baseline and measuring improvements in capacity;
- (4) Identify interested stakeholders; and,
- (5) Utilize other available resources within the State of Vermont to assist water systems with their TMF 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 to offering or providing assistance.

- ❖ Section 4 describes the progress made assisting public water systems to improve their TMF capabilities. Successes are measured through existing programs and new initiatives that assist public water systems to acquire, maintain, and build upon their TMF capabilities.

1. Introduction

The objective of the 1996 Safe Drinking Water Act (SDWA) Amendments (Amendments) was 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 included 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, or capacity, 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 (TMF) capabilities which 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 TMF 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 progress made toward improving the TMF capabilities of public water systems in Vermont as a result of the Vermont Water Supply Division's Capacity Development Program.

2. Capacity Development Provisions in the Safe Drinking Water Act

2.1. New Systems Provisions

There has been no change, nor is any currently planned, to Vermont's legal authority to implement the New Systems Program since it was established by state law in 1998.

Vermont's Capacity Development program utilizes a self-developed 'Capacity Review Check-list' to determine when and what a qualifying system needs to complete to demonstrate capacity. For potential CWSs and NTNCs, the checklist is a two-step process, completing items before receiving a Permit to Construct (PTC) and another set of items before receiving a Permit to Operate (PTO). Items included on the checklist include, but are not limited to, submittal of a Source Protection Plan, Long Range Plan, project As-Built plans, and required sampling plans, and retention of a Certified Operator.

Additionally, to ensure newly permitted water systems are able to maintain capacity, the Capacity Development Coordinator conducts quarterly check-ins with either the design engineer or the applicant to determine where in the construction process the proposed system is. Often this acts as a reminder to the applicant that their PTC will expire shortly and if they still intend to complete the project they must reapply for a new permit. This is also beneficial to systems that have finished construction and will be serving water to the public by serving as a reminder that more steps need to be completed before they have officially achieved capacity and can receive a PTO.

2.1.1. New Water System Capacity Reviews

During state fiscal year 2011, the capacity development program either began or completed a capacity review on eight potential new systems at varying steps in their approval process. As indicated above, a system will receive a capacity review up to two times; before they receive a Permit to Construct and again before receiving a Permit to Operate. Their information is summarized below in Table 1.

**Table 1
Vermont Annual Capacity Program Report
New CWSs and NTNCs, State FY11
July 1, 2010 - June 30, 2011**

Construction Permit Reviews	Proposed WSID	PID # (internal tracking)	Capacity Review Status	Notes
Sundance Subdivision	VT0021005	C-2659-11.0	Completed	Application Pending
NVRH Water System	VT0021311	N-2622.10.1	Completed	Permit to Construct issued
Beaver Wood Energy Pownal	VT0021312	N-2624-10.0	Pending	Public hearing for large groundwater withdrawal pending
Beaver Wood Energy Fair Haven	VT0021305	N-2608-10.0	Pending	Waiting on information from applicant
Border Patrol Station Swanton	VT0021340	N-2709-11.0	Pending	Internal review underway
Border Patrol Station Beecher Falls	VT0021341	N-2710-11.0	Pending	Internal review underway
Operating Permit Reviews	WSID		Capacity Review Status	Notes
Champlain Valley Co-Housing	VT0021015		Completed	Initial Permit to Operate issued
244 Granger Rd	VT0021172		Completed	Initial Permit to Operate issued

2.1.2. Most Recent Three-Year Period

In any given fiscal year, the WSD receives 20-30 inquiries from developers, landowners, and other entities about creating a new public water system. 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. Since the Vermont Legislature enacted Act 156 in 2008, *An Act Relating to Public Water Systems*, which authorized consecutive water systems serving less than 500 persons to qualify for an exemption from Federal and State Drinking Water Regulations, the WSD has seen an increase in the number of systems applying for and receiving consecutive exempt status at the beginning of the permitting process.

Table 2 below shows the ETT status of new public water systems that were activated during the past three state fiscal years and reported on in the federal annual new system capacity reports.

**Table 2
New Public Water System Activity
7/1/2008 – 6/30/2011**

WSID	WS Name	PWS Type	Date Activated	On ETT list? Number?
VT0021199	Notchbrook III	CWS	8/29/2008	No
VT0021207	Killington Gateway I Condo Assoc.	CWS	10/16/2008	No
VT0021208	Killington Gateway II Condo Assoc.	CWS	10/20/2008	No
VT0020744	Derby MHP	CWS	10/21/2008	No
VT0021015	Champlain Valley Co-Housing	CWS	1/23/2009	No
VT0021003	Groton Village Revitalization	NTNC	2/17/2009	Yes- 4
VT0021172	244 Granger Rd	NTNC	3/19/2009	No
VT0020995	Rocking Stone Farms	CWS	4/15/2009	Yes- 2
VT0021241	Brierwood MHP	CWS	4/30/2009	Yes- 8
VT0021254	Leisure Lodge Corporation	CWS	7/23/2009	Yes- 11

VT0021057	Outlook at Mt Snow	CWS	10/21/2009	No
VT0021167	Hilltop Montessori School	NTNC	10/22/2009	No
VT0021121	Wheeler Brook Housing	CWS	1/27/2010	No
VT0021276	Caspian Area School System	NTNC	2/16/2010	Yes- 3
VT0021287	Johnson State College	NTNC	4/5/2010	Yes*- 6 (consecutive to Johnson Water Dept., which is a 6)
V00021295	Brattleboro Professional Center	NTNC	6/28/2010	Yes- 1
VT0021302	Highgate Springs POE	NTNC	8/5/2010	No
VT0008321	Cabot Farmers Coop	NTNC	8/13/2010	No
VT0021303	King Arthur Flour Co	NTNC	9/8/2010	No
VT0020453	Southworth Milton Inc.	NTNC	10/20/2010	No
VT0000196	Cortina Inn Resort	NTNC	1/10/2011	No
VT0006086	Hancock Village School	NTNC	5/4/2011	No
VT0021339	Smugglers Operations Center	NTNC	5/16/2011	No

* System has existed for many years, but was more recently identified as a consecutive system.

2.2. DWSRF Applicants Provision

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. A capacity evaluation is a meeting between the applicant and the Capacity Development Coordinator; often the system's designated engineer and a representative from VT's DWSRF program will also attend.

Components of the capacity evaluation include discussions related to source capability, monitoring and compliance reporting, relationship with the certified operator, water loss, water and energy efficiency, managerial competency, and fiscal responsibility. Discussions regarding financial capacity involve current and projected water rates, delinquent water accounts, and financial long-range planning. The presence of an active organization with identified responsible officials and business practices are considerations in managerial capacity determinations. If a loan applicant is determined to have a lack of capacity in an area, a list of action items will be established and considered a condition of loan forgiveness, if applicable. Otherwise, the action items are recommendations and are usually not significant enough to keep the system from maintaining TMF capacity needed to protect public health and maintain the system. The WSD continues to update the survey as needed to reflect the changing needs of the program. More emphasis is now placed on implementation of the action items with consideration being given to withholding planning loan forgiveness, where applicable, until certain capacity milestones are achieved.

Many capacity evaluations have resulted in further work with systems on budgeting, user rates and asset management. Additionally, many of our school water systems have had, for the first time, a written contract with their operator. Most of these school-operator relationships evolved over many years and a frequent change in personnel at the school has resulted in lack of communication of who is responsible for what, causing the system unnecessary NOAVs. Another benefit to many water systems is the 'Exit Budget Review' the Capacity Development Coordinator conducts along with the Capacity Evaluation for systems seeking planning and/or construction loan forgiveness. The Exit Budget Review consists of filling out a simple spreadsheet where major system assets are listed with their expected useful life, current cost to replace, projected cost to replace at the end of its useful life, and a projected annual contribution to a capital fund. This exercise is often the first time very small systems put the proverbial pen to paper to determine what the system may cost to replace. This is a useful starting place when having discussions with school boards, for example, for annual contribution to a sinking fund.

2.3. Existing Systems Provision

Ten years have passed since Vermont's Capacity Development Strategy was established and the water system landscape has changed significantly since that time. The Strategy should also reflect this change. In the coming year, the Capacity Development Coordinator, along with stakeholder groups, will endeavor to update the Strategy, bringing new initiatives online and re-invigorate existing ones that are still deemed relevant. The Capacity Development Coordinator completed conversations with those in the Water Supply Division as to what were some potential emerging, or existing, issues that should be addressed with the new CapDev Strategy. Unfortunately, Tropical Storm Irene caused our efforts be put on hold. We are committed to continuing the revision efforts now that we are in our new office location. Despite losing most of our records, notes from internal meetings on program revision survived.

2.3.1. Vermont Public Water Systems Demographics

There are 1368 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 15 or more connections serving year-round residents. There are 438 systems serving an estimated aggregate population of 444,791. About half of these Community systems are privately owned home-owners associations or mobile home parks; approximately 13 are private-for-profit water systems that are regulated by the Public Service Board and the Department of Public Service.

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 242 systems in this category serving an aggregate population of 44,177. 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 680 systems are classified as transient non-community water systems. Nearly all of the transient systems are privately owned businesses

Additionally, there are approximately 8 water bottling companies whose sources are in Vermont and are regulated by the Water Supply Division. Also new to our regulated community and unique to Vermont is the large groundwater withdrawal for industrial and/or commercial entities of which there are currently 14. A large groundwater withdrawal is defined as a non-potable water supply source where the withdrawal will be more than 57,600 gallons per day; agricultural uses are exempted.

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 Federal and State regulatory requirements. Our capacity 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.

Additionally, the capacity program has become increasingly involved in assisting public community water systems regulated by the Department of Public Service and Public Service Board as a utility restructure into a more equitable, user-owned system by means of forming a fire district. Vermont Statutes allow for the formation of a fire district- a municipal entity with taxing authority established for a variety of reasons (maintain sidewalks, street lights, provide fire protection, water, etc.). A fire district is given authority to organize and operate by the Selectboard of the town(s) or by the State

legislature. Once formed, the fire district is a sovereign entity in or among town boundaries and establishes a prudential committee, by-laws, collection practices, etc. A town may have an unlimited number of fire districts and are numbered in the order they are formed (1, 2, 3, etc.). A benefit to being a fire district is the potential for more favorable financing terms from our DWSRF program, including access to SRF set-aside programs and the ability to adequately charge for water service without having to obtain Public Service Board approval.

2.3.2. 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 SDWA provided an opportunity to use federal and state dollars to improve and expand this program to more nearly meet the need. 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 and major activities introduced since then.

Table 3 Existing Capacity Development Strategy Initiatives 2000- Current			
Capacity Initiative	Status	Target Audience	Notes
Monitoring Cost Study	Completed	TNCs	This consisted of a study completed in 2002 that identified the cost of quarterly compliance sampling for TNCs. Based on the study's findings; the state developed a budget for conducting the water quality (WQ) samples, which included providing technical support to TNCs. The work was accomplished in 2004 – 2005 through contracts with private engineering firms and use of the DEC laboratory, at no charge to the water systems.
DWSRF Program Changes	Ongoing	Potential DWSRF loan recipients	The Program has undergone occasional changes, mostly (but not exclusively) in response to new federal or state requirements, such as the recent requirement to use 20% of the federal capitalization grant for Green Project Reserve projects, and greater loan subsidy. All major changes are identified in each year's DWSRF Intended Use Plan.
Training and Assistance	Ongoing	Water System owners and operators	VRWA (a technical assistance provider), under contract, conducts group and individual training and technical assistance for water system operators and owners. A summary of these sessions are included in the Appendix.
Legal Assistance	Ongoing	CWS, NTNCs, loan recipients	Pays for legal services associated with DWSRF loan closings. Additionally, will assist with legal reviews for systems acquiring/merging/purchasing another system or land.
Engineering Technical Assistance	Completed	CWS, NTNC	WSD had several engineering firms under contract to provide operational troubleshooting assistance to small public water systems.
Small System Templates and	Completed	CWS, NTNC	Templates for O&M manual and long range plan, and a

Self-Assessment			capacity assessment form was developed. These documents form the basis for some of the individual on-site and group-training sessions provided. Capacity assessments are completed for all loan applicants and are a prerequisite for both planning and construction loan eligibility. Additionally, a customer complaint policy and form and <i>How to Form a Fire District</i> (currently in draft form) were developed.
User Rate Reviews and Budgeting/Assisting in the Development of Financial Capacity	Ongoing	CWS	Systems have contacted the Capacity Coordinator for assistance in establishing an equitable user rate structure. To date, six systems are in varying stages of the process.
Public Service Board (PSB) Technical Assistance	Completed	Private, for-profit CWS (regulated utilities)	Beginning in early summer of 2009, WSD met with representatives from the PSB and DPS to discuss better coordination between the three entities. The aim is to help the very smallest of regulated public water systems with rate review, tariffs, and reporting. This coordination is still in its early stages, but just starting the conversation is a significant milestone. Additionally, a guidance manual was developed to assist small systems in the rate approval process.
Board Member Owner Manual	Developed; printing needed	All PWSs	The manual outlines the responsibilities and liabilities for PWS board members and includes information on relevant laws, regulations, and policies, and a list of resources.
Small System Design Guidance Manual	Ongoing		Consists of the development of a design criteria guidance manual for small water systems to address system modification and replacement requirements and new regulatory requirements.
Consolidation Study	Completed	CWS	Consolidation Study was replaced with a Facilitation and Mediation contract beginning in June 2008.
Water Supply Division Newsletter- <i>Waterline</i>	Ongoing	All PWSs, Consultants, interested organizations	This is an effective means for communicating to a broad audience interested in hearing from the state on issues affecting public water systems. We have received feedback from readers that is highly supportive of the newsletter.
Communication Workgroup	Completed		A workgroup was formed to evaluate and develop recommendations on mass mailing procedures, newsletters, use of the Electronic Bulletin Board, electronic communication with water systems, and general publicity issues. A number of those recommendations were implemented.
Development of a Cross Connection Guidance Manual	Dropped		Numerous guidance manuals exist; a decision was made that Vermont did not need to develop one of its own.
Reservoir Water Quality Study	Completed	Surface water CWS	The study collected and analyzed data on changes in source water characterization during the year for two small surface water bodies used by public community water systems in Vermont. Field data collection occurred between April 2002 and May 2003 for the Town of Brattleboro and City of St. Albans Water Systems. Data was analyzed and results evaluated and communicated to the participating water systems.
Comprehensive Performance Evaluation Program	Completed	CWS	Evaluations were completed for 3 surface water systems and additional CPEs may be performed in the future on a voluntary basis
Operation & Maintenance Manual Template for Small Surface Water Systems	Dropped	CWS	The need no longer exists.
Small System Engineering	Completed	CWS, NTNC	An extremely successful initiative and may resume in the

Evaluations			future for those systems that did not already receive an evaluation
Regulation of Consecutive Water Systems and New Water Line Extensions	Completed	CWS	Successful passage of H806 to Act 156 <i>An Act Relating to Public Water Systems</i>
Asset Management Pilot	Ongoing	CWS	In summer 2011, WSD approached the Village of Waterbury regarding the pilot. The Village was excited to participate; unfortunately, the Village was devastated by flooding from Tropical Storm Irene. However, the Village is still interested in moving forward and work will be restarting work in early winter 2011.
Determination of non-profit status	Completed	Loan Applicants	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
WaterSense Pilot	Ongoing	CWS, NTNC	The initial candidate was not eligible as it was clear that the water system needed to improve internal practices and repair infrastructure to address water shortage needs as opposed to there being an actual need to reduce source demand or increase production. Since then the WSD has worked with two other entities on water conservation as an alternative to capital improvement. Harwood Union High School was considered a potential candidate; however, it was clear that the school had already taken significant steps to achieve water conservation/efficiency and the next step to address water demand is outside the scope of this project. The current water system to be considered for efficiency gains in order to avoid capital expenditures is Orange Center School. WSD is still in the information collection stage, but this may turn out to be our first documented case where a system has saved on capital expenditures through efficiency improvements.

A comprehensive overhaul of the Capacity Development Strategy is planned for the near future. An internal survey was completed during the spring and summer of 2011 and meetings were planned for fall and winter 2011. However, Tropical Storm Irene caused significant disruption to the Water Supply Division's work, including an almost complete loss of files, equipment and offices from flood waters. As a result, a reprioritization of work is necessary and while this is important, it is still undetermined if this will remain a priority of the Division.

3. State's Approach In Offering or Providing Assistance

As indicated in the original strategy, the WSD continues to identify systems in need of capacity development assistance, however because assistance is available to meet all requests, prioritization of systems is not necessary. In the future, if the need for *technical assistance* exceeds WSD staff availability, 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 population- the smaller the population, the higher the priority
- ◆ Permanent residents
- ◆ System willingness

Specific forms of *technical capacity assistance* include:

- ◆ Sanitary surveys every 3-5 years
- ◆ On-site or phone consultation of system troubleshooting
- ◆ Chemistry, disinfection by-product (DBP), lead and copper, and treatment expertise
- ◆ Publish *Waterline*, and contribute articles to other publications
- ◆ Conduct operator training on new rules
- ◆ Conduct informational meetings on new rules
- ◆ Conduct source water assessments

Specific forms of *financial capacity assistance* include:

- ◆ Low-interest loans for water system improvements
- ◆ Zero-interest loans for planning & final design
- ◆ Low-interest loans for land purchase and conservation easements for source water protection
- ◆ Negative-interest construction loans to low-income communities with high water rates relative to Median Household Income (MHI)
- ◆ Planning and final design loan forgiveness for small municipalities
- ◆ Construction loan forgiveness for municipal school system improvement projects
- ◆ Budgeting and user rate reviews

Specific forms of *managerial capacity assistance* include:

- ◆ Review of fire district, coop, homeowners association by-laws
- ◆ Review of water ordinances, interlocal agreements, consecutive exempt agreements
- ◆ Formation of fire districts or other management structure
- ◆ Reorganization/restructuring assistance
- ◆ Resource for voting, elections, due process
- ◆ Legal assistance
- ◆ Moral support

Currently, the Division is actively providing intensive ongoing capacity assistance to:

- ◆ Lyndonville Water System
- ◆ Crystal Springs Water Co./East Montpelier FD #1
- ◆ Catamount Bolton Water System/Bolton FD #1
- ◆ Chelsea Water System
- ◆ East Berkshire Water Coop
- ◆ Four Seasons of Early Learning/Greensboro Bend FD #2
- ◆ Orange Center School
- ◆ Graniteville FD #4
- ◆ Wells River Water System
- ◆ Waterbury Village
- ◆ Richmond Water Department

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 past the 10-year mark and significant experience was gained during that time. In reviewing the existing strategy, it is apparent that much of the initial 18 initiatives were heavily focused on technical capacity. The focus of the program is shifting increasingly to managerial and financial capacity. Additionally, there is a push from within the program to re-work initiatives and incorporate the principles of Sustainable Water Infrastructure (Sustainable Infrastructure, Sustainable Systems and Sustainable Communities).

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>.

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Date: _____10/28/2011

Vermont Water Supply Division Operator Certification Program

Annual Report for Calendar Year 2010

October 1, 2011

This Annual Report documents Vermont's program compliance with the EPA Operator Certification Guidelines for the calendar year ending December 31, 2010. 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" in February 5, 1999. Vermont adopted the revised rules in 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) January 2002 (which was full utilized by 12/31/2009).

Program overview and Enforcement efforts

The total number of certified operators for Community, Non-Transient Non-Community, and Transient Non-Community systems is 1685 as of 12/31/10.

Vermont has not grandfathered 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 grandfathered operators are required to maintain their renewal credits for their class each renewal cycle. We currently have 68 grandfathered 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 8 operators with Provisional Certification and 94 with Operator-in-Training Certification.

The number of systems without certified operators as of 12/31/2010 is listed in the table below.

System type	Number of systems	Number of systems with no certified operator
Community	441	3
Non-Transient Non-Community	242	1
Transient Non-Community*	684	48

* 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 may contact the water system and warn the system of a potential enforcement action. 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.

Most community and non-transient non-community water systems find themselves without certified operators because their operator(s) fail to renew their certification on time. In calendar year 2010 the division issued one NOAV to Shallow Brook Water System WSID 21261 in Jay, Vermont on June 15, 2010. The Water System hired an operator just after the violation was issued. The Water System has been

inactivated in our database in 2010. The fact that only one violation was sent out during the calendar year 2010 is attributed to the outreach the Certification Officer provided to systems which may have needed operators.

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 2010 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 Water Supply Division and Compliance & Certification staff occurred frequently throughout the year. Additional courses have been coordinated with the Green Mountain Water Environment Association (GMWEA) and the New England Water Works Association (NEWWA).

Ongoing training coordination occurred throughout the year between the Water Supply Division, VRWA, and GMWEA. We continued to hold courses in various locations throughout the state to reach small water systems. The attendance for each class ranged from 10-20 participants (depending on location).

Our courses were publicized on our web site, listed in our newsletter, and mailed to operators before a renewal period. In calendar year 2010 approximately 4881 training contact hours were awarded to 1320 water professionals.

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). There were 92 individuals who took the exams.

Stakeholder Involvement

The Vermont Operator Certification Advisory Committee met four times in calendar year 2010. The following major topics were reviewed and discussed: core curriculum, owner responsibilities, water system backup operations, Water Supply Rule Chapter 21-12 Operator Certification, operator responsibility, online courses and IACET Certification, and continued discussion pertaining to an aging operator community.

The Division does not have any plans to perform an external review of the Operator Certification program due to resource constraints in the Compliance and Certification Section. As a result of the recent reduction in force, the Compliance and Certification Section Supervisor was displaced by a more senior DEC employee effective June 29, 2009 and priority will be given to training the new person. Also, the Certification Officer/Total Coliform Rule Manager has taken on additional duties related to pre-implementation of the Ground Water Rule which goes in effect December 2009. The Certification Officer and Compliance and Certification Manager presented a course on the 'New' Groundwater Rule fifteen times in 2010. The course was taught at least once in each county in Vermont.

Expenditures

The Division now uses DWSRF Local Assistance money to fund operator training provided by the Vermont Rural Water Association. Operator reimbursement and use of the Operator Certification Expense Reimbursement Grant ended December 2009.

Training provided/coordinated January 1, 2010 – December 31, 2010

Month 2010	Vermont Rural Water Association (VRWA) Courses	Training Credit Hrs	# of Attendees	Training Cont. Hrs
January	Operator General Safety Class-Brattleboro	3	6	18
	Metering Your Water System-Morrisville	3.5	9	31.5

	VOSHA Hazardous communication Safety Training and Introduction to VTWARN-Lyndonville	5.5	7	36
	Operation and Maintenance Manuals for Water Systems-Waterbury	3	12	36
	Operator General Safety Class-Lyndonville	3	8	24
	New Ground Water Rule and Introduction to VTWARN-Rutland	5	17	75
	VOSHA Electrical Safety Training for Water and Wastewater and Introduction to VTWARN-Swanton	6	20	108
February	Cross Connection Control for Water Systems-Morrisville	3	10	30
	Hands-on Chemical Feed Pump Repair-Bennington	4.5	10	45
	New Ground Water Rule and Introduction to the Vermont Water and Wastewater Emergency Response Network (VTWARN)-Waterbury	5	25	81
	VOSHA Trenching and Confine Space Training for Water and Wastewater and Introduction to the Vermont Water and Wastewater Emergency Response Network (VTWARN)-Springfield	6.5	26	145
	VOSHA Traffic Safety Training for Water and Wastewater Operators-Waterbury	3.5	19	66.5
March	Advanced Certification Class 3 & 4 Session 1	5.5	15	82.5
	Advanced Certification Class 3 & 4 Session 2	5.5	16	88
	Advanced Certification Class 3 & 4 Session 3	5.5	16	88
	Advanced Certification Class 3 & 4 Session 4	5.5	16	84
	Advanced Certification Class 3 & 4 Session 5	5.5	14	77
	Distribution Certification Class Session 1	5.5	5	27.5
	Distribution Certification Class Session 2	5.5	5	27.5
	Distribution Certification Class Session 3	5.5	5	27.5
	Distribution Certification Class Session 4	5.5	4	22
	Cross Connection Control for Water Systems-Rutland	3	16	48
	Chlorine Chemistry and Disinfection-Quechee	3	23	69
	VTWARN Informational Training-Barton	2.5	18	44
	Class 3 Water Treatment Exam Review-Waterbury	7	10	70
	On-site Training-Ground Water Rule-North Hero	3	7	21
	On-site Training-Lamoille UHS-Microbiology/Chlorination-Hyde Park	3	3	9
	On-site Training-Filtration, Adsorption, Aeration, Fluoridation, Disinfection-Williston	3	1	3
April	Advanced Water Treatment Refresher-Waterbury	6	8	48
	Distribution Certification Class Session 5-Montpelier	5	4	20
	Distribution Certification Class Session 6-Montpelier	5	5	18
	Basic Math for Water Operators-Waterbury	4	17	68

	Advanced Operator Certification Class 3 & 4 Session-6-Montpelier	5	15	75
	Advanced Operator Certification Class 3 & 4 Session-7-Montpelier	5	15	75
	Advanced Operator Certification Class 3 & 4 Session-8-Montpelier	5	15	75
	Advanced Operator Certification Class 3 & 4 Session-9-Montpelier	5	13	65
	Small Systems Class 2 Operator Certification- Session 1-Montpelier	4	6	24
	Small Systems Class 2 Operator Certification- Session 2-Montpelier	4	7	28
	Small Systems Class 2 Operator Certification- Session 3-Montpelier	4	7	28
	Small Systems Class 2 Operator Certification- Session 4-Montpelier	4	7	28
	Small Systems Class 2 Operator Certification- Session 1-Springfield	4	8	32
	Small Systems Class 2 Operator Certification- Session 2-Springfield	4	8	32
	Small Systems Class 2 Operator Certification- Session 3-Springfield	4	8	32
	Small Systems Class 2 Operator Certification- Session 4-Springfield	4	8	32
	Class 2 Water Treatment Exam Review- Springfield	3	5	15
May	Water Storage Tank Design and Maintenance- Brattleboro	3	15	45
	Vermont Rural Water Association Spring Conference and Trade Show-Fairlee:			
	Dig Safe	1	36	36
	Project Management	1	38	38
	VOSHA Project WorkSAFE	1	28	28
	Regulatory Roundup	1.5	79	118.5
	VTWARN	1	6	6
	Corrosion Control Technologies-Morrisville	3	12	36
	Preparing DBP Report IDSE Schedule 4-Getting Ready for State 2 Compliance/Monitoring- Waterbury	3	16	48
	VOSHA Trenching and Confined Space- Bennington	4.5	42	189
	Corrosion Control Technologies-Rutland	3	19	57
	New Ground Water Rule-Waterbury	3	29	87
	On-site Training-Mountainside Resort-Stowe- Disinfection/Chlorine Chemistry and Ecoli. Microbiology	3	1	3
	On-site Training - Bow & Arrow Point-North Hero- Disinfection/Chlorine Chemistry and Ecoli. Microbiology	3	1	3
	On-site Training-Wildwood West-Charlotte-O&M Manual	2	1	2

June	Preparing the DBP Report for Schedule 4 Systems & Getting Ready for Stage 2 Monitoring-Rutland	3.5	14	49
	Pre-Stressed Concrete Water Storage Tanks and Their Construction-Springfield	5.5	20	110
	Water System Distribution O&M-Lyndonville	3	13	39
	VOSHA Hazardous Communication and Hazardous Waste Operation and Emergency Response-Bennington	4.5	30	135
	Lead and Copper Rule-Springfield	3.5	11	38.5
	Peristaltic Pumps-South Burlington	3	15	45
	Lead and Copper Rule-Lyndonville	3.5	18	63
	Water System Distribution O&M-Brattleboro	3	12	36
	On-site Training-Vulnerability Assessment, ERP, Plainfield	6	1	6
	On-site Training-ARC Flash Safety Training "TEGG Training"-Montpelier	2	6	12
	On-site Training-Leak Detection-Plainfield	5	1	5
	On-site Training-Valve Maintenance and Distribution Isolation-Derby Line	3	2	6
July	Cost Savings through Electrical Energy Efficiency-Springfield	3	8	24
	VOSHA Lockout/Tagout Safety Training	4	5	20
	On-Site Training-Secondary Treatment Process-Plainfield	3		
August	Cost Savings through Electrical Energy Efficiency-Morrisville	3	9	27
	Water Audits and Leak Detection-Lyndon	3	3	9
	Total Coliform Rule-Lyndon	3	7	21
	Advanced Water Treatment Certification-Rutland Session1	5	5	25
	Advanced Water Treatment Certification-Rutland Session 2	5	6	30
September	Developing an Operation and Maintenance Manual for Your Water System-Springfield	3	5	15
	Advanced Water System Certification-Rutland-Session-3	5	6	30
	Advanced Water System Certification-Rutland-Session-4	5	6	30
	Advanced Water System Certification-Rutland-Session-5	5	6	30
	Advanced Water System Certification-Rutland-Session-6	5	6	30
	Advanced Water System Certification-Rutland-Session-7	5	6	30
	Advanced Water System Certification-Rutland-Session-8	5	6	30
	Distribution Certification-Rutland-Session-1	5	4	20
	Distribution Certification-Rutland-Session-2	5	4	20
	Distribution Certification-Rutland-Session-3	5	4	20
	Chemical Feed Pump Repair-Enosburgh	4.5	26	117

October	Distribution Certification-Rutland-Session 4	5	4	20
	Distribution Certification-Rutland-Session 5	5	4	20
	Distribution Certification-Rutland-Session 6	5	4	20
	Advanced Operator Certification-Rutland 9	5	6	29
	Fundamental Principals of Small Ground Water System Operations-Enosburgh	5	10	50
	Class 3 Water Certification Review-Waterbury	7	3	21
	Fundamental Principals of Small Ground Water System Operations-Rutland	5	10	50
	Corrosion Management for Potable Water Systems: It's Not Just Water Chemistry-Bennington	6	17	102
	Class 4 Water Certification Review-Waterbury	7	3	21
	Small Systems Certification Class 2-Rutland-Session 1	4	10	40
	Small Systems Certification Class 2-Rutland-Session 2	4	10	40
	Small Systems Certification Class 2-Rutland-Session 3	4	10	40
	Small Systems Certification Class 2-Rutland-Session 4	4	10	40
	Small System Certification Class 2-Lyndonville-Session 1	4	5	20
	Small System Certification Class 2-Lyndonville-Session 2	4	5	20
	Small System Certification Class 2-Lyndonville-Session 3	4	5	20
	Small System Certification Class 2-Lyndonville Session 4	4	5	20
	Basic Math for Water Operators-Waterbury	4	7	28
	Is Your System Ready to Reduce Energy Costs Through Solar, Wind, or Hydro?-Springfield	3	20	60
	Class 2 Certification Review-Lyndonville	4	5	20
	Advanced Math for Water Operators-Waterbury	4	4	16
	On-site Training-O&M Manual Training-Readsboro Water Treatment-Readsboro	2.5	1	2.5
	On-site Training-O&M Training-Shrewsbury Elementary School-Shrewsbury	2	1	2
November	Affordable Control/Telemetry Systems for Water and Wastewater-Waterbury	4	8	32
	Planning for a Pandemic-Brattleboro	3	8	24
	Chlorine Chemistry-Waterbury	3	18	54
	On-Site Training-Sanitary Survey, Chlorination Practices, West Burke Housing-West Burke	2	1	2
	On-Site Training-Corrosion Control, Well Head Protection, Lead & Copper-Hyde Park	2.5	2	5
	On-Site Training-Sampling and Monitoring-Lyndonville	3	8	24
December	Preparing for a Sanitary Survey-Lyndonville	3	9	27

	Lead and Copper Rule Basics-Montpelier	3.5	7	24.5
	Is Your System Ready to Reduce Energy Costs Through Solar, Win, or Hydro-Montpelier	3	13	39
	Total	489	1320	4881