

# Vermont's Public Drinking Water System Capacity Development Program Annual Report 2014



*Our mission is to ensure that public drinking water systems provide safe, affordable drinking water to Vermont's citizens and guests by helping them improve their technical, managerial, and financial capabilities.*

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## Introduction

Vermont's public drinking water systems face significant challenges as they try to comply with regulations, repair and replace aging infrastructure, and achieve financial viability. To help address these challenges and to meet the requirements of the federal Safe Drinking Water Act's (SDWA) 1996 Amendments, the Drinking Water and Groundwater Protection Division (DWGPD) created a Capacity Development Program. The program's objectives are:

- To ensure that new community (CWSs) and non-transient non-community (NTNCs) systems demonstrate the technical, managerial, and financial capacity to provide a sufficient quantity of safe water in a cost-effective manner now and into the future; and
- To help existing systems become more sustainable by improving their technical, managerial, and financial capabilities.

**Technical capacity** refers to a system's physical and operational abilities.

**Managerial capacity** refers to a system's administrative and organizational abilities.

**Financial capacity** refers to a system's abilities to generate or obtain enough money to maintain the system and pay for future improvements.

This annual report is required by the Environmental Protection Agency (EPA). It provides a summary of the Capacity Program's efforts during state fiscal year 2014 (July 1<sup>st</sup>, 2013 thru June 30<sup>th</sup>, 2014). The first section briefly describes the state's legal authority to ensure that all new CWSs and NTNCs demonstrate the capacity to comply with drinking water regulations. It also lists the compliance status of the systems that began providing water within the past three years. The next section of the report focuses on the Capacity Program's strategy to help existing systems improve their technical, managerial, and financial capabilities. It describes how the program identifies systems that need assistance and some of the tools used to help build capacity. The last part of the report describes the program's plans for the near future.

EPA will use this report to help determine whether Vermont's Capacity Development Program meets the SDWA's statutory requirements. Failure to meet the requirements would result in a 20% withholding from our Drinking Water State Revolving Fund (DWSRF) Capitalization Grant. The grant for federal fiscal year 2014 is \$8,845,000, so failure to comply would result in a \$1,769,000 penalty.

### There are three types of public water systems:

**Community water systems** serve 25 or more year-round residents or have 15 or more year-round residential connections;

**Non-transient non-community water systems** serve 25 or more of the same people at least six months per year. Examples include daycares, schools and office buildings; and

**Transient non-community water systems** – serve 25 or more people per day at least 60 days per year. The persons served need not be the same people. Examples include delis, hotels, campgrounds and restaurants.



## Capacity Development for New Public Water Systems

Section 1420(a) of the Safe Drinking Water Act requires the state to ensure that all new CWSs and NTNCs beginning operations after October 1<sup>st</sup>, 1999, demonstrate the capacity to comply with regulations. Vermont's legal authorities to implement this requirement are in statute (10 V.S.A. § 1685) and rule (Environmental Protection Rules, Chapter 21 Water Supply Rule). There were no changes to these legal authorities during the year.

### Control Points

The Water Supply Rule (Environmental Protection Rules Chapter 21) prohibits a new CWS or NTNC from operating before demonstrating that it has adequate technical, managerial, and financial capacity. The rule also outlines the criteria to demonstrate capacity, and includes several control points – places where the DWGPD can exercise its authority - to ensure a new system will have adequate capacity (see Figure 1). Each control point marks a significant milestone in demonstrating capacity. The DWGPD makes a formal determination as to whether a system has adequate capacity at two points – before issuing the construction and operating permits.

During the year, the DWGPD revised some internal procedures related to the control points. Now, for new CWSs and NTNCs, the Capacity Development Coordinator reviews and approves the Long Range Plan, conducts a sanitary survey, and issues the operating permit. These tasks were previously done by other staff in the division. But the new coordinator is qualified to do the work. And from working with new systems as they build capacity, he will already understand their technical, managerial, and financial capabilities. So even though reviewing the Long Range Plan, conducting the survey, and issuing the operating permit will increase the coordinator's workload, it will take less time than it would for another staff member who is not familiar with the system.

*Figure 1. Control points to ensure that new CWSs and NTNCs have adequate capacity.*

- ◆ *Source Protection Plan Approval*
- ◆ *Source Permit Issuance*
- ◆ *Long Range Plan Approval*
- ◆ *Construction Permit Issuance*
- ◆ *O&M Manual Approval*
- ◆ *Sampling Plan Approvals*
- ◆ *Operator Certification*
- ◆ *Operating Permit Issuance*



## Capacity Determinations

The table below lists systems for which a capacity determination was completed during state fiscal year 2014. It also lists proposed systems for which an evaluation is underway, but not yet completed, and a note regarding their status.

*Table 1. Capacity evaluation status for new CWSs and NTNCs.*

WSID	Water System Name	PWS Type	Date Activated	Capacity Review Status
VT0021368	Burr and Burton Academy Mountain Campus	NTNC	8/9/2013	Completed – Operating permit issued
VT0021405	Gifford Medical Kingwood Building	NTNC	1/17/2014	Completed – Operating permit issued
VT0020964	Alburg Fire District #2	CWS	7/25/2014	Completed – Operating permit issued
VT0021202	Berlin Municipal Water System	CWS	Proposed	Construction permit issued
VT0021272	Timber Creek at Okemo	CWS	Proposed	Construction permit issued
VT0021345	Daniels Construction	NTNC	Proposed	Source permit application received
VT0021429	Smuggler's Notch Development	CWS	Proposed	Source permit application received
VT0021446	The Binding Site VT	NTNC	Proposed	Source permit application received
VT0021448	Westminster Public Safety Building	NTNC	Proposed	Source permit application received
VT0021454	Heartbeet Community Center	NTNC	Proposed	Source permit application received
VT0021460	Battenkill Valley Health Center	NTNC	Proposed	Source permit application received



## ***New System Compliance***

If a public water system does not comply with a federal or state drinking water regulation, the DWGPD notifies them of the violation. The notification requires the system to inform the public of the violation and to return to compliance. The division also offers the system technical assistance to help them return to compliance. If the system still does not comply, the division takes appropriate enforcement actions.

The DWGPD uses the Drinking Water Enforcement Tracking Tool (ETT) to help prioritize enforcement actions. EPA requests that the state include in this annual report the ETT status of new CWSs and NTNCs activated during the past three years (see Table 2, below). Systems that exceed a score of ten become an immediate enforcement priority. Those with scores of ten or less are tracked closely. No system activated in the past three years has a score of more than ten.

*Table 2. Compliance status of new CWSs and NTNCs activated within the last three years.*

<b>WSID</b>	<b>Water System Name</b>	<b>PWS Type</b>	<b>Date Activated</b>	<b>On ETT list? Score?</b>
VT0020964	Alburgh Fire District #2	CWS	7/25/2014	No
VT0021405	Gifford Medical Kingwood Building	NTNC	1/17/2014	No
VT0021368	Burr and Burton Academy Mountain Campus	NTNC	1/17/2014	No
VT0021218	Derby Border Patrol	NTNC	6/6/2013	No
VT0021361	Foundations to Success Daycare	NTNC	5/14/2013	Yes – 2
VT0021340	Border Patrol Station Swanton	NTNC	2/28/2013	Yes – 2
VT0020355	2178 Airport Road	NTNC	2/8/2013	Yes – 2
VT0021394	Lamoille Family Center	NTNC	1/31/2013	No
VT0020997	Waitsfield Water Supply	CWS	1/17/2013	Yes – 5
VT0020928	Catamount-Malone	NTNC	12/28/2012	No
VT0006624	Putney School	CWS	12/26/2012	No
VT0021345	Advanced Illumination, Inc.	NTNC	4/20/2012	No
VT0006069	Sunny Lane Daycare	NTNC	4/13/2012	Yes- 6
VT0021079	NE Waste Services	NTNC	3/20/2012	No
VT0021127	VT Mutual	NTNC	12/8/2011	No
VT0021349	802 Toyota	NTNC	11/1/2011	Yes- 4
VT0021348	Parker Office Building	NTNC	10/25/2011	No

## Capacity Development for Existing Public Water

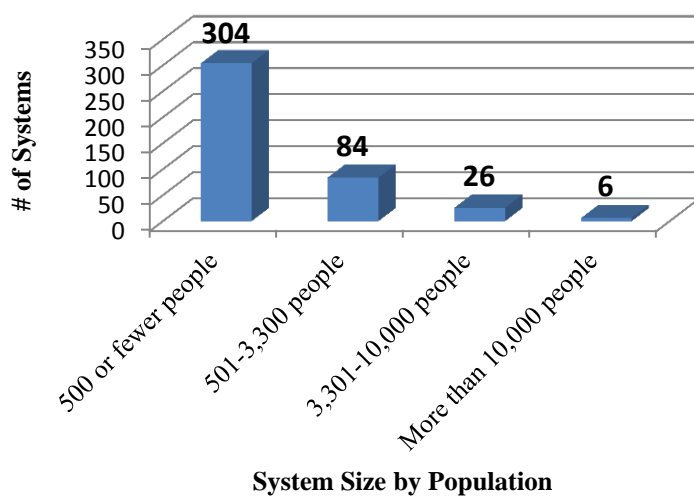
Section 1420(c) of the Safe Drinking Water Act requires the state to develop and implement a strategy to help existing public water systems acquire and maintain technical, managerial, and financial capacity. On July 28<sup>th</sup>, 2000, the DWGPD published its “Existing Public Water System Capacity Strategy”. The strategy’s five major components are listed in Figure 2. Over the years, the DWGPD has used some tools not listed in the strategy to help systems improve their capacity. But the strategy has not been updated since its initial publication. So the DWGPD plans to revise the strategy this fiscal year.

There are 1,367 public water systems in Vermont, including:

- 420 community systems (CWSs),
- 246 non-transient non-community systems (NTNCs), and
- 701 transient non-community systems (TNCs).

Figure 3 shows a breakdown of the CWSs in Vermont by population served. Vermont is unique in that 72% of its CWSs are very small (i.e., serve 500 or fewer people). According to EPA, only about 56% of CWSs nationwide are this small (EPA Document 816-R-10-022, July 2011).

**Figure 3. Number of CWSs by population served**



**Figure 2. The *Existing Public Water System Capacity Strategy* describes:**

- The methods or criteria used to identify and prioritize systems in need of capacity development assistance.
- The factors (e.g., legal, regulatory, or institutional) at the federal, state, or local level that encourage or impair capacity development.
- The ways the state uses its authorities and resources to help systems comply with regulations, encourage the development of partnerships between systems, and train and certify water system operators.
- The methods used to establish a baseline and measure improvements in capacity.
- The ways to involve interested parties in developing and implementing the capacity development strategy.



Most small systems in Vermont were created when regulatory standards were less stringent than they are today. The smallest systems are often run by part-time or volunteer staff with limited time and experience. And many do not generate enough revenues to cover the system's full costs because they have a small customer base and inadequate rates. Too often rates have been kept low by relying on volunteers or underpaid staff and deferring infrastructure maintenance, repairs and replacement.

Lacking strong capacity, these systems need the tools and training to help them operate in a more sustainable manner. They also need help identifying infrastructure needs and the resources to make improvements. So while the Capacity Development Program provides assistance to all types and sizes of public water systems, the primary focus is on the smallest community systems.

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*“I have been the sole caretaker of this system for nearly 20 years, with little help or no help from the water customers. I am 67 and want to retire but how? My wife takes care of the finances and does a great job. She has no experience with computers or financial records keeping. We do everything by paper and filing... I try to have at least annual meetings but no one shows up. I send letters and financial updates, apart from that I am a one man operation.” – A statement from a response to the capacity questionnaire (see below) describing the challenges facing a very small water system.*

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### ***Identifying Systems that Need Assistance***

The Capacity Program uses compliance data and sanitary survey findings to help identify systems in need of assistance. DWGPD staff conducts a sanitary survey at each system every three to five years, depending on the system's type (i.e., CWS, NTNC, or TNC), treatment, and water source. In state fiscal year 2014, staff surveyed 108 CWSs, 126 NTNCs, and 92 TNCs.

During each survey, division staff reviews the system's compliance with regulatory standards and provides them guidance on how to improve operations and management. If the system wants or needs more technical, managerial, or financial assistance, the surveyor refers them to the Capacity Development Program.

Information from capacity determinations for systems applying for Drinking Water State Revolving Fund (DWSRF) loans is also used to direct assistance. The DWSRF Program Development Specialist completes most of the capacity determinations for loan applicants. The Capacity Development Coordinator does the determinations related to loans that involve a change in ownership. During the capacity assessment, staff ensures that the proposed project is designed to address any technical deficiencies. For systems lacking managerial or financial capabilities, staff prepares a list of tasks that, if completed, will improve capacity. Depending on their importance, these tasks are either made as recommendations to the system or a requirement for loan approval or forgiveness. The DWSRF Development Specialist and/or the Capacity Development Coordinator work with systems that request help completing the tasks. The state does not award DWSRF monies to systems that lack

adequate capacity unless the funds will improve the system's capabilities and address any chronic non-compliance issues.

Many systems currently in compliance and not seeking a DWSRF loan can also benefit from capacity development assistance. So this year for the first time, all community water systems were asked to complete a capacity questionnaire. Two questionnaires were developed – one for systems serving 500 or fewer people and the other for those serving more than 500 people. The questionnaire for the smaller systems was a subset of those asked the larger systems. Copies of both questionnaires are in Appendix A.

The questionnaires were designed to help determine whether the water systems have adequate capacity and how to make them more sustainable. They include a series of questions related to the systems' technical, managerial, and financial capabilities. The questionnaires also have questions to help identify the greatest challenges systems face, and the types of training and assistance that would be most beneficial. And they ask if the system wants assistance from the Capacity Program and, if so, details on the assistance they need.

Fifty-five percent of the CWSs (232 of 420) responded to the survey. Of these, 65 systems stated that they want assistance from the Capacity Program. Items systems want help with include preparing budgets, revising ordinances, conducting water audits, developing emergency plans, complying with regulations, reviewing rate-structures, setting priorities for improvement projects, developing new water sources, financing infrastructure repair and replacement, and creating or updating master plans or asset management programs.

During the year, the Capacity Coordinator began providing assistance to some of these systems. This work will continue next year. Results from the questionnaires are being used not only to target specific systems for assistance, but also to guide revisions to the capacity development strategy and decide how to allocate our resources to help improve drinking water system capacity.

### ***Providing Assistance to Improve Capacity***

During the year, the state continued to use tools identified in the capacity development strategy to help systems improve their technical, managerial, and financial capabilities. These tools include source, construction, and operating permits; sanitary surveys; financial assistance programs, including low interest and negative interest loans; technical assistance consultations; and source water assessments. Also, three new capacity development initiatives began during the year. The new initiatives are described below.

#### **Leak Detection Surveys**

Finding and repairing leaks in a timely fashion can minimize wasteful water withdrawals, reduce treatment costs, capture lost revenue, prevent disruptions to the water system, and protect public health. So during the year, the Capacity Development Program offered free leak detection services to CWSs.

To be considered for the services, systems had to submit a project request identifying the miles of pipe they want to be surveyed, the pipe's age and material type, and any additional information

demonstrating why the system would benefit from the project (e.g., results of a recent water audit, or examples of system water shortages or low pressure events thought to be caused by leaks). The system also had to agree to assist with the survey (i.e., preparing maps, locating listening points, exercising valves, etc.), and fix any leaks found.

Twenty-eight systems submitted a project request. Because funds for the project were limited, the program planned to award leak detection surveys to the water systems that demonstrated the greatest potential benefits. But using a competitive bid process, the program was able to contract with professional leak detection firms to complete surveys at all 28 systems. The surveys are being conducted in accordance with the American Water Works Association's "Water Audits and Loss Control Programs" manual (Manual of Water Supply Practices M36, 3<sup>rd</sup> Edition, 2009). They are scheduled to be completed by the end of November 2014. A final project report will be prepared once the surveys are done.

### **Flood Vulnerability Assessments**

Many of Vermont's communities are susceptible to flooding because of our landscape (e.g., steep slopes) and development patterns. Floods are already one of the most common hazards in Vermont. And as the intensity and frequency of storms increase due to climate change, so do the risks of significant flood damage.

During the year, the Facilities and Engineering Division (FED) in consultation with the DWGPD started a flood resilience project. Using funds from the DWSRF set-asides, FED hired a temporary employee to help community water systems 1) assess the vulnerability of their infrastructure to natural disasters, focusing primary on floods; and 2) identify mitigation measures that will improve systems' resiliency to natural disasters.

Some mitigation measures will require significant financial investment. To encourage systems to make these investments, FED plans to award additional DWSRF construction loan priority points to projects that will improve resiliency.

### **Asset Management Workshops and Assistance**

As Vermont's drinking water system infrastructure continues to age and degrade, the shortfall between the money available and that needed to properly operate, maintain, repair, and replace this infrastructure grows. And yet customers still expect plentiful, safe, inexpensive water. This presents significant challenges for people managing and operating systems.

An asset management program can help meet these challenges. In the recent capacity questionnaire, water systems identified "creating or updating an asset management program, water system master plan, or other tool to help manage the water system" as a top priority. So the Capacity Development Program and FED are providing community water systems incentives to develop and implement asset management programs.

An effective asset management program uses a detailed asset registry, operation and maintenance tasks, and long-range financial planning to build capacity and make systems more

sustainable. Our division helped Waterbury Village staff develop a program as a pilot project. Building on this effort, we are going to use money from the DWSRF set-asides to help more systems create or update and use asset management programs. During the upcoming year we will create a curriculum and conduct several workshop series that help participants develop and implement an asset management program for their water system.

Workshop participants that create a successful asset management program will serve as a model and resource for other water systems. And the curriculum developed for the workshop series will be available so the DWGPD can host similar trainings in the future.

An up-to-date map and asset registry are the backbone of a successful asset management program. But the time and effort needed to create a registry often prevents systems from implementing a program. So during 2015, we will hire contractors to help systems inventory, map, and assess the condition of their assets. Priority for this service will be given to systems attending the asset management workshops as an incentive to encourage participation.

The DWSRF planning and construction loan funds play a crucial role in helping systems improve their capacity. This year, the FED proposed changes to both funds to encourage systems to develop asset management programs. The proposed changes include planning loan forgiveness for projects stemming from an approved asset management program, and awarding additional priority points to CWSs seeking a construction loan for improvements identified using an asset management program. The state's initiatives to encourage systems to create and implement asset management programs will be described in more detail in the revised capacity strategy.

The table below describes some other on-going capacity development initiatives. And Appendix B includes a list of capacity development projects completed in previous years.

*Table 3. Some on-going capacity development initiatives for existing systems.*

<b>Initiative</b>	<b>Target Audience</b>	<b>Description</b>
Drinking Water State Revolving Fund (DWSRF) Program Changes	Potential DWSRF loan recipients	Changes to the program include a proposed requirement for loan recipients to create an asset replacement reserve fund, and incentives for systems to implement asset management programs (e.g., planning loan forgiveness and additional construction loan priority points). See the Intended Use Plan for details regarding the changes.
Training and Assistance	Public water system (PWS) owners and operators	Contract with Vermont Rural Water Association to provide technical assistance and conduct group and one-on-one trainings. Appendix C includes a summary of the training provided during the year. The Capacity program also coordinated an Asset Management training conducted by the Environmental Finance Center.
Legal Assistance	Community water systems (CWSs) and non-transient non-community	Pays for legal services associated with DWSRF loan closings. Also pays for legal reviews for systems using DWSRF monies to purchase land or to acquire, merge with, or purchase another system.



	(NTNCs) water systems receiving a DWSRF loan	
User Rate Reviews and Budgeting/Assisting in the Development of Financial Capacity	CWSs	Systems have contacted the Capacity Development Coordinator for assistance in establishing an equitable user rate structure.
By-laws and Ordinance Development and Updates	CWSs	Several water systems requested help with creating or updating by-laws and ordinances.
Ownership restructuring	CWSs	Providing systems guidance while undergoing ownership changes (e.g., forming a Fire District to acquire a privately owned system, assisting with a merger between two municipal entities)
Technical Assistance and Contamination Investigations for Transient non-community (TNC) water systems.	TNCs	The DWGPD has a contractor available, on an “as-needed-basis”, to conduct contamination investigations at TNCs. Assistance includes determining the possible causes of contamination, making recommendations on how to improve the system and comply with regulations, discussing disinfection options, etc. This service has helped systems protect public health and come off boil water notices more quickly.
Board Member Owner Manual	CWSs	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. A draft has been prepared. Next steps will be outlined in the revised capacity strategy.
Drinking Water & Groundwater Protection Division Newsletter- <i>Waterline</i>	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.



## Capacity Development – Looking Forward

The Capacity Development Program's goal is to help ensure that Vermont's public water systems are sustainable. Sustainable drinking water systems have the technical, managerial, and financial capabilities to provide their customers a sufficient quantity of clean, safe water in a cost-effective manner now and into the future. Two major efforts next fiscal year will provide the foundation to help the program meet its goal – rebuilding the DWGPD capabilities and revising the state's capacity strategy.

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*“You cannot have a first rate community...with third rate infrastructure”– Source unknown*

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The Capacity Development Program's success depends on the work of our stakeholders, the FED, and the DWGPD. And the FED and DWGPD are undergoing major changes. In February 2013, the DWSRF Program was moved from the DWGPD to the FED. Later that year, the Capacity Development Coordinator resigned to take a Project Specialist position with FED. The new Capacity Development Coordinator was hired and began work in October 2013. About the same time, the DWGPD hired a new Compliance and Support Services Section Chief. Also, three key positions in the DWGPD - the Information System Administrator and two Water System Specialists (staff that conduct the sanitary surveys) - are currently vacant and under recruitment. Filling the vacant positions, training the new staff, and working effectively with the FED staff will be a priority during the upcoming year.

Revising the capacity strategy will also be a priority next year. The strategy has not been updated since its publication in 2000. During 2011, the Capacity Development Program held meetings with our stakeholders to discuss emerging managerial and financial capacity issues. Information from these meetings, along with that gathered in the capacity questionnaires, will be used to help revise the strategy. The program will draft the revised strategy and make it available to our stakeholders and the public for comment. We plan to finalize the revised strategy by the end of 2015.

## Appendix A. Drinking Water System Capacity Questionnaires

### Capacity Questionnaire for Systems Serving 500 or Fewer People

1.	Water System Name: _____ WSID # _____
2.	<p>Role(s) of the people completing this survey (check all that apply)</p> <p> <input type="checkbox"/> Owner (e.g., Select Board Member, Sole Owner)  <input type="checkbox"/> Administrative Contact (Owner's representative)  <input type="checkbox"/> Operator  <input type="checkbox"/> Financial Planner  <input type="checkbox"/> Engineer  <input type="checkbox"/> Other: _____         </p> <p><i>Note – Per the Vermont Water Supply Rule, both the owner and operator are equally responsible for successful operations and maintenance of a public drinking water system. Therefore, the expectation is that both the owner and operator will work together to answer the survey questions.</i></p>
3.	<p>Please rate how strongly you agree with each of the following statements about your system's technical, managerial, and financial capacity.</p> <p>A. My system has adequate <b>technical capacity</b>.</p> <p>Technical capacity means the physical and operational ability of the system to serve customers now and in the future. Examples of strong technical capacity include:</p> <ul style="list-style-type: none"> <li>• The system has qualified operators with the knowledge and skills to operate the system.</li> <li>• The system's infrastructure (i.e., source, storage tanks, treatment plant, and distribution network) can meet current and anticipated demand.</li> <li>• The system's infrastructure is adequately protected, treated, and sampled.</li> <li>• The system's infrastructure is in good condition.</li> </ul> <p> <input type="checkbox"/> 1 - Strongly disagree  <input type="checkbox"/> 2 - Disagree  <input type="checkbox"/> 3 - Neither agree or disagree  <input type="checkbox"/> 4 - Agree  <input type="checkbox"/> 5 - Strongly agree         </p> <p>B. My system has adequate <b>managerial capacity</b>.</p> <p>Managerial capacity means the system has the administrative and organizational ability to be successful now and in the future. Examples of strong managerial capacity include:</p> <ul style="list-style-type: none"> <li>• Owners, managers, and operators are accountable and knowledgeable about the water system.</li> <li>• Owners, managers, and operators receive ongoing training.</li> <li>• We plan for current and future needs.</li> <li>• We interact well with customers and regulatory agencies.</li> </ul> <p><input type="checkbox"/> 1 - Strongly disagree</p>

	<input type="checkbox"/> 2 - Disagree <input type="checkbox"/> 3 - Neither agree or disagree <input type="checkbox"/> 4 - Agree <input type="checkbox"/> 5 - Strongly agree  <p>C. My system has adequate <b>financial capacity</b>.</p> <p>Financial capacity means the system can generate or obtain enough funds to maintain the system and pay for future improvements. Examples of strong financial capacity include:</p> <ul style="list-style-type: none"> <li>• System revenue pays for the full cost of providing services.</li> <li>• We know and can measure all costs and revenues.</li> <li>• Reserves are available for unexpected expenses.</li> <li>• We use good budgeting and accounting practices.</li> <li>• We can access capital through public or private sources.</li> </ul> <input type="checkbox"/> 1 - Strongly disagree <input type="checkbox"/> 2 - Disagree <input type="checkbox"/> 3 - Neither agree or disagree <input type="checkbox"/> 4 - Agree <input type="checkbox"/> 5 - Strongly agree
4.	<p>One of our goals is to develop new outreach/educational materials to help water systems. Which of the following topics would be most beneficial to your system? (Choose up to three priorities)</p> <input type="checkbox"/> Board member/water system decision-maker duties <input type="checkbox"/> Asset management program <input type="checkbox"/> Ordinances and bylaws <input type="checkbox"/> Funding sources and coordination <input type="checkbox"/> Fiscal planning and rate setting <input type="checkbox"/> Water audits and water loss reduction <input type="checkbox"/> Strategies for addressing compliance issues <input type="checkbox"/> Water system collaboration <input type="checkbox"/> Rule requirements, including the new Revised Total Coliform Rule <input type="checkbox"/> None <input type="checkbox"/> Other (Please specify):_____
5.	<p>Is there an organizational structure with clearly defined roles?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
6.	<p>Does your water system's governing body hold duly warned meetings on a regular basis?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No



7.	<p>Do you have access to adequate legal, financial, and technical support when needed?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
8.	<p>Does your system have a secure record-keeping system for both financial and non-financial records, with back-ups if feasible, that foster organization and efficiency, and that could be used to help protect against possible legal consequences in the future?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
9.	<p>Do you have a back-up operator that can fill in if the primary operator is sick, takes a vacation, etc.?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
10.	<p>Does the system have procedures in place to receive, document, and respond to customer complaints/questions in a timely fashion?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
11.	<p>Is the system in compliance with permit and other state drinking water requirements?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
12.	<p>Did the system impose any water use restrictions in the past 5 years?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, was the restriction related to (check all that apply):</p> <p><input type="checkbox"/> Drought  <input type="checkbox"/> Treatment capacity  <input type="checkbox"/> Distribution or storage capacity  <input type="checkbox"/> Raw water supply source  <input type="checkbox"/> Water quality (e.g., a boil water notice)  <input type="checkbox"/> Water purchase contract  <input type="checkbox"/> Minimum stream flow requirements  <input type="checkbox"/> Other (please specify): _____</p>
13.	<p>Does your system have a complete, up-to-date written or electric plan (e.g., Water System Master</p>

	Plan, Comprehensive System Facility Plan, Asset Management Plan, or other) that is actively used to operate and manage your water system?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14.	Please indicate whether the organization has the items listed below and, if so, when it was most recently updated (or when it was developed if it has not been updated):	
		Most recent version
By-laws	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Drinking Water Ordinances	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Asset Management Plan	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Operations and Maintenance (O&M) Manual	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Source Protection Plan	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Comprehensive Engineering Report	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Long Range Plan or Capital Improvement Plan	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Map of Distribution System	<input type="checkbox"/> Yes  <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
Schematic of Treatment Plant	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years

	Engineering as-built record drawings	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
	Sampling plans (i.e., total coliform, disinfection byproducts, lead and copper, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
15.	<p>If the system has water ordinances, do they include a provision that allows the organization to discontinue service to a connection if it may pose a contamination risk to the water system?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Not applicable; we don't have water ordinances</p>		
16.	<p>Does the organization have an inventory of its system components (i.e., assets) that includes their age, location, condition, estimated replacement cost, and when you expect to have to replace them?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>		
17.	<p>Has the organization evaluated its components to determine which ones are most likely to fail (e.g., because they have surpassed their useful life, are susceptible to damage from floods, etc.); and how severe of an impact there would be if the asset failed?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>		
18.	<p>Does the organization understand and monitor key operational aspects of the distribution system (e.g., pressure, flow, quality)? Have these aspects been documented?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>		
19.	<p>Does the organization have a maintenance procedure in place for routine repair and replacement of system components?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>		
20.	<p>Has the organization conducted an all-hazards vulnerability assessment (safety; natural disasters including flood and erosion hazards; environmental risks; etc.)?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No</p>		

21.	<p>Does the organization have an emergency or supplemental water supply?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If yes, what type?</p> <p><input type="checkbox"/> Backup well(s)  <input type="checkbox"/> Backup surface water source(s)  <input type="checkbox"/> Connection with another system  <input type="checkbox"/> Other (please specify): _____</p>
22.	<p>Does your system own a generator(s) with capacity to power the critical components of your system and supply water to all of your customers during a power outage?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No – But we have an emergency interconnection that can supply customers with basic service for at least 24 hours without the need for any pumping.  <input type="checkbox"/> No – But we have gravity storage that can supply customers with basic water service for at least 48 hours without the need for any pumping.  <input type="checkbox"/> No</p>
23.	<p>Does your water system meter water production and usage?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
24.	<p>Does your source(s) have enough water to meet the current and possible future needs of your water system?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Don't know  <input type="checkbox"/> Not applicable – we purchase our water from another system</p>
25.	<p>Are your water system's treatment and storage capacities adequate to meet current and future needs?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Don't know</p>
26.	<p>Is your system willing to consider connecting to a nearby water system, forming a consolidated system?</p> <p><input type="checkbox"/> There is not another system near our system.</p>



	<input type="checkbox"/> Yes – We want to connect to a nearby system, but haven’t reached an agreement to do so. <input type="checkbox"/> Yes - We would consider consolidating with a nearby system. <input type="checkbox"/> Maybe – We would need to understand the potential costs and benefits first. <input type="checkbox"/> No – We are not willing to consolidate with a nearby system, but would consider an interconnection with another system. <input type="checkbox"/> No – We are not willing to consolidate with a nearby system.
27.	Does your system prepare and follow a budget each year?  <input type="checkbox"/> Yes <input type="checkbox"/> No
28.	Does your budget represent the full cost of the services you provide (i.e., operating expenses, debt payments, budgeted annual payments into your reserve accounts, etc.)?  <input type="checkbox"/> Yes <input type="checkbox"/> No
29.	How often does your system compare operating expenses with operating revenue?  <input type="checkbox"/> Monthly or quarterly <input type="checkbox"/> Semi-annually or annually <input type="checkbox"/> Rarely or Never
30.	Which of the following best describes your rate structure?  <input type="checkbox"/> Unmetered flat rate – Services are not metered and every customer pays the same rate.  <input type="checkbox"/> Metered flat rate (i.e., uniform block rate) – The cost of each billing unit (e.g., 1,000 gallons or 100 cubic feet of water) stays the same regardless of how much water is used.  <input type="checkbox"/> Declining block rate – The cost of each billing unit decreases as the amount of water used goes up (e.g., the first billing unit is charged at one rate, subsequent units are charged at lower rates).  <input type="checkbox"/> Inclining block rate – The cost of each billing unit increases as the amount of water used goes up (e.g., the first billing unit is charged at one rate, subsequent units are charged at higher rates).  <input type="checkbox"/> Seasonal (combined with another rate structure) – The cost of each billing unit increases or decreases according to water demand and weather conditions (costs are usually higher in the summer months).  <input type="checkbox"/> Other
31.	What is the average charge for water service, per year, for a single-family home assuming usage of 150 gallons per day (54,750 gallons per year)?  <div style="border: 1px solid black; padding: 2px; display: inline-block;"> \$                      per </div>

	<p><b>Note:</b> Please exclude charges for wastewater/stormwater/fire protection/etc. that are not directly associated with water service. Costs that should be included are debt service on water system facilities, operational costs and prorated share of administrative and other staff and services.</p>
32.	<p>How many times has the water system's rate been increased in the past 10 years?</p> <p> <input type="checkbox"/> 0  <input type="checkbox"/> 1-2  <input type="checkbox"/> 3-4  <input type="checkbox"/> 5 or more         </p>
33.	<p>Does the income produced from your current rate structure exceed operating expenses (including debt service)?</p> <p> <input type="checkbox"/> Yes  <input type="checkbox"/> No         </p>
34.	<p>Does your system maintain and contribute to reserve funds for the following (check all that apply)?</p> <p> <input type="checkbox"/> Operating cash reserves  <input type="checkbox"/> Emergency reserves  <input type="checkbox"/> Replacement reserves for short-lived (10 years or less) assets  <input type="checkbox"/> Capital improvements reserves  <input type="checkbox"/> None of the above         </p>
35.	<p>Which source would likely contribute the most funds to complete future capital improvements? (please answer regardless of whether you have a plan to make improvements)</p> <p> <input type="checkbox"/> Water system funds (ex. savings or reserves)  <input type="checkbox"/> Line of credit/private loan (ex. bank loan)  <input type="checkbox"/> Government loan (ex. State revolving fund loan)  <input type="checkbox"/> Government grant (ex. Community development block grant)         </p>
36.	<p>Does the organization actively engage with local decision makers, community and regulatory representatives, etc. to build support for its goals, resources, and the value of the services it provides?</p> <p> <input type="checkbox"/> Yes  <input type="checkbox"/> No         </p>
37.	<p>Which of the following are the highest priorities for your water system right now? (Please choose no more than three items)</p>

	<input type="checkbox"/> Training and/or retaining staff (e.g., operator and board member) <input type="checkbox"/> Creating or updating bylaws and/or water ordinances <input type="checkbox"/> Replacing infrastructure <input type="checkbox"/> Addressing compliance directives or a known public health issue (only choose this if your water system has a compliance or public health issue that it needs to address) <input type="checkbox"/> Obtaining financial sustainability (e.g., setting rates that reflect the full cost of the system) <input type="checkbox"/> Meeting current and/or anticipated demand <input type="checkbox"/> Creating or updating an asset management program, water system master plan, or other tool to help manage the water system. <input type="checkbox"/> Other (Please specify):_____
38.	<p>Are you part of a group with other water systems in your area that meets on a regular basis to discuss issues, coordinate efforts, etc.?</p> <p> <input type="checkbox"/> Yes  <input type="checkbox"/> No, but I'm interested in joining such a group.  <input type="checkbox"/> No, and I'm not interested in joining such a group. </p>
39.	<p>Are you interested in receiving assistance from our Capacity Program?</p> <p> <input type="checkbox"/> Yes  <input type="checkbox"/> No </p> <p>If yes, please briefly describe the type of assistance you would like below.</p>

## Capacity Questionnaire for Systems Serving More Than 500 People

1.	Water System Name: _____ WSID # _____
2.	<p>Role(s) of the people completing this survey (check all that apply)</p> <p> <input type="checkbox"/> Owner (e.g., Select Board Member, Sole Owner)  <input type="checkbox"/> Administrative Contact (Owner's representative)  <input type="checkbox"/> Operator  <input type="checkbox"/> Financial Planner  <input type="checkbox"/> Engineer  <input type="checkbox"/> Other: _____         </p> <p><i>Note – Per the Vermont Water Supply Rule, both the owner and operator are equally responsible for successful operations and maintenance of a public drinking water system. Therefore, the expectation is that both the owner and operator will work together to answer the survey questions.</i></p>
3.	<p>Please rate how strongly you agree with each of the following statements about your system's technical, managerial, and financial capacity.</p> <p><b>D. My system has adequate <b>technical capacity</b>.</b></p> <p>Technical capacity means the physical and operational ability of the system to serve customers now and in the future. Examples of strong technical capacity include:</p> <ul style="list-style-type: none"> <li>• The system has qualified operators with the knowledge and skills to operate the system.</li> <li>• The system's infrastructure (i.e., source, storage tanks, treatment plant, and distribution network) can meet current and anticipated demand.</li> <li>• The system's infrastructure is adequately protected, treated, and sampled.</li> <li>• The system's infrastructure is in good condition.</li> </ul> <p> <input type="checkbox"/> 1 - Strongly disagree  <input type="checkbox"/> 2 - Disagree  <input type="checkbox"/> 3 - Neither agree or disagree  <input type="checkbox"/> 4 - Agree  <input type="checkbox"/> 5 - Strongly agree         </p> <p><b>E. My system has adequate <b>managerial capacity</b>.</b></p> <p>Managerial capacity means the system has the administrative and organizational ability to be successful now and in the future. Examples of strong managerial capacity include:</p> <ul style="list-style-type: none"> <li>• Owners, managers, and operators are accountable and knowledgeable about the water system.</li> <li>• Owners, managers, and operators receive ongoing training.</li> <li>• We plan for current and future needs.</li> <li>• We interact well with customers and regulatory agencies.</li> </ul> <p> <input type="checkbox"/> 1 - Strongly disagree  <input type="checkbox"/> 2 - Disagree         </p>

	<input type="checkbox"/> 3 - Neither agree or disagree <input type="checkbox"/> 4 - Agree <input type="checkbox"/> 5 - Strongly agree  <p>F. My system has adequate <b>financial capacity</b>.</p> <p>Financial capacity means the system can generate or obtain enough funds to maintain the system and pay for future improvements. Examples of strong financial capacity include:</p> <ul style="list-style-type: none"> <li>• System revenue pays for the full cost of providing services.</li> <li>• We know and can measure all costs and revenues.</li> <li>• Reserves are available for unexpected expenses.</li> <li>• We use good budgeting and accounting practices.</li> <li>• We can access capital through public or private sources.</li> </ul> <input type="checkbox"/> 1 - Strongly disagree <input type="checkbox"/> 2 - Disagree <input type="checkbox"/> 3 - Neither agree or disagree <input type="checkbox"/> 4 - Agree <input type="checkbox"/> 5 - Strongly agree
4.	<p>One of our goals is to develop new outreach/educational materials to help water systems. Which of the following topics would be most beneficial to your system? (Choose up to three priorities)</p> <input type="checkbox"/> Board member/water system decision-maker duties <input type="checkbox"/> Asset management program <input type="checkbox"/> Ordinances and bylaws <input type="checkbox"/> Funding sources and coordination <input type="checkbox"/> Fiscal planning and rate setting <input type="checkbox"/> Water audits and water loss reduction <input type="checkbox"/> Strategies for addressing compliance issues <input type="checkbox"/> Water system collaboration <input type="checkbox"/> Rule requirements, including the new Revised Total Coliform Rule <input type="checkbox"/> None <input type="checkbox"/> Other (Please specify):_____
5.	<p>How many paid staff does your water system have? This includes part-time workers, but not select board members or other elected officials who may receive a stipend.</p> <input type="checkbox"/> None <input type="checkbox"/> None, but we have a contractor operator <input type="checkbox"/> 1-2 <input type="checkbox"/> 2-4 <input type="checkbox"/> 5 or more
6.	<p>Is there an organizational structure with clearly defined roles?</p>

	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Does your water system's governing body hold duly warned meetings on a regular basis?  <input type="checkbox"/> Yes <input type="checkbox"/> No
8.	Do you have access to adequate legal, financial, and technical support when needed?  <input type="checkbox"/> Yes <input type="checkbox"/> No
9.	Does your system have a secure record-keeping system for both financial and non-financial records, with back-ups if feasible, that foster organization and efficiency, and that could be used to help protect against possible legal consequences in the future?  <input type="checkbox"/> Yes <input type="checkbox"/> No
10.	Does the system have a master list indicating how and where different types of documents (e.g., property deeds, operations data, customer records) are to be filed and kept?  <input type="checkbox"/> Yes <input type="checkbox"/> No
11.	How many people have served in the primary certified operator position in the past 10 years?  <input type="checkbox"/> 1 <input type="checkbox"/> 2-3 <input type="checkbox"/> 4 or more
12.	Do you have a back-up operator that can fill in if the primary operator is sick, takes a vacation, etc.?  <input type="checkbox"/> Yes <input type="checkbox"/> No
13..	Do you have a plan in case a key person can't work for an extended period of time, leaves or retires (e.g. do you have ways to retain institutional knowledge)?  <input type="checkbox"/> Yes <input type="checkbox"/> No
14.	Does the organization have clearly defined goals and are they consistent with customer needs and expectations?



	<input type="checkbox"/> Yes <input type="checkbox"/> No
15.	<p>Does the system have procedures in place to receive, document, and respond to customer complaints/questions in a timely fashion?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
16.	<p>Are the customers satisfied with the quality of water and service the system provides?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
17.	<p>Is the system in compliance with permit and other state drinking water requirements?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
18.	<p>Did the system impose any water use restrictions in the past 5 years?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No  <p>If yes, was the restriction related to (check all that apply):</p> <input type="checkbox"/> Drought <input type="checkbox"/> Treatment capacity <input type="checkbox"/> Distribution or storage capacity <input type="checkbox"/> Raw water supply source <input type="checkbox"/> Water quality (e.g., a boil water notice) <input type="checkbox"/> Water purchase contract <input type="checkbox"/> Minimum stream flow requirements <input type="checkbox"/> Other (please specify): _____
19.	<p>Does your system have a complete, up-to-date written or electric plan (e.g., Water System Master Plan, Comprehensive System Facility Plan, Asset Management Plan, or other) that is actively used to operate and manage your water system?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
20.	<p>Please indicate whether the organization has the items listed below and, if so, when it was most recently updated (or when it was developed if it has not been updated):</p>

			Most recent version
By-laws	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Drinking Water Ordinances	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Asset Management Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Operations and Maintenance (O&M) Manual	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Source Protection Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Comprehensive Engineering Report	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Long Range Plan or Capital Improvement Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Map of Distribution System	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Schematic of Treatment Plant	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Engineering as-built record drawings	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
Sampling plans (i.e., total coliform, disinfection byproducts, lead and copper, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years	
21.	If the system has water ordinances, do they include a provision that allows the organization to		

	<p>discontinue service to a connection if it may pose a contamination risk to the water system?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Not applicable; we don't have water ordinances</p>
22.	<p>Does the organization have an inventory of its system components (i.e., assets) that includes their age, location, condition, estimated replacement cost, and when you expect to have to replace them?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
23.	<p>Has the organization evaluated its components to determine which ones are most likely to fail (e.g., because they have surpassed their useful life, are susceptible to damage from floods, etc.); and how severe of an impact there would be if the asset failed?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
24.	<p>Does the organization understand and monitor key operational aspects of the distribution system (e.g., pressure, flow, quality)? Have these aspects been documented?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
25.	<p>Does the organization tend to conduct maintenance activities in a reactive manner as opposed to a planned and proactive manner?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
26.	<p>Does the organization have a maintenance procedure in place for routine repair and replacement of system components?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
27.	<p>Do you keep detailed records of routine and emergency maintenance activities?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
28.	<p>Does the system have a program in place to identify which service connections might pose a backflow/cross connection hazard, and to require measures to reduce potential health impacts from these hazards?</p>

	<input type="checkbox"/> Yes <input type="checkbox"/> No
29.	<p>Has the organization conducted an all-hazards vulnerability assessment (safety; natural disasters including flood and erosion hazards; environmental risks; etc.)?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
30.	<p>Has the system prepared an all-hazards emergency response plan?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No  <p>If so, when was it most recently updated?</p> <input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years
31.	<p>Does the organization have an emergency or supplemental water supply?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No  <p>If yes, what type?</p> <input type="checkbox"/> Backup well(s) <input type="checkbox"/> Backup surface water source(s) <input type="checkbox"/> Connection with another system <input type="checkbox"/> Other (please specify): _____
32.	<p>Does your system own a generator(s) with capacity to power the critical components of your system and supply water to all of your customers during a power outage?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No – But we have an emergency interconnection that can supply customers with basic service for at least 24 hours without the need for any pumping. <input type="checkbox"/> No – But we have gravity storage that can supply customers with basic water service for at least 48 hours without the need for any pumping. <input type="checkbox"/> No
33.	<p>Does your water system meter water production and usage?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No

34.	<p>Has your system completed a water audit in the last 5 years?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
35.	<p>Does the organization analyze current and anticipated customer demands, including planning for future growth or population decline?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
36.	<p>Do you anticipate future growth in the following areas (check all that apply)?</p> <p><input type="checkbox"/> Residential  <input type="checkbox"/> Commercial  <input type="checkbox"/> Industrial  <input type="checkbox"/> Wholesale (i.e., sale of water to another system)  <input type="checkbox"/> Other  <input type="checkbox"/> No, we do not anticipate any future growth.</p>
37.	<p>Has the system performed a long-term water supply and demand analysis?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
38.	<p>Is the system permitted to expand (i.e., connect new users)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If “yes”, does the system keep track of its water allocations?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
39.	<p>Does your source(s) have enough water to meet the current and possible future needs of your water system?</p> <p><input type="checkbox"/> Yes  <input type="checkbox"/> No  <input type="checkbox"/> Don’t know  <input type="checkbox"/> Not applicable – we purchase our water from another system</p>
40.	<p>If water is purchased from or treated by another system, do you have an agreement that provides your system a water allocation for future growth?</p>

	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Not applicable – we don't purchase water
41.	<p>Are your water system's treatment and storage capacities adequate to meet current and future needs?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
42.	<p>Is your system willing to consider connecting to a nearby water system, forming a consolidated system?</p> <input type="checkbox"/> There is not another system near our system. <input type="checkbox"/> Yes – We want to connect to a nearby system, but haven't reached an agreement to do so. <input type="checkbox"/> Yes - We would consider consolidating with a nearby system. <input type="checkbox"/> Maybe – We would need to understand the potential costs and benefits first. <input type="checkbox"/> No – We are not willing to consolidate with a nearby system, but would consider an interconnection with another system. <input type="checkbox"/> No – We are not willing to consolidate with a nearby system.
43.	<p>Does your system prepare and follow a budget each year?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
44.	<p>Does your budget represent the full cost of the services you provide (i.e., operating expenses, debt payments, budgeted annual payments into your reserve accounts, etc.)?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No
45.	<p>How often does your system compare operating expenses with operating revenue?</p> <input type="checkbox"/> Monthly or quarterly <input type="checkbox"/> Semi-annually or annually <input type="checkbox"/> Rarely or Never
46.	<p>Are financial statements prepared on a routine basis (i.e., monthly, quarterly, or annually)?</p> <input type="checkbox"/> Yes <input type="checkbox"/> No

47.	<p>Which of the following best describes your rate structure?</p> <p><input type="checkbox"/> Unmetered flat rate – Services are not metered and every customer pays the same rate.</p> <p><input type="checkbox"/> Metered flat rate (i.e., uniform block rate) – The cost of each billing unit (e.g., 1,000 gallons or 100 cubic feet of water) stays the same regardless of how much water is used.</p> <p><input type="checkbox"/> Declining block rate – The cost of each billing unit decreases as the amount of water used goes up (e.g., the first billing unit is charged at one rate, subsequent units are charged at lower rates).</p> <p><input type="checkbox"/> Inclining block rate – The cost of each billing unit increases as the amount of water used goes up (e.g., the first billing unit is charged at one rate, subsequent units are charged at higher rates).</p> <p><input type="checkbox"/> Seasonal (combined with another rate structure) – The cost of each billing unit increases or decreases according to water demand and weather conditions (costs are usually higher in the summer months).</p> <p><input type="checkbox"/> Other</p>
48.	<p>Do you review your rate structure on a routine basis?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
49.	<p>What is the average charge for water service, per year, for a single-family home assuming usage of 150 gallons per day (54,750 gallons per year)?</p> <div data-bbox="253 1161 542 1218" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> \$                      per </div> <p><b>Note:</b> Please exclude charges for wastewater/stormwater/fire protection/etc. that are not directly associated with water service. Costs that should be included are debt service on water system facilities, operational costs and prorated share of administrative and other staff and services.</p>
50.	<p>How many times has the water system's rate been increased in the past 10 years?</p> <p><input type="checkbox"/> 0</p> <p><input type="checkbox"/> 1-2</p> <p><input type="checkbox"/> 3-4</p> <p><input type="checkbox"/> 5 or more</p>
51.	<p>Are the rates charged adequate to pay the bills, put some funds away for the future, and maintain, repair, and replace equipment and infrastructure as needed (i.e., are O&amp;M, capital investment/debt servicing, and other costs covered)?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>



52.	<p>Does the income produced from your current rate structure exceed operating expenses (including debt service)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
53.	<p>Does your system maintain and contribute to reserve funds for the following (check all that apply)?</p> <p><input type="checkbox"/> Operating cash reserves  <input type="checkbox"/> Emergency reserves  <input type="checkbox"/> Replacement reserves for short-lived (10 years or less) assets  <input type="checkbox"/> Capital improvements reserves  <input type="checkbox"/> None of the above</p>
54.	<p>Does your system have formal policies for collections on delinquent accounts and discontinuance of water service for non-payment?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
55.	<p>Are the annual delinquent accounts less than 5% of the system's annual operating budget?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
56.	<p>Does your water utility support or contribute to other enterprise funds or the general fund?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
57.	<p>Does your system require revenues from other enterprise funds or the general fund for normal operations?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
58.	<p>Which source would likely contribute the most funds to complete future capital improvements? (please answer regardless of whether you have a plan to make improvements)</p> <p><input type="checkbox"/> Water system funds (ex. savings or reserves)  <input type="checkbox"/> Line of credit/private loan (ex. bank loan)  <input type="checkbox"/> Government loan (ex. State revolving fund loan)  <input type="checkbox"/> Government grant (ex. Community development block grant)</p>

59.	<p>Has your system implemented an outreach plan to educate and gain the support of your stakeholders/customers in the improvement of your water system?</p> <p><input type="checkbox"/> Yes – We have implemented a plan</p> <p><input type="checkbox"/> No – We have started a plan, but it is not complete</p> <p><input type="checkbox"/> No – We have not done any planning</p>
60.	<p>Does the organization perform active customer and stakeholder outreach and education to understand concerns and promote the value of safe drinking water?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
61.	<p>Does the organization actively engage with local decision makers, community and regulatory representatives, etc. to build support for its goals, resources, and the value of the services it provides?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
62.	<p>Does the system participate in local and regional community and economic development planning activities?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
63.	<p>Which of the following are the highest priorities for your water system right now? (Please choose no more than three items)</p> <p><input type="checkbox"/> Training and/or retaining staff (e.g., operator and board member)</p> <p><input type="checkbox"/> Creating or updating bylaws and/or water ordinances</p> <p><input type="checkbox"/> Replacing infrastructure</p> <p><input type="checkbox"/> Addressing compliance directives or a known public health issue (only choose this if your water system has a compliance or public health issue that it needs to address)</p> <p><input type="checkbox"/> Obtaining financial sustainability (e.g., setting rates that reflect the full cost of the system)</p> <p><input type="checkbox"/> Meeting current and/or anticipated demand</p> <p><input type="checkbox"/> Creating or updating an asset management program, water system master plan, or other tool to help manage the water system.</p> <p><input type="checkbox"/> Other (Please specify):_____</p>
64.	<p>Are you part of a group with other water systems in your area that meets on a regular basis to discuss issues, coordinate efforts, etc.?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, but I'm interested in joining such a group.</p> <p><input type="checkbox"/> No, and I'm not interested in joining such a group.</p>

65.	<p>Are you interested in receiving assistance from our Capacity Program?</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>If yes, please briefly describe the type of assistance you would like below.</p>

## Appendix B. Capacity Development Initiatives Completed in Previous Years

Capacity Initiative	Status	Target Audience	Notes
Transient non-community (TNC) Water Quality Monitoring Project	Completed	TNCs	In 2002, the program developed a cost estimate for conducting quarterly compliance monitoring for all TNCs in the state. At the time, TNCs were only taking annual coliform samples. The goal of the project was to help TNCs transition to quarterly monitoring. Using the cost estimate, the TNC Program hired contractors to collect quarterly samples during 2004 and 2005, prepare a sampling plan for each system, and teach staff how to take samples properly. The samples were analyzed at the Department of Environmental Conservation's laboratory.
Engineering Technical Assistance	Completed	CWS, NTNC	DWGWPDP had several engineering firms under contract to provide operational troubleshooting assistance to small public water systems.
Small System Templates and Self-Assessment	Completed	CWS, NTNC	Templates for O&M manual and long range plan, and a 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 form and <i>How to Form a Fire District</i> guidance document were developed.
Public Service Board (PSB) Technical Assistance	Completed	Private, for-profit CWS (regulated utilities)	Beginning in early summer of 2009, DWGWPDP 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.
Consolidation Study	Completed	CWS	Consolidation Study was replaced with a Facilitation and Mediation contract beginning in June 2008.
Communication Workgroup	Completed	All PWSs	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.
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	Comprehensive performance evaluations were conducted on three surface water systems.
Small System Engineering Evaluations	Completed	CWS, NTNC	An extremely successful initiative and may resume in the future for those systems that did not already receive an evaluation.
Regulation of Consecutive Water Systems and New	Completed	CWS	Successful passage of H806 to Act 156 <i>An Act Relating to Public Water Systems</i> .

Water Line Extensions			
Asset Management Pilot	Completed	CWS	<p>The DWGWPD and Village of Waterbury, a small drinking water system, collaborated on an asset management pilot project that ended in Spring 2013. The goal of the pilot was to populate CUPSS, the EPA-developed asset management program, using ArcGIS for a more efficient way to enter many hundreds to thousands of assets. The use of GIS to spatially locate and attribute assets for use in CUPSS had never been done successfully. The Village now has the frame work for an Asset Management Program. A report describing the project is available on our website at <a href="http://drinkingwater.vt.gov/capdev/pdf/waterburypilotproject.pdf">http://drinkingwater.vt.gov/capdev/pdf/waterburypilotproject.pdf</a></p>
Determination of non-profit status	Completed	Loan Applicants	<p>The DWGWPD 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</p>
WaterSense Pilot	Completed	NTNC	<p>The Orange Center School has a history of seasonal water outages. It appeared that the problem might be solved through water conservation efforts. So the school was awarded a grant in 2012 to purchase and install new WaterSense labeled toilets and faucet aerators, and a new dishwasher. The fixtures helped significantly reduce water use and the school was able to stop hauling water temporarily. But shortages resumed, so the system is now planning to develop another water source. A report describing the project is available on our website.</p>

## Appendix C. Operator Certification Program Annual Report for 2013

July 1, 2014

This Annual Report documents Vermont's program compliance with the EPA Operator Certification Guidelines for the calendar year ending December 31, 2013.

### Program overview and Enforcement efforts

The total number of certified operators for Community, Non-Transient Non-Community, and Transient Non-Community systems is 1,229.

Vermont offers Operator-in-Training and Provisional Certification to help new water systems and operators become fully certified. Our database currently lists 2 operators with Provisional Certification and 28 with Operator-in-Training Certification.

The number of systems without certified operators as of June 24, 2014 is listed in the table below.

System type	Number of systems	Number of systems with no certified operator
Community	420	2
Non-Transient Non-Community	246	0
Transient Non-Community*	697	82

\* TNC certification is not mandated by EPA.

Our Certification Office and TCR Coordinator who had held the position for 6 years took another position within the division in March 2012. During 2012 and 2013 there were 3 different Certification Officer in the position. The first individual started working in the Division on May 14, 2012 only to leave within 6 months to take another position in the Department. A second individual was hired on November 19, 2012 only to take another position in the Department during July 2013. A third individual has been in the position since September 9, 2013. The Compliance and Certification Section Manager managed the work through these transitions and trained the new employees.

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 Drinking Water and Groundwater Protection 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 Compliance and Enforcement Division for further action.

Most community and non-transient non-community water systems without certified operators have this status because their operator(s) fail to renew their certification on time. In calendar year 2013, one NOAV was issued to water systems for failure to have 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 2013, no operators' certification was revoked or suspended.

## **Training and exams**

The operator training program is coordinated with the Vermont Rural Water Association (VRWA). Communication between the VRWA Coordinator and Drinking Water and Groundwater Protection 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 Drinking Water and Groundwater Protection 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 2013, approximately 3,870 training contact hours were awarded to 1,131 water professionals (see the table at the end of this report).

Reviewing and approving training courses: The Vermont Rural Water Association (VRWA), [Green Mountain Water Environment Association](#), New England Water Works Association and Earth Water Specialists have "blanket approval". All other courses must be pre-approved using a pre-approval form taking into account our pre-approval guidelines. Courses must be relevant to operations or management of water systems. We accept a wide spectrum of topic areas from basics to advanced topics. Training topic areas include a range of technical training including safety, capacity, equipment mechanics, and drinking water rules. We also provide training classes for new operators of small systems, systems with advanced treatment and distribution only. We contract with Vermont Rural Water and Green Mountain Water Environment Association to provide training in Vermont. New England Water Works provides advanced training at multiple sites in Vermont. At this time only IACET certified online courses can be pre-approved.

Exams were again administered in the spring and fall (May 2, 2013 and November 1, 2013) at two different locations (Montpelier and Rutland, VT) on the same day. There were 34 and 36 individuals who took the exam in May and November, respectively and one person made a special appointment to take the Class 2 exam at the Division office.

Training Contracts - The state amended a contract for operator training in the state for an additional one year period in early 2013 to the Vermont Rural Water Association which ended on April 30, 2014. An additional one year contract was awarded to Vermont Rural Water Association for a term of May 1, 2014 through on April 30, 2015. GMWEA was awarded a 2.5 year contract for a term of May 31, 2013



through December 31, 2015. Both documents are attached. The state plans to advertise a request for proposal for operator training in the state in January 2015.

### **Stakeholder Involvement and Program Review**

The Vermont Operator Certification Advisory Committee did not meet during calendar year 2013 because of the turnover in the Operator Certification position and work was planning to resume when rule revisions work had advanced. No changes to the Vermont Water Supply Rule have been proposed as of yet. There has been a delay in major rule revision which is now scheduled to begin later in 2014 with a final adoption date by December 31, 2015. During this process the division will review Section 21-12 and the process will allow for an internal and external review during the rule rewrite. The Committee is resuming its work on rule revisions in 2014.

Our goal is to complete an internal review of the exam for each operator classification on a 5 year cycle. The exam for Class D operators was reviewed internally and updated in 2009. Our ability to stay on a 5 year cycle was initially effected initially because of the disruption to the Division as the result of the 2011 flood followed by the turnover in the Operator Certification position during 2012 and 2013. An updated schedule for review of the exams for the 2, 3, 4 & D Operator Class is listed below.

Operator Class	Last reviewed and updated	Schedule for Review and Updating
Class 2	2007	2014/2015
Class 3	Prior to 2007	2015/2016
Class 4	Prior to 2007	2015/2016
Class D	2009	2016/2017

### **Expenditures**

The Division continues to use DWSRF money to fund operator training provided by the Vermont Rural Water Association and Green Mountain Water environment Association. The VRWA contract is funded by Technical Assistance Set-Aside Funds and the GMWEA grant is funded by Program Management Set-Aside Funds.

<b>Month</b>	<b>Course Title Training provided January 1, 2013 – December 31, 2013</b>	<b>TCH</b>	<b># of attendees</b>	<b>TCHs Awarded</b>
Jan	Basic Computer Operations-Essex Jct.	3	10	30
	Total Coliform Rule and Bacteriological Testing-St. Johnsbury	3.5	10	35
	New VOSHA Hazardous Communication (Haz Com) Regulations-Enosburgh	3.5	21	73.5
	Maintaining a Quality Distribution System-Montpelier	3	17	51
	Sampling Procedures & Protocol/Maintenance for Steel Tanks, Asset Protection-Montpelier	5	10	50
	Basic Computer Operations-Springfield	3	7	21
	Asset Management-St. Johnsbury	6	1	6
	Total Coliform Rule and Bacteriological Testing-Middlebury	3.5	11	38.5
	On-site Training-Liz Royer-Basic Computer Operations-Town of Brandon	3.5	1	3.5
	On-site Training-Liz Royer-Excel Training-Town of South Royalton	3	1	3
	On-site Training-Liz Royer-Excel Training-Town of Plainfield	3	1	3
Feb	Sanitary Surveys: How to Prepare and Respond-Montpelier	3	8	24
	NEW VOSHA Hazardous Communication (Haz Com) Regulations-Lyndonville	3.5	21	73.5
	Sanitary Surveys: How to Prepare and Respond-Essex Jct.	3	16	48
	Process Optimization for Water and Wastewater Systems-Enosburgh	4	18	72
	Becoming an Efficient and Effective Water Board Member-Brandon	2	9	18
	Process Optimization for Water and Wastewater Systems-West Rutland	4	17	68
	Social Media-Tools to Improve the Information Exchange Process-Essex Jct.	3	2	6
	Asset Management-Bennington	6	3	18
	Asset Management-White River Jct.	6	5	30
	Sampling Procedures and Tank Maintenance/Asset Management-Springfield	5	11	55
	Becoming an Efficient and Effective Water Board Member-Craftsbury	2	10	20
	On-site Training-Liz Royer-Basic Computer Training-Village of Poultney	2	1	2
Mar	Traffic Control Certification-Swanton	4	22	88
	Water System Math Review-Berlin	6	4	24
	Source Water Protection and the Working Landscape-	6	21	126

	Winooski			
	Source Water Protection and the Working Landscape-Woodstock	6	30	180
	On-Site-Liz Royer-Derby Line Village -Source Protection, Sampling, O&M, Canadian Water Treatment	2.5	1	2.5
	On-Site-Shaun Fielder-Fair Haven Water-Water System Math Review	3	1	3
Apr	Advanced Water Operator's Certification-Session-1-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-2-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-3-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-4-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-5-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-6-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-7-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-8-Montpelier	5	6	30
	Advanced Water Operator's Certification-Session-9-Montpelier	5	6	30
	Distribution Certification-Session-1-Montpelier	5	4	20
	Distribution Certification-Session-2-Montpelier	5	4	20
	Distribution Certification-Session-3-Montpelier	5	4	20
	Distribution Certification-Session-4-Montpelier	5	4	20
	Distribution Certification-Session-5-Montpelier	5	4	20
	Distribution Certification-Session-6-Montpelier	5	4	20
	O&M Manuals-Hands On Workshop-Bennington	2.5	10	25
	Class 2 Water Operator Certification-Session-1-Montpelier	4	6	24
	Class 2 Water Operator Certification-Session-2-Montpelier	4	6	24
	Class 2 Water Operator Certification-Session-3-Montpelier	4	6	24
	Class 2 Water Operator Certification-Session-4-Montpelier	4	6	24
	Sanitary Surveys-How to Prepare & Respoind-Bennington	3	10	30
	Drinking Water and Groundwater Protection Division Rule-Montpelier	3.5	23	80.5
	Basic Computer Operations-Enosburgh	3	8	24
	Basic Excel-Swanton	3	9	27
	VOSHA Hazardous Communication - Springfield	3	15	45
	VOSHA Hazardous Communication -Waterbury	3	17	51

May	Illicit Discharge Detection & Elimination of Stormwater	1	46	46
	Why Dig Safe?	1	27	27
	Water and Wastewater Funding Options	1.5	59	88.5
	Rehabilitation of Gravel & Bedrock Wells	1	47	47
	Why VOSHA?	1	18	18
	Hands-on Chemical Feed Pump Repair-Brattleboro	4.5	15	67.5
	Basic Computer Operations-St. Johnsbury	3	9	27
	O & M Manuals Hands-on Workshop-St. Johnsbury	2.5	7	17.5
June	Water Meter Sizing and Installation-Bennington	3.5	6	21
	GPS for Water and Wastewater Systems-Rutland	3	11	33
	GIS for Water and Wastewater Operators-Rutland	3	9	27
	Source Protection Plans-Write Your Own Update-Stratton	2.5	8	20
	Chlorine Chemistry and Disinfection for Water and Wastewater Systems-Stratton	2.5	8	20
	GPS for Water and Wastewater Systems-Essex Jct.	3	12	36
	GIS for Water and Wastewater Operators-Essex Jct.	3	11	33
	Chlorine Chemistry and Disinfection for Water and Wastewater Systems-Montpelier	3	10	30
	VOSHA Hazardous Communication for the Globally Harmonized World-Brattleboro	3	11	33
	Traffic Control Flagger Safety Certification/Recertification for Water/Wastewater-Bennington	4	9	36
	Corrosion Control for Water and Wastewater Using Polymers-Brattleboro	3.5	7	24.5
	Basic Excel-St. Johnsbury	5	7	35
	Water Meter Sizing and Installation-Waterbury	3.5	9	31.5
	On-site- Traffic Control Flagger Safety Certification/recertification for Water/Wastewater-Addison Tri-Town	4	11	44
July	Hydrant Installation and Maintenance-Berlin	3	9	27
	DW&GWPD Rule Update-Enosburgh	3.5	21	73.5
	VOSHA Lockout/Tagout Safety Training-St. Johnsbury	3.5	6	21
	Water and Wastewater Mapping: Northfield Case Study-Northfield	3	11	33
	DW&GWPD Rule Update-Springfield	3.5	18	63
Aug	Basic Computer Operations-Montpelier	3	3	9
	UV Disinfection and Maintenance-	3	11	33
Sept	5 Sure Fire Ways to a Coliform "Hit" In Your Water System ...or Worse-Enosburgh	5	15	75
	21st Century Membrane Technology for Water and Wastewater-Waterbury	5	8	40

	5 Sure Fire Ways to a Coliform "Hit" In Your Water System ...or Worse-Brattleboro	5	21	105
	Advanced Water Operator Certification Class 3 and 4 Sessions 1-Springfield	5	3	15
	Advanced Water Operator Certification Class 3 and 4 Sessions 2-Springfield	5	3	15
	Advanced Water Operator Certification Class 3 and 4 Sessions 3-Springfield	5	3	15
	Advanced Water Operator Certification Class 3 and 4 Sessions 4-Springfield	5	3	15
	Distribution Water Certification-Session 1-Springfield	5	2	10
	Distribution Water Certification-Session 2-Springfield	5	2	10
	Distribution Water Certification-Session 3-Springfield	5	2	10
	Distribution Water Certification-Session 4-Springfield	5	2	10
Oct	Advanced Water Operator Certification Class 3 and 4 Session 5-Springfield	5	3	15
	Advanced Water Operator Certification Class 3 and 4 Session 6-Springfield	5	3	15
	Advanced Water Operator Certification Class 3 and 4 Session 7-Springfield	5	2	10
	Advanced Water Operator Certification Class 3 and 4 Session 8-Springfield	5	2	10
	Advanced Water Operator Certification Class 3 and 4 Session 9-Springfield	5	3	15
	Distribution Water Certification Session 5-Springfield	5	2	10
	Distribution Water Certification Session 6-Springfield	5	2	10
	CPR Certification-Enosburgh	3	10	30
	Backflow Prevention Installation and Maintenance for Water and Wastewater-Waterbury	3.5	10	35
	Backflow Prevention Installation and Maintenance for Water and Wastewater-Springfield	3.5	13	45.5
	Small System Class 2 Operator Certification Session 1-Springfield	4.5	8	36
	Small System Class 2 Operator Certification Session 2-Springfield	4.5	8	36
	Small System Class 2 Operator Certification Session 3-Springfield	4.5	8	36
	Small System Class 2 Operator Certification Session 4-Springfield	4.5	8	36
Nov	Affordable Control Telemetry/SCADA Systems-Waterbury	4	13	52
	The Science of Pipe Location and Leak Detection-Montpelier	3.5	20	70
Dec	VOSHA: "A Culture of Safety"-St. Johnsbury	3.5	7	24.5

Drinking Water and Groundwater Protection Division Rule Update-St. Johnsbury	3.5	14	49
VOSHA: "A Culture of Safety"-Waterbury	3.5	16	56
Asset Management-Newport	6	3	18
On-site Training-Liz Royer-Basic Computer Training/Excel-Vishay Transistor-Bennington	4	2	8
<b>Totals</b>	<b>451</b>	<b>1131</b>	<b>3870</b>