

Drinking Water System Capacity Self-Evaluation

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 you and your colleagues. Enhancing your water system's capacity – the technical, managerial, and financial capabilities - will help you meet these challenges.

The Drinking Water and Groundwater Protection Division's Capacity Development Program designed this evaluation to help determine whether your water system has adequate capacity to provide safe drinking water for the foreseeable future, and how to make it more sustainable. After completing the evaluation, review question #3 and check to see if you agree with your original answer. The self-evaluation is to be used internally to identify areas of strength and areas that need improvement.

Please contact Jim Siriano, (802) 585-4889 or jim.siriano@vermont.gov, or Allison Murphy, (802) 272-2449 or allison.murphy@vermont.gov, if you have any questions regarding the evaluation or the Capacity Development Program.

Drinking Water System Capacity Evaluation – 2015

1.	Water System Name: _____ WSID # _____
2.	Role(s) of the people completing this evaluation (check all that apply) <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: _____ <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 evaluation questions.</i>
3.	Please rate how strongly you agree with each of the following statements about your system’s technical, managerial, and financial capacity. A. My system has adequate technical capacity . 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: <ul style="list-style-type: none"> • The system has qualified operators with the knowledge and skills to operate the system. • The system’s infrastructure (i.e., source, storage tanks, treatment plant, and distribution network) can meet current and anticipated demand. • The system’s infrastructure is adequately protected, treated, and sampled. • The system’s infrastructure is in good condition. <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 B. My system has adequate managerial capacity . 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: <ul style="list-style-type: none"> • Owners, managers, and operators are accountable and knowledgeable about the water system. • Owners, managers, and operators receive ongoing training. • We plan for current and future needs. • We interact well with customers and regulatory agencies. <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>C. My system has adequate financial capacity.</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"> • System revenue pays for the full cost of providing services. • We know and can measure all costs and revenues. • Reserves are available for unexpected expenses. • We use good budgeting and accounting practices. • We can access capital through public or private sources. <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>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
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> <input type="checkbox"/> Yes <input type="checkbox"/> No

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>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?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
10.	<p>How many people have served in the primary certified operator position in the past 10 years?</p> <p><input type="checkbox"/> 1 <input type="checkbox"/> 2-3 <input type="checkbox"/> 4 or more</p>
11.	<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>
12.	<p>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)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
13.	<p>Does the organization have clearly defined goals and are they consistent with customer needs and expectations?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
14.	<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>
15.	<p>Are the customers satisfied with the quality of water and service the system provides?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

16.	<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>															
17.	<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>															
18.	<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> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>															
19.	<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> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="width: 35%;"></th> <th style="width: 35%;">Most recent version</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">By-laws</td> <td style="padding: 5px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="padding: 5px;"><input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years</td> </tr> <tr> <td style="padding: 5px;">Drinking Water Ordinances</td> <td style="padding: 5px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="padding: 5px;"><input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years</td> </tr> <tr> <td style="padding: 5px;">Asset Management Plan</td> <td style="padding: 5px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="padding: 5px;"><input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years</td> </tr> <tr> <td style="padding: 5px;">Operations and Maintenance (O&M) Manual</td> <td style="padding: 5px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="padding: 5px;"><input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years</td> </tr> </tbody> </table>			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
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	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
20.	<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>		
21.	<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>		
22.	<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>		

23.	<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>
24.	<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 <input type="checkbox"/> No</p>
25.	<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>
26.	<p>Do you keep detailed records of routine and emergency maintenance activities?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
27.	<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> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
28.	<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>
29.	<p>Has the system prepared an all-hazards emergency response plan?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If so, when was it most recently updated?</p> <p><input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> More than 10 years</p>

30.	<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>
31.	<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>
32.	<p>Does your water system meter water production and usage?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
33.	<p>Has your system completed a water audit in the last 5 years?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
34.	<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>
35.	<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>

36.	<p>Has the system performed a long-term water supply and demand analysis?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
37.	<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>
38.	<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>
39.	<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> <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</p>
40.	<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>
41.	<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. <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.</p>

42.	<p>Does your system prepare and follow a budget each year?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
43.	<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> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
44.	<p>How often does your system compare operating expenses with operating revenue?</p> <p><input type="checkbox"/> Monthly or quarterly <input type="checkbox"/> Semi-annually or annually <input type="checkbox"/> Rarely or Never</p>
45.	<p>Are financial statements prepared on a routine basis (i.e., monthly, quarterly, or annually)?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
46.	<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>
47.	<p>Do you review your rate structure on a routine basis?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

48.	<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 style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> \$ per year </div> <p>Note: 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>
49.	<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>
50.	<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&M, capital investment/debt servicing, and other costs covered)?</p> <p> <input type="checkbox"/> Yes <input type="checkbox"/> No </p>
51.	<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>
52.	<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>
53.	<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>
54.	<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>

55.	<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>
56.	<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>
57.	<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>
58.	<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 <input type="checkbox"/> No – We have started a plan, but it is not complete <input type="checkbox"/> No – We have not done any planning</p>
59.	<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 <input type="checkbox"/> No</p>
60.	<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>
61.	<p>Does the system participate in local and regional community and economic development planning activities?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

62.	<p>Which of the following are the highest priorities for your water system right now? (Please choose no more than three items)</p> <ul style="list-style-type: none"> <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): _____
63.	<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> <ul style="list-style-type: none"> <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.