Fiscal Sustainability Plan (FSP) Guidance for Vermont Clean Water State Revolving Fund

Introduction

A Fiscal Sustainability Plan (FSP) is a document developed by a utility in an effort to manage aging infrastructure by making cost effective decisions through critical asset identification and proactive planning.

To comply with the Water Resources Reform and Development Act (WRRDA), all clean water construction projects that apply to the Vermont State Water Revolving Fund (CWSRF) after October 1, 2014 for the repair, replacement, or expansion of a treatment works must certify that they have a completed FSP with the following minimum requirements:

1. An inventory of critical assets that are part of the treatment works project;
2. An evaluation of the condition and performance of those assets;
3. A certification that the loan recipient has evaluated and will be implementing water and energy conservation efforts as part of the plan; and
4. A plan for maintaining, repairing, and replacing the assets and a plan for funding such activities.

It is important to note that an FSP is only required for an SRF funded project area, not for the entire system. Vermont Department of Environmental Conservation has developed this guidance and sample templates so that system owners can develop a simple, initial FSP and build upon it as future projects are implemented.

Step 1: Inventory of Critical Assets that are Part of the Treatment Works Project

The core element of an FSP is an asset inventory. To begin, utilities first identify assets by locating the system components within the project area, estimate replacement costs for each, and then determine which components may be considered assets (as defined by the criteria below). Once the assets are identified, utilities then assess the condition of each by evaluating service life, the likelihood an asset will fail, and the consequences should an asset fail. Finally, the operators examine the criticality of each asset. Using the above, the asset inventory classifies assets by group and creates an asset hierarchy.

Recommended steps include:

1. **Asset Identification.** Typically, assets are identified as follows:

    a. Account for all components associated with the project. This can be done through record drawings, staff knowledge, and/or visual observations.
    b. Estimate the replacement value of each asset.
    c. Determine if a component is an asset by applying one of the following criteria:
        i. Has a replacement cost greater than $5,000.
        ii. Has a useful life greater than one year.
        iii. Will be the lowest level where a work order is generated.

iv. Is critical to the delivery of process, compliance of regulatory standards, and/or provision of staff safety.

d. Locate the assets. It is recommended to create a map of the assets associated with the project. This can be achieved through GIS, but isn't necessary.
e. Document these assets in the *CWSRF FSP Table* under "critical assets" column

Note that the distinction between a component and an asset is important. Small components of a system do not need to be inventoried for the FSP.

f. Determine the **Probability of Failure** by considering asset condition, failure history, performance records, maintenance records, and operator experience. A suggested ratings table is presented as follows:

Condition	Rank	Description
Excellent	0	New or nearly new with no known or suspected issues
Very Good	1	No longer new with no known or suspected issues
Good	2	**Few** known or suspected issues
Average	3	Known or suspected issues
Fair	4	Known or suspected issues may affect performance in the next several years
Poor	5	Known or suspect issues may affect performance within 1 to 2 years

g. Rate the **Consequence of Failure by establishing a** system such as the following:

Rank	Description
1	Insignificant disruption
2	Minor disruption
3	Moderate disruption
4	Major disruption
5	Catastrophic disruption

At the utility's discretion, failure ratings may account for asset redundancy.

2. **Assess Criticality**

    a. Criticality depends on the Probability of Failure and the Consequence of Failure and is determined by:

        i. Multiplying the Probability of Failure times the Consequence of Failure; and
        ii. Comparing the result to established Suggested Asset Criticality factor ranges (the ranges below are suggested but utilities may determine their own ranges as they see fit):

Criticality Factor	**Criticality Ranking**
1-8	Not considered a critical rating
9 to 16	Important, but not critical
>16	Critical rating

An example Criticality Table is presented below.

Asset	Probability of Failure	Consequence of Failure	Criticality
RAS Pump Station	3	4	12
Digester Basement Sump Pump	2	1	2

Note that if an asset is assigned a critical rating, close monitoring is important. These also rank higher in capital improvement priority than other assets with similar condition and performance rankings as described in the next section.

Further, because asset condition changes over time, it is necessary to periodically review the criticality analysis and make adjustments.

Step 2: Evaluation of the Condition and Performance of Those Assets

Evaluating the condition and performance of the assets is very important. Physical inspections of the assets will be needed as well as review of any available equipment manuals. Questions that a utility will need to ask when performing this component include:

A. What is the condition and remaining useful life of the asset?

Rank the condition of each asset by a rating system such as the following:

Rank	Description
1	New or excellent condition (only normal maintenance required)
2	Minor deterioration (requires minor maintenance)
3	Moderate deterioration (10-20% requires significant maintenance/renewal)
4	Significant deterioration (20-40% requires renewal/upgrade)
5	Unserviceable/End of useful life (>50% of asset requires replacement)

B. What is the value of the asset?

The value of an asset is the cost to replace the asset after it has exhausted its useful life. It is important to factor inflation into the asset's value.

C. Determine the Estimate Life left of the asset in years.

D. Enter these values into the *CWSRF FSP Table*.

Step 3: Evaluation and Implementation of Water and Energy Conservation Efforts as Part of the Plan

As part of the FSP document, WRRDA requires funding participant to evaluate and implement water and energy conservation efforts. Include a brief discussion in the FSP regarding this evaluation. This can be accomplished in a variety of ways including free partnership through Efficiency Vermont or other local assistance providers, electric utilities providing services to wastewater facilities, or conducting a water and energy audit using existing online tools.

Step 4: Plan for Maintaining, Repairing, and Replacing the Assets and Plan for Funding

Once completed, the asset inventory identifies an asset hierarchy based on criticality. For those critical assets, the utility can then develop a fiscal plan for the maintenance, repair, and replacement of the assets. The fiscal plan ultimately proposes a funding structure to ensure funds are available when needed. The FSP may then be used as the financial framework for the utility's operating and capital budgets, user fees, and utility rates. Important considerations include:

1. The recommended planning period for new assets is 20 years. For critical assets, the planning period may be based on remaining service life.

2. The rates and fees provide sufficient revenues to cover operation, maintenance, replacement, capital improvement projects, and debt costs. Once the total capital expense is identified, rates and charges should be reviewed to determine what is needed to provide sufficient revenues to cover expenses.

3. Funding mechanisms could include a replacement fund breakdown. The purpose of a replacement fund is to set aside money on an annual basis for items that will need to be replaced during the normal course of operating the system.

4. Sufficient documentation should exist to demonstrate that proposed rates and fees are sufficient to cover the operation, maintenance, and replacement (OM&R) expenses.

Utilizing the *CWSRF FSP Table*, you will have completed Group A and Group B which include identification of assets and their criticality ranking. Group C will require you to consider the replacement cost of these assets, when they will need to be replaced and what the plan will be for replacement. Funding options may include system reserves, loans and grants, or bonds. In addition, analysis can be conducted through a rate consultant to determine appropriate utility rate to plan for future infrastructure needs.

Final FSP Documentation:

When the FSP calculations and considerations are complete, the applicant needs to submit the FSP Certification Form before the final loan disbursement. It is not necessary to submit the FSP to CWSRF staff, but it does need to be available upon request.

Ultimately this exercise is intended to establish a framework for fiscal management. Though, it only applies initially to the project area, CWSRF staff encourages utilities to expand the FSP to include all assets in a system.