



Newport Asset Condition Transformer Replacement

VSPC Geographic Targeting
Subcommittee
January 8, 2024

vermont electric power company



Overview

Existing T1 Transformer

- 15/20 MVA autotransformer manufactured by Westinghouse in 1958
- VELCO's asset maintenance crew has identified through routine testing and maintenance that this transformer is approaching the end of its usable life expectancy

Replacement Transformer

- 30/40/50 MVA autotransformer manufactured by General Electric in 1971
- Transformer is currently being stored at the Newport substation as a spare

Project Details

- 248J filing to be submitted in January 2024
- Replacement to occur mid-summer 2024
- Replacement transformer is able to be installed on the existing foundation
- Cost estimate \$383K (with 20% contingency)

Vermont Non-Transmission Alternatives Screening Form


NTA Screening

For use in screening to determine whether or not a transmission system **reliability issue** requires non-transmission alternatives (NTA) analysis in accordance with the Memorandum of Understanding in Docket 7081. Projects intended for energy market-related purposes – “economic” transmission – and other non-reliability-related projects do not fall within the scope of the Docket 7081 process.

Identify the proposed upgrade:	<u>Newport Asset Condition Transformer Replacement</u>
Date of analysis:	January 8th, 2024
1. Does the project meet one of the following criteria that define the term “impracticable” (check all that apply)?	
a. Needed for a redundant supply to a radial load; or	<input type="checkbox"/>
b. Maintenance-related, addressing asset condition, operations, or safety; or	<input checked="" type="checkbox"/>
c. Addressing transmission performance, e.g., addition of high-speed protection or a switch to sectionalize a line; or	<input type="checkbox"/>
d. Needed to address stability or short circuit problems; ¹ or	<input type="checkbox"/>
e. Other technical reason why NTAs are impracticable. <i>Attach detailed justification that must be reviewed by the VSPC.</i>	<input type="checkbox"/>
<i>If any box above is checked, project screens out of full NTA analysis.</i>	
2. What is the proposed transmission project’s need date? <u>Not applicable</u>	
<i>If the need for the project is based on existing or imminent reliability criteria violations (i.e., arising within one year based on the controlling load forecast), project screens out of full NTA analysis.</i>	

¹ “Stability” refers to the ability of a power system to recover from any disturbance or interruption. Instability can occur when there is a loss of synchronism at one or more generators (rotor angle stability), a significant loss of load or generation within the system (frequency stability), or a reactive power deficiency (voltage stability). Stability problems are influenced by system parameters such as transmission line lengths and configuration, protection component type and speed, reactive power sources and loads, and generator type and configuration. Due to the nature of instability, non-transmission alternatives involving addition of generation or reduction of load will not solve these problems.

NTA Screening (continued)

<p>3. Could elimination or deferral of all or part of the upgrade be accomplished by a 25% or smaller load reduction or off-setting generation of the same magnitude? <input type="checkbox"/> Yes <input type="checkbox"/> No (See note.)</p> <p><i>If "no," project screens out of full NTA analysis.</i></p>
<p>4. Is the likely reduction in costs from the potential elimination or deferral of all or part of the upgrade greater than \$2.5 million. (See note.) <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>If "no," project screens out of full NTA analysis.</i></p>
<p>Sign and date this form.</p> <p>This analysis performed by: <u>Hantz A. Présumé – System Planning Director</u> <i>Print name & title</i></p> <p><u>VELCO</u> <i>Company</i></p> <p><u>January 8th, 2024</u> <i>Date</i></p> <p><u></u> <i>Signature</i></p>