



# North Rutland Asset Condition Mitigation Project

vermont electric power company



VSPC Geographic Targeting  
Subcommittee

May 21, 2021

# Project objective

- Project will mitigate asset condition concerns
  - Control house too small to support new equipment
  - 115 kV circuit switcher not meeting short circuit duty
  - Expansion of fence to accommodate the new control building and to improve access to equipment for maintenance
- Perform maintenance related improvements
  - In kind replacement or maintenance of various equipment
- Preliminary cost estimate
  - \$4.9M PTF and \$6.5M non-PTF
  - Class B estimate: +/-25% contingency

# Project scope of work

- Replace the existing control building with a larger control building
- Replace transformer high-side circuit switcher with a circuit breaker or circuit switcher
- Replace and expand the existing substation fence
- Maintenance related improvements
  - Replace the protection and control system
  - Replace AC and DC station service
  - Install power transformer and circuit breaker monitoring systems
  - Replacement of disconnect switches
  - Install transformer passive secondary oil containment system
- Project will require a temporary substation arrangement in order to perform the construction activities

# NTA Screening

## Vermont Non-Transmission Alternatives Screening Form

*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>North Rutland Asset Condition Mitigation Project</u>
Date of analysis:	<u>April 23<sup>rd</sup>, 2021</u>
<p>1. Does the project meet one of the following criteria that define the term “impracticable” (<i>check all that apply</i>)?</p> <ul style="list-style-type: none"><li>a. Needed for a redundant supply to a radial load; or <input type="checkbox"/></li><li>b. Maintenance-related, addressing asset condition, operations, or safety; or <input checked="" type="checkbox"/></li><li>c. Addressing transmission performance, e.g., addition of high-speed protection or a switch to sectionalize a line; or <input type="checkbox"/></li><li>d. Needed to address stability or short circuit problems;<sup>1</sup> or <input type="checkbox"/></li><li>e. Other technical reason why NTAs are impracticable. <i>Attach detailed justification that must be reviewed by the VSPC.</i> <input type="checkbox"/></li></ul> <p><i>If any box above is checked, project screens out of full NTA analysis.</i></p>	
<p>2. What is the proposed transmission project’s need date? <u>Not applicable</u></p> <p><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></p>	

<sup>1</sup> “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)

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?  Yes  No  
(See note.)

*If "no," project screens out of full NTA analysis.*

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.)  Yes  No


*If "no," project screens out of full NTA analysis.*

Sign and date this form.

This analysis performed by: Hantz A. Présumé – System Planning Manager  
*Print name & title*

VELCO  
*Company*

April 23<sup>rd</sup>, 2021  
*Date*

  
*Signature*