



Global Foundries Sub #86

Substation Condition Assessment Project

VSPC Geographic Targeting Subcommittee

6/30/2026



Project Objective

- GF #86 substation constructed in 1972
 - VELCO purchased the 115kV assets in 2023 from GMP
 - Major upgrade in 1980 to increase capacity
 - VELCO owns (2) 115kV oil circuit breakers, (9) 115kV switches, with associated buswork, protection & control, and a building
- Project will mitigate asset condition concerns
 - Protection & control equipment is obsolete with no spares, and lacks standard backup/redundancy for transmission assets
 - Lacks SCADA control and has limited monitoring for System Operators
 - 115 kV oil circuit breakers beyond useful life
 - Equipment foundations have significant deterioration
 - Station has deficient 350 kV (BIL) Basic Insulation Levels
 - Station lacks standard physical security
- Challenging project with the need to maintain full service to the GF Plant during construction
- Preliminary/conceptual cost estimate = \$8M
- Expected completion date – Q4 2028

Anticipated Scope of Work

Substation Improvements

- New control building with AC station service and DC battery supplies
- New and redundant protection and control systems
- Replace 115kV oil circuit breakers with vacuum breakers
- Replace 115kV switches, instrument transformers, lighting arrestors and insulators
- Expand the substation fence to accommodate the new control building
- Increase deficient 115kV electrical clearances to standard 550 kV BIL
- Bring telecommunication, security, and monitoring systems up to VELCO Standard
- Repair and replace equipment and structure foundations

Temporary Arrangement for Maintaining GF Plant Load

- Construction approach and the potential need for a temporary work-around is being worked out with GF

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>Global Foundries Sub #86 Asset Condition Project</u>										
Date of analysis:	<u>June 30, 2026</u>										
1. Does the project meet one of the following criteria that define the term “impracticable” (check all that apply)? <table><tr><td>a. Needed for a redundant supply to a radial load; or</td><td>☐</td></tr><tr><td>b. Maintenance-related, addressing asset condition, operations, or safety; or</td><td>☒</td></tr><tr><td>c. Addressing transmission performance, e.g., addition of high-speed protection or a switch to sectionalize a line; or</td><td>☐</td></tr><tr><td>d. Needed to address stability or short circuit problems;¹ or</td><td>☐</td></tr><tr><td>e. Other technical reason why NTAs are impracticable. Attach detailed justification that must be reviewed by the VSPC.</td><td>☐</td></tr></table> If any box above is checked, project screens out of full NTA analysis.		a. Needed for a redundant supply to a radial load; or	☐	b. Maintenance-related, addressing asset condition, operations, or safety; or	☒	c. Addressing transmission performance, e.g., addition of high-speed protection or a switch to sectionalize a line; or	☐	d. Needed to address stability or short circuit problems; ¹ or	☐	e. Other technical reason why NTAs are impracticable. Attach detailed justification that must be reviewed by the VSPC.	☐
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2. What is the proposed transmission project’s need date? <u>Not applicable</u> 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.											

- 3 Could elimination or deferral of all or part of the upgrade be accomplished by a 25% load reduction or off-setting generation of the same magnitude? (See note.) ☐ Yes ☐ No

If so, check “yes” and continue to question 5; otherwise, check “no” and discontinue the NTA screening.

- 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 so, check “yes” proceed to define the scope and timing of non-transmission alternative analysis.

Sign and date this form.

This analysis performed by: Marc Allen, Senior Transmission Planning Engineer
Print name & title

VELCO
Company

June 30, 2026
Date

Marc Allen
Signature

