Vermont Electric Coop

Preliminary Screening for: Novus Energy Development LLC

Completed by: Michael Beaulieu, System Engineer

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The proposed project fails the screening criteria (5, 6) and will require a system impact study, TGFOV mitigation, and Anti Islanding through a Direct Transfer Trip scheme with the circuit recloser. The project will be required to provide testing documentation that shows that the project will meet IEEE 1547-2018 Clause 7.4.1, and will not contribute overvoltage during a ground fault or loss of load that would exceed the CBEMA and ITIC standards.

Preliminary Screening Criteria:

(1) The proposed interconnection point is on a distribution line.

The project meets these criteria.

(2) The aggregated Export Capacity, including the capacity of the Project, on a distribution circuit will not cause any distribution equipment, including but not limited to conductors, substation transformers, line stepdown transformers, substation breakers, regulators, fuse cutouts, and line reclosers, or customer equipment on the system, to exceed the equipment's thermal ratings.

The project meets these criteria.

(3) The proposed Project's Nameplate Rating, in aggregation with other Generation Resource Nameplate Ratings on the distribution circuit, will not cause any distribution protective devices and equipment (including, but not limited to, substation breakers, fuse cutouts, and line reclosers) or Interconnection Requester equipment on the system to exceed 87.5% of the short-circuit interrupting capability; nor will the Project be proposed for a circuit that already exceeds 87.5% of the short-circuit interrupting capability.

The proposed project meets these criteria.

(4) The proposed Project will have no adverse impact on existing protection coordination.

The proposed project meets these criteria.

(5) The proposed Project, in aggregation with other Export Capacity on the distribution circuit, will not result in potential for Transmission Ground Fault Overvoltage (TGFOV).

The load 350 kW to generation 3,971.87 kW ratio on this circuit/substation will be below 2:1 with the proposed project. TGFOV mitigation will be required.

(6) The proposed Project, in aggregation with other Export Capacity on the distribution circuit, will not cause unintentional islanding. The proposed Project does not require additional unintentional islanding protection.

The aggregate generation on the circuit including the proposed project will be approximately 3,782.26 kW. The minimum load on this circuit is approximately 100 kW. The aggregate generation will exceed 2/3 of the minimum load, creating a risk for unintentional islanding.

(7) For interconnection of a proposed single-phase or effectively grounded three-phase Project where the primary distribution system is three-phase, four-wire, the Project will be connected line-to-neutral. For interconnection of a proposed single-phase or three-phase Project where the primary distribution system is three-phase, three wire, the Project will be connected line to line.

The proposed project meets these criteria.

(8) The proposed Project is not located in an area where there are known or posted transient stability limitations to Projects located in the general electric vicinity, including but not limited to known harmonic issues.

The proposed project meets these criteria.

(9) The proposed Project will not affect the Interconnecting Utility's 's ability to maintain voltages consistent with Standard ANSI C84.1.

The proposed project is expected to meet these criteria.

(10) Voltage drop caused by starting Generation Resource is within acceptable limits, meaning that inrush current caused by the startup of the proposed Project up to once per hour is not greater than 3% of the available fault current or does not cause greater than a 3% voltage deviation at the Point of Interconnection as modeled in an unbalanced load flow. Voltage drop due to starting the proposed Project more than once per hour meets a tighter inrush-current tolerance to be determined by the Interconnecting Utility. This criterion is applicable only to synchronous or induction Projects.

The proposed project is inverter based.

(11) The Interconnection Requester affirms that the proposed Project meets the applicable codes and standards of Section 5.520 or is a certified equipment package under Section 5.519.

The proposed project is expected to meet these criteria.

(12) Flicker caused by the proposed Project must comply with IEEE Standard 1547.

The proposed project is expected to meet these criteria.

(13) For Projects that will not export to the grid, the voltage drop caused by Inadvertent Export is within acceptable limits, meaning that voltage change at the primary level caused by the loss of load at the Project point of interconnection is less than 3%.

This project will export to the grid.

(14) Identification of affected Vermont utilities and/or Non-Jurisdictional Affected Utilities. These entities must identify no adverse impact on their Affected Systems.

GMP, VELCO, ISONE and VEC are affected utilities and will need to be consulted for verification of no negative impacts to the 46kV transmission network.