

NYISO, the grid operator

8. Conclusions

From the overall results of this Feasibility study, the following conclusions can be drawn:

Power flow analysis:

- 1) All facilities (transmission lines, transformers, etc) within the Study Area were found to be within their ratings under normal and under contingency conditions with the exception of Lawrence 115/13.2 kV transformers which, with the addition of the Project, overloads for the contingency loss of 115 kV branches in the vicinity of the transformer. These overloads can be eliminated by slightly modifying generation dispatch for the pre-contingency condition. The generation modification included reducing generation at the SUGAR IS units by 0.8 MW and increasing the same amount of generation at the LAWRENCE units. With this modified dispatch, the Project does not cause any new overloads under normal and contingency condition. No other adverse system thermal impacts were found as a result of this Project.
- 2) The over voltages that existed pre-project post contingency remained to exist in the post-project post contingency conditions at Malone 3 and Nicholville 34.5 kV buses. No detrimental voltage impacts were found as a result of this Project. Therefore, the Project is considered as having no negative impact on the voltage violations within the Study Area.

Power factor evaluation:

The power factor test results show that the Project passed Step 1 of the NYISO Test Procedure for Evaluating Power Factor Requirement for Wind Generation Interconnection Projects. Therefore, the reactive capability proposed for the Project is adequate.

Short circuit analysis:

The short circuit currents on circuit breakers at the substations near the POI were found to be within the lowest substation breaker rating with the addition of the Project. The Project increased the fault currents at the nearby Substations but did not cause the fault current exceed the available maximum breaker rating at the Sub-stations studied.

Preliminary cost estimates and Construction Times:

A non-binding good faith cost estimate of National Grid's Attachment facilities and System Upgrade Facilities (transmission line protection, transmission line modification, circuit breakers, relays, bus structures, etc.) and associated labor to accommodate the Project is \$7,711,000 dollars (\$7.711 million), plus or minus 40%, and the estimated time to construct these facilities is about 8 to 10 months, not including engineering, equipment procurement and weather delays.



Feasibility Study Report: North Ridge Wind Project NYISO Interconnection Queue #354

Prepared By:

New York ISO Interconnection Studies Staff

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Hydro (the existing green energy source for the north country) will be powered up and down to allow wind to enter the grid, creating an expensive green energy swap.

Developer will never publicly discuss: another cost to you as an electric ratepayer