



**Optional Interconnection Study Report
Report GIP-IR233-OIS-R1**

**Generator Interconnection Request #233
50.6 MW Wind Power Facility
Nuttby, NS**

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Transmission Planning
Nova Scotia Power Inc.

Executive Summary

This report presents the results of an Optional Interconnection Study for the proposed 50.6 MW wind power facility (IR233). This study has been performed at the request of the Interconnection Customer (IC) in accordance with Section 10 of the Generation Interconnection Procedures. It is provided for information only and is based on the assumptions provided by the IC in the Optional Interconnection Study Agreement. The study performed analysis of the impact the proposed development would have on the NSPI power grid.

System study, including steady state, stability, short circuit, power factor, voltage flicker, Bulk Power System analysis, low voltage ride through, loss factor and under frequency operation was performed. NSPI and NPCC planning criteria were applied.

Based on study results, it is concluded that that the incorporation of the proposed 41.4 MW facility into the NSPI transmission system at the specified location has no adverse effects on the reliability of the NSPI power grid, provided the recommendations given in this report are implemented.

67N-Onslow is a BPS substation and has a grandfathered protection scheme. With the scope of the upgrades required, it will lose the grandfathered status and be required to become compliant with current NPCC A-05 criteria. The scope of the work to the 230kV bus will also require moving 67N-T71 and the storage yard.

The required Network system upgrades include two 230kV breakers and bus work at 67N-Onslow as shown in Figure 3, 21.5 km of Drake 230kV transmission line, BPS upgrades for 67N-Onslow and Control and Communications upgrades. The Network Upgrades associated with this installation have a non-binding estimated cost of \$20,790,000.

All costs of associated facilities required at the Interconnection Customer's substation and generating facility are in addition to this estimate.