System Impact Study Report
Report GIP-IR227-SIS-R0

Generator Interconnection Request #227
10.2 MW Generating Facility
Hantsport, NS

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January 11, 2011

Transmission Planning
Nova Scotia Power Inc.

Executive Summary

This report presents the results of a System Impact Study (SIS) for the proposed 10.2 MW steam generation facility (IR227) to be connected to the existing 23kV line L-4048. The study performed analysis of the impact the proposed development would have on the NSPI power grid.

System study, including short circuit, power factor, voltage flicker, steady state, stability, protection and control, loss factor and Bulk Power System analysis was performed. NSPI and NPCC planning criteria were applied.

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

The estimated cost for line tap, primary equipment and communications to connect to the NSPI system is $453,602.

The customer's facility will require a high resistance ground bank in parallel with the GSU winding and configured wye-broken delta with loading resistor ohms sufficient for transient damping.

It is also recommended that the proposed generator has pole slipping protection to avoid machine damage as the model is demonstrating large torque excursions for close in faults.