



Nova Scotia Utility and Review Board

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By email: nicole.godbout@nspower.ca

Ms. Nicole Godbout
Regulatory Counsel
Nova Scotia Power Inc.
1223 Lower Water Street
P.O. Box 910
Halifax, NS B3J 2W5

Dear Ms. Godbout:

Renewable Energy Community Feed-in Tariffs – BRD-E-R-10 / Matter No. M04523

In its Decision 2011 NSUARB 100 dated July 4, 2011 on the above-noted matter, the Board directed Nova Scotia Power Inc. ("NSPI") to:

[258]...develop and maintain a resource of publicly available information which identifies available capacity for generation interconnection at each substation throughout the province. This resource is to include substations which supply municipal electric utilities and is to be submitted for Board review by September 30, 2011. The Board recognizes that varying conditions among distribution feeders will determine the actual capabilities at specific locations and, therefore, developers will need to consult with the utility to obtain more detailed information regarding any proposed projects.

On September 30, 2011 NSPI filed its response to that directive, and an electronic copy was provided to all parties in this matter. NSPI stated that it had "developed an interactive, web-based interface that identifies the available capacity for COMFIT generation interconnection at each distribution substation owned by Nova Scotia Power". The submission included a tutorial and an overview of the tool that had been developed. In its description of the tool, NSPI stated:

Geographic information (i.e., substation location) is conveyed by means of an embedded map which is controlled using mouse-clicking/dragging and the mouse roller-wheel. Tabular data is displayed within small pop-up windows within the map. The user-interface will seem very familiar to users of any of the popular web-based map services

(such as, Google Maps, Bing Maps, Yahoo Maps) and will run within the user's web-browser (such as, Internet Explorer, Firefox, Safari).

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The interactive map will be maintained by Nova Scotia Power and hosted on its public website.

Board staff reviewed NSPI's submission and requested access to a demonstration version of the interactive tool. Additional information was also requested regarding the methodology used by NSPI to calculate the available capacity for each distribution zone and the manner in which those capacity levels will be updated.

A review of the interactive map confirmed the specific information being provided, as well as the ease of use, including the enhanced "zoom-in" feature. As stated by NSPI,

Using a single click on a particular icon, the available data associated with that substation location is displayed in a small window....for each substation, the Geographic Area Name (with general description of the geographic area), the Distribution Zone Name, the Distribution Voltage, and the Available COMFIT Generation Capacity are provided.

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For further usefulness of the interactive map, geographic descriptions of each distribution zone's service area have also been included. Since a given location is not necessarily fed from the substation physically closest to it, this should allow any prospective project developers to determine within which Distribution Zone a particular location falls.

NSPI advised that distribution zone capacities will typically be updated when new committed generation projects are added to the network. Certification of a COMFIT project and advancement to the System Impact Study stage will generally qualify projects as "committed". Also, updates will occur when a significant change in a distribution zone's minimum load is recorded. The Board understands this will typically be reviewed on an annual basis.

NSPI also explained that collection of substation load data is focused on peak loading levels since these maximum values are used to identify power system limitations. Some of the substations are equipped with remote telemetry and SCADA, which provides a fairly continuous archive of metered readings. This enables NSPI to obtain accurate values for the minimum load as well as the peak load. However, a significant number of substations do not have this equipment, so only the peak load, not the minimum load, is available on a monthly basis.

This matter was reviewed by Peter W. Gurnham, Q.C., Roland A. Deveau, Q.C., and Murray E. Doehler, P.Eng., CA.

The Board understands that minimum loading levels are needed in order to determine the available distribution zone capacities for COMFIT generation interconnection, so NSPI developed a methodology to represent the relationship between maximum and minimum loads. This relationship reflects the load profile of a typical distribution zone while also accounting for differences in profiles among substations. NSPI developed this relationship by using linear

regression analysis and a 95% confidence interval. The analysis concluded that in 95% of cases, the substation minimum load will be greater than or equal to 15% of the maximum load. Therefore, in situations where SCADA monitoring is not available, NSPI will use this 15% factor to estimate substation minimum loading. In addition, any existing or committed generation within each distribution zone will be subtracted from the minimum load to determine the capacity that is available for COMFIT generation interconnection.

The Board recognizes that this methodology and the varying conditions experienced throughout the distribution network suggest that the calculated capacity values can only serve as a guide for potential project developers. As noted by NSPI in its submission,

The information provided in this [interactive] map is not intended to replace the Preliminary Assessment or the System Impact Study. Project Developers should consult with NSPI to obtain more definitive information regarding interconnection of any proposed projects.

The Board is satisfied that NSPI has met the requirements to develop a resource of publicly available information which identifies available capacity for COMFIT generation interconnection within each distribution zone throughout the province, and directs NSPI to upload, maintain, and update its interactive map on its public website.

Yours very truly,



Nancy McNeil
Regulatory Affairs Officer/Clerk

c S. Bruce Outhouse, Q.C., Board Counsel
BRD-E-R-10 Participants

By Email
By Email