

April 26, 2006

Mr. Naren Pattani
Manager – Transmission System Planning
Hydro One Networks Inc.
483 Bay Street
15th Floor - North Tower
Toronto, ON M5G 2P5

Dear Mr. Pattani:

***Bruce Special Protection System (BSPS) – Incorporation of Wind Farm Generation Rejection (G/R)
Revised Notification of Conditional Approval
CAA ID Number: 2005-EX222***

Thank you for the revised information that you provided on Hydro One's proposed work on the Bruce Special Protection System (BSPS) to incorporate wind farm generation rejection (G/R).


The IESO has determined that this work will not have a material adverse impact on the reliability of the IESO-controlled grid.

Subject to your signed acknowledgment below, the IESO is pleased to grant **conditional approval** for the proposed modifications. Any material changes to your proposal may require re-assessment by the IESO in accordance with Market Manual 2.10, and may nullify your conditional approval.

Final approval will be granted upon successful completion of the IESO Market Entry process. During this process you will be expected to demonstrate that you have fulfilled the requirements and the modification is at least as good as the proposal assessed by the IESO.

For further information, please contact the undersigned.

Yours truly,



Michael Falvo
Manager – Transmission Assessments & Performance
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cc: IESO Records

Hydro One acknowledges receipt of the System Impact Assessment Report, and commits to fulfill all other applicable Market Rules, before receiving final approval to connect to the IESO-controlled grid.

Dated: May 4, 2006

Per: [Signature]

Name: NAREN PATTON

Title: Manager, Transmission System Development

Hydro One Networks Inc.: Bruce Special Protection (BSPS) Modifications to Incorporate Wind Farm Generation Rejection (G/R)

Addendum to revised Expedited System Impact Assessment (CAA ID 2005-EX222), dated July 25, 2005.

1.0 Introduction

The IESO is requiring wind generation facilities proposing to connect to transmission circuits and stations near the Bruce A & B Switching Stations (SSs) to participate in the Bruce Special Protection System (BSPS).

In November 2005, the Ontario Government announced nine Renewables RFP II winning projects. Of the nine projects, five projects propose connections to circuits emanating from the Bruce A & B SSs. With the previous Renewables RFP I announcement in November 2004, a total of six projects will be required to participate in the BSPS. The RFP I and II projects are:

- Melancthon I Wind 67.5 MW (Phase 1 of CAA ID 2003-103) – in-service date: Q1, 2006
- Melancthon II Wind 132 MW (Phase 2 of CAA ID 2003-103) – in-service date: Q1, 2007
- Leader Wind Power ‘A’ 100.65 MW (CAA ID 2004-121) – in-service date: Q4, 2006
- Leader Wind Power ‘B’ 99 MW (CAA ID 2004-143) – in-service date: Q4, 2006
- Ripley Wind Power 76 MW (CAA ID 2004-125) – in-service date: Q4, 2007
- Kingsbridge II Wind Power 158.7 MW (Phase 1 of CAA ID 2004-114) – in-service date: Q4, 2008

Based on the announcement of the Renewables RFP II winning projects and the delay of other ongoing Hydro One related BSPS work, Hydro One has revised the modifications and associated timelines for the incorporation of wind farm generation rejection (G/R) to the existing BSPS. The revised modifications would result in four new BSPS wind farm G/R outputs completed in two separate stages. Stage 1 has a scheduled in-service date of May 31, 2007, while Stage 2 has an in-service date of May 31, 2008.

2.0 Revised BSPS Modifications

As detailed in the original SIA report, the Hydro One BSPS modifications would have resulted in one new wind farm G/R output. The revised Hydro One BSPS modifications will result in the provision of four new wind farm G/R outputs in two stages.

Figure 1 shows the functional components of the BSPS with the four new outputs.

Stage 1

Spare 1 output (SP1) of the Bruce Local and Interarea Stability (BLIS) sub-system of the BSPS is to initiate rejection of wind farm facilities connected to 230 kV circuits B4V and B5V from Bruce SS to Orangeville Transformer Station (TS). The SP1 output is to be renamed 'Wind Farm GR – BxV'.

In addition, the Stage 1 work will provide the capability for IESO Operations staff to initiate wind farm G/R arming requirements on their console for any of the existing BSPS connectivity modules. G/R arming requirements made by the IESO will be transmitted from the IESO to Hydro One's Network Management System (NMS) at the OGCC via the ICCP communication link and in turn, transmitted from OGCC to the BLIS control processors at Bruce B SS via existing communication facilities.

On-line monitoring of the 'Wind Farm GR – BxV' arming status will be provided to the IESO via Hydro One's Ontario Grid Control Centre (OGCC).

The Melancthon I, Melancthon II, and Leader 'A' & 'B' projects plan to connect B4V and B5V. These projects are required to install telecommunication facilities to receive the 'Wind Farm GR - BxV' signals from the BLIS processors located at Bruce B SS.

The scheduled in-service date for Stage 1 BSPS modifications is May 31, 2007.

Stage 2

The three 'Spout' outputs of the BLIS sub-system of the BSPS are to initiate rejection as follows:

- One output for wind farm facilities connected to 230 kV circuits B27S and B28S from Bruce SS to Owen Sound TS, and 115 kV circuits S2S and S2E from Owen Sound TS to Essa TS. The 'Spout 1' output is to be renamed 'Wind Farm GR – SxE'.
- One output for wind facilities connected to 230 kV circuits B22D and B23D from Bruce SS to Detweiler TS. The 'Spout 2' output is to be renamed 'Wind Farm GR – BxD'.
- One output for wind facilities connected to 500 kV circuits B562L, B563L, B560V, and B561M emanating from Bruce SS. The 'Spout 3' output is to be renamed 'Wind Farm GR – 500'.

For all three outputs, on-line monitoring of arming status will also be provided to the IESO via Hydro One's OGCC.

Since the Ripley project plans to connect to 230 kV circuits B22D and B23D, trip signal 'Wind Farm GR – BxD' will be used for rejection of Ripley. Likewise, since the Kingsbridge II project plans to connect 500 kV circuits B562L and B563L, trip signal 'Wind Farm GR – 500' will be used for rejection of Kingsbridge II. Both these projects are required to install telecommunication facilities to receive the G/R signals from the BLIS processors located at Bruce B SS.

The scheduled in-service date for Stage 2 BSPS modifications is May 31, 2008.

3.0 Assessment

In comparing the provided Stage 1 and Stage 2 in-service dates to the scheduled in-service dates for the various wind farms, five out of the six wind farms will be in-service before the BSPS modifications are completed. As a result, wind farm G/R arming will be unavailable as follows:

- A period of up to sixteen months for Melancthon I,
- a period of up to six months for Leader 'A' & 'B',
- a period of up to five months for Melancthon II, and
- a period of up to nine months for Ripley.

During any period where G/R arming of a facility is required but is not possible due an unavailable BSPS wind farm G/R trip output, the facility will be requested by the IESO to reduce its output, or disconnect from the IESO-controlled grid, to respect prevailing operating security limits.

Wind farm G/R arming will be available for Kingsbridge II before its scheduled in-service date.

4.0 IESO Requirement

Hydro One must provide a Functional Description Document (FDD) to the IESO that describes the revised Bruce Special Protection System in sufficient detail for the IESO to demonstrate to Northeast Power Coordinating Council (NPCC) that these modifications will not have a material adverse effect on reliability. The FDD must be available nine months before the Stage 1 in-service date.

5.0 Notification of Conditional Approval

The revised BSPS modifications will have no adverse affect on the reliability of the IESO-controlled grid. Therefore, it is recommended that a revised Notification of Conditional Approval (NOCA) for Connection be issued. This NOCA supersedes the NOCA issued on July 25, 2005.

