



Power to Ontario.
On Demand.

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February 24, 2009

Mr. Xiaodong Sun, Senior Engineer
Electrical, P&C and Compliance, Hydro Engineering,
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14000 Niagara Parkway, RR#1
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Notification of Final Approval of Connection Proposal

Protection Changes to G1 and G2 at Pine Portage GS (CAA ID # 2008-EX401)
Protection Changes to G3 and G4 at Pine Portage GS (CAA ID # 2008-EX416)

Dear Mr. Sun

Thank you for the detailed information regarding the protection changes to generators G1, G2, G3 and G4 at Pine Portage GS. Pine Portage GS consists of four generators. Generators G1 and G2 are connected to transformer T1. Generators G3 and G4 are connected to transformer T2.

The main and backup protections for G1, G2, G3 and G4 will be upgraded to provide duplicated A and B protection systems using digital relays. Both the split phase protection (87SP) and the breaker failure protection for generator synchronizing breakers G1T1, G2T1, G3T2 and G4T2 will also be duplicated using digital relays. In addition, the following new protection functions will be added into both A and B generator protection systems:

- o 24 over excitation with the following settings;
 - Definite time setting (volts/Hz) = 120% with 3 seconds time delay;
 - Inverse time setting = 106%; and
 - Reset rate = 300 seconds.
- o 27 under voltage;
- o 32 reverse power;
- o 50/27 inadvertent energization;
- o 60 loss of potential; and
- o 78 out of step.

Based on the information provided by Ontario Power Generation, this is considered a like-for-like replacement. The new settings will not impact the capability curves of G1, G2, G3 and G4 at Pine Portage GS and we have concluded that the proposed change will not result in a material adverse effect on the reliability of the IESO-controlled grid.

The IESO is therefore pleased to **grant final approval** for the modification detailed above subject to your signed acknowledgment below. Final settings must be provided to the IESO through the Market Entry process. Any material changes to your proposal may require re-assessment by the IESO in accordance with Market Manual 2.10, and may nullify your approval. You shall be able to demonstrate the equipment installed has characteristics no worse than those in the proposal assessed by the IESO.

For further information, please contact the undersigned.

Yours truly,

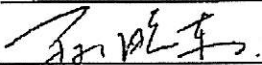
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Protection Changes to G1 and G2 at Pine Portage GS
Protection Changes to G3 and G4 at Pine Portage GS

(CAA ID # 2008-EX401)
(CAA ID # 2008-EX416)

Ontario Power Generation acknowledges receipt of the System Impact Assessment Report setting out the IESO requirements for final approval, and commits to fulfill these requirements, and all other applicable Market Rules, before receiving final approval to connect to the IESO-controlled grid.

Dated: March 2nd, 2009

Per: 

Name: Xiaodong Sun

Title: Senior Engineer - Technical Compliance