

July 18, 2006

Mr. Gord Haines
Section Manager
Technical Compliance
Ontario Power Generation
700 University Avenue
Toronto, Ontario, M5G 1X6

Dear Mr. Haines:

**Mountain Chute G.S. – Transformer Replacements T1 & T2
Notification of Conditional Approval of Connection Proposal
CAA ID Number: 2006-EX281**

Thank you for the information regarding the replacement of transformers T1 and T2 at Mountain Chute G.S. These are end-of-life replacements with T1 being replaced by October 2006 and T2 replaced by August 2007.

From the information provided, our review concludes that the proposed changes will not result in a material adverse effect 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, subject to the implementation of the requirements detailed in the attached assessment report. 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 in line with the proposal assessed by the IESO. Please contact market.entry@ieso.ca if you have not received a Facility Registration Summary package within the next 10 days.

For further information, please contact the undersigned.

Yours truly

Michael Falvo
Manager - Transmission Assessments & Performance
Telephone: (905) 855-6209
Fax: (905) 855-6372
E-mail: mike.falvo@ieso.ca
cc: IESO Records

Mountain Chute G.S. – Transformer Replacements T1 & T2
CAA ID Number: 2006-EX281

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: _____

Per: _____

Name: _____

Title: _____

ASSESSMENT SUMMARY

Ontario Power Generation

Mountain Chute G.S. – Transformer Replacements T1 & T2

CAA ID Number 2006-EX281

1.0 GENERAL DESCRIPTION

OPG is planning to replace the two main output transformers T1 and T2 at Mountain Chute G.S. The existing transformers are reaching end-of-life and are frequently exceeding their temperature alarm limits due to poor air flow for cooling. The transformer rating will be increased from 80 MVA to 90 MVA to alleviate this problem *with no intention to increase station output.*

The proposed work is scheduled to be completed by October 2006 for T1 and August 2007 for T2.

2.0 PROPOSED MODIFICATION

A comparison between the technical specifications of the existing and new replacement transformers is given below. The connection point of the new transformers to the IESO-controlled grid will remain unchanged and is shown in Figure 1.

	Existing T1	Existing T2	New Transformers
Configuration	Three phase	Three phase	Three phase
Transformation (kV)	253 / 13.4	253 / 13.4	253 / 13.4
Winding Configuration	wye / delta	wye / delta	wye / delta
Thermal Rating (MVA)	80	80	90
On-load tap changer	n/a	n/a	n/a
Off-load tap changer (kV)	253,248,243,238,233	253,248,243,238,233	253,248,243,238,233
In-Service Off-load tap (kV)	243	243	243
Positive Sequence:			
R % (80 MVA Base)	0.41	0.41	0.44
X% (80 MVA Base)	11.72	11.8	11.80
Zero Sequence:			
R % (80 MVA Base)	0.349	0.349	0.378
X% (80 MVA Base)	9.96	10.03	10.036

3.0 ASSESSMENT

The information provided by OPG shows that the technical characteristics of the replacement transformers are similar to the existing transformers. The new units have the same winding configuration, off-load tap position and similar positive sequence impedances.

The thermal rating of the new units are higher than that of the original transformers to alleviate temperature alarms that frequently occur due to poor air flow for cooling. OPG does not plan to increase the output from the station.

This replacement represents a like-for-like exchange and will not result in a material adverse effect on the reliability of the IESO-controlled grid.

4.0 CONCLUSIONS AND REQUIREMENTS

It can be concluded that the replacement transformers will not result in a material adverse effect on the reliability of the IESO-controlled grid because:

- The existing and replacement units have the same winding configuration
- The impedance of the new units are different than the existing units, but the difference is considered to be immaterial.
- The off-load tap changer setting will provide a voltage range identical to the original transformers

It is required that:

- As soon as the manufacturer data sheets for the new transformers are available, the connection applicant must submit this information to the IESO. If the data is different than the data used in the review then the IESO may perform additional studies to verify the performance of the actual equipment
- The Market rules (Chapter 4 section 7.3) require that each generator connected to the IESO-controlled grid shall provide the IESO on a continual basis with on-line monitored quantities as specified in Appendix 4.15. For this proposed project, the IESO will require the status and operating quantities associated with the new transformers.
- OPG is required to meet the transmitter's requirements with respect to protection systems for the new transformers and coordination with the existing protection systems, as outlined in the Transmission System Code.

5.0 NOTIFICATION OF APPROVAL

This expedited System Impact Assessment concludes that the installation of the replacement transformers T1 and T2 at Mountain Chute G.S. is not expected to have a material adverse effect on the IESO-controlled grid. It is therefore recommended that a Notification of Conditional Approval of the Connection Proposal be issued, subject to the requirements detailed above.

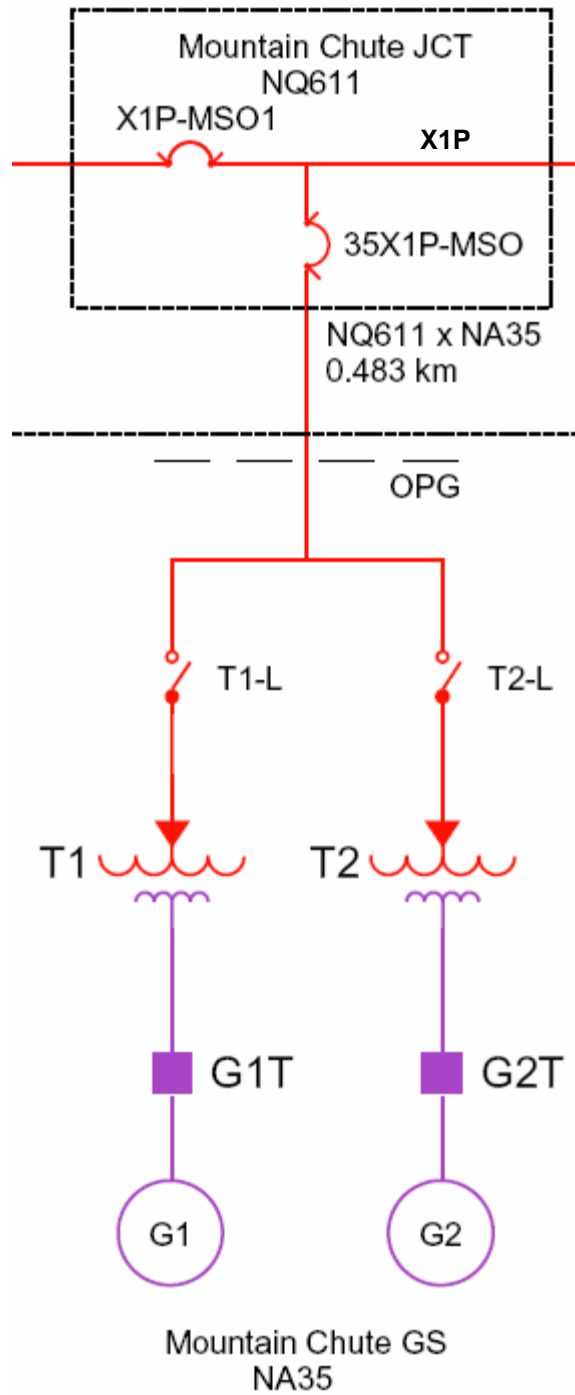


Figure 1: Mountain Chute GS- Single Line Diagram