

January 23, 2008

Mr. Xiaodong Sun
Senior Engineer
Electrical, P&C and Compliance, Hydro Engineering
Ontario Power Generation

Dear Mr. Sun

***Return of Thunder Bay C1
Notification of Conditional Approval of Connection Proposal
CAA ID Number: 2007-EX372***

Thank you for the detailed information regarding the return of G1 as a synchronizing condenser C1 at Thunder Bay GS.

Since the ratings of the synchronizing condenser have not changed since it was removed from service approximately one year ago, 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 **conditional approval** for the modification detailed in the attached assessment report subject to your signed acknowledgment below. 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 to connect the facility to the IESO-controlled grid will be granted upon successful completion of the IESO Facility Registration process including, without limitation, satisfactory completion of the requirements set out in the System Impact Assessment report. During this process you shall demonstrate the requirements have been fulfilled and the equipment installed has characteristics no worse than those in 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

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Manager - Transmission Assessments & Performance
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cc: IESO Records

Return of Thunder Bay C1 (CAA ID Number: 2007-EX372)

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****1.0 GENERAL DESCRIPTION**

Synchronizing condenser C1 at Thunder Bay GS was removed from service approximately 1 year ago and is now being returned to service. Hydro One has contracted OPG to return this condenser to service to resolve power quality issues in the area.

The scheduled in-service date for the synchronizing condenser is February 15, 2008.

2.0 PROPOSED MODIFICATION

The technical specifications for the synchronizing condenser C1 at the time it was removed from service are given below.

Thunder Bay GS - Synchronizing Condenser C1		
Configuration	Three phase	
Rated Capability (MVA)	111.1	
Voltage (kV)	13.8	
Power Factor	0.9	
Frequency (Hz)	60	
Speed (rpm)	3600	
Manufacturer	English Electric	
Serial #	DAK 3108/2	
Voltage Regulation		
Type	Rotating	
Minimum (Mvar)	-26	
Maximum (Mvar)	65	
Modelling Data		
$X_d = 1.6$	$X'd = 0.178$	$X''d = 0.138$
$X_q = 1.60$	$X1 = 0.11$	$X2 = 0.148$
$T'd0 = 5.03$	$T''d0 = 0.022$	$T''q0 = 0.197$

A model of the excitation system has never been available during the time when C1 was operational.

3.0 ASSESSMENT

The information provided by OPG shows that the technical characteristics of the synchronizing condenser C1 have not been changed since the unit was removed from service one year ago. The single line diagram is shown in figure 1. OPG has confirmed that the connectivity and equipment ratings will remain unchanged.

The Thunder Bay synchronous condenser C1 was retired in January 2007. Prior to its retirement the synchronous condenser operation was considered reliable. Although a model for C1 excitation system was not available, the IESO was able to perform all necessary assessments to maintain the system reliability.

4.0 CONCLUSIONS

The IESO has determined that the condenser can be connected despite the fact that the excitation system model was not provided.

The return to service of the synchronizing condenser C1 will have no material adverse effect on the IESO-controlled grid because the equipment is identical to the equipment that was retired.

5.0 REQUIREMENTS

OPG must notify the IESO as soon as it becomes aware of any changes to the assumptions made in the connection assessment. The IESO will determine whether these changes require a re-assessment.

The Market rules (Chapter 4 section 7.3) require that each *generator* whose *generating* facility is 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 synchronizing condenser C1.

6.0 NOTIFICATION OF CONDITIONAL APPROVAL

This expedited System Impact Assessment concludes that return to service of the synchronizing condenser C1 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.

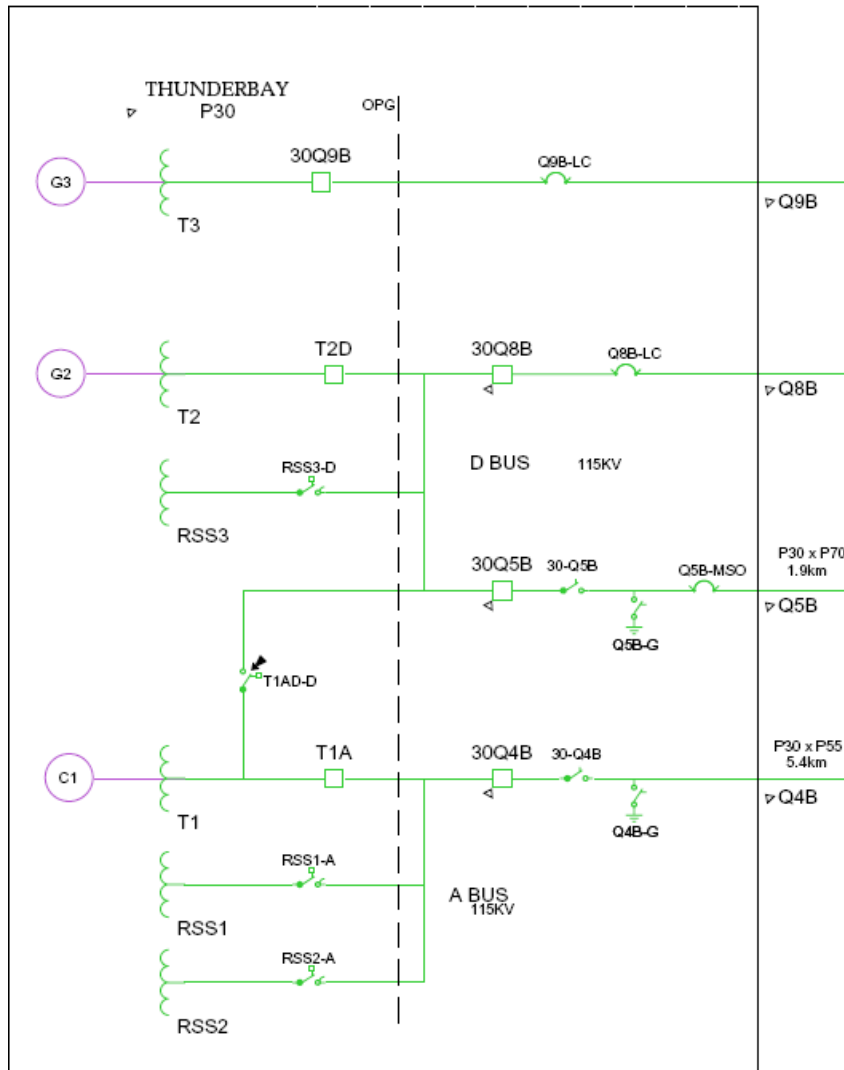


Figure 1: Thunder Bay GS