

April 14, 2009

Mr. Brad Randall
President & CEO
Norfolk Power
70 Victoria Street, PO Box 588
Simcoe, ON
N3Y 4N6

Dear Mr. Randall

***Additional Transformer (T2) at Bloomsburg MTS
Notification of Conditional Approval of Connection Proposal
CAA ID # 2008-EX415***

Thank you for the detailed information regarding the Bloomsburg MTS expansion.

We have concluded that the proposed change will not result in a material adverse impact on the reliability of the integrated power system.

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 Market Entry 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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cc: IESO Records

Norfolk Power 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

Norfolk Power Distribution

1.0 GENERAL DESCRIPTION & PROPOSED MODIFICATIONS

Bloomsburg MTS currently consists of one 3-phase 110/27.6 kV transformer T1 rated at 41.7 MVA (ONAF). An earlier SIA report, [CAA # 2007-EX353](#), assessed the installation of a bus tie switch, a line disconnect switch and a Q bus by Norfolk Power. That SIA report also addressed Hydro One's plans to upgrade the 115 kV circuit A1N to the same rating as the 115 kV circuit C9 and to rename A1N as C12. A new line tap will be installed between Bloomsburg MTS and the new C9 circuit to facilitate plans to upgrade Bloomsburg MTS to a DESN.

The installation of an additional (T2) transformer by Norfolk Power is covered in this assessment. The targeted in-service date for this project is April 30, 2009.

2.0 TECHNICAL SPECIFICATIONS

A comparison of the technical specifications between the existing and additional transformers is given below.

Bloomsburg TS		
Transformer	Existing (T1)	Additional (T2)
Configuration	Three phase	Three phase
Transformation (kV)	110 / 27.6	110 / 27.6
Winding Configuration	D / Y	D / Y
Thermal Rating	25.0 MVA ONAN 33.3 MVA OFAF 41.7 MVA ONAF	25.0 MVA ONAN 33.3 MVA ONAF 41.7 MVA ONAF
Continuous Thermal Rating (summer 30°C)	41.7 MVA	41.7 MVA
15 Minute Thermal Rating (summer 30°C)	Not applicable	Not applicable
10 Day Thermal Rating (summer 30°C)	46.4 MVA (winter), 41.7 MVA (summer) Norfolk Power's policy will be to use other supply points to transfer the load from Bloomsburg MTS as much as possible.	
Positive Sequence Impedance (H-X)	R = 0.3 % X = 8 % on 25 MVA base	R = 0.4112 % X = 11.12% on 25 MVA base
Impedance to Ground	1.5 Ω shunt reactor	1.5 Ω shunt reactor
Under-load tap-changer	110 kV + 20 kV, -15 kV 25 steps	110 kV + 20 kV, -15 kV 25 steps
Off-load tap-changer	Not applicable	Not applicable
In service off-load tap position	Not applicable	Not applicable

Table 1 – Comparison between existing (T1) and additional (T2)

3.0 REQUIREMENTS

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

Norfolk Power is required to meet the requirements with respect to protection systems for the new transformers and coordination with the existing protection systems, as outlined in the Transmission System Code.

The new transformer must be able to operate continuously at system voltage of 127 kV, as required by the Market Rules.

The Market Rules (chapter 4, section 7.5) require that each load consumer or connected wholesale customers shall provide the IESO on a continual basis with on-line monitored quantities as specified in Appendix 4.18. For this replacement, the IESO will require the operating quantities of the new transformer.

4.0 ASSESSMENT & CONCLUSIONS

4.1 Additional Transformer (T2)

The information provided by Norfolk Power shows that the technical characteristics of the additional T2 are almost identical to those of the existing T1.

- The thermal ratings of both transformers will be equal;
- The positive sequence impedance of the additional T2 is higher than that of T1 but this does not represent a concern; and
- Both the additional T2 and the existing T1 have a ULTC with identical tap settings.

4.2 LOAD PROJECTIONS

The assessment of load peaks and load forecasts in [CAA # 2007-EX353](#) concluded that both T1 and the new line tap are both capable of supplying the load until 2030. Please ensure that no amendments to this report exist by checking ID# 2007-EX353 or ID# 2002-EX070 at [Status of Expedited System Impact Assessment Applications](#).

4.3 Power Factor

The assessment of power factor in [CAA # 2007-EX353](#) concluded that Bloomsburg MTS meets and exceeds the Market Rules with respect to power factor.

5.0 NOTIFICATION OF CONDITIONAL APPROVAL

This expedited System Impact Assessment concludes that the installation of the new T2 transformer is not expected to have a material adverse impact on the integrated power system. It is therefore recommended that a Notification of Conditional Approval of the Connection Proposal be issued, subject to the requirements detailed above.

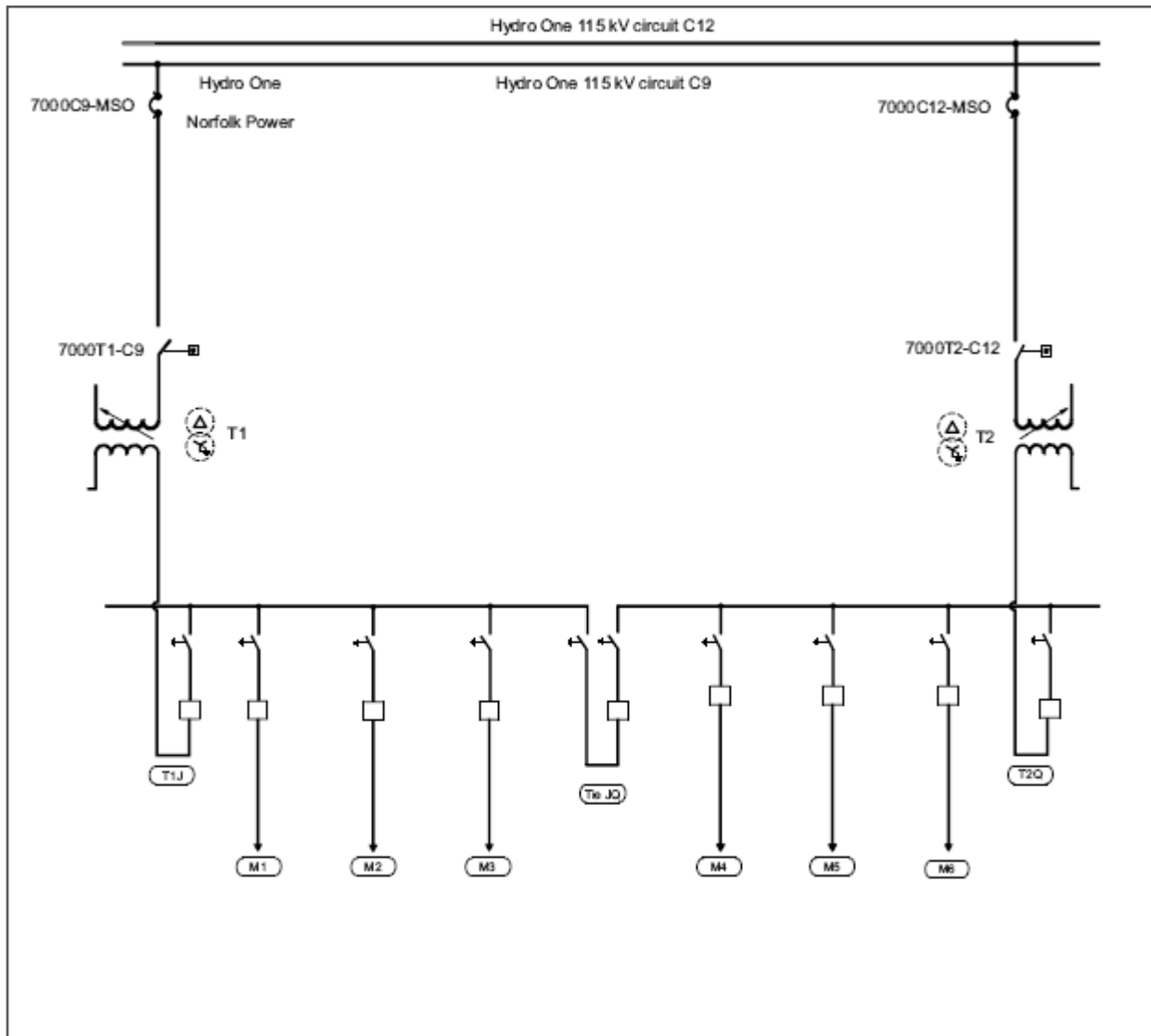


Figure 1 – Bloomsburg MTS – Future Configuration