



CONNECTION ASSESSMENT & APPROVAL PROCESS ASSESSMENT SUMMARY

Applicant: Hydro One Networks Inc.

**Project: Toronto Glengrove TS – Replacement of
Power Transformer T2**

CAA ID: 2002-EX049

Long Term Forecasts & Assessments Department

Date: February 4, 2003

1.0 Description of Proposal

Hydro One Networks Inc. (HONI) continuously assesses its transmission and distribution assets to ensure that its transmission and distribution systems are performing at an acceptable level and are capable of meeting its customers current and future needs. This assessment has identified that the existing 3-phase 110-14.2kV 20/27/33MVA transformer bank T2 at Toronto Glengrove TS has reached the end of its useful life and has to be replaced.

Toronto Glengrove TS is a 115-13.8kV station with four 3-phase, 110-14.2kV 20/27/33MVA transformers (T1, T2, T3, and T4) supplying Toronto Hydro loads in the Yonge Street-Lawrence Avenue area. The station is supplied via two 115kV underground cable circuits from the Toronto Leaside TS, L2Y and the L16D/D6Y combination via Duplex TS. Circuit L2Y supplies the transformers T3 and T4, while circuit D6Y supplies transformers T1 and T2. Should one of the cable circuits go out of service, a normally opened 115kV bus-tie switch is available to transfer the loads onto the other cable circuit. Figure 1 shows the existing facilities at the station.

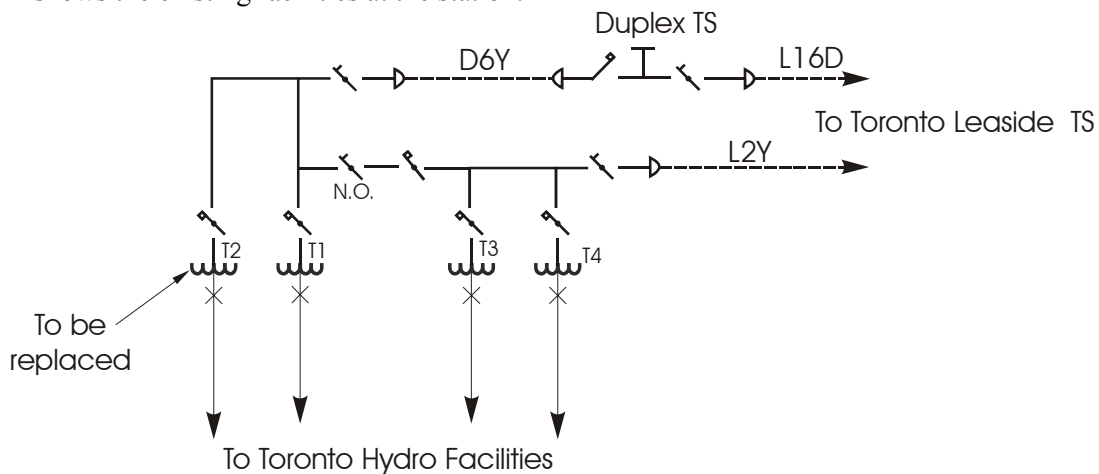


Figure 1: Toronto Glengrove TS - Existing Facilities

The applicant is proposing to replace the existing transformer T2 with a new transformer with higher thermal rating. The specifications of the new transformer are as follows:

Configuration:	3-Phase
Temperature Rise:	65°C
Thermal Rating:	25/33.3/41.7MVA
Connection:	H – Delta; L – Wye
Rated Voltage:	H – 115.5kV; L – 14.2kV
Positive Sequence Impedance:	10% minimum @ 25 MVA and 14.2kV
On-load Tap (LV):	± 2.13kV (± 15%) in 25 steps

This project involves only one of four transformers at the station, although the new transformer has a higher thermal rating, the station load meeting capability will remain at the present level.

The scheduled in-service date for the work is November 30, 2003.

2.0 Assessment

The intent of this proposal is to replace equipment that has reached the end of its useful life. The existing transformer T2 has deteriorated to the point that it must be replaced to maintain acceptable level of supply reliability. Even though a higher capacity transformer (41.7MVA Vs 33MVA) will replace the existing transformer, the proposed work involves only one of the four transformers at Toronto Glengrove TS and therefore does not increase the load meeting capability of the station. The decision on a higher rating transformer was based on equipment standardization and economy of bulk purchase reasons. Neither the present protection scheme nor other connection facilities within the Toronto Glengrove TS will be changed or modified. This proposal is essentially a like-for-like replacement of existing facilities and will have no adverse impacts on the IMO-controlled grid.

3.0 Notification of Approval

Based on the above assessment, it is recommended that a Notification of Approval for the proposed work be issued to the applicant.