



CONNECTION ASSESSMENT & APPROVAL PROCESS

ASSESSMENT SUMMARY

Applicant: Hydro One Networks Inc.

*Project: Pickering 'A' & 'B' SS - Remove Frequency Protection from
the existing 230kV Line Protection*

CAA ID No. 2004-EX185

***Long Term Forecasts & Assessments Department
Consistent Information Set Department***

Date: 24th February 2004

ASSESSMENT SUMMARY

HYDRO ONE NETWORKS Inc.

Pickering 'A' & 'B' SS - Remove the Frequency Protection from the existing Line Protection on the 230kV circuits to Cherrywood TS

1.0 General

One of the two sets of protective relaying (the A & B protection) on each of the 230kV circuits between the Pickering 'A' & 'B' SSs and Cherrywood TS is equipped with under-frequency protection.

The intent of this protection is to trip the 230kV circuits in response to an under-frequency condition before the generating units are tripped on their own under-frequency protection. This will then ensure that the generating units remain connected to their LV busbars and are able to maintain the supply to the motors of their HPECI (High Pressure Emergency Coolant Injection) pumps.

Hydro One is replacing the protective relaying on these circuits and is proposing to remove the FTK relays that are used for the under-frequency protection. These relays are deemed to be at the end-of-life.

2.0 Assessment

While this protection is required to maintain the safety of the generating units at Pickering 'A' and 'B' GS under abnormally low frequency conditions, it is not required for the security and adequacy of the IMO-controlled grid.

Consequently, if alternative measures can be implemented to isolate the generating units, together with their LV busbars, from the rest of the system during periods when the system frequency is abnormally low, this would satisfy the requirement for an uninterrupted supply to the generators' auxiliary equipment. The IMO would then have no objections to the removal of the under-frequency protection feature from the line protection on the Pickering GS to Cherrywood TS 230kV circuits.

3.0 Notification of Approval

It is therefore recommended that a Notification of Approval be issued for the removal of the under-frequency protection from the line protection on each of the Pickering GS to Cherrywood TS 230kV circuits.