



CONNECTION ASSESSMENT & APPROVAL PROCESS

ASSESSMENT SUMMARY

Applicant: Hydro One Networks Inc.

**Project: Pickering NGS 'A' – Refurbish 230kV
Switchyard**

CAA ID: 2002-EX067

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

Date: September 23, 2002

Assessment Summary

Hydro One Networks Inc.

Pickering NGS 'A' – Refurbish 230kV Switchyard

1.0 Description of Proposal

Hydro One Networks Inc. (HONI) continuously assesses its current transmission and distribution assets to ensure that its transmission and distribution systems are performing at an acceptable level, are in compliance with any regulatory standards, and are capable of meeting its customers current and future needs. As a result of this assessment, HONI has identified the 230kV switchyard at the Pickering NGS 'A' as a candidate that requires extensive refurbishment work.

The overall refurbishment project covering the complete Pickering NGS 'A' 230kV switchyard is expected to span several years. The applicant is proposing, in this phase of the project, to refurbish and upgrade the high pressure air system, the AC/DC auxiliary systems, and the 230kV breaker diameter associated with the generating unit #1 and the 230kV Pickering to Cherrywood transmission circuit P6C.

The refurbishment works covered by this application include:

- ❖ The replacement of two 230kV 2000A 'DMVF' air blast circuit breakers T1D and T1LD with new 230kV 3000A SF₆ circuit breakers.
- ❖ The refurbishment of six 230kV breaker disconnect switches associated with the circuit breakers T1D, T1L6, and L6K (Switches T1D-D, T1D-T, T1L6-L, T1L6-K, L6K-L, and L6K-K).
- ❖ The refurbishment of the 230kV line disconnect switch associated with the 230kV Pickering GS to Cherrywood TS transmission circuit P6C (Switch 44-P6C).
- ❖ The replacement of a number of 230kV insulators associated with the breaker diameter associated with generating unit #1 and the 230kV circuit P6C.
- ❖ The establishment of new AC and DC station services, including revenue metering facilities and a new building to house the new AC/DC services.
- ❖ The modification of the high pressure air system

2.0 Assessment

This proposal includes civil, electrical, and mechanical works. Civil and mechanical works, including the new service building and modification of the high pressure air system, would not directly impact the IMO-controlled grid and thus would not be assessed.

This assessment will only concentrate on electrical works. The applicant is including the replacement of the two air blast circuit breakers, which was the subject of a previous application under CAA 2002-EX034, in this phase of the Pickering A refurbishment project. As the breaker replacement proposal was approved in May 2002 under CAA 2002-EX034, it will not be assessed again here.

The replacement of insulators and the refurbishment of disconnect switches are intended to extend the useful life of this portion of the switchyard and to bring any sub-par equipment back to the normal expected performance level.

The AC and DC station services are currently supplied by facilities owned by the Ontario Power Generation Inc. and the performance of these services does not meet the standards required by HONI. HONI is therefore proposing to de-merge from OPGI and establish its own AC and DC station services to supply the entire switchyard. The new station services will be an improvement over the existing situation and will provide better reliability. However, it should be noted that the applicant's scope of work for this proposal indicates the new DC batteries might only be capable of supplying the whole station for six hours, while the Transmission System Code minimum requirement is eight hours.

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This proposal is intended to bring the performance of the station to acceptable level by replacing end of life components and by upgrading systems to meet current standards. It is essentially a like-for-like replacement of existing facilities and would have no adverse impact on the IMO-controlled grid.

3.0 Notification of Approval

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