



# **CONNECTION ASSESSMENT & APPROVAL PROCESS ASSESSMENT SUMMARY**

**Applicant: Hydro One Networks Inc.**

**Project: Coniston TS – Modify Station to Separate  
Transmission and Generation Assets**

**CAA ID: 2002 – EX095**

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

**Date: December 18, 2002**

## 1.0 Description of Proposal

When the *Energy Competition Act, 1998* was enacted, Coniston GS, which contained generation, transmission, and distribution facilities, was separated into two stations, Coniston TS and Coniston GS. Figure 1 shows the facilities at these two stations. Transmission and distribution facilities, including the two transformers, the voltage regulator, the two low voltage feeders, and the associated protection and control systems were allocated to Hydro One Networks Inc. (HONI). Generation facilities, with three generating units and a total capacity of 4.5MVA, together with the 22kV ring bus, which contains four circuit breakers, were allocated to Ontario Power Generation Inc. (OPG).

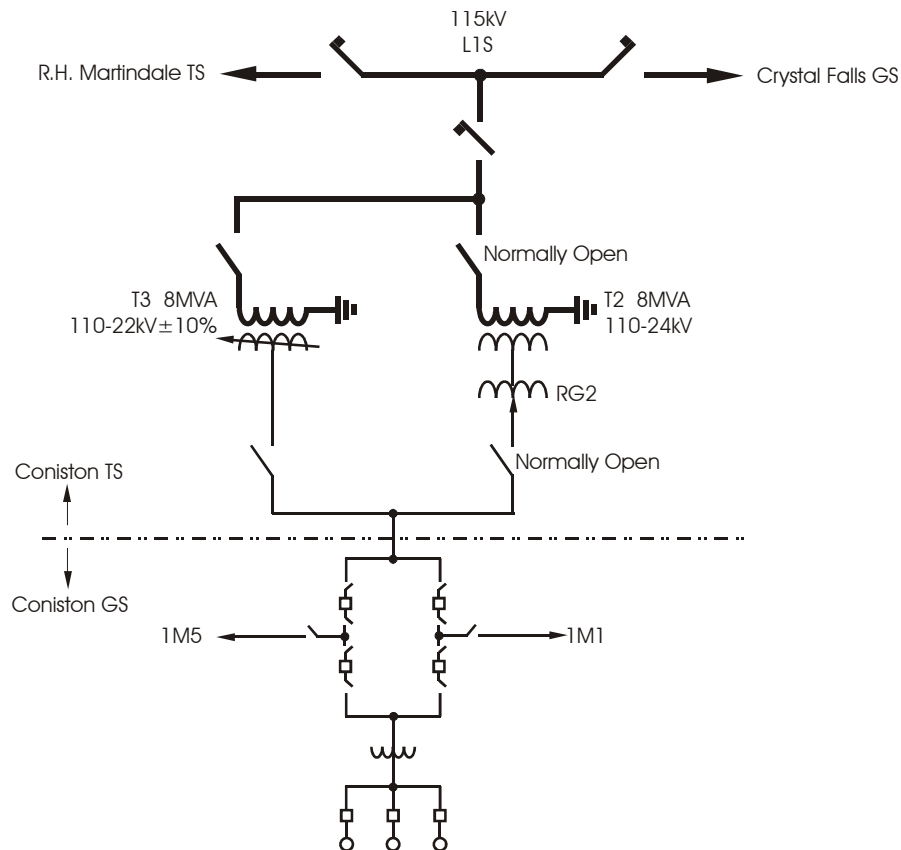


Figure 1: Existing Facilities at Coniston TS and Coniston GS

However because of the physical arrangement at the station, only the two transformers, the voltage regulator, and associated switching devices could be separated into Coniston TS. HONI continued to share with OPG the protection and control facilities, the auxiliary station service facilities, and the OPG building that houses these facilities at Coniston GS. In addition, the two HONI low voltage feeders 1M1 and 1M5 terminate at the OPG 22kV ring bus.

**Coniston TS – Modify Station to Separate Transmission and Generation Assets**

HONI is proposing to separate its remaining transmission assets from Coniston GS. The proposed modifications at Coniston TS and Coniston GS involve the following work:

- ❖ Replace existing rod gaps, which provide transformer surge protection, with metal oxide surge arrestors
- ❖ Establish a new feeder position by installing a refurbished 34.5kV 25kA oil circuit breaker
- ❖ Re-locate the two feeders, 1M1 and 1M5, to the new feeder position
- ❖ Install a new 75 kVA 22kV-208/120V station service transformer and a new 27.6kV 450A grounding transformer
- ❖ Provide new protection and control, AC and DC station services, telecommunication, and revenue metering facilities
- ❖ Provide a new building to house the new protection and control, and other auxiliary facilities
- ❖ Remove and dispose of facilities that are associated with HONI at the Coniston GS

The scheduled in-service date of the proposal is March 31, 2003. Figure 2 shows the modified arrangement at Coniston TS.

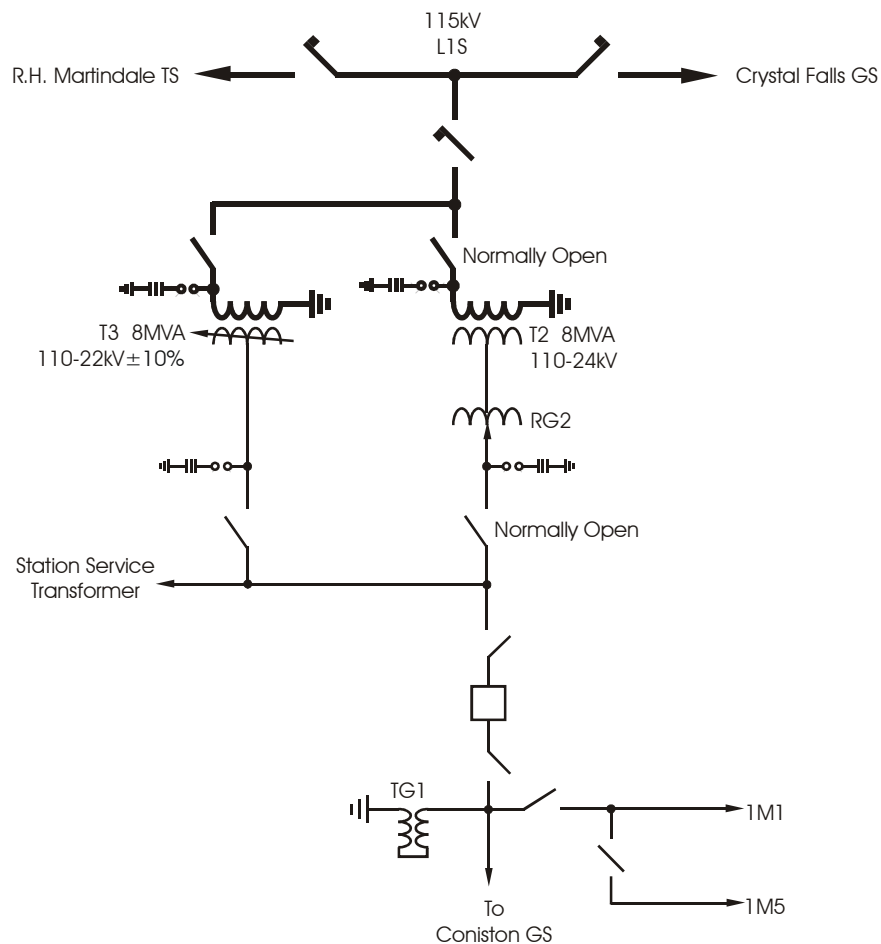


Figure 2: Coniston TS - Proposed Plan

## 2.0 Assessment

The intent of this proposal is to separate the remaining transmission assets that are still located within Coniston GS, a small hydroelectric generating station owned by OPG. The proposal involves electrical, mechanical, and structural works at the station and does not involve either generation or load demand changes.

The bulk of the work covers 22kV facilities and auxiliary systems that do not have any impact on the IMO-controlled grid. The modifications to transformer, line, and feeder protection are governed by the Transmission System Code and do not fall under the realm of the Connection Assessment and Approval process.

The proposed replacement of the existing rod gaps with metal oxide surge arresters will bring the surge protection facilities to the existing industrial standards, resulting in better reliability. However, it should be noted that the proposal to terminate both 22kV feeders onto a single feeder position and connecting the embedded Coniston GS via the same low voltage breaker would lower the reliability of the two feeders and the generating station.

The two feeders and Coniston GS are presently terminated at the 22kV ring bus, such that any fault on one feeder will not affect the other feeder or the generating station unless breaker failure occurs. The proposal will have both 22kV feeders and Coniston GS terminated onto a single feeder position (Figure 2). Any fault on either feeder will take both feeders and Coniston GS out of service until the faulted feeder can be isolated by opening the feeder disconnect switch.

Overall, the proposed modifications at Coniston TS would have no adverse impact on the IMO-controlled grid and that a formal Connection Assessment would not be necessary.

## 3.0 Notification of Approval

Base on the assessment, it is recommended that a Notification of Approval for the proposed modifications at Coniston TS be issued to the applicant.