

August 23, 2005  
Mr. Neil Harris  
OGCC Customer Support Team  
Hydro One Networks Inc.  
483 Bay Street, 15<sup>th</sup> Floor – North Tower  
Toronto, ON.,  
M5G 2P5

Dear Mr. Harris:

***Angler Switch JCT – P82-77 Circuit Switcher Installation  
Notification of Approval of Connection Proposal  
CAA ID Number: 2005-EX241***

Thank you for the detailed information regarding the installation of the new circuit switcher at Angler Switch JCT. The proposed work includes installing a circuit switcher and associated equipment to provide under load switching and sectionalization of the 115kV line T1M (between P82P77MSO and P82P15MSO).

From the information provided, our review concludes that the proposed changes will not result in a material adverse effect on the reliability of the IESO-controlled grid. The IESO is therefore pleased to grant **conditional approval** for the modification detailed in the attached assessment report. 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** will be granted upon successful completion of the IESO Facility Registration process. During facility registration you will be expected to demonstrate that you have fulfilled the requirements and the modification is in line with the proposal assessed by the IESO. Please contact [facility.registration@ieso.ca](mailto:facility.registration@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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Manager - Transmission Assessments & Performance  
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cc: IESO Records

## ASSESSMENT SUMMARY

### Hydro One Networks Inc.

#### *Angler Switch JCT – P82-77 Circuit Switcher Installation* *CAA ID Number: 2005-EX241*

### 1.0 GENERAL DESCRIPTION

A new circuit switcher (P82-77) is to be installed on the 115kV line T1M at Angler Switch Junction. It will be used to provide underload switching and sectionalization between P82P77MSO and P82P15MSO. The isolation points for this work to be completed are 82T1M-77 and 77T1M-82. The single line diagram showing the new arrangement is attached.

### 2.0 PROPOSED MODIFICATION

The scope of work is divided into the following components:

1. Isolate 115 kV line T1M at 82T1M-77 and 77T1M-82
2. Install new circuit switcher and switch operator (mechanical box)
3. Remove jumper bypass consisting of 477 ACSR 26/7 stranded conductor
4. Place the new circuit switcher (P82-77) in service as a switch (currently treated as a piece of bus)

### 3.0 ASSESSMENT

The new circuit switcher has the following ratings:

Continuous Current Rating:	1,200 A
Short-Time, Momentary Current Rating	61,000 A
Short-Time, 3-Sec Current Rating	40,000 A
Fault-Closing, Duty-Cycle, Two-Time	30,000 A
Nominal kV	161 kV
Max kV	169 kV
BIL	750 kV

The new circuit switcher is an S&C Mark 5 (catalogue #157320, serial # 10892) and the Switch Operator is an S&C Type CS-1A (serial # 04-T002233).

The new circuit switcher is **not** expected to be used for interrupting purposes. Nonetheless, the assessment indicates that the ratings of the proposed installation is adequate for the short circuit levels experienced in the current system.

In case the new circuit switcher was to be used for fault interruption in the future, the following should be noted:

- The Transmission System Code (Appendix 2) recommends that all 115 kV interrupting devices have an interrupting capability of 50 kA. The new circuit switcher is rated below this performance standard set in the TSC. Since the short circuit levels in the area are well below the maximum levels that are acceptable by the TSC, it can be concluded that the interrupting capability of the new circuit switcher is adequate for the time being. If in the future the short circuit levels are to exceed the interrupting capability of the new circuit switcher, Hydro One Networks Inc. will be required to replace the necessary equipment with adequately rated units.

Hydro One Networks Inc. will be required to meet the IESO's on-line monitoring requirements and meet the requirements with respect to new protection systems and coordination with the existing protection systems, as outlined in the Transmission System Code.

The Market Rules (Chapter 4 section 7.4) require that transmitters shall provide the IESO on a continual basis with on-line monitored quantities as specified in Appendix 4.16. For this proposed project, the IESO will require the status of the new circuit switcher.

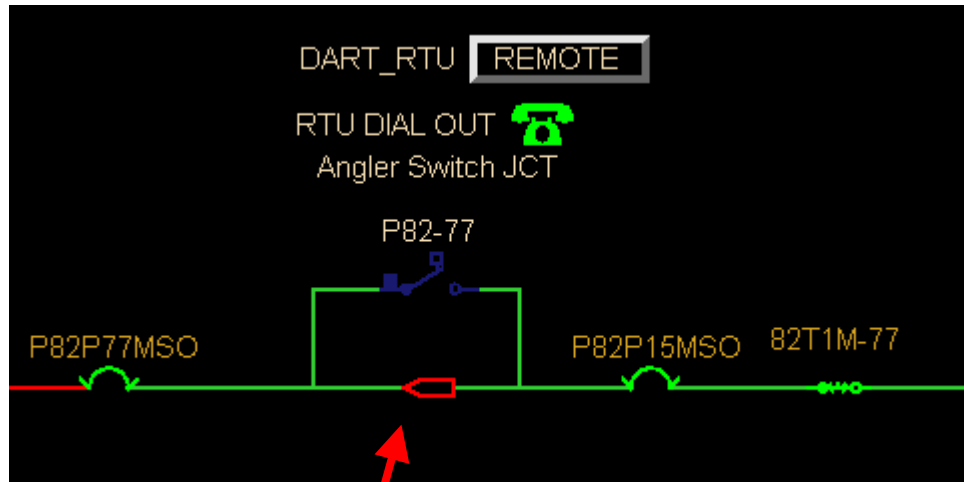
It is concluded that the proposed work will provide added flexibility in operations and increase the reliability of load supply in the area.

This work will not have any material adverse effect on the IESO-controlled grid.

#### **4.0 NOTIFICATION OF APPROVAL**

It is therefore recommended that a Notification of Approval of the Connection Proposal be issued.

## P82-77 circuit switcher on T1M @ Angler Junction



Jumper bypass consisting of 477 ACSR 26/7 stranded conductor has been removed with the paralleling of the P82-77.