

Legacy Instrument Transformer Accuracy

Revenue Metering Sub-Committee Meeting

March 8, 2005

Randy Church
Hydro One Networks Inc.

- Over 10,000 legacy Instrument Transformers Registered in the Wholesale Market
- Of these over 2620 legacy ITs have either unknown accuracy or known accuracy greater than 0.3 associated with 610 meter points and 131 MMPs
- 70% of the 2620 ITs are located within HONI TSs
- Of the 2620 ITs, 1008 ITs are Measurement Canada approved
- Only one customer has a meter point to which both CTs and PTs are MC approved
- Of the 1008 ITs, the accuracy is unknown for 486 and may be found following a visual inspection

MC Temporary Permission

- ⊙ MC granted Temporary Permission to use non-approved instrument transformers in June 2004
- ⊙ Temporary Permission expires:
 - ⊙ 6 years from the earliest seal expiry for 2003, 4 & 5
 - ⊙ in the year of earliest seal expiry for 2006, 7 & 8
- ⊙ During the period from 2006 to 2011, 1612 (62%) of the 2620 ITs with accuracy > 0.3 or unknown will be removed from service in compliance with MC ruling
- ⊙ Due to the substantial change clause in the Market Rules, the remaining 38% will also be removed from service

- ⊙ Wholesale Revenue Metering Standards - H/W for IT Accuracy - Existing Installations:
 - ⊙ ANSI 0.3 or correction factors
 - ⊙ Proof; test cards, nameplate, MC Information
 - ⊙ Test
- ⊙ Application of the MEC for ITs - Market Manual 3 Part 3.4 Section 1.2.
- ⊙ Implementation of IT MEC deferred to May 1, 2006 MM 3 Part 3.4 Section 1.2 Footnote 1.

Impact of May 1, 2006 IT MEC

	Full MEC Applied (M\$)						
	2006	2007	2008	2009	2010	2011	Total
IESO Potential Revenue	37.6	54.0	52.7	47.7	27.9	12.0	232.0

- Assumptions:
 - 2004 energy data
 - Clearing price of \$50/MWh
 - Only ITs with accuracy >0.3 or unknown included
 - Known accuracy applied or max 2.5 for meter point
 - Non-approved ITs removed beginning in 2006
 - Approved ITs changed out due to substantial change

Impact of May 1, 2006 IT MEC

	Partial MEC applied (M\$)						
	2006	2007	2008	2009	2010	2011	Total
IESO Potential Revenue	33.1	47.5	46.4	41.9	24.6	10.6	204.1

- Assumptions:
 - 2004 energy data
 - Clearing price of \$50/MWh
 - Only ITs with accuracy >0.3 or unknown included
 - Known accuracy reduced by 0.3 or max 2.2 for meter point
 - Non-approved ITs removed beginning in 2006
 - Approved ITs changed out due to substantial change

Summary

	ITs	Meter points	MMPs	Full M\$ '06-'11	Partial M\$ '06-'11	M\$/yr '12+ Full
Total	2620	610	131	232	204	0

- ⊙ MC approved plan to remove non-approved ITs, will remove 62% of the ITs with >0.3 or unknown accuracy by 2011
- ⊙ Substantial change will remove the rest by 2011
- ⊙ Market Resources to comply with market rules and the MC plan will be a struggle
- ⊙ **The implementation of IT MEC on May 1, 2006**
 - ⊙ **would have an extreme financial impact on the market**
 - ⊙ **would impose an unnecessary penalty on each MMP**
 - ⊙ **would not serve to accelerate corrective measures given an already heavy workload**

Recommendation

- ⦿ Exempt all legacy ITs from the application of accuracy MEC.
- ⦿ Change Sections 6.12.4, 6.12.5 & 6.12.6 of the Wholesale Revenue Metering Standard - Hardware.
- ⦿ Change the MM 3 Part 3.4 Section 1.2 Footnote 1



Questions?

Connected Station Service

Revenue Metering Sub-Committee Meeting

March 8, 2005

Randy Church
Hydro One Networks Inc.

- ⦿ Market Rules - MMP accountable for connected Station Service
- ⦿ Issue - connected SS not captured by a wholesale revenue meter
- ⦿ Transmitter does not want MMP to install Market Rule compliant metering on it's SS
- ⦿ Estimates are allowed in accordance with Market Rules Chapter 9, Section 2.1A.3
- ⦿ Concerned that Market Rules Chapter 6 applies.

- ⦿ HONI submitted a Market Rule amendment August 30, 2004
- ⦿ IESO suggests that a Market Rule amendment is not required - November 25, 2004
- ⦿ Submission of the Amendment to the Technical Panel on hold.
- ⦿ Withdrawal of amendment application pending changes to Market Rules
- ⦿ Wholesale Revenue Metering Standards - Hardware version 4 released December 8, 2004 modified...Further changes required

Wholesale Revenue Metering Standards - Hardware

3.3.3 Station Service Supply Not Included

- ⦿ At existing transformer stations where the *station service* supply is not included in the revenue *metering data* collected by the *IMO*, one of the following conditions shall apply:
 - ⦿ a. *metering data* shall be adjusted by a fixed correction factor by completing and submitting form 1311; or
 - ⦿ b. separate revenue metering shall be installed to *meter* the *station service* supply.

Market Manual 3, Part 3.7 Totalization Table Table
Registration,

Section 2.3.1 Non-Metered Station Services

- ⦿ Existing - connected station service estimated and signed by P.Eng.
- ⦿ Recommended addition:
“ or Station Service estimate based on an energy meter installed by the Transmitter”



Questions?