

Revenue Metering Standing Committee



Minutes of Meeting

Date held: Oct. 28, 2010	Time held: 09:00 am	Location held: Monte Carlo Inn
Invited/Attended:	Company name:	Attendance Status: (A)ttended; (R)egrets; (S)ubstitute
Jeff Simpson	Westcast Industries	A
Luc Van Overberghe	Measurement Canada	A
Tanya Laschuk for Kevin Myers	Veridian Connections Inc.	A
Gary Nunes	Rodan Energy Solutions Inc.	A
Bill Luo	Rodan Energy Solutions Inc.	A
Matt Weninger	Guelph Hydro	A
Luc Van Overberghe	Measurement Canada	A
Zoran Stojanovic	Utilismart	R
Rob Antonishen	Ontario Power Generation Inc.	A
Zhanyue Qi (Charles)	Hydro One Networks Inc.	A
Paul Szymanski	Hydro One Networks Inc.	A
Rob Henschel	Horizon Utilities Inc.	A
Francois Abdelnour	Ivaco Rolling Mills	R
Al Vance	Horizon Utilities Corporation	R
Mark Simpson	Brantford Power	R
Domenic Consorti	Hydro One Networks Inc.	R
Adam White	AMPCO	R
Kevin Myers	Veridian Connections Inc.	R
Bunli Yan	E4 Inc.	R
Tom Wasik	Enersource Hydro Mississauga	R
Mark Passi	Falconbridge Limited	R
Heather Sears	Enermajica	R
Gord Roberts	Wardrop Engineering Inc.	R
Guests:		
Peter Hajek	HD Supply Utilities	A
Roger Ersil	Powerstream Inc.	A

IESO Staff :		
Richard Zaworski	IESO	A

John Antonakos	IESO	A
Neill Wong	IESO	A
Yan Bechamp	IESO	A
Susan Harrison	IESO	A
Doug Thomas	IESO	A
Elizabeth Morris	IESO	A
Scribe: Neill Wong		
Please report any corrections, additions or deletions e-mail to neill.wong@ieso.ca		

All meeting material is available on the IESO web site at: http://www.ieso.ca/imoweb/consult/revMetering_sub.asp

Agenda item below:

Item 1 – Items from last meeting

IESO to present in this meeting the following items:

- 1.1 IESO will take away discussion points, plus incorporate MMP study data and analysis of risk into a paper draft document. See Item 3 on the agenda

Item 1b – Meter Seal Expiry and Meter Installation Upgrade Update

Presentation by the IESO (Metering Installations Update.pdf)

- 1.2. 90 metering installations with 2003-2010 seal expiry remain to be upgraded.
- 1.3. 175 metering installations with Measurement Canada IT Temporary Permission program expiry in December 31, 2013.
 - ⇒ MC staff visited upgraded metering installations at various Hydro One stations.
 - ⇒ Progress reports for Ontario Region now with Paul Rivers and Luc Van Overberghe.
 - ⇒ Based upon satisfactory annual MC reviews, the IT Temporary Permission program will be extended.
 - ⇒ Luc Van Overberghe reported Hydro One progress to date; will need more MMP plans and actions. If no MMP progress, then cannot recommend any further extension.
 - ⇒ Paul Szymanski stated that even though Hydro One is the asset owner, further progress will depend on the MMPs.
- 1.4. 324 meters interrogated via TCP/IP (28 meters are ‘Pending’ registration). This represents approximately 10% of the meter population.
- 1.5. IESO permits legacy meter replacement with IESO Conforming Meter List meters introduced at October 2009 RMSC meeting. (ION 7700 & QUAD4 – last meters deregistered in Sept, 2010; PSI S100/S200 – 48 remain in service). ION7700, QUAD4 and DataStar recorders are no longer supported. Eventually support for PSI S100/S200 recorders will also cease.
- 1.6. However, non-compliant MIs related to seal expiry will still apply with MACD.
- 1.7. IESO will continue to monitor legacy meter replacement and as part of the MVStar replacement project, is considering limiting continued support for legacy type meters to Jan. 1, 2012.

Item 1c – 2010 Meter Programs/Meter Initiatives

- 1.8. Meter audit program – 5% metering installations including station service estimates were planned for 2010 are on target.

- 1.9. Assessment of CT operating range guidelines (see agenda item)
- 1.10. CIDE (Customer Information & Data Exchange) Project to centralize master data including Grid Assessment, Market Entry and Metering information. PLC replacement is included.
- 1.11. TCPIP implementation – work with customer relations to target 10 largest MPs; expand the implementation of MSP networks. (see agenda item)
- 1.12. MV90xi V3.0 upgrade on hold; part of RMS project
- 1.13. MVSTAR replacement: Entering RMS project identification phase
- 1.14. Provide support to MR Amendment: Maximum Adjustment Period (MAP) update (see agenda item)
- 1.15. Process Improvement: Post registration commissioning process; Issuance Communication MTR after 2nd consecutive day of failure; Update to IESO CML test process – deferred to 2011; Update to Meter Frameworks (Q4 2010); Update to MIRT & MVT (Q4 2010); Enhanced MSP web page (Completed Q2 2010)
- 1.16. Support for GEGEA (Green Energy and Green Economy Act) on-going: How to integrate renewables into the HV/LV grid (where to connect; implication for settlement).

Item 2 – Update on Activities Related to Metering and Settlements

Presentation by the IESO (Metering and Settlement Activities.pdf)

2a. Maximum Adjustment Period (MAP)

Presentation by the IESO: MR-00367 – Settlements – Maximum Adjustment Period (MAP).

- On Aug 10, 2010, IESO completed review and determined that the IESO is unable to apply a maximum adjustment period for charges imposed under government regulation (i.e. MR's cannot override statutes and regulation that govern Global Adjustment or other charges imposed under regulation).
- IESO and Technical Panel agreed that this market rule amendment no longer warrants consideration.

2b. Global Adjustment

Presentation by the IESO: Global Adjustment

- Global adjustment is an existing cost recovery mechanism to enable contract or regulated electricity generation and system costs to be recovered from all Ontario consumers
- Draft regulation introduces significant changes to existing regulation. This includes:
 - Identification of two separate classes of electricity consumers
 - Class A consumer – average monthly peak demand > 5MW over specified periods and registered as market participant with IESO or customer of LDC
 - Class B consumer – all remaining consumers
 - Consumers evaluated each year to establish if they qualify as Class A or Class B
 - Class A consumers will be charged GA based on percentage contribution to overall system demand during the five peak hours (occurring on different days) identified by the IESO. If participant contributed 1% of peak demand during reporting period, they will be allocated 1% of the total system-wide GA cost throughout the subsequent billing period.
 - Class B consumers will be charged a GA rate calculated by dividing the remaining total global adjustment cost (less portion paid by Class A consumers) by the total volume of consumption from Class B consumers. Class B consumers will continue to be charged GA on a flat rate basis.
 - LDC's will be required to provide to IESO the following information with regards to five peak hours:
 - (i) Quantity of embedded generation, and
 - (ii) Volume of electricity distributed to LDC's Class A consumers
 - Proposed regulation to come into effect January 1, 2011

- Link to Ontario Regulation 398/10 amending Ontario Regulation 429/04 - [ELECTRICITY ACT, 1998 - O. Reg. 398/10](#)
- Link to IESO Backgrounder - http://www.ieso.ca/imoweb/pubs/ga/Backgrounder_Changes_to_the_GA.pdf

2c. AMPCO High5 Proposal

Presentation by the IESO: AMPCO High 5 Proposal

- Proposal submitted to OEB for a new and different Transmission Network rate design
- Current Ontario Transmission Network charge determinant for Provincial Transmission Service customers is based on energy consumed during the clock hour (hourly demand) and is defined as the higher of:
 - The customer's coincident peak demand at the time of the Ontario system peak demand; or
 - 85% of the customer's non-coincident peak demand between 7:00 AM and 7:00 PM on weekdays excluding holidays
- During the Hydro One Network Inc's transmission rate proceeding EB-2008-0272, the Association of Major Power Consumers in Ontario (AMPCO) made the High 5 Proposal as an alternative rate design:
 - A customer's monthly transmission demand charges for Network Services to be determined on the basis of the average of that customer's metered hourly coincident peak demand on the days of the 5 highest peaks in Ontario demand in the previous year
 - For a newly connected customer, the transmission network charge will be based on the customer submitted load forecast during the connection assessment and approval process
- AMPCO has made their proposal to OEB previously.
- OEB requires HONI to perform assessment of the proposal.
- Hydro One has completed the assessment and provided it as evidence in the latest transmission rate hearing.
- Hydro One could not support all the benefits that AMPCO noted in their proposal.
- Currently, at the discretion of OEB whether or not they will continue with the AMPCO High 5 Proposal.

Item 3 – Assessing Current Transformer Operation

Presentation by the IESO (CT Loading Assessment – The Way Forward.pdf)

- 3.1 CT Assessment is performed to comply with the Market Rules and the Hardware Standard
- 3.2 The IESO role is market administrator, regulator and one of technical competency.
- 3.3 The Market Participant role is to comply with Market Rules/metering standards, fulfil metering obligations/metering upgrades, and to meet financial obligations.
- 3.4 The changing metering landscape includes:
 - Formalized 0.15 accuracy standards from IEEE ANSI C57.13 – 2008 and CAN/CSA-C60044 -2007
 - Embedded/distributed generation such as solar farms, wind farms, biogas generators
 - Cogeneration facilities such as hospitals, universities, industrial complexes, business parks
 - FIT (Feed-In Tariff) Program
 - GEA (Green Energy Act)
- 3.5 Current/time loading assessment presently uses time based 80/20 rule
 - 100% requirement is not practical
 - In practice, apply 80% of time operating within CT accuracy class
 - 80/20 provides for flexibility in metering design
 - Typically assessed at time of audit

- However, current/time based is not necessarily a good indicator of adherence to standard or financial risk
- 3.6 Future % energy assessment will be 80/20 energy threshold based
- 80% of the energy operating within CT accuracy class
 - kWh metric is intuitive and readily accepted
 - Supports hardware standard ‘minimum sustained current requirements’
 - Enables compliance to Market Rules ANSI accuracy requirements
 - Why is 80/20 energy a better method?
 - ⇒ A passing 80/20 time based result will meet or better the 80/20 energy based method proposed
 - ⇒ However a failing 80/20 time based result may also pass on the 80/20 energy based method proposed
 - ⇒ 80/20 energy based method is the better indicator of conformance to the standard and financial risk
 - Case examples exhibited generally positive results for load/generation categories at ANSI 0.3 and 0.15 class. Categories include: Wind Turbine GS, Hydraulic GS, Generator SS, LDC TS, Large Industrial CTS and LDC Feeder.
 - In the non-conformance scenario, the Market Participant will submit its conformance plan
 - ⇒ Plan must consider impact to the market (time duration and at risk dollars)
 - ⇒ May propose measures such as CT ratio change (if exists), apply CT error ‘paper’ correction factor, provide projection for back to normal business activity levels
 - ⇒ IESO to assess MP conformance plan on a ‘case by case’ basis
 - IESO will document and log case assessment decisions and outcomes for RMSC
- 3.7 Moving forward, CT Loading Assessment using the proposed % Energy assessment method based on 80/20 passing threshold was unanimously accepted by a vote of: Yea – 8 to Nay – 0. The energy assessment method is planned for immediate implementation.
- 3.8 Richard stated that the CT calculator tool will be shared with MSPs on ‘use at own risk’ basis.
- 3.9 Gary Nunes stated that in some metering installations, generators may only be running one day per week. This is the operating characteristic for such an installation.

Item 4 – CIDE Project – CDMS Update

Presentation by the IESO (Customer Information and Data Exchange (CIDE) Project.pdf)

- 4.1 The CIDE project is the creation of a centralized data management system.
- 4.2 CDMS implementation will manage master data within the IESO organization.
- 4.3 Customer information will have a clear set of business owners.
- 4.4 Flexibility to incorporate new types of customers or include new master data on existing customers and equipment.
- 4.5 CDMS will provide the functionality and common information infrastructure that the existing Participant Life Cycle system (PLC) was not originally designed for. It will permit customers to submit and manage their own data. It will replace paper forms. It will improve data availability and accessibility.
- 4.6 IESO customers will benefit from reduced need to repeatedly ask for same information. Data is the most recent and accurate.
- 4.7 Functionality provided to manage customer information for organizations that participate in IESO administered programs and markets as well as other non-IESO programs
- 4.8 Eliminates the ongoing support of many databases (consolidation of information)
- 4.9 Next steps involve: Implementation of CDMS to Grid Assessments, Market Entry and Metering on Dec 16, 2010; Business process review to identify efficiencies related to registration, enrolment information and processes; Preparation to de-commission the Participant Life Cycle system (PLC).

- 4.10 Metering group to review metering installation registration process to identify opportunities to improve efficiency and effectiveness. This involves identifying possible forms reductions and implementing on-line forms to replace existing forms. Metering requested first priority for Form 1299, 1300 and SRR replacement.
- 4.11 With respect to field audits, a work flow tool could be developed tied to master data.

Item 5 – Update – TCPIP Implementation, TIM Updates and Conforming Meter List

Presentation by the IESO (TCP/IP Update - Conforming Meter List.pdf)

- 5.1 There is a growing trend towards TCP/IP as a common platform for Smart Meter and Smart Grid.
- 5.2 IESO interrogates 3583 meters on a nightly basis. 324 meters are interrogated via MV90 TCP/IP.
- 5.3 Average daily interrogation time is 2.8 minutes including the hybrid solution and 0.9 minutes for a true Ethernet solution. Average telephone interrogation time is 2.1 minutes.
- 5.4 Previous models for connectivity demonstrated the IESO would connect to MMP via an Internet Service Provider (ISP). This connection type will no longer be supported. It requires 3 party agreement. There is also the need to consider a disaster recovery/back-up centre. A failed connectivity lasting more than 2 days may have implication on MTR's and possibly settlement statements.
- 5.5 The IESO currently has connectivity with 2 MMP's and 1 MSP. IESO has met with 5 MMP's and 2 MSP's to discuss connectivity. A lot of interest to move towards this type of connection. (See TCP/IP: Complete Model) IESO considering updating communication standards to mandate TCP/IP for all new facilities (future). This will require support from MSPs.
- 5.6 The Conforming Meter List (CML) has been updated to include 5 manufacturers and 7 meter models. Only the ION and (recently the QUANTUM) is TCP/IP ready. JEMStar is in process.
- 5.7 IESO is in the process of updating all meter frameworks to capture all CML meters.
- 5.8 IESO is updating Meter Installation Registration Tool (MIRT) to include all CML's.
- 5.9 Gary Nunes: Open to all TCP/IP models presented. However, the MSP should decide which model to adopt. Richard Zaworski: The MSP network will handle small MMPs.
- 5.10 Gary Nunes: How will MTR be issued for 50 TCP/IP communications failure? Against the MSP? How is it going to work? MSP does not want 50 MTRs. Will there be 1 MTR issued on the 2nd day? Richard Zaworski: 50 MTRs will be issued. Gary Nunes: Will take issue with such MTR notification. Perhaps a change in protocol may be from IESO IT to MSP IT.
- 5.11 Rob Henschel: Do consider that planned/unplanned outages always occur from midnight-2 AM (during call cycles)
- 5.12 Rob Henschel: As well, the Telus 'bubble' does not extend north beyond Thunder Bay.
- 5.13 Roger Ersil: The existing meter infrastructure from 2002 did not provide for the TCP/IP ready hardware inside the meter. Additional cost of \$400 to \$500 to provide for link + TCP/IP connection. Richard Zaworski: Market Participants will have to be sold on the benefits to buy meters with TCP/IP. There is also risk with modems.
- 5.14 Peter Hajek: Rogers only bubble will depend on geography. Richard Zaworski: MSP competition may determine the service provider.
- 5.15 Roger Ersil requested for Rogers and Bell contact names.
- 5.16 Gary Nunes expressed concern for 'additional costs' placed on MSP for redundancy and backup service, for which this must be recovered from clients. Gary was opposed to 'mandating' TCP/IP and suggested to 'encourage' TCP/IP with the MMPs.
- 5.17 Roger Ersil asked how could TCP/IP be mandated for existing locations, which will require to upgrade equipment and may have no infrastructure in place. Yan Bechamp: TCP/IP mandating will apply for new TS facilities only.

- 5.18 Roger Ersil: Catastrophic failure and meter seal expiry scenarios will have a 'retroactive effect' requiring upgrade of communications to the meter. Therefore, TCP/IP must be sold first and will need justification.
- 5.19 Richard Zaworski: The influx of new Market Participants coming into the market will provide the opportunity and lay the ground for new facilities to be erected.

Item 6 – Update – 2 Day Communication MTR Process

Presentation by the IESO (Meter Trouble Reports - Changes to Communication MTR Process.pdf)

- 6.1 During the past 24 months, we have implemented a number of system and internal process improvements to the MV90 meter data collection system resulting in a significant reduction in communication MTRs from 2008.
- 6.2 Phase 1 implementation (June 1, 2010) includes manual review and assessment of MTR by Production staff prior to issuance (similar to existing Validation MTR process)
- 6.3 Phase 2 of implementation (Q1 2011) will include automatic review and assessment of MTR prior to issuance (no Production staff intervention)
- 6.4 Year over year 2009 to 2010 in the 3rd quarter saw a 63.8% reduction in MTRs. The implementation of 2nd day issue of failed communications was a key contributor to this improvement.
- 6.5 MSP's have noticed a significant reduction in communication MTRs. MTRs are now being issued representative of true communications issues.
- 6.6 There was also a reduction in validation MTR's issued (non-communication MTR's).

Item 7 – Baseline Updates

Presentation by the IESO (Baseline Updates.pdf)

- 7a. Baseline 23.1: Implementation of commissioning reporting as a post registration process effective June 2, 2010 with the release of Baseline 23.1.
- 7b. Baseline 24.0: Market Manual Part 3.7: Section 2.3.1 and Section 2.3.2
- Section 2.3.1 was renamed from "Metered Station Services" to "Estimated Station Services."
 - Additions made under assumption used in determining the station service factor. Annual checks must be performed to confirm estimate is still valid.
 - Section 2.2.2 was renamed from "Meter Station Services" to "Estimated Station Services Using Retail Meters."
 - Updated items to consider when using retail meters. The metering service provider can determine the station service factors by using a Measurement Canada approved and sealed retail meter to estimate the load. The estimate must be based on annual consumption determined from the meter readings of the retail meter. The estimate must take into account losses between the location of the retail meter to the Defined Meter Point: 1% losses for each level of transformation is acceptable. The value of the station service factor should be rounded to the nearest kW. Annual readings of the retail meter must be recorded to confirm estimate is still valid; if the results are different, an updated estimate must be submitted and registered.
- 7c. Future Baseline – User of ANSI CTs for EITRP: Market Manual Part 3.2: section 1.4.6 Emergency Restoration Plan (EITRP) and Appendix D: Emergency Restoration Plan for Instrument Transformers
- If temporary metering installation has ANSI 0.3 class CT's (or better), the installation is operating within its accuracy class and the use of a correction factor is not needed.
- Gary Nunes: If metering installation were located 'elsewhere' as an alternative or check metering installation, then a Correction Factor will be required. A locational reference is required.
- John Antonakos: Agreed. The proposal will apply for an 'equal' metering installation.

Item 8 – Settlement Principles for embedded facilities

Presentation by IESO (Settlement Principles for Embedded Facilities.pdf)

- 8.1 Market Manual 3.7 – Totalization Table Registration, Appendix D – Metering, Settlement Principles details the application of principles used in settling the IESO administered market for: SSLA transformation, SSLA radial line, Station Service, Apportionment of losses/station services, TLF's, Energy Market Settlement and Transmission Tariff Settlement, Directly connected and embedded facilities, Express and non-express feeders. Commercial arrangements or agreements between participants or third parties are not reflected.
- 8.2 Market Manual 3.7 – Totalization Table Registration, Appendix D – Metering, Settlement Principles was first introduced June 1, 2005, in Baseline 9.0: Revisions were made in Baseline 11, Sept. 2006 to address specific principles related to embedded generation and application of TLF's (result of 2006 OEB Rate Order) to address issue of TLF pancaking, and application of LF to 'Received' or 'Injected' meter channel for embedded generator.
- 8.3 Reverse power flow for an embedded metering installation (feeder metering) is becoming more common. This is primarily due to distributed generation coming on-line. Current application of TLF's (based on Settlement Principles) introduces inequities in settlement.
- 8.4 IESO will be working with Hydro One to look at current 'principles' and propose recommendations. Any proposed changes will need to be reviewed and accepted by the OEB. RMSC will be updated on this initiative as progress is made.
- 8.5 Peter Hajek: Reverse power flow issues impacts LDC performance and LDC rates.
- 8.6 Roger Ersil: Is impact to demand peak portion. Richard Zaworski: No. Inherent errors due to deductive meters, generators, location and time synchronization. Difference related to how generator shuts off (e.g. when generator up/generator down). For host and embedded LDC, the 2 Totalization tables with Loss Factor must agree.
- 8.7 Gary Nunes: Who takes responsibility to apply the correct TLF? Richard Zaworski: Today the host LDC is responsible.
- 8.8 Peter Hajek: Transmission affected when embedded meter is exposed to the market.
- 8.9 Luc Van Overberghe: To open TLF discussions. In retail market, notion of TLF is disappearing. One year ago, TLF on its way out due to conditions of use not met.

Action Item Summary				
#	Date	Action	Status	Comments
1	Oct 28, 2010	Item #5.15 action: IESO to provide Rogers and Bell contact names for TCP/IP networks and service.	Pending	
2	Oct 28, 2010	Item #8.4 action: IESO will update RMSC on this initiative as progress is made.	Ongoing	