

IESO/HONI Meter Installation Upgrade Strategy Interim Report

Revenue Metering Sub Committee Meeting
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- q Joint initiative between IESO and HydroOne to look at MMP's issues and challenges related to metering installation upgrades, specifically bus metering installations located inside a HydroOne owned facility.**
- q Met with HydroOne Brampton, Oakville Hydro, Ottawa Hydro, Toronto Hydro, Welland Hydro, Niagara Falls Hydro, Brantford Hydro and Enersource Hydro Mississauga.**
- q Meetings with London Hydro and Horizon Utilities have been temporarily put on hold (due to HONI labour dispute).**
- q Interim report has been completed and will be issued to IESO and HydroOne management, pending concurrence from the RMSC.**
- q HydroOne and IESO management to decide whether or not to proceed with the recommendations based on the meetings held to date or wait for the final report**

- q Initial meetings between IESO and HydroOne identified that bus metering installations inside a HydroOne owned facility with limited space were a major concern.**
- q Of the 260 outstanding 2003/2004 seal expired metering installations, 135 are bus metered located inside a HONI facility.**
- q Of the total 1,757 metering installations in the IESO market, 375 are bus metered located inside a HONI facility.**
- q Based on these numbers, 20% of the metering installations are bus metered and 50% of seal expiry non-compliances are bus metered.**
- q MMP's identified these metering installations as the most difficult and costly to upgrade.**

- q The following is a list of the challenges when upgrading a bus metering installation**
- 1. Extreme complexity of an upgrade**
 - 2. Emergency IT Restoration Plan**
 - 3. Substantial upgrade is difficult to comply and costly**
 - 4. Registration process is overly complex**
 - 5. Capacity of HONI resources**
 - 6. Significant regulatory burden**
 - 7. Issues related to sharing of IT's**
 - 8. HONI cost structure**

9. Measurement Canada (MC) type approval for IT's
10. Inaccurate/incomplete IT information
11. Scheduling of work
12. Turnaround time for submissions
13. Metal clad switchgear
14. Limited period of time for outages
15. Number of HONI agreements (7 in some cases)
16. Cannot perform work on HONI property or equipment

- q **Upgrading a bus metering installation located inside a transformer station owned by another party is a very difficult task for LDC's.**
- q **The most difficult and costly aspect of the upgrade is the replacement of the IT's.**
- q **To address this issue, this proposal would permit the existing IT's to remain in place and not require their upgrading or replacement.**
- q **MMP's will have the option of keeping existing IT's in situ, and 'as is' for the life of the IT's.**
- q **Replacement of IT's is required where the IT's fail or when there is a substantial upgrade of the metering installation.**
- q **Sharing of IT's can remain.**
- q **The existing IT's will continue to be registered under the Alternative Metering Standard.**
- q **MMP's must meet certain conditions to qualify for relief under this proposal.**

- q Under this proposal, existing IT's will continue to be registered under the Alternative Metering Standard and must meet the following requirements:**
 - a. Meters must be upgraded – installation of conforming Main/Alternate meters provides the biggest measurement improvement for the smallest expenditure.**
 - b. IT's do not have to be upgraded and can remain registered under the Alternative Metering Standard for the life of the IT's.**
 - c. Continued sharing of IT's is permissible provided there are suitable controls in place to prevent/detect IT tap change.**
 - d. Failure of 2 or more IT's will not trigger a substantial upgrade.**
 - e. EITRP – IT's replaced in situ with compliant IT's that have separate secondary windings for revenue metering and protection. Arrangements must be made with HONI to effect the repair as part of the EITRP.**
 - f. Non-Blondel will remain as is – subject to conditions noted in the Hardware Standard.**

- g. If existing IT's are not Measurement Canada approved, they must be replaced with Measurement Canada approved IT's. The replacement of IT's:**
 - a. Will not trigger the substantial upgrade clause.**
 - b. Can be replaced in-situ but with separate secondary windings for revenue metering and protection and control.**
- h. Should the MMP require more time than the specified 12 weeks to replace any failed IT's, the IESO would consider the application on its merits.**
- i. Notwithstanding any of the above, paralleled CT circuits must be broken up in accordance with the Market Rules on the failure of two or more IT's. Existing IT's may continue to be used and meters replaced with conforming meters.**
- j. IT burdens cannot exceed the burden rating - as per the Hardware Standard.**

- q This proposal is subject to the following conditions:**
- a. Applies only to existing metering installations registered under the Alternative Metering Standard.**
 - i. Does not apply to new installations.**
 - ii. Does not apply to metering installations or facilities that are undergoing rebuild where the opportunity to upgrade the metering installation exists.**
 - b. Each metering installation shall be reviewed by the IESO to confirm that it meets the criteria for relief.**
 - c. Relief only applies where it is not practical to upgrade the metering installation. The metering installation must be one of the following cases (A, B or C).**
 - d. Relief applies only in the sole opinion of the IESO.**

- q The proposal applies only to the following cases. All other metering installations would not qualify for relief:**
- A. Medium voltage indoor metal clad switchgear 4 kV to 46 kV**
 - Metering installation is enclosed in medium voltage metal clad switchgear.
 - B. Medium voltage open bus < 50 kV**
 - Metering installation is Bus mounted with difficult access.
 - C. High voltage outdoor open bus station > 50 kV**
 - Metering installation is Bus mounted with difficult access.

- q The following criteria will be used by the IESO to assess relief:**
- a. Location – The metering installation is located in a transformer station supplying an MMP**
 - b. The metering installation is:**
 - A. Enclosed in a medium voltage metal clad switchgear (4kV to 46 kV)**
 - B. Bus mounted with difficult access**
 - C. Bus mounted with difficult access**
 - c. The TS:**
 - A. Is owned by a registered transmitter and the switchgear is owned by a registered transmitter – either partly or fully. The balance is owned by an MMP that is not the transmitter.**
 - B. And the medium voltage bus is owned by a registered transmitter – either partly or fully. The balance is owned by an MMP that is not the registered transmitter.**
 - C. And the high voltage bus are owned by a registered transmitter. The MMP is not the registered transmitter and does not own any part of the facility.**
 - d. The IT's are shared with the transmitter and used for protection and control as well as revenue metering.**
 - e. There is limited space:**
 - A. Either inside the switchgear building or external to the building.**
 - B. Either inside the bus work or external to the bus work or station.**
 - C. Either inside the bus work or external to the bus work or station.**

- f. It is not cost effective to install pole mounted metering units (PME's).**
 - i. Four or more PME's required.**
 - ii. The TS is located in a downtown area and there is no external room to install poles and PME's.**
 - iii. The egress feeders are underground and it is not practical to excavate a vault for the metering installations.**
 - iv. The egress feeders are overhead but space limitations remain.**
- g. Work on the metering installation is restricted to the transmitters organization.**
- h. High voltage metering is not possible due to physical space limitations or is not cost effective.**
- i. Any other circumstance where the IESO, after the investigation, agrees that it is impractical or cost prohibitive to upgrade the IT's.**

- q This proposal will address some of the MMP's concerns**
- q This proposal will require Market Rule and Market Manual changes**

- q It is recommended that this proposal be adopted and that the IT's be allowed to remain indefinitely in the three cases specified. IESO to proceed to change the market manuals.**
- q It is further recommended that the changes to the market manual be undertaken directly and not delayed until the final report is issued.**
- q IESO Metering Group is seeking acceptance of this proposal from the Wholesale Revenue Metering Sub Committee.**

- q Subject to concurrence from the Revenue Metering Sub Committee, the interim report will be taken to the IESO and HONI senior management for consideration.**
- q Subject to their agreement, work will commence on the required Market Rules and Manuals.**
- q Proposed meetings with the remaining two MMP's will commence as per the original plan and their comments incorporated into the final report.**
- q Should the final report differ in any significant way, the final report will follow the same path as the interim report – RMSC, IESO/HONI management, with appropriate modifications of the market rules and manuals.**