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# End to End Testing/Engineering Unit Report Proposed Changes

Revenue Metering Standing Committee
October 2nd, 2008



# Obligations

- MSP's responsible for the provision, installation, commissioning, maintenance, repair, replacement, inspection and testing of metering installations – Appendix 6.2, section 1.3.1.1
- IESO to initiate and perform any end-to-end testing required prior to registration of a metering installation – Chapter 6, section 13.1.1.10

# Commissioning a Metering Installation

- Market Manual 3.2 Appendix B – Requirements for Commissioning a Metering Installation
  - Safety
  - Visual Check (SLD review)
  - Secondary Cabling (continuity and resistance)
  - Meters (programming and configuration)
  - Instrument Transformers Tests (ratiometer and polarity)
  - Instrument Transformer Checks (comparison to independent source)
  - Time Synchronization
  - Cross Phase Test
  - Communication Test

# End to End Test Current Process

- Once the MSP has completed commissioning the meter installation, cross phase values are entered on the Engineering Unit Report and submitted to the IESO for processing
- IESO Settlement Production staff processes EU Report
  - Performs communication test of the metering installation
    - Status Check including verification of time synchronization
    - Time Set
    - All Read of Meter Data (Load Profile, Encoders, Events)
  - Completes IESO section of Engineering Unit Report
    - Enters meter readings during time of cross phase test
    - Compares meter readings to cross phase readings
    - Performs additional comparisons to calculated values (kVA)
    - If results are within tolerances (5% for kW; 15% for kVar; 3%/10% between Main and Alt), IESO signs EU Report and sends back to MSP for review and sign-off
- MSP reviews EU Report, signs and returns back to IESO
- Meter Installation is registered

# End to End Test
# Current Process - Issues

- Opportunity for process efficiencies
  - EU Reporting process involves numerous hand-offs
  - $MSP_{FIELD}$ to $MSP_{OFFICE}$ to $IESO_{SP}$ to $IESO_{MI}$ to $IESO_{SP}$ to $MSP_{Office}$ to $IESO_{SP}$
- Opportunity for process improvements
  - kWh, kVarh, V2h and I2h readings
  - Delivered and Received channels
  - Implementation of other controls (MIRT Validation Tool)
- Purpose of the end to end test is to confirm that the IESO is correctly reading and translating meter data – not to validate commissioning tests

# End to End Test Proposal

- Streamline process
  - Once MSP completes commissioning and IESO completes the end to end test, IESO issues EU Report to MSP for sign-off
  - IESO $_{SP}$ to MSP $_{Office}$ to IESO $_{SP}$
- EU Report package to include
  - Master file information in IESO systems (MIRT file information as submitted by MSP)
    - includes all meter and recorder information used in collecting and translating meter data
  - Interval data report for all registered channels which includes raw meter data (pulse counts) and translated data (energy values)
- MSP will use this information to confirm accuracy of meter data (exact comparison) and sign off EU Report

# End to End Test Proposal

- Number of issues need to be considered
  - Assurance that metering installation has been commissioned in accordance with MM 3.2 Appendix B
  - Provisions for Injection test and True Load test
  - Other operational considerations (<0.25A)
  - Changes to existing MSP processes and IESO processes
- MSP Working group will be formed to consider proposal (Q4-2008)