

Commissioning and End to End Testing of Metering Installations

March 8, 2005

Richard Zaworski



Issues re: Commissioning

- ❑ Concerns regarding the high number of errors related to commissioning of a metering installation
 - Failure of a metering installation upon energization
 - Incorrect CT ratio
 - Incorrect phasing of CT's
 - Internal meter malfunction not detected by meter verifier at time of sealing and MSP at time of commissioning (VEE)
 - Registration errors identified at time of audit should have been identified at time of commissioning
- ❑ In some cases, MMP's installing and commissioning metering installation (must be under the direction of MSP)
- ❑ In other cases, MSP not following procedures
 - End-to-End test is not the commissioning test

- ❑ Similar issues when performing an End-to-End of the metering installation
- ❑ End-to-End test is to perform test under TRUE LOAD conditions. However,
 - No load at time of test
 - True Load below 10% nominal
 - True Load operating at/near unity PF
 - Tolerance for acceptance is 5% kW and 15% kVAR
 - Instantaneous vs Integrating analyzers
 - Provisions for Secondary Injection
 - Delays due to exchange of the 'Engineering Units Report' between the MSP and IESO

- ❑ Working group established to review and update Market Manual 3.2, Appendix B (Guidelines for Commissioning a Meter Installation) and Appendix C (Guidelines for Conducting End-to-End Testing and Meter Master File Comparison)
- ❑ Working group to meet March 23, 2005 (1 day session)
- ❑ Participants include:
 - Ron Merrett – Great Lakes Power Limited
 - Vito Genovese – Hamilton Hydro Inc. Metering Services
 - Gary Nunes – Rodan Energy and Metering Services Inc.
 - Travis Iwamoto – Hydro One Networks Inc.
 - Richard Zaworski - IESO

- ❑ Updates to include:
 - Guidelines replaced with Procedures
 - Specify type and accuracy of testing equipment
 - Identify operational thresholds for commissioning
 - Cross Phase testing details to be more prescriptive
 - Identify operational thresholds for conducting end-to-end tests
 - Establish link between Commissioning and End-to-End test
 - Streamline Engineering Unit Report submission
- ❑ Updated procedures to be reviewed at the next MSP User Group Meeting – March 24, 2005
- ❑ Updates to Market Manual 3.2 scheduled for next Baseline