

Meter Installation Audit Program

Revenue Meter Standing Committee

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- IESO has to satisfy itself that metering complies with Market Rules (Ch. 6), IESO policy or standard
- Three categories of audits specified in Market Rules :
 - a) Security Audit – physical security of metering installation
 - b) Meter Installation Audit – accuracy and compliance
 - c) Data Audit – meter data reconciliation

- **Chapter 6 Section 9.1.3 states:**

The IESO may audit the security measures applied to each registered metering installation from time to time as determined appropriate by the IESO.

- **IESO Security audit includes:**

- Physical check of seals, locks, enclosures and conduit
- Review of security management – controlled access
- Review of unauthorized access to meter (non IESO initiated time sets for example)

- **Security audit performed when:**

- Considered warranted
- Level 2 field audit of metering installation

- **Chapter 6 Section 7.1.5 states:**

The IESO may carry out periodic, random and unannounced audits of a metering installation for the purpose of ascertaining whether the metering installation complies with the requirements set forth in this Chapter and in any policy or standard established by the IESO pursuant to this Chapter. The metered market participant for the metering installation shall ensure that the IESO's auditor is provided with unrestricted access to the metering installation for the purpose of such audit.

- **Four levels of audits conducted by IESO:**

- Level 1 Office Audit – review of registry information
- Level 2 Field Audit – visual inspection of metering installation
- Level 3 Field Audit – common tests of metering installation
- Level 4 Field Audit – specific tests of metering installation

- **Review of registry documentation:**
 - IESO Forms, SLD, MIRT, MEC, SSLA, EITRP, DOC/AMIS, Engineering Unit Report and Site Registration Report (totalization table)
- **Review of supporting documentation:**
 - Meter Programming Specifications, MC Inspection Certificates, IT information (test records, type approval), Commissioning reports, MEC and SSLA supporting calculations (including Power Transformer Test Data sheet)
- **Review of Routine Tests**
 - Data Reconciliation, Meter Spot Check and IT Spot Check
- **Review Performance of Meter Installation**
 - Load Duration/Sizing of Meter Installation, Time Resets and EMS (Telemetry) check if applicable

- On-site assessment of metering installation which also includes Security audit:
 - Confirm accuracy of registry information
 - SLD accuracy, nameplate data, visual trace of IT secondaries, burdens and other
 - MEC components, meter configuration, wiring, commissioning results and certificates
 - Review of security controls and logs
- Support of Level 1 Office Audit

- Level 3 Field Audit includes common testing of a metering installation:
 - Communication test
 - Cross Phase Test
 - End to End test
 - IT Spot Check
- Level 4 Field Audit includes specialized tests of a meter or meter installation:
 - Meter calibration/verification test
 - Complete testing of instrument transformers
- Level 3 and 4 Field Audits are typically performed on an as need basis (suspect of non-compliance or settlement issue)

- **Current Practice:**
 - Level 1 Office Audit - approx. 10% of metering installations
 - Level 2 Field Audit - approx. 10% of metering installations
 - Security Audit – approx. 10% of metering installations
 - Level 3 Field Audit – where concerns arise from Level 2 audit, non-compliance infraction or settlement related issue
 - Level 4 Field Audit – where concerns arise from Level 3 audit
- **Criteria and selection of metering installations for Level 1 and 2 Field Audit determined at beginning of each calendar year**

Can existing audit processes be improved?

- Objective – Implement a more efficient and effective means of assessing compliance
- Greater focus in the areas that present greatest risk
 - Commissioning of a metering installation
 - Routine testing (data reconciliation, meter spot check, IT spot check)
 - Security
 - Enhanced monitoring and follow up process of audit findings
- Continue to conduct Level 3 and 4 field audits as required (no changes considered)

- **Step 1 – reduction in the number of Level 1 & 2 field audits**
 - Audit approx. 5% of metering installations
 - Greater emphasis on MSP controls and procedures
 - Work closer with MACD re: compliance monitoring
- **Step 2 – Remove review of commissioning reports from the audit process and make it part of the meter registration process**
 - ‘NEW’ Post registration process (TBD)
 - Comparison of meter data to alternative source (EMS telemetry)
- **Step 3 – Enhance monitoring of routine tests**
 - Continue to monitor and report Data Reconciliation and Meter Spot Check tests (applies to legacy meter installation only)
 - Incorporate IT Spot Checks into monitoring program

- **2010 Level 1 & 2 audits**
 - Selection of metering installations for audit (criteria to be determined) – Feb. 2010
- **Development of Post Registration Commissioning Review Process – Q2 2010**
- **Enhanced Monitoring of Routine Tests – Q4 2010**