1 General
1.1 Power Monitoring Device shall be U.L. listed and labeled.
1.2 Reference Section 33 0900 Utility Meters
   1.2.1 Additional information on termination of electrical meters to the Data Concentrator Control Panel (DCCP).
1.3 Approved Manufacturers:
   • Schweitzer Engineering Labs (SEL) model 735
   • SEL model 735-1

2 Electrical Circuit Monitors:
2.1 All meters shall be equipped with Ethernet communication capabilities
2.2 All meters shall be equipped with harmonic monitoring capabilities to at least the 15th harmonic.

3 Installation of Power Monitoring Devices:
3.1 The Power Monitoring Device shall be installed in a compartment which is isolated from energized bus.
   3.1.1 The compartment shall also contain a disconnecting means for the Power Monitoring Device as well as a C.T. shorting block.
   3.1.2 All components shall have guarding in place to be considered “finger-safe” inside the compartment with respect to voltage above 50 volts.
   3.1.3 Wire Current Transformers to a 6-pole shorting block with a dedicated X1 and X2 wire for each CT.
3.2 A 1” flexible non-metallic conduit shall be routed from the metering compartment to the exterior of the switchgear.
3.3 The raceway will be extended in the field by the E.C. from the switchgear to the DCCP.

4 Connecting and Networking of Power Monitoring Devices:
4.1 All data stored in the Power Monitoring Device shall be accessible to external devices by way of Ethernet communication.

5 Additional Network Media Options:
5.1 Network connections shall be established using industry standard Ethernet protocols such TCP/IP. All components shall work with existing Ethernet Gateway, Router, and Hub technology.

6 Current Transformer (CT)
6.1 The CT shall be sized based on calculated demand load of the switchboard
   6.1.1 The nameplate shall be as close as possible without going below the calculated demand load.
6.2 The CT shall have an ANSI accuracy rating of 0.3 at a Burden of B0.5. The accuracy class is expressed as 0.3B0.5.
6.3 The CT shall have a rating factor (RF) of at least 3.0 @ 30°C but is preferred to be 4.0 @ 30°C and 3.0@55°C

7 Test Switch
7.1 Each meter shall be installed and wired with a test switch. The test switch shall be a ten pole ABB FT-1 (SEL part number 240-1010). The test switch shall be mounted directly below the meter.

8 Documentation
8.1 A folder shall be supplied with the switchboard located in the isolated meter compartment with the following contents
   A. Meter
      • SEL factory calibration report
      • SEL settings files (Digital Copy from SEL Quickset export)
   B. CT Specifications
      • Accuracy
      • Burden
      • Rating Factor
      • Dimensions
      • Model Number
      • CT Ratio
   C. PT Specifications
      • Accuracy
      • Burden
      • Rating Factor
      • Dimensions
      • Model Number
• PT Ratio
  D. Power Monitoring Circuit Diagram

9 Commissioning

9.1 Meter operation will be confirmed when the commissioning for the DCCP is conducted.