

SECTION 262713 – ELECTRICITY METERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. This Section specifies metering equipment for buildings and structures electrical systems.
 - 2. Provide all labor, materials, and equipment as necessary to complete all work as indicated on the drawings, and as specified herein.
- B. Related Sections include the following:
 - 1. Applicable sections of Division 26 - Electrical

1.3 SUBMITTALS

- A. Shop Drawings
 - 1. Metering equipment.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70, “National Electrical Code”

PART 2 - PRODUCTS

2.1 METERING EQUIPMENT

- A. Electrical gear requiring Energy metering shall be supplied with Current Transformers of the appropriate ratio, wired to shorting type terminal blocks, and Voltage transformers as necessary

to provide 3-phase 120V phase to neutral voltage wired to a dedicated terminal block. Terminal blocks shall be located in a reasonable location for access such as the control power/fuse compartment.

- B. All Energy meters will be purchased and installed by the MSU Power and Water Department.
- C. Current metering transformers shall be utility revenue class, donut type, with mounting base as manufactured by GE Multilin or approved equal.
- D. Voltage metering transformers shall be utility revenue class, with mounting base as manufactured by GE Multilin or approved equal.

Electrical meters in substations shall be Electro Industries Nexus 1272 (switchboard case) or 1262 (A-base plug meter) depending on application. The Nexus meters I/O options that are used to bring in pulses from water and condensate meters.

Sub-meters shall be Electro Industries Shark 100, 100S, or 200 meters.

The Shark 100 is a sub-meter that communicates via RS-485 and can be daisy chained together with others. The RS-485 is then connected to an Ethernet gateway box that can transfer the data from all of the meters through one IP address.

The Shark 100S is basically the same, except that it is a surface mount and has built in Ethernet communications. This is good for a stand-alone application.

The Shark 200 has the same layout as the 100, but has Ethernet communication and I/O options.

Review metering application and equipment with the MSU Power and Water Department at the T.B. Simon Power Plant and the Energy and Environment Office in the Physical Plant Building to determine if additional sub-metering equipment is required for utility billing or for measurement and verification of specific equipment prior to finalizing project specifications and drawings.

PART 3 - EXECUTION

3.1 METERING EQUIPMENT

- A. Voltage and current transformers shall be mounted to a back plate in the metering compartment and wired to terminal blocks located in the same compartment as described above.

END OF SECTION 262713