1.0 GENERAL

1.1 Related UBC Guidelines

.1 Section 33 10 00 Water Utilities - 2.4
.2 Section 33 51 00 Natural Gas Distribution - 2.4
.3 Section 33 63 00 Steam Energy Distribution - 2.5
.4 Section 27 05 08 Description of System – 1.4
.5 Section 25 05 00 Building Management System (BMS) Design Guidelines.
.6 Section 26 27 13 Secondary Metering

1.2 Coordination Requirements

.1 UBC Energy & Water Services

1.3 Description

.1 UBC requirements for Metering for revenue grade applications. Refer to Section *26 27 13* for secondary metering requirements.

2.0 MATERIAL AND DESIGN REQUIREMENTS

2.1 General

.1 Switchgear manufacturer shall supply and install Revenue grade meter at the project's cost.

2.2 Revenue Metering

.1 Revenue grade meter shall be Measurement Canada approvable, Schneider Electric Type PM8240 Multifunction Meter with i/o module and Ethernet options.

.2 It shall be for use with 3 current transformers and programmed for CT's to allow for direct readout.

.3 The meter shall be flush mounted @ 54" above finished floor (centre of meter) in a separately barriered instrument compartment in the distribution enclosure. Provide a 10-pole test block for current and potential circuits, surface mounted on the outside of the door of the metering compartment.
  .1 For 120/208V Systems wire the meter as shown on Drawing E4-4.
  .2 For 347/600V 4W Systems wire the meter as shown on Drawing E4-5a.
  .3 For 347/600V 3W Systems wire the meter as shown on Drawing E4-5b.

.4 Approved Test Block Manufacturers:
  .1 ABB type FT-1.

2.3 Metering Transformers

.1 Metering transformers shall be provided by the switchgear manufacturer.

.2 Three current transformers (CT's) shall include revenue metering accuracy of 0.3B0.9, ratio XXX/5 for Schneider Electric PM8240 with i/o module multifunction meter. Mount CT's on transformer secondary bus.

.3 Metering at 600V, 4 wire secondary shall include three voltage transformers, revenue accuracy, 360:120 ratio shall be mounted in a separately barriered instrument compartment. For 3 wire systems, the consultant or manufacturer shall contact UBC Energy & Water Services for recommended solutions.

2.4 Mechanical Meters

.1 Main building gas and water meters are to be integrated into the electrical metering system. Pulse outputs from each of these meters are to be brought to the Schneider Electric PM8240 meter for recording purposes. Refer to standard drawing E4-6 for wiring connections.

.2 The Division 26 contractor shall install all pathways and wiring between the mechanical meters and the electric meter. Coordinate with Division 20 contractor and UBC Energy & Water Services.

.3 District Energy meter shall be network connected directly to UBC ION metering network. Refer to Division 20, 23 and 27 for applicable details and Drawing E4-6c.

.4 Refer to Drawing E4-6 for wiring requirements of the gas and water metering integration into Schneider Electric PM8240 meter.

3.0 Other

.1 A raceway shall be provided between the PM8240 meter and the nearest communications closet. Provide an IT demarcation box within 3 metres of the PM8240 meter. Refer to Division 26 standard drawing E4-6 and Division 27 standard drawing ITSTD-22.

*****END OF SECTION*****