

CITY OF AUSTIN ELECTRIC UTILITY DEPARTMENT

PURCHASE SPECIFICATION

FOR

OVERHEAD PRIMARY METERING RACK

DATE	PREPARED BY	ISSUANCE/REVISION	APPROVAL PROCESS SUPV. / MATERIALS SUPV.
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<i>REASON FOR REVISION</i>	<i>AFFECTED PARAGRAPHS</i>

This specification, until rescinded, shall apply to each future purchase and contract for the commodity described herein. Retain for future reference.

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FOR

OVERHEAD PRIMARY METERING RACK

1.0 SCOPE AND CLASSIFICATION

1.1 SCOPE

- 1.1.1 The City of Austin (COA) Electric Utility Department is hereinafter referred to as Austin Energy (AE). Austin Energy requires a qualified Vendor to provide an Overhead Primary Metering Rack (OPMR).
- 1.1.2 The OPMR shall support instrument transformers mounted on prefabricated aluminum frame..
- 1.1.3 A Manufacturer is qualified, if the Manufacturer has provided technical support and sold Meter to Industry and Utilities for a period of ten (10) years, without lapse in service.

2.0 APPLICABLE SPECIFICATIONS

- 2.1 The OPMR design and functionality shall comply with current industry design standards for safe operation. The CT's and PT's materials, construction, accuracy, and testing shall be in accordance with the institute of Electrical and Electronic Engineers Standard: IEEE std C57.6-2005.

3.0 GENERAL REQUIREMENTS

- 3.1 The OPMR shall be designed for three- phase primary metering applications.
- 3.2 The OPMR shall consist of current transformers (CT's) and voltage transformer (VTs) mounted on an aluminum frame and wired to a terminal strip inside of a NEMA 3R junction Box.
- 3.3 The OPMR shall be equipped for pole mount installation.
- 3.4 The OPMR shall consist and connect one set of surge arresters on High voltage connection.
- 3.5 The high voltage connections between high side of CT's, VT's , main distribution line(12.47KV/7200) and jumper between them shall be via insulated cable.
- 3.6 The voltage pigtails shall be protected to overhead lines. (Shall require 6ft length for pigtails)
- 3.7 Insulate connections (tape, heat shrink, guards) for Animal Protection.
- 3.8 Use compression lugs with inhibitors SS bolts & lock washers, silicon bronze nuts high voltage leads.
- 3.9 OPMR Assembly Requirements
 - 3.9.1 Stainless steel hardware shall be used in the construction of OPMR assembly.
 - 3.9.2 All secondary wiring shall be 10 AWG THHN/THWN wire enclosed in flexible, liquid-tight, armored 1" flexible conduit.

3.9.3 Secondary wiring shall terminate inside the NEMA 3R Junction box on a screw-type terminal strip.

3.9.4 Each instrument transformer shall have anodized aluminum nameplate and connection diagram.

3.10 OPMR Mounting Bracket Requirements

3.10.1 The mounting bracket shall be constructed of aluminum. Pre-punched channel shall be provided to accommodate 5/8" through-bolts for pole mounting.

3.10.2 The oval eye nuts shall be provided for lifting.

3.11 Voltage Transformer Requirements

3.11.1 Insulation of three (3) voltage transformer (VT's) shall be Dry type, Hy-Bute-60, or Hydro Cycloaliphatic Epoxy (HCEP) for outdoor use.

3.11.2 The configurations for VT shall be three- Phase (3 ϕ), four wire system.

3.11.3 The VT's shall size for 12.47KV Y/7200 voltage class, 60:1 ratio, with 0.3% meter accuracy with impulse rating of 60-200 KV BIL.

3.11.4 The VT's shall be rated for 50/60 Hertz system.

3.11.5 The VT's conduit box shall be cast aluminum, removable, 1" threaded hubs.

3.11.6 The VT's Nameplate shall Anodized aluminum.

3.11.7 The VT's shall be wired at the factory to four type terminal block located in the conduit box.

3.11.8 All VT's wiring shall be #10 AWG copper and terminated with insulated ring type compression terminators.

3.11.9 The Manufacturer shall provide test reports for VT's at the time of shipment.

3.11.10 The VT's factory wiring shall be according to the Austin Energy standard color code as listed below:

Phase Identification Voltage	Terminal Block Position (Left to Right)	Wire Color Code
Voltage (A ϕ) (V1)	1	Orange
Voltage (B ϕ) (V2)	2	Yellow
Voltage (C ϕ) (V3)	3	Blue
Voltage Return (VN) (Ground/Neutral)	4	White

3.12 Current Transformer Requirements

- 3.12.1 Insulation of three (3) current transformers (CT's) shall be Dry type, Hy-Bute-60, or Hydro Cycloaliphatic Epoxy (HCEP) for outdoor use.
- 3.12.2 The configurations for (3) CT shall three- Phase (3 \emptyset), four wire system.
- 3.12.3 The (3) CT's 1000:5 shall be 0.15S% meter accuracy from 1% of Inom through rating factor of 1.5 at 55⁰C: ABB Style number E-923A433G02 or equivalent with impulse rating of 60-200 KV BIL.
- 3.12.4 The CT's shall be rated for 50/60 Hertz system.
- 3.12.5 The CT's conduit box shall be cast aluminum, removable, 1" threaded hubs.
- 3.12.6 The CT's Nameplate shall be anodized aluminum.
- 3.12.7 The CT's shall be wired at the factory to six current shorting terminal blocks located in the conduit box.
- 3.12.8 All CT's wiring shall be #10 AWG copper and terminated with insulated ring type compression terminators.
- 3.12.9 The Manufacturer shall provide test reports for CTs. The CT's factory wiring shall be according to the Austin Energy standard color code as listed below:

Phase Identification Current	Terminal Block Position (Left to Right)	Wire Color Code
Current (A \emptyset)	1	Red
Current Return (A \emptyset)	2	Red
Current (B \emptyset)	3	Black
Current Return (B \emptyset)	4	Black
Current (C \emptyset)	5	Green
Current Return (C \emptyset)	6	Green

4.0 WARRANTY

A warranty shall be with the proposal that provides protection for the Overhead Primary Metering Rack and all components parts against all manufacturing and design defects. The warranty shall remain in force for twelve months from date of

installation, not to exceed eighteen months from date of shipment. The warranty shall cover the cost of freight both ways for repair work done at the factory.

5.0 SHIPMENT COST

The bid proposal shall include packaging and freight shipment cost to business address destination.

6.0 RECOMMENDATION

6.1 General Electric