RULE 15

RULE 15 - METERS -- SECONDARY SERVICE UNDER 600 VOLTS -- INSTRUMENT TRANSFORMER INSTALLATIONS

a. Instrument Transformers:

PPL EU furnishes current transformers, current transformer mounting device, meter panel, and voltage transformers when instrument transformer metering is specified.

b. Outdoor and Indoor Installations:

PPL EU furnishes instrument transformers and their mounting devices. Customer furnishes, installs and maintains an approved outdoor metal cabinet and installs instrument transformers and their mounting in the cabinet. See **Sketch #8 , Sketch #8B, Sketch #9, Sketch #10, Sketch #10A, Sketch #11, Sketch #12, Sketch #13, Sketch #29B** and **Sketch #29C**.

PPL EU also furnishes and installs wiring between the instrument transformers and meters.

Customer installs, owns and maintains 1-1/4 inch minimum, galvanized rigid or intermediate steel conduit and fittings for PPL EU's meter cable between the instrument transformers to the meter panel. Schedule 40 PVC may be used unless PPL EU determines that conduit would be prone to physical damage.

Prior approval from Supervisor-Metering Services is required to install indoor instrument transformer cabinet, see **Sketch #14, Sketch #14A, Sketch #14B,**

Sketch #15 and **Sketch #15A**.

c. <u>Service Conductor Connection in Instrument Transformer Cabinet</u>:

The line, load and neutral terminals of the current transformer mounting device in an instrument transformer cabinet shall be the only terminals used for termination of service conductors. Each connector shall accommodate only one conductor, 400A maximum. Taps and bugs are not permitted in the instrument transformer cabinet.

PPL EU requires that no connection be made from line side of instrument transformer to other meters or mounting devices. Multiple circuits are permitted on load side terminals only.

d. <u>Location of Metering</u>:

PPL EU specifies the location of all instrument transformers and requires that they are installed on the line side of the service protective equipment.

Instrument transformers may be installed on the load side of service protective equipment when required by the NEC.

e. <u>Switchgear</u>:

Prior approval from PPL EU is required for customer to install instrument transformers in switchgear. Instrument transformers are installed on the line side of the main service disconnect. See **Sketch #21, Sketch #23** and **Sketch #50**.

Two separate compartments are required for line termination and instrument transformer metering. Each compartment shall have a sealable, hinged full screen door for access to equipment.

Isolating barriers, made of insulating material, shall be installed to separate the metering compartment from all other compartments.

Switchgear manufacturers furnish filler bars in compliance with UL or any other applicable industry standards, See **Sketch #21**, **Sketch #23** and **Sketch #50**.

Prior to manufacture of switchgear, detailed (front view, side view and one line drawing) drawings of the metering and termination compartments must be submitted to PPL EU.

Meter panels or meters shall not be installed in or on the switchgear. Customer owned equipment shall not be installed in the termination or metering compartments.

f. <u>Current Limiting Fuses</u>:

PPL EU requires 48” minimum clearance between top of conduit and base of bus bars. See **Sketch #21**, **Sketch #23** and **Sketch #50**.

g. Current Transformer Polarity:

Customer installs current transformers with white dot and/or H1 polarity connected to the line side of service cables.

h. Meter Panel and Conduit:

PPL EU furnishes and specifies location of meter panel. Customer installs meter panels at the location specified by PPL EU. See **Sketch #8C and #8D**.

For metering conduit runs 50 feet and all substation metering conduit runs, approval by Metering Support is required.

- 1-1/2 inch minimum threaded galvanized or intermediate rigid steel or gray Schedule 40 PVC conduit is required
- Elbows and LBs in conduit runs shall be galvanized rigid or intermediate steel conduit
- LR condulets are not permitted
- All bends shall have at least a 24 inch radius
- No more than three 90 degree bends shall be installed

PPL EU furnishes, installs and connects the metering cable from the instrument transformers to the meter panel.

i. Pad Mounted Metering and Service Termination Cabinet:

Prior approval from PPL EU is required for customers to install Pad Mounted Metering and Service Termination Cabinets.

Separate compartments are required for PPL EU and Customer use. Each compartment shall have a sealable, triple hinged door for access to equipment.

Prior to manufacture of cabinet, a detailed drawing must be submitted to PPL EU.

Refer to the approved switchgear metering and termination compartment table (**Table 1**) for pre-approved Pad Mounted Metering and Service Termination Cabinets. Cabinets not already on the preapproved list must have detailed construction drawing submitted to PPL EU for approval by the area design supervisor prior to construction.

Customer owned equipment shall not be installed in or on the compartment.

Location of meter panel must be approved by Supervisor Metering Services.

See Sketch #16, Sketch #16A and Sketch #16B.

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