

## **UTILITY METERING – UNL LINCOLN CAMPUS**

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### **Summary**

**Applicability:** Each utility must be metered at each building. UNL buildings may use utilities provided from the central campus utility systems, municipal providers, or a combination of the two. All meters must be connected to the UNL BAS.

**Applicable Utilities:** For purposes of these Guidelines, “utilities” include electricity, steam and/or steam condensate, chilled water, natural gas and potable water. In some situations, a building may use heating water produced in a different UNL building, and that too shall be metered according to this section. Where landscape irrigation systems are served from a building potable water system, a deduct water submeter is required.

**Submeters:** Some UNL buildings serve spaces occupied by separate administrative units or even non-UNL entities. In those cases, submeters must be provided to correctly apportion utility costs among the various entities. Submeters may also be required as used on the 2019 T.E.T. req. 049 with a UNL utility or a municipal utility, which then selects the meter(s), and provides information for final design. Meter costs are included in the total

### ***Details***

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**General Requirement:** Each utility shall be metered at each building or facility. When electricity is provided to the building at several voltages, each voltage is considered a separate utility requiring its own meter.

### ***Meter Location, Number and Type***

**Building with no Auxiliary Enterprise:** There shall be a single meter at the service entrance of each utility serving the building.

**Building Housing Auxiliary Enterprises:** A separate meter shall be installed for each utility serving each enterprise, as well as meters for each utility serving any non-auxiliary enterprise portion of the building. When specifically permitted by UEM, the entire building may be metered by master meters for each utility, with individual meters for each auxiliary enterprise

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(3) The designer shall incorporate selected meters, along with appropriate piping and wiring drawings, into the 95% review documents.

(4) UEM purchases the selected meters and provides them to the contractor for installation.

(5) The cost of each meter is assessed against the project.

**Meter Outputs.** Each meter shall have a local display showing instantaneous and/or total values in digital form. In addition, each meter shall be connected to the UNL Building Automation System (BAS). Meter outputs are transmitted to the BAS using low-voltage analog signals, switch (pulse) closures or digitally, depending on the meter. In some cases, low-voltage AC or DC power to the meter may also be transmitted in the same cables or the same conduit.

**Connection to BAS.** The 95% drawings shall include continuous conduit paths from each meter connection point to the UNL BAS. When possible, meters provided by a municipal utility shall include a connection for use by the BAS. If this is not possible, then an additional meter, selected by UEM, shall be installed to provide that connection.

### ***Electric Meters***

(1) Buildings Served by UNL, General Requirements:

- a. Meter socket will be provided as part of the Project. Meter will be furnished and installed by UNL.
- b. For all electrical services provide a 20 amp rated, instrument transformer type meter socket with integral test switch and with current transformers.
- c. Meter sockets shall be installed outside of the building. It is UNL preference that the meter socket be installed directly onto the service transformer enclosure. Where not possible to install onto the transformer, meter socket shall be mounted on the building exterior and a CT cabinet shall be provided.
- d. Panel Mounted Meter: In addition to the main electric meter described above, the Project shall provide a second meter integral to the building main distribution panel, switchboard or switchgear.

### ***Natural Gas Meters***

Buildings Served by UNL, meter requirements be based on the meter selected by UNL. In

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Flow Meter, straight pipe: The meter loop shall provide straight, unobstructed pipe for at least 10

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point(s) of service. UEM will determine whether and where these additional water meters are required no later than design document stage.

Fire Service: A separate meter is not required.