

GG292-14

1003.2.1

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Revise as follows:

1003.2.1 Metering devices. Dedicated individual utility or private metering devices that measure and verify energy and water use within the building or space shall be provided for electrical energy and water consumption for individual tenant spaces and at least one of the following:

- ~~1. Electrical energy consumption for individual tenant spaces.~~
- ~~2. Water consumption for individual tenant spaces.~~
13. Natural gas or fuel oil consumption for individual tenant spaces.
24. Lighting loads.
35. Motor and drive loads.
46. Chiller part-load efficiency.
57. Cooling loads.
68. Economizer and heat recovery loads.
79. Boiler efficiencies.
840. Building process systems and equipment loads.
944. Water consumption for landscape irrigation.

Reason: When an existing building is undergoing sufficient alteration, repair, addition, maintenance and operation to trigger this code, the installation of energy and water meters for each individual tenant space should be required, not an option.

Meters provide building residents, owners and operators with critical data to: reduce energy/water/utility use; reduce energy/water/utility costs; improve overall building operations, including targeting of needed repairs; and improves equipment operations.

Metering electric and water use is the single most effective conservation measure. Unmetered water consumption is reduced 15-30 percent when metering and commodity rates are implemented. Metering individual tenant spaces for water supports the early detection and repair of leaks and damaged fixtures which can contribute to hazardous and unsafe conditions such as mold growth, bathroom slip and fall, and ice accumulation.

Bibliography:

Alliance for Water Efficiency, <http://www.allianceforwaterefficiency.org/1Column.aspx?id=708&terms=metering>

"Release 3.0: Operations and Maintenance Best Practices, A Guide to Achieving Operational Efficiency," U.S. Department of Energy, Federal Energy Management Program, August, 2010.
http://www1.eere.energy.gov/femp/pdfs/omguide_complete.pdf

Cost Impact: Will increase the cost of construction. According to the U.S. Department of Energy, the average installed cost of an electric meter is \$1,500; the Alliance for Water Efficiency estimates that installed water meters meeting standards set by the American Water Works Association and state regulatory requirements cost \$220-800. Other issues, including the location of the service line, affected hardscapes, and the possible need for rewriting, could increase or decrease those costs.

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