

**(Effective until July 1, 2020)**

**WAC 51-11C-40903 Section C409.3—End-use metering.**

**C409.3 End-use metering.** Meters shall be provided to collect energy use data for each end-use category listed in Sections C409.3.1 through C409.3.2. These meters shall collect data for the whole building or for each separately metered portion of the building where not exempted by the exception to Section C409.1. Multiple meters may be used for any end-use category, provided that the data acquisition system totals all of the energy used by that category.

EXCEPTIONS:

1. HVAC and water heating equipment serving only an individual dwelling unit or sleeping unit does not require end-use metering.
2. Separate metering is not required for fire pumps, stairwell pressurization fans or other life safety systems that operate only during testing or emergency.
3. End use metering is not required for individual tenant spaces not exceeding 2,500 square feet in floor area when a dedicated source meter meeting the requirements of Section C409.4.1 is provided for the tenant space.

**C409.3.1 HVAC system energy use.** This category shall include all energy including electrical, gas, liquid fuel, district steam and district chilled water that is used by boilers, chillers, pumps, fans and other equipment used to provide space heating, space cooling, dehumidification and ventilation to the building, but not including energy that serves process loads, water heating or miscellaneous loads as defined in Section C409.3. Multiple HVAC energy sources, such as gas, electric and steam, are not required to be summed together.

EXCEPTIONS:

1. All 120 volt equipment.
2. 208/120 volt equipment in a building where the main service is 480/277 volt power.
3. Electrical energy fed through variable frequency drives that are connected to the energy metering data acquisition center.

**C409.3.2 Water heating energy use.** This category shall include all energy used for heating of domestic and service hot water, but not energy used for space heating.

EXCEPTION: Water heating energy use less than 50 kW does not require end-use metering.

[Statutory Authority: RCW 19.27A.025, 19.27A.160, and 19.27.074. WSR 16-03-072, § 51-11C-40903, filed 1/19/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.025 and chapters 19.27 and 34.05 RCW. WSR 13-04-056, § 51-11C-40903, filed 2/1/13, effective 7/1/13.]

**(Effective July 1, 2020)**

**WAC 51-11C-40903 Section C409.3—End-use metering.**

**C409.3 End-use metering.** Meters shall be provided to collect energy use data for each end-use category listed in Sections C409.3.1 through C409.3.7. These meters shall collect data for the whole building or for each separately metered portion of the building where not exempted by the exception to Section C409.1. Not more than 10 percent of the total connected load of any of the end-use metering categories in Sections C409.3.1 through C409.3.6 is permitted to be excluded from that end-use data collection. Not more than 10 percent of the total connected load of any of the end-use metering categories in Sections C409.3.1 through C409.3.6 is permitted to consist of loads not part of that category. Multiple meters may be used for any end-use category, provided that the data acquisition system totals all of the energy used by that category. Full-floor tenant space submetering data shall be provided to the tenant in accordance with Section C409.7, and the data shall not be required to be included in other end-use categories.

- EXCEPTIONS:**
1. HVAC and service water heating equipment serving only an individual dwelling unit or sleeping unit does not require end-use metering.
  2. Separate metering is not required for fire pumps, stairwell pressurization fans or other life safety systems that operate only during testing or emergency.
  3. End use metering is not required for individual tenant spaces not exceeding 2,500 square feet in floor area when a dedicated source meter meeting the requirements of Section C409.4.1 is provided for the tenant space.
  4. Health care facilities with loads in excess of 150 kVA are permitted to have submetering that measures electrical energy usage in accordance with the normal and essential electrical systems except that submetering is required for the following load categories:
    - 4.1. HVAC system energy use in accordance with the requirements of Section C409.3.1.
    - 4.2. Service water heating energy use in accordance with the requirements of Section C409.3.2.
    - 4.3. Process load system energy in accordance with the requirements of Section C409.3.5 for each significant facility not used in direct patient care including, but not limited to, food service, laundry and sterile processing facilities, where the total connected load of the facility exceeds 100 kVA.
  5. End-use metering is not required for electrical circuits serving only sleeping rooms and guest suites within Group R-1 occupancies. This exception does not apply to common areas or to equipment serving multiple sleeping rooms.

**C409.3.1 HVAC system energy use.** This category shall include all energy including electrical, gas, liquid fuel, district steam and district chilled water that is used by boilers, chillers, pumps, fans and other equipment used to provide space heating, space cooling, dehumidification and ventilation to the building, but not including energy that serves process loads, service water heating or miscellaneous loads as defined in Section C409.3. Multiple HVAC energy sources, such as gas, electric and steam, are not required to be summed together.

- EXCEPTIONS:**
1. 120 volt equipment.
  2. An HVAC branch circuit where the total MCA of equipment served equates to less than 10 kVA.
  3. Individual fans or pumps that are not on a variable frequency drive.

**C409.3.2 Service water heating energy use.** This category shall include all energy used for heating of domestic and service hot water, but not energy used for space heating.

**EXCEPTION:** Service water heating energy use less than 50 kVA does not require end-use metering.

**C409.3.3 Lighting system energy use.** This category shall include all energy used by interior and exterior lighting, including lighting in parking structures and lots, but not including plug-in task lighting.

**C409.3.4 Electric vehicle charging energy use.** This category shall include all energy used for electric vehicle charging. For buildings exempt from data collection systems, the data from these meters is permitted to either be stored locally using a manual totalizing meter or other means at the meter or fed into a central data collection system.

**C409.3.5 Plug load system energy use.** This category shall include all energy used by appliances, computers, plug-in task lighting, and other equipment or equipment covered by other end-use metering categories listed in Section C409.3. In a building where the main service is 480/277 volt, each 208/120 volt panel is permitted to be assumed to serve only plug load for the purpose of Section C409, unless it serves nonresidential refrigeration or cooking equipment.

**EXCEPTION:** Where the total connected load of all plug load circuits is less than 50 kVA, end-use metering is not required.

**C409.3.6 Process load system energy use.** This category shall include all energy used by any nonbuilding process load including, but not limited to, nonresidential refrigeration and cooking equipment, laundry equipment, industrial equipment, and stage lighting.

**EXCEPTION:** Where the process load energy use is less than 50 kVA end-use metering is not required.

**C409.3.7 Full-floor tenant space electrical submetering.** In a multi-tenant building where more than 90 percent of the leasable area of a floor is occupied by a single tenant, an electrical energy use display shall be provided to the tenant in accordance with the requirements of Section C409.4.3. Electrical loads from areas outside of the tenant space or from equipment that serves areas outside the tenant space

shall not be included in the tenant space submetering. A single display is permitted to serve multiple floors occupied by the same tenant.

[Statutory Authority: RCW 19.27A.020, 19.27A.025, 19.27A.160 and chapter 19.27 RCW. WSR 19-24-040, § 51-11C-40903, filed 11/26/19, effective 7/1/20. Statutory Authority: RCW 19.27A.025, 19.27A.160, and 19.27.074. WSR 16-03-072, § 51-11C-40903, filed 1/19/16, effective 7/1/16. Statutory Authority: RCW 19.27A.020, 19.27A.025 and chapters 19.27 and 34.05 RCW. WSR 13-04-056, § 51-11C-40903, filed 2/1/13, effective 7/1/13.]