

CEC2D-5-23

IECC CE: C403.18 (New), C403.18.1 (New), C403.18.2 (New), TABLE C403.18.2 (New), C403.18.3 (New), C403.18.4 (New), C403.18.5 (New), C403.18.6 (New)

Proponents:

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2024 International Energy Code[CE Project] R3

Add new text as follows:

C403.18 Non-electrical energy monitoring.

New buildings with a gross conditioned floor area of not less than 10,000 square feet (929 m²) shall be equipped to measure, monitor, record and report consumption of non-electrical fuel or energy sources including district heating or cooling shall be metered in accordance with Sections C403.18.1 through C403.18.5. A plan for quantifying annual energy type and end-use disclosure in compliance with Sections C403.18.1 through C403.18.6 shall be submitted with the *construction documents*.

Exceptions:

1.	<i>Dwelling units</i> in R-2 occupancies
2.	Individual tenant spaces are not required to comply with this section provided that the space has its own utility services and meters and has less than 5,000 square feet (464.5 m ²) of <i>conditioned floor area</i> .

C403.18.1 Non-electrical energy metering.

For all non-electrical energy supplied to the *building* and its associated site that serves the *building* and its occupants, meters or other measurement devices shall be provided to collect energy consumption data for each end-use category required by Section C403.18.2.

C403.18.2 End-use non-electrical metering categories.

Meters or other *approved* measurement devices shall be provided to collect energy use data for each end-use category indicated in Table C403.18.2. Where multiple meters are used to measure any end-use category, the data acquisition system shall total all of the energy used by that category. Not more than 5 percent of the measured load for each of the end-use categories indicated in Table C403.18.2 shall be permitted to be from a load that is not within that category.

Exceptions:

1.	HVAC and water heating equipment serving only an individual <i>dwelling unit</i> shall not require end-use metering.
2.	End-use metering shall not be required for fire pumps, stairwell pressurization fans or any system that operates only during testing or emergency.
3.	End-use metering shall not be required for an individual tenant space having a floor area not greater than 2,500 square feet (232 m ²) where a dedicated source meter complying with Section C403.18.3 is provided.

TABLE C403.18.2 NON-ELECTRICAL ENERGY USE CATEGORIES

Load Category	Description of End Use
Total HVAC system	Heating, cooling and ventilation, including but not limited to fans, pumps, boilers, chillers and water heating.

Process Load	Any single load that is not included in an HVAC, lighting or plug load category and that exceeds 5 percent of the peak connected load of the whole building, including but not limited to manufacturing equipment and commercial kitchens.
Building operations and other miscellaneous loads	The remaining loads not included elsewhere in this table, including but not limited to vertical transportation systems, automatic doors, motorized shading systems, ornamental fountains, ornamental fireplaces, swimming pools, inground spas and snow-melt systems.
Non-electric hot water heating for uses other than space conditioning	Energy used to generate hot water. Exception: Water heating with design capacity that is less than 10 percent of building service rating.

C403.18.3 Non-electrical meters.

Meters or other measurement devices required by this section shall be configured to automatically communicate energy consumption data to the data acquisition system required by Section C403.18.4. Source meters shall be allowed to be any digital-type meter. Required metering systems and equipment shall have the capability to provide at least hourly data that is fully integrated into the data acquisition system and graphical energy report in accordance with Sections C403.18.4 and C403.18.5.

C403.18.4 Electrical energy data acquisition system.

A data acquisition system shall have the capability to store the data from the required meters and other sensing devices for a minimum of 36 months. The data acquisition system shall have the capability to store real-time energy consumption data and provide hourly, daily, monthly and yearly logged data for each end-use category required by Section C403.18.2. The data acquisition system shall have the capability of providing *building* total peak demand and the time(s) of day and time(s) per month at which the peak occurs. Peak demand shall be integrated over the same time period as the underlying whole *building* meter reading rate.

C403.18.5 Graphical energy report.

A permanent and readily accessible reporting mechanism shall be provided in the *building* that is accessible by *building* operation and management personnel. The reporting mechanism shall have the capability to graphically provide the non-electrical energy consumption for each end-use category required by Section C403.18.2 not less than every hour, day, month and year for the previous 36 months. The graphical report shall incorporate natural gas interval data or the ability to enter gas utility bills into the report.

C403.18.6 Plan for disclosure.

The plan for annual energy use data gathering and disclosure shall include the following:

1.	Property information including: <table border="1" style="margin-left: 20px;"> <tr> <td>1.1.</td> <td>Address</td> </tr> <tr> <td>1.2.</td> <td>Gross floor area</td> </tr> <tr> <td>1.3.</td> <td>Year occupied</td> </tr> <tr> <td>1.4.</td> <td>Occupancy classifications, with respective floor areas</td> </tr> </table>	1.1.	Address	1.2.	Gross floor area	1.3.	Year occupied	1.4.	Occupancy classifications, with respective floor areas
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2.	Total annual <i>building site</i> energy use by unit area as collected or documented through Section C408.18.5 sources, separated by energy type and fuel type.								
3.	Annual site generated renewable energy by unit area.								

Reason:

It is confusing and illogical to include non-electrical monitoring requirements embedded in the electrical monitoring requirements in the Electrical Power and Lighting Systems section. Including non-electrical metering requirements with the electrical requirements will make it difficult for the design, specification, construction, and AHJ professionals to use the code because they practice in different Master Specification divisions than the electrical professionals. The professionals practicing in the non-electrical division will not find the non-electrical monitoring requirements if they are placed in the Electrical Power and Lighting Systems section of the code. Therefore, the non-electrical monitoring requirements must be moved to another section.

Cost Impact:

The code change proposal will neither increase nor decrease the cost of construction.

This is an editorial change.