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601.3, 601.3.3 (New), 612 (New), 612.1 (New), 612.2 (New), 612.2.1 (New), 612.2.2 (New), 612.2.3 (New), 612.2.4 (New), 612.3 (New), 612.3.1 (New), 612.3.2 (New), 612.3.3 (New), 612.3.4 (New), 612.3.5 (New)

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Revise as follows:

601.3 Application. Buildings and their associated building sites shall comply with Section 601.3.1, ~~or~~ Section 601.3.2 or Section 601.3.3.

601.3.3 Operational energy use confirmation. Buildings shall comply with Sections 603, 610, 611, 612 and the total building performance compliance path in Section C407 of the *International Energy Conservation Code*.

612 OPERATIONAL ENERGY USE CONFIRMATION

612.1 Operational energy use limit. Buildings shall be designed according to total building performance criteria of Section C407 of the *International Energy Conservation Code*. The annual energy cost calculated for the *proposed design* shall be less than 85 percent of annual energy cost calculated for the *standard reference design*.

612.2 Demonstration period for operating energy use. The actual energy cost of the occupied building shall be less than 85 percent of annual energy cost calculated for the *standard reference design* for at least one 12-month recording period concluding within three years of the date of issuance of the Certificate of Occupancy.

The building shall be at least 75 percent occupied during the recording period. The energy cost for the *standard reference design* shall be adjusted according to Section 612.3. The owner shall notify the *code official* when this 12-month recording period has been successfully completed. The owner shall submit to the code official either certified copies of the utility bills for the recording period or a Portfolio Manager Energy Performance Report. The documentation shall indicate the occupancy type for each building tenant, the amount of conditioned floor area occupied by that tenant and the calendar time period during which that area of the building was occupied.

612.2.1 Issuance of temporary certificate of occupancy. Upon the satisfaction of the code official of compliance with all code provisions other than Section 612, the code official shall issue a *Temporary Certificate of Occupancy* according to Section 111.3 of the *International Building Code*.

612.2.2 Certificate of occupancy. Upon compliance with the provisions of Section 612.2, the *building* shall be issued a *Certificate of Occupancy.*

612.2.3 Non-compliance. Where the building fails to comply with Section 612.2, a notice of violation shall be issued.

612.2.4. Extension of demonstration period. For good cause, including conditions where less than 75 percent of the building is occupied, the *code official* is authorized to extend the demonstration period for one additional year. If the building is not at least 75 percent occupied after three additional one-year periods, the *code official* shall evaluate compliance with Section 612.2 based on the most recent one-year period and adjusted for the actual occupancy rate during that period.

612.3 Modifications for actual operating conditions. Where the operating conditions of the occupied building differ from those used for Total Building Performance calculations during the recording period, the *standard reference design* shall be modified according to the applicable provisions of Sections 612.3.1 through 612.3.5 and compliance shall be based upon the revised *standard reference design*.

612.3.1 Adjustment for change in use or occupancy. Where the use or occupancy of the building or a portion of the building changes from that identified in the permit submittal, the assigned energy performance target shall be adjusted to reflect the new occupancy.

612.3.2 Optional adjustment for change in occupancy characteristics. Where the actual occupant density, plug load density, operating hours or other occupancy characteristics are substantially different from those assumed in the *standard reference design*, the *standard reference design* is permitted to be revised to reflect those actual occupancy characteristics, subject to approval of the code official.

612.3.3 Optional adjustment for change in process loads. Where actual process loads are substantially different from those assumed in the *standard reference design*, the *standard reference design* is permitted to be revised to reflect the actual process loads, subject to approval of the code official.

612.3.4 Adjustment for partial occupancy. Where a portion of the floor area of the building is unoccupied during the demonstration period, the *standard reference design* shall be revised to reflect a weighted monthly average of the actual percentage of floor area occupied.

612.3.5 Adjustment for utility cost changes. Where the unit energy costs differ from the costs used in the *standard reference design*, the *standard reference design* shall be revised accordingly.

Reason: This proposal provides an optional compliance pathway ensuring that the building functions optimally when it is fully occupied and operating, essentially extending the concept of "commissioning" into that time period.

Using this pathway, a motivated building owner will be provided with a straightforward means to focus the whole project development team on the actual energy use, rather than just the energy model. It can be difficult and time-consuming to determine the cause of sub-par performance, in which case the issue is often simply dropped. Such performance problems might be due to design errors, construction defects, malfunctioning equipment or controls, incorrect system settings, operator errors, or occupant use of the space, but with traditional code compliance methods no one has responsibility to go looking for the cause, or even to know that the building is performing poorly.

The energy use limits in this pathway are determined using the IECC "Total Building Performance" modeling protocol, which limits modeled energy use to 85 percent of the "standard reference design." The building must operate within its calculated energy limit for a 12-month period sometime during the first three years after construction. Buildings following this protocol are likely to perform significantly better than comparable buildings that simply begin operations without any further tracking or evaluation.

By using standardized IECC energy modeling protocol, rather than CBECS-based targets, this proposal provides a more nuanced standard, specific to the building and local climate. It is "energy cost" based, which allows use of the same energy model as the IECC, and greatly simplifies compliance verification for code officials – the code official simply looks at the certified utility bills.

A building that "really" performs at high level is far more important than an energy model or code compliance pathway that "theoretically" performs at a high level. Attaining such performance is important to society, and important to the owner who paid for that performance.

Cost Impact: Will not increase the cost of construction. Because it is an optional compliance path, this proposal does not increase the cost of construction.

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