Revise section 1201(c)3 ventilation

See attached letter.

Additional submitted attachment is included below.

July 26, 2021

To: California Energy Commission
Subject: Title 24 Part 6 15-day language - Section 120.1(c)3.

On behalf of Taylor Engineering, I am submitting the following comment on Section 120.1(c)3. Exception 1:

EXCEPTION 1 to Section 120.1(c)3: Designed Occupancy requires that the AHJ allows this option to occur by the reference to "the Exception to Section 1004.5 of the CBC":

"Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load."

Having to get approval from the AHJ is an unnecessary burden to designers, and also is not necessary – exiting can be designed for a greater number of people than the ventilation system is designed for. Instead, delete "per the Exception to Section 1004.5 of the CBC" and reinstate the assumption in earlier versions of Title 24, and Table 120.1-A, that specifies that the density of occupants shall not be less than half of the exiting density required by CBC Chapter 10. This assumption is what is built into the area rate in Table 120.1-A, per footnote 1. Why not allow this assumption to be made for this Exception?

Note that ASHRAE Guideline 36 control sequences require the use of this exception in order to disaggregate the occupant and area components of the ventilation rate in order to properly implement CO_2 demand-controlled ventilation and properly use occupancy sensors which indicate whether the occupant component is needed. Guideline 36 requires that users separately enter these two values: Section 3.1.1.2 of Guideline 36-2018, requires that the engineer enter these two values for each zone:

b. For projects complying with California Title 24 ventilation standards:

1. ***Vocc-min.*** Zone minimum outdoor airflow for occupants, per California Title 24 prescribed airflow-per-occupant requirements.

2. ***Varea-min.*** Zone minimum outdoor airflow for building area, per California Title 24 prescribed airflow-per-area requirements.

Research has shown Guideline 36 sequences save considerable energy (see https://taylorengineers.com/wp-content/uploads/2020/04/2018-09-18-Advanced-HVAC-Controls-Case-Study-555-County-Center.pdf for example) so requiring that AHJ's approve of use of this exception almost disallows the use of Guideline 36 and result in significant energy waste.

So please:

1. Delete "per the Exception to Section 1004.5 of the CBC"

2. In the definition of Pz, modify the second sentence: "The expected number of occupants shall be the expected number specified by the building designer, but no less than one half of the maximum occupant load assumed for egress purposes in the CBC."

Better yet, revert back to the 2013 ventilation section which is so much less complicated.

Thank you for considering these comments.

Sincerely,
Taylor Engineering

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Principal