

Memorandum

Prepared For: Department of Energy Resources

Subject: Comments to the Stretch Energy Code

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Date: 8/12/22

Comment #1:

Add the following exception to G3.1.2.5 Ventilation:

5. When designing ventilation systems in accordance with Standard 62.1, Section 6.3, “Indoor air quality procedure” and when using air cleaning, reduced ventilation airflow rates may be calculated for each HVAC zone in the proposed design while considering air cleaning efficiency ($E_f > 0$). Baseline ventilation airflow rates in those zones shall be calculated per Section 403.3 of the 2021 International Mechanical Code.

Reason:

Section 403.2.2 Ventilation of the 2021 IECC allows for minimum outdoor airflow rates to be determined in accordance with (a) prescriptive ventilation rates under Table 403.3.1.1 of the 2021 IMC or (b) an engineered ventilation systems design as defined by Section 403.2 of the 2021 IMC. The latter approach may lead to a more efficient design by incorporating source control or removal measures, including air cleaning, to offset a portion of the outside air requirement under the prescriptive ventilation rate approach. Despite these two approaches for determining minimum outdoor airflow rates, baseline and proposed case ventilation rates must be the same. As such, the IECC does not enable design teams using an engineered ventilation system design to take energy credit for a more energy efficient engineered ventilation systems design. The proposed change fixes this. Note that the IMC also refers to the “engineered ventilation system design as the “Indoor Air Quality Procedure in ASHRAE Standard 62.1”.

According to Section 403.2 of the 2021 IMC, “Where a registered design professional demonstrates that an engineered ventilation system design will prevent the maximum concentration of containments from exceeding that obtainable by the rate of outdoor air ventilation determined in accordance with Section 403.3, the minimum required rate of outdoor air shall be reduced in accordance with such engineered system design.” In other words, when source-control and/or removal measures are incorporated into an engineered ventilation system design, minimum outside airflow may be lowered to account for the efficiency of the source-control and/or removal measures. Using this approach, the implemented source-control and/or removal measures may offset a portion of the outside air required by conventional ventilation system designs sized using prescriptive ventilation rates found in Table 403.3.1.1 in order to achieve a more energy efficient design.

The proposed change will allow design teams using an engineered ventilation systems design to take energy credit for a more energy efficient engineered ventilation systems design in accordance with Section 403.2 of the 2021 IMC. This is currently not allowed because baseline and proposed case ventilation rates must be the same as per Table C407.4.1(1).

Comment #2:

Add the following exception to C403.7.5.2 Spaces Other Than Nontransient Dwelling Units

3. When using air cleaning in compliance with the ASHRAE 62.1 Indoor Air Quality Procedure and the design ventilation rates are 75% less than ventilation rates required by Section 403.3 of the International Mechanical Code.

Reason:

A 75% reduction in ventilation airflow (relative to prescriptive ventilation rates), in compliance with the IAQP, is equivalent to a 75% effective energy recovery system.

Comment #3:

Add the following exception to C403.7.1 Minimize Reheat

7. Systems where 100% of the supply air is sized per the ASHRAE 62.1 Indoor Air Quality Procedure.

Reason:

Systems designed in compliance with the IAQP may require a central source of return air to flow through the air cleaning system and mix with outside air before it can be supplied to the space.