

Proposal Summary



2022 California Energy Code (Title 24, Part 6)

Multifamily Indoor Air Quality - Prescriptive Option for Heat or Energy Recovery Ventilation in Select Climate Zones

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Introduction

The document summarizes proposed revisions to the California Energy Code (Title 24, Part 6) that will be discussed during a utility-sponsored stakeholder meeting on August 22, 2019. The Statewide Utility Codes and Standards Enhancement (CASE) Team is seeking input and feedback. To provide your comments, email info@title24stakeholders.com by September 5, 2019.

Measure Description

A prescriptive option for a heat recovery ventilator (HRV) or energy recovery ventilator (ERV) in certain climate zones.

Draft Code Language

The Energy Commission plans to create a multifamily chapter for inclusion in 2022 Title 24, Part 6. The multifamily chapter will draw from the appropriate sections of the 2019 residential and nonresidential Standards. The Statewide CASE Team uses the language and section numbering from residential and nonresidential Standards and Reference Appendices to show the proposed changes below. Changes to the 2019 documents are marked with red underlining (new language) and ~~strikethroughs~~ (deletions). Expected sections or tables of the proposed code (but not specific changes at this time) are highlighted in **yellow**.

Sample language for high-rise multifamily buildings:

Section 120.1(b)2Aivb

b. The mechanical ventilation system shall comply with one of the following subsections 1, 2 or ~~2 3~~ below. When subsection ~~2 3~~ is utilized for compliance, all dwelling units in the multifamily building shall use the same ventilation system type.

1. ~~A Dedicated~~ balanced ventilation systems serving individual dwelling units shall provide the required dwelling-unit ventilation airflow. ~~For In climates zones 1-2, and 10-16, the dedicated dwelling unit ventilation system shall have sensible heat recovery of at least XX% at design conditions.~~

2. Balanced ventilation systems serving multiple dwelling units shall provide the required dwelling unit ventilation airflow. Systems serving multiple dwelling units with a total exhaust flowrate greater than the total design exhaust airflow rates in table 120.1-D, shall have an energy or heat



recovery system with a sensible heat recovery of at least XX% at design conditions. Provision shall be made to bypass or control the energy recovery system to permit air economizer operation as required by Section 140.4(e).

2.3. Continuously operating supply ventilation systems or continuous operating exhaust ventilation systems shall be allowed to be used to provide the required dwelling unit ventilation airflow if the dwelling-unit envelope leakage is less than or equal to 0.3 cubic feet per minute at 50 Pa (0.2 in. of water) per ft² of dwelling unit envelope surface area as confirmed by field verification and diagnostic testing in accordance with Reference Nonresidential Appendix NA7.18.2.

Table 120.1-D Exhaust Air Energy Recovery Requirements for Central Multifamily Ventilation Systems

Climate Zones	Percent Outdoor Air at Design Conditions			
	≥10% and < 20%	≥20% and < 40%	≥40% and < 60%	≥80%
	Design Airflow Rate, cfm			
1, 2				
10 - 14				
15, 16				

Sample language for low-rise multifamily buildings:

Section 150.0(o)1E

E. Multifamily attached dwelling units shall have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B [ASHRAE 62.2:4.1.1], and comply with one of the following subsections i, ii or iii below. When subsection iii below is utilized for compliance, all dwelling units in the multifamily building shall use the same ventilation system type.

i. ~~A Dedicated~~ balanced ventilation systems serving individual dwelling units shall provide the required dwelling-unit ventilation airflow. ~~For In climates zones 1-2, and 10-16, the dedicated dwelling unit ventilation system shall have sensible heat recovery of at least XX% at design conditions.~~

ii. Balanced ventilation systems serving multiple dwelling units shall provide the required dwelling unit ventilation airflow. Systems serving multiple dwelling units with a total exhaust flowrate greater than xxx cfm, shall have an energy or heat recovery system with a sensible heat recovery of at least XX% at design conditions. Provision shall be made to bypass or control the energy recovery system to permit air economizer operation as required by Section 140.4(e).

iii. Continuously operating supply ventilation systems, or continuously operating exhaust ventilation systems shall be allowed to be used to provide the required dwelling unit ventilation airflow if the dwelling-unit envelope leakage is less than or equal to 0.3 cubic feet per minute at 50 Pa (0.2 inch water) per ft² of dwelling unit envelope surface area as confirmed by field verification and diagnostic testing in accordance with the procedures specified in Reference Residential Appendix RA3.8.

Table 120.1-D to be structured similar to the following from ASHRAE Standard 90.1 which uses IECC climate zones:

Table 6.5.6.1-2 Exhaust Air Energy Recovery Requirements
for Ventilation Systems Operating Greater than or Equal to 8000 Hours per Year

Climate Zone	% Outdoor Air at Full Design Airflow Rate							
	≥10% and <20%	≥20% and <30%	≥30% and <40%	≥40% and <50%	≥50% and <60%	≥60% and <70%	≥70% and < 80%	≥80%
Climate Zone	Design Supply Fan Airflow Rate, cfm							
3C	NR	NR	NR	NR	NR	NR	NR	NR
0B, 1B, 2B, 3B, 4C, 5C	NR	≥19,500	≥9000	≥5000	≥4000	≥3000	≥1500	≥120
0A, 1A, 2A, 3A, 4B, 5B	≥2500	≥2000	≥1000	≥500	≥140	≥120	≥100	≥80
4A, 5A, 6A, 6B, 7, 8	≥200	≥130	≥100	≥80	≥70	≥60	≥50	≥40

NR—Not required