

To: Department of Buildings Customers and Staff
From: Marlene Hopkins, Commissioner
RE: Residential High-Rise Mechanical Ventilation Pilot Program
Date: November 27, 2024

Overview and Authority

Section 14A-10-1003 of the Municipal Code authorizes the Building Commissioner to approve alternative methods for complying with the provisions of the Chicago Construction Codes for individual cases where the alternative design is not specifically prohibited by the Chicago Construction Codes, complies with the intent of the Chicago Construction Codes, and will, in the specific application, result in a building that equals or exceeds one built under the strict requirements of the Chicago Construction Codes. The purpose of the Chicago Building Code is “to establish the minimum requirements to provide a reasonable level of safety, public health and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire, explosion and other hazards, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.” The purpose of the Chicago Mechanical Code (Chapter 18-28 of the Municipal Code) is “to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of mechanical systems.” Both the Chicago Building Code and Chicago Mechanical Code specify that ventilation in non-transient residential units (homes and apartments) is to be provided by natural means (generally, operable windows).

The Department is currently evaluating provisions of the 2024 *International Mechanical Code* (“IMC”) as a basis for an ordinance to be proposed in 2025. The Department is aware that many model building and mechanical codes, including the IMC, allow for mechanical ventilation systems to fully meet requirements for providing fresh air to residential occupants. The Department is also aware that there are specific technical issues with relying on operable windows to provide fresh air in tall buildings. Accordingly, the Commissioner is authorizing this pilot program to allow projects to demonstrate that mechanical-only ventilation systems can meet the intent of the Chicago Construction Codes regarding ventilation of dwelling units in high-rise buildings.

A. Eligible Projects

The following projects are eligible to apply for participation in the pilot program (“eligible projects”):

1. Construction of a Group R-2 (non-transient residential) occupancy in a new high-rise building (over 80 feet in height);
2. Conversion of space in an existing high-rise building to a Group R-2 occupancy; or
3. Rehabilitation of an existing Group R-2 occupancy in an existing high-rise building.

B. Mechanical Ventilation and Exhaust Design

Instead of providing natural ventilation as specified in Section 14B-12-1202.1, exception 2, of the Chicago Building Code and Table 18-28-403.3 of the Chicago Mechanical Code, the project must provide mechanical ventilation and exhaust as follows:

1. The mechanical ventilation and exhaust system(s) in all areas where work will be done as part of the project must be designed and constructed in compliance with the Chicago Mechanical Code as modified by the appendix to this memorandum, which supplements or supersedes certain definitions in Article II and replaces Article IV; and
2. The mechanical ventilation and exhaust system(s) in all areas where work will be done as part of the project must be designed and constructed in compliance with any additional project-specific conditions that are identified by the Department during the Alternative Code Approval Request (ACAR) process.

C. Additional Requirements

As part of a request to participate in this pilot program, the applicant must demonstrate that the project will comply with the following additional requirements:

1. **Sprinkler system.** The entire building must be protected by a new or existing automatic sprinkler system that is substantially compliant with NFPA 13-2016;

2. **Natural light.** Each dwelling unit using the pilot program must comply with the requirements for natural light in Section 14B-12-1204.2 of the Chicago Building Code, without variances;
3. **No combustion or solid-fuel-burning appliances.** No dwelling unit using the pilot program may contain any combustion or solid-fuel-burning appliance; and
4. **Post-fire salvage requirements.** Each story containing a residential occupancy participating in the pilot program must comply with Section 14B-4-403.4.7 of the Chicago Building Code pertaining to smoke removal in post-fire salvage and overhaul operations.

D. Presentation and Interview

Applicants must participate in a one-hour virtual or in-person presentation and interview as part of the application process.

1. The following people must attend and participate: the architect who will be responsible for stamping permit drawings submitted to the department; any engineer who will be responsible for stamping mechanical permit drawings submitted to the department; and a representative of the owner/developer.
2. As part of the presentation, the applicant's team must address the following:
 - a. How the proposed design meets the minimum criteria outlined in Sections A through C, above.
 - b. Projected operating cost of the proposed mechanical system for each type of unit (studio, 1-bed, 2-bed, etc.) on a winter design day and summer design day (assuming 16 ¢/kWh and 65 ¢/therm), and measures taken in the project design to reduce the operating cost.
 - c. How the proposed design addresses maintaining habitable conditions in dwelling units during an extended power failure on a summer design day, winter design day, and spring or fall transitional day.
 - d. Any above-code features of the mechanical system design, such as additional measures to enhance indoor air quality or occupant thermal comfort.
3. The presentation should not exceed 20 minutes. Following the presentation, representatives of the city may ask questions about the pilot program application and proposed design.

E. Inspections and System Commissioning

All mechanical ventilation and exhaust equipment installed pursuant to this pilot program must pass rough and final inspections by a City ventilation inspector before the dwelling unit is occupied. All mechanical ventilation and exhaust equipment installed pursuant to this pilot program must be commissioned in accordance with Section C408 of the Chicago Energy Transformation Code. The Department may require that a draft commissioning plan, as required by Section C408.2.1, be submitted prior to approval for participation in the pilot program.

F. Requests

The residential high-rise mechanical ventilation pilot program will accept requests through **June 30, 2025**, however the Building Commissioner may modify or end the pilot program at any time before that date.

Requests must be submitted on official pilot program request forms, which are available on the Department's web site at www.chicago.gov/buildings > Supporting Information > Alternative Code Approval.

Before submitting a request, the applicant must pay the \$150.00 Alternative Code Approval Request (ACAR) fee to the Department of Finance using an official payment form. A copy of the receipt must be attached to the request as proof of payment.

Requests and proof of payment must be submitted by e-mail to altcodeapproval@cityofchicago.org.

Within 5 business days of the request being submitted, the Department will contact the applicant to schedule the presentation and interview described in Section D or to request additional written information. The Commissioner may waive the requirement for a presentation and interview on a case-by-case basis.

Applicants should allow 5 business days following the presentation and interview for a decision. Decisions will be e-mailed to the applicant.

The applicant must then obtain a building permit for the project and attach a copy of the approved request form to the permit application or permit application drawings.

Questions about the program may be directed to Robert.Fahlstrom@cityofchicago.org.