# ADDENDA

ANSI/ASHRAE/ASHE Addendum i to ANSI/ASHRAE/ASHE Standard 170-2021

# Ventilation of Health Care Facilities

Approved by ASHRAE and the American National Standards Institute on December 29, 2023, and by the American Society for Health Care Engineering on November 22, 2023.

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# FOREWORD

Health care facilities can have a complex variety of roof conditions that must be considered when locating exhaust air discharges. There are several exhaust system typologies at these facilities that require special consideration to protect maintenance personnel and minimize re-entrainment. These conditions may include sloped roofs, variations in roof height, termination with regard to exterior walls, and proximity to outdoor air intakes and operable doors and windows. Addendum i provides clarity on how to address these varied complex situations.

*Informative Note:* In this addendum, changes to the current standard are indicated in the text by <u>underlining</u> (for additions) and <del>strikethrough</del> (for deletions) unless the instructions specifically mention some other means of indicating the changes.

# Addendum i to Standard 170-2021

Revise Sections 6.3.2.2(a) and 6.3.2.2(c) as shown. The remainder of Section 6.3.2.2 is unchanged.

#### 6.3.3.2 Additional Requirements

- a. Exhaust discharge outlets from AII rooms, bronchoscopy and sputum collection exhaust, pharmacy hazardous-drug exhausted enclosures, and laboratory work area chemical fume hoods shall additionally be arranged to discharge to the atmosphere in a vertical direction (with no rain cap or other device to impede the vertical momentum) and at least 10 ft (3 m) above the adjoining roof level. meet the following:
  - 1. A discharge termination shall be a minimum of 10 ft (3 m) above service access level.
  - 2. Discharge termination shall be higher than any roof surface within 4 ft (1.2 m).
  - 3. Discharge termination shall be a minimum of 6 ft (1.8 m) from exterior walls.
  - 4. Discharge termination shall be a minimum of 30 ft (10 m) from outdoor air intakes, openable windows/doors, and areas that are normally accessible to the public.

#### Exceptions to (a):

- 1. All room exhaust that first passes through a high-efficiency particulate air (HEPA) filter.
- 2. If permitted by the AHJ, an alternate location may be used (*Informative Note:* e.g., located adjacent to an air intake but with the exhaust discharge point above the top of the air intake). The submitted re-entrainment analysis shall demonstrate that an exhaust discharge outlet located at a distance less than 30 ft (10 m) horizontally provides a lower concentration of re-entrainment than all the areas located at a distance greater than 30 ft (10 m) horizontally on the roof level where the exhaust discharge is located.
- b. Exhaust discharge outlets from laboratory work area chemical fume hoods shall discharge with a stack velocity of at least 3000 fpm (15.24 L/s).
  - Exception to (b): Lower discharge velocity may be permitted when an engineering analysis can demonstrate that the specific design meets the dilution criteria necessary to reduce concentration of hazardous materials in the exhaust to safe levels at all potential receptors. (See ANSI/AIAH\_AIHA/ASSE Z9.5<sup>3</sup>, Section 2.1.)
- e. Exhaust discharge outlets from AII rooms, bronchoseopy and sputum collection exhaust, and laboratory work area chemical fume hoods shall be located not less than 25 ft (8 m) horizontally from outdoor air intakes, openable windows/doors, and areas that are normally accessible to the public.
  - Exception to (e): If permitted by the AHJ, an alternate location may be used. (*Informative Note:* e.g., located adjacent to an air intake but with the exhaust discharge point above the top of the air intake). The submitted re-entrainment analysis shall demonstrate that an exhaust discharge outlet located at a distance less than 25 ft (8 m) horizontally provides a lower concentration of re-entrainment than all the areas located at a distance greater than 25 ft (8 m) horizontally on the roof level where the exhaust discharge is located.

[...]

### POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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