BSR/ASHRAE/ASHE Addendum t
to ANSI/ASHRAE/ASHE Standard 170-2021

Public Review Draft

Proposed Addendum t to Standard 170-2021, Ventilation of Health Care Facilities

First Public Review (December 2024)
(Draft shows Proposed Changes to Current Standard)

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FOREWORD

Proposed Addendum t updates the normative and informative references to the latest publications. Additionally, any specific paragraph references were also updated to reflect the current paragraph numbering of the updated standard.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum t to 170-2021

Revise Section 6.2.1 as shown below.

6.2.1 AHU Casing. The casing of the AHU shall be designed to prevent water intrusion, resist corrosion, and permit access for inspection and maintenance. All airstream surfaces of AHUs shall comply with ASHRAE Standard 62.1[1], Section 5.11 ~~5.4~~.

Revise the Exception to Section 6.3.1.1 as shown below.

Exception to 6.3.1.1:
1. For gas-fired, packaged rooftop units, the separation distance of the unit's outdoor air intake from its flue may be less than 25 ft (8 m). The separation distance shall be greater than or equal to the distance prescribed in ASHRAE Standard 62.1[1], Section 5.4.1.2. ~~Table 5-1, "Air Intake Minimum Separation Distance."~~

Revise the Exception to Section 6.3.2.2(b) as shown below.

Exception to 6.3.2.2(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 Z9.5[3], Section 6.4.6 ~~2.1~~.)

Revise Section 6.3.2.3 and 6.3.3 as shown below.

6.3.2.3 Health Care Facilities with Attached Parking Garages. In order to minimize the entry of vehicular exhaust into occupiable spaces, health care facilities with attached parking garages shall comply with ASHRAE Standard 62.1[1], Section 5.2 ~~5.17~~.

6.3.3 Combustion Air. Fuel-burning appliances, both vented and unvented, shall comply

with ASHRAE Standard 62.1[1], Section 5.15 ~~5.8~~.

Revise Section 6.7.1 as shown below.

6.7.1 General. Maintain the pressure relationships required in Tables 7-1, 8-1, 8-2, and 9-1 in all modes of HVAC system operation, except as noted in the tables. Spaces that have required pressure relationships shall be served by fully ducted return systems or fully ducted exhaust systems. The following additional surgery and critical-care patient care areas that do not require a pressure relationship to adjacent areas shall also be served by fully ducted return or exhaust systems: recovery rooms, critical and intensive care areas, intermediate care areas, and wound intensive care units (burn units). In inpatient facilities, patient care areas shall use ducted systems for return and exhaust air. Where space pressure relationships are required, the air distribution system design shall maintain them, taking into account recommended maximum filter loading, heating-season lower airflow operation, and cooling-season higher airflow operation. Airstream surfaces of the air distribution system shall comply with ASHRAE Standard 62.1[1], Section 5.11 ~~5.4~~. The air distribution system shall be provided with access doors, panels, or other means to allow convenient access for inspection and cleaning.

Revise Table 7-1 Note f as shown below.

f. Higher ventilation rates above the total ach listed shall be used when dictated by the laboratory program requirements and the hazard level of the potential contaminants in each laboratory work area. Lower total ach ventilation rates shall be permitted when a hazard assessment, performed as part of an effective laboratory ventilation management plan per AIHA/ASSE Z9.5[3], determines that either (1) acceptable exposure concentrations in the laboratory work area can be achieved with a lower minimum total ach ventilation rate than is listed in Table 7-1 or (2) a demand control approach with active sensing of contaminants or appropriate surrogates is used as described in ASHRAE Handbook—HVAC Applications[10], Chapter 17 ~~16~~, "Laboratories."

Revise Section 11 as shown below. The remainder of Section 11 is unchanged.

11. NORMATIVE REFERENCES

1. ASHRAE. 2022 ~~2019~~. ANSI/ASHRAE Standard 62.1, *Ventilation and ~~for~~ Acceptable Indoor Air Quality*. Atlanta: ASHRAE.
2. SMACNA. 2020 ~~2005~~. *HVAC Duct Construction Standards, Metal and Flexible*, Third Edition. Chantilly, VA: Sheet Metal and Air Conditioning Contractors' National Association.
3. AIHA/ASSE. 2022 ~~2012~~. ANSI/AIHA/ASSE Z9.5, *American National Standard for Laboratory Ventilation*. Park Ridge, IL: American Society of Safety Engineers.

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5. GPO. 2024 ~~2013~~. *Code of Federal Regulations*, Title 21, Part 173, Section 310, Boiler Water Additives. Washington, DC: U.S. Government Publishing Office. Available at http://https://www.gpo.gov/fdsys/granule/CFR-2011-title21-vol3/CFR-2011-title21-vol3-sec173-310.

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7. USP. 2023. ~~2014. National Formulary USP 795,~~ *Pharmaceutical Compounding—Nonsterile Preparations <795>*. In: USP-NF. Rockville, MD: USP ~~U.S. Pharmacopeial Convention~~.
8. USP. 2024. ~~2019. National Formulary USP 797,~~ *Pharmaceutical Compounding—Sterile Preparations<797>*. In: USP-NF. Rockville, MD: USP ~~U.S. Pharmacopeial Convention~~.
9. USP. 2020. ~~2017. National Formulary USP 800,~~ *Hazardous Drugs—Handling in Healthcare Settings<800>*. In: USP-NF. Rockville, MD: USP ~~U.S. Pharmacopeial Convention~~.

10. ASHRAE. 2023 ~~2019~~. *ASHRAE Handbook—HVAC Applications*. Atlanta: ASHRAE.
11. NIOSH. n.d. Criteria Documents. Atlanta: National Institute for Occupational Safety and Health. Available at https://www.cdc.gov/niosh/docs/2007-151/default.html ~~http://www.cdc.gov/niosh/pubs/criteria_date_desc_nopubnumbers~~. html.

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13. NFPA. 2024 ~~2018~~. NFPA 99, *Health Care Facilities Code.* Quincy, Massachusetts: National Fire Protection Association.
14. ASHRAE. 2022 ~~2016~~. ANSI/ASHRAE Standard 154, *Ventilation for Commercial Cooking Operations*. Atlanta: ASHRAE.
15. NFPA. 2024 ~~2019~~. NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*. Quincy, MA: National Fire Protection Association.
16. NFPA. 2024 ~~2017~~. NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*. Quincy, MA: National Fire Protection Association.
17. ASHRAE. 2022 ~~2016~~. ANSI/ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings. Atlanta: ASHRAE.

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Revise Informative Appendix E as shown below. The remainder of Appendix E is unchanged.

INFORMATIVE APPENDIX E
INFORMATIVE REFERENCES AND BIBLIOGRAPHY

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ASHRAE. 2022a ~~2016a~~. ANSI/ASHRAE Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings.* Atlanta: ASHRAE.

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ASHRAE. 2023a ~~2017a~~. ANSI/ASHRAE Standard 55, *Thermal Environmental Conditions for Human Occupancy*. Atlanta: ASHRAE.

ASHRAE. 2021b ~~2017b~~. *ASHRAE Handbook—Fundamentals*. Atlanta: ASHRAE.

ASHRAE. 2021 ~~2018~~. ASHRAE Standard 188, *Legionellosis: Risk Management for Building Water Systems*. Atlanta: ASHRAE.

ASHRAE. 2022 ~~2019~~. ANSI/ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*. Atlanta: ASHRAE.

ASHRAE 2023 ~~2020~~. ASHRAE Guideline 12, *Managing the Risk of Legionellosis Associated with Building Water Systems*. Atlanta: ASHRAE.

ASTM. 2018 ~~2011~~. ASTM D1193-06 (2018 ~~2011~~), *Standard Specification for Reagent Water.* West Conshohocken,
PA: American Society for Testing and Materials.

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BHFC. 2022 ~~2019~~. *Behavioral Health Design Guide* (Design Guide 9.0). Behavioral Health Facility Consulting, LLC.

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CSA Group. 2019 ~~2015~~. CAN/CSA-Z317.2-15, *Special Requirements for Heating, Ventilation, and Air Conditioning Systems in Health Care Facilities*, Fourth Edition. Toronto: CSA Group.

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NFPA. 2024 ~~2021~~. NFPA 99, *Health Care Facilities Code*. Quincy, MA: National Fire Protection Association