ADDENDA

ANSI/ASHRAE/ASHE Addendum a to
ANSI/ASHRAE/ASHE Standard 189.3-2017

Design, Construction, and Operation of Sustainable High-Performance Health Care Facilities

Approved by ASHRAE, by the American Society for Healthcare Engineering, and by the American National Standards Institute on July 30, 2019.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (https://www.ashrae.org/continuous-maintenance).

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b. participation in the next review of the Standard,
c. offering constructive criticism for improving the Standard, or
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FOREWORD

Addendum a reflects SSPC 189.3 efforts to identify the revisions necessary to align the standard with the 2018 IgCC powered by ASHRAE Standard 189.1-2017, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings.

Significant changes include the following:

- *In Section 6, "Water Use Efficiency," the provisions of this entire section become mandatory, and a requirement for water-bottle filling stations has been added. An exception related to Standard 189.1, Section 6.3.8, "Dual Water Supply Plumbing," has been provided.*
- *In Section 7, "Energy Efficiency," the exception to Section 7.3.4, "Peak Load Reduction" has been carried over and coordinated with this provision, becoming mandatory. Section 7.4.1.1, "On-Site Renewable Energy Systems," has been removed; users should refer to Standard 189.1 for compliance. In coordination with the integration of regulated and unregulated electric load components, in Section 7.5.1, "Annual Energy Cost," the annual energy cost performance option applies the equation from Standard 189.1; however, Sections 7.5.1 "Annual Energy Cost," and 7.5.2, "Annual Carbon Dioxide Equivalent (CO_2e)," shall apply building performance factors as provided in the revised Table 7.5.2A, "Energy Cost and CO_2e Building Performance Factors (BPF)."*
- *In Section 8, "Indoor Environmental Quality (IEQ)," an informative note has been added to assist the user in properly applying the reference FGI information related to Section 8.3.3, "Acoustical Control."*
- *In Section 10, an exception related to the Indoor Environmental Quality Survey is provided.*
- *Section 12, "Normative References," has been revised to include ASHRAE Standard 90.1-2016 and Standard 189.1-2017, along with the 2018 versions of the FGI guidelines.*

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

Addendum a to Standard 189.3-2017

Modify Section 6 as shown. The remainder of Section 6 is unchanged.

6. WATER USE EFFICIENCY

[. . .]

6.2 Compliance. The water systems shall comply with the provisions of Section 6 of Standard 189.1 except as specifically deleted, excepted, modified, or enhanced in accordance with Sections 6.3 through 6.4. Site water use and building water use are not required to use the same option, i.e., Prescriptive or Performance, for demonstrating compliance. All provisions of Section 6 are mandatory provisions.

[. . .]

6.3.2.1 Plumbing Fixtures and Fittings

[. . .]

k. **Water-Bottle Filling Stations.** Water-bottle filling stations shall be an integral part of, or adjacent to, not less than 50% of all drinking fountains installed indoors on the premises.

[. . .]

6.3.2.3 HVAC Systems and Equipment [. . .]

Exception to 6.3.2.3(~~e~~d): Air-conditioning units greater than 65,000 Btu/h (19 kW) with a sensible heat ratio of 0.80 or greater.

~~**6.4 Prescriptive Option**~~

~~**6.4.2.3**~~**6.3.2.6 Medical and Laboratory Facilities**

[. . .]

h. Medical equipment may use once-through (open-loop) cooling with potable water in emergency backup cooling systems or where local requirements mandate but not as the primary cooling system. The primary cooling system in these critical applications shall be a closed-loop system. Such emergency back-up cooling systems shall only be used in the event that the primary closed-loop cooling equipment has failed and such a failure is visually and audibly indicated at the point of use and alarmed at a continuously monitored location.

~~**6.3.4**~~ **6.3.3 Special Water Features** [. . .]

Exception to 6.3.3(a) ~~6.4.3(a)~~: [. . .]

2. Where water features present a risk to immune-compromised people, as determined by Infection Control Risk Assessment, potable water is allowed for start-up and make-up water.

[. . .]

Informative Note: The unnumbered exception to Section 6.3.3(a) ~~6.4.3(a)~~ in Standard 189.1 also applies and for the purpose of this document is considered Exception 1.

6.3.8 Dual Water Supply Plumbing

Exception to 6.3.8:

[. . .]

3. This requirement shall not apply to health care facilities.

Table 6.3.2.1 Plumbing Fixtures and Fittings Requirements

Plumbing Fixture	Maximum
Water closets (toilets)—flushometer single-flush valve type	Single flush volume of 1.28 gal (4.8 L)
Water closets (toilets)—flushometer dual-flush valve type	~~Effective dual~~ Full-flush volume of 1.28 gal (4.8 L)
Water closets (toilets)—single-flush tank type	Single flush volume of 1.28 gal (4.8 L)
Water closets (toilets)—dual-flush tank type	~~Effective dual~~ Full-flush volume of 1.28 gal (4.8 L)
Urinals	Flush volume 0.5 gal (1.9 L)
Public and hand-washing lavatory faucets	Flow rate—0.5 gpm (1.9 L/min)
Public metering self-closing faucet	0.25 gal (1.0 L) per metering cycle
Resident, patient bathroom lavatory sink faucets	Flow rate—1.5 gpm (5.7 L/min)
Resident kitchen faucets; staff lavatory	Flow rate—~~2.2~~ 1.8 gpm (~~8.3~~ 6.8 L/min)
Resident, Staff showerheads	Flow rate—2.0 gpm (7.6 L/min)
Resident shower compartment (stall) in dwelling units and guest rooms	Flow rate from all shower outlets total of 2.0 gpm (7.6 L/min)

Modify Section 7 as shown. The remainder of Section 7 is unchanged.

7. ENERGY EFFICIENCY

[. . .]

7.3 Mandatory Provisions

[. . .]

7.3.4 Peak Load Reduction. Peak load reduction capabilities of Standard 189.1 shall not be required.

7.4 Prescriptive Option

[. . .]

~~**7.4.1.1 On-Site Renewable Energy Systems.** Building projects shall comply with either the standard renewables approach in Section 7.4.1.1.1 or the higher efficiency equipment requirements defined in the alternate renewables approach in Section 7.4.1.1.2 of Standard 189.1. Where Section 7.4.1.1.1 is used, helicopter landing areas shall be excluded from the calculation of gross roof area for on-site renewable energy systems. Where Section 7.4.1.1.2 is used, on-site renewable energy shall not be required.~~

7.4.2.~~8~~9 Orientation

7.5 Performance Option

~~**7.5.1 General Comprehensive Performance Requirements.** Projects shall comply with Sections 7.5.2 or 7.5.3.~~

~~7.5.2~~7.5.1 Annual Energy Cost

a. For a new building project, the proposed building performance cost index shall be determined in accordance with Standard 189.1, Section 7.5.1, "Annual Energy Cost," ~~building project shall have an annual energy cost equal to or less than~~ with the baseline building performance factor taken from ~~multiplied by one minus the percentage reduction in~~ Table 7.5.2A.

[. . .]

~~7.5.3~~ 7.5.2 Annual Carbon Dioxide Equivalent (CO_2e). For a new building project, ~~demonstrate that~~ the proposed design shall have an annual CO_2e ~~is less than or~~ equal to or less than the annual CO_2e of the baseline building ~~performance rating. The proposed~~ design ~~shall have an annual CO_2e equal to or less than the annual CO_2e of the baseline building design~~ multiplied by ~~one minus the percentage reduction in~~ the building performance factor target determined from Table 7.5.2A using the performance rating method in Standard 90.1, Normative Appendix G. To determine the actual CO_2e for each energy source in the baseline building design and proposed design, the energy consumption shall be multiplied by the CO_2e emission factors from Standard 189.1, Table 7.5.2B.

Modify Section 8 as shown. The remainder of Section 8 is unchanged.

8. INDOOR ENVIRONMENTAL QUALITY (IEQ)

8.1 Scope. This section specifies requirements for indoor environmental quality, including indoor air quality, environmental tobacco smoke control, outdoor air delivery monitoring, thermal comfort, building entrances, acoustic control, ~~day~~lighting, quality, and low-emitting materials.

[. . .]

8.3 Mandatory Provisions

8.3.1 Indoor Air Quality. The building shall comply with Standard 170~~, Sections 6 through 8.~~ When a requirement is provided below, this supersedes the requirements in Standard 170.

~~**8.3.1.1 Minimum Ventilation Rates**~~

~~a. Standard 170, Table 7.1, shall be used to design each mechanical ventilation system in the building.~~

~~8.3.1.2~~8.3.1.1 Outdoor Air Delivery Monitoring

Table 7.5.2A Energy Cost and CO_2e Building Performance Factors (BPF)

Building Area Type	Climate Zone																
	1A	1B	2A	2B	3A	3B	3C	4A	4B	4C	5A	5B	5C	6A	6B	7	8
Health care/hospital	0.64	0.56	0.60	0.56	0.60	0.56	0.54	0.57	0.53	0.55	0.59	0.52	0.55	0.57	0.52	0.56	0.56
Residential health care	0.73	0.73	0.71	0.69	0.74	0.73	0.68	0.78	0.81	0.81	0.76	0.80	0.81	0.76	0.79	0.74	0.80

~~**Table 7.5.2A Annual Energy Cost**~~

~~Building Type~~	~~Percent Reduction, %~~
~~Hospitals~~	~~5~~
~~Other health care buildings~~	~~10~~

[. . .]

Exception to 8.3.1.4.1~~8.3.1.3(b)~~: In health care facilities, only the requirements of Standard 170 shall apply.

[. . .]

Exception to 8.3.1.10~~8.3.1.7~~:

2. All rooms in hospitals. All rooms in health care occupancies subject to automatic control of HVAC and lighting as required in Sections 7 and 8.

[. . .]

8.3.3~~.2 Interior Sound~~ Acoustic Control

Informative Note: Interior wall and floor/ceiling assemblies separating interior rooms and spaces shall be designed to comply with FGI *Guidelines for Design and Construction of Hospitals~~ and Outpatient Facilities~~*, reference Section 1.2-6.1 ("Acoustic Design"), FGI *Guidelines for Design and Construction of Outpatient Facilities*, reference Section 1.2-6.1 ("Acoustic Design"), and FGI *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*, reference Section 1.2-5.2 ("Acoustic Planning") and Section 2.5-8 ("Acoustic Design Systems").

Modify Section 9 as shown. The remainder of Section 9 is unchanged.

9. ~~THE BUILDING'S IMPACT ON~~ MATERIALS AND RESOURCES

[. . .]

9.3 Mandatory Provisions

9.3.1 Indoor Air Quality

9.3.1.1 Diversion. A minimum of 75% of nonhazardous construction and demolition waste material generated prior to the issuance of the final certificate of occupancy shall be diverted from disposal in landfills and incinerators by reuse, recycling, repurposing, and/or composting. Excavated soil and land-clearing ~~Land-clearing~~ debris and construction and demolition (C&D) materials used in alternative daily cover shall not count toward the 75% diversion requirement.

Modify Section 10 as shown. The remainder of Section 10 is unchanged.

10. CONSTRUCTION AND PLANS FOR OPERATION

[. . .]

10.3 Mandatory Provisions

10.3.1.2 Building Project Commissioning Process. Commissioning shall comply with the provisions of Standard 189.1. See Informative Appendix J, Section J3, for additional information.

[. . .]

10.3.2.1.5 Indoor Environmental Quality Survey

Exception to 10.3.2.1.5: This requirement shall not apply to health care facilities.

Modify Section 12 as shown. The remainder of Section 12 is unchanged.

12. NORMATIVE REFERENCES

Reference	Title	Section
ASHRAE **1791 Tullie Circle NE** **Atlanta, GA 30329** **United States** **1-404-636-8400** **http://www.ashrae.org**		
ANSI/ASHRAE Standard 62.1-2013	Ventilation for Acceptable Indoor Air Quality	Foreword
ANSI/ASHRAE/IES Standard 90.1-2016~~2013~~	Energy Standard for Buildings Except Low-Rise Residential Buildings	3.1, 5.3.3.1, 7.3.1, 7.4.3, 7.4.3.4, 7.4.3.6, 7.4.3.8, 7.4.6, 7.5.2
ANSI/ASHRAE/ASHE Standard 170-2017~~2013~~	Ventilation of Health Care Facilities	7.4.3, 7.4.3.8 Exception, 8.3.1, 8.3.1.1
ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017~~2014~~	Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings	4.1, Sections 5 through 10, Section 12
[. . .]		
Facility Guidelines Institute (FGI) **350 N. Saint Paul St., Suite 100** **Dallas, TX 75201** **United States** **800-242-2626** **http://www.fgiguidelines.org**		
Version 2018~~2014~~	Guidelines for the Design and Construction of Hospitals ~~and Outpatient Facilities~~	8.3.3.2, 8.4.2.1, 8.4.2.2, 8.4.2.3, 8.4.2.5, 8.4.2.6, 11.3.4
Version 2018	Guidelines for the Design and Construction of Outpatient Facilities	8.3.3.2, 8.4.2.1, 8.4.2.2, 8.4.2.3, 8.4.2.5, 8.4.2.6, 11.3.4
Version 2018~~2014~~	Guidelines for the Design and Construction of Residential Health, Care, and Support Facilities	8.3.3.2, 8.4.2.1, 8.4.2.2, 8.4.2.3, 8.4.2.5, 8.4.2.6, 11.3.4

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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.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

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.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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