

ANSI/ASHRAE/ICC/USGBC/IES Addendum au to ANSI/ASHRAE/ICC/USGBC/IES Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

The Complete Technical Content of the International Green Construction Code®

Approved by ASHRAE and the American National Standards Institute on July 6, 2020; by the International Code Council on June 1, 2020; by the U.S. Green Building Council on June 3, 2020; and by the Illuminating Engineering Society on July 1, 2020.

These addenda were 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 (www.ashrae.org/continuous-maintenance).

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

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- a. interpretation of the contents of this Standard,
- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard, or
- d. permission to reprint portions of the Standard.

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FOREWORD

The U.S. Department of Energy (USDOE) issued new energy conservation standards for many types of commercial and industrial pumps in January 2016 that go into effect on January 27, 2020. The metric used is the Pump Energy Index (PEI), and the maximum allowed value for all pumps covered by this rule is 1.0. Pumps with PEIs of 1.0 or less comply with the standard. Based on data shown in the USDOE final rule, high-efficiency pumps with PEI values less than 0.97 are currently available.

ASHRAE Standard 90.1 has incorporated changes based on USDOE updates, including a new Section 10.4.6, a new Table 10.8-6, and additions to the definitions section. Addendum au changes align Standard 189.1 with the new USDOE and Standard 90.1 requirements.

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

Addendum au to Standard 189.1-2017

Add new definition to Section 3.2 (I-P and SI units).

Pump Energy Index (PEI): ratio of the pump energy rating of a given pump type and model divided by the pump energy rating of the same pump type and characteristics minimally compliant with U.S. regulations

Modify Section 7 as shown (I-P and SI units). Note: Section 7.4.1.1 is also modified by Addenda b and j, available for download at

7.4.1.1.2 Alternate Renewables Approach: Reduced On-Site Renewable Energy Systems and Higher-Efficiency Equipment. *Building projects* complying with this approach shall comply with the applicable equipment efficiency requirements in Normative Appendix B, the water-heating efficiency requirements in Section 7.4.4.1, equipment efficiency requirements in Section 7.4.7.1, ~~and~~ the applicable ENERGY STAR[®] requirements in Section 7.4.7.3.2, and the applicable pump efficiency requirements in Section 7.4.7.6, and shall contain *on-site renewable energy systems* that provide the annual energy production equivalent of not less than 4.0 kBtu/ft² (13 kWh/m²) multiplied by the horizontal projection of the *gross roof area* in feet squared (meters squared) for single-story buildings, and not less than 7.0 kBtu/ft² (22 kWh/m²) multiplied by the horizontal projection of the *gross roof area* in feet squared (meters squared) for all other buildings. The annual energy production shall be the combined sum of all *on-site renewable energy systems*. For equipment listed in Section 7.4.7.3.2 that are also contained in Normative Appendix B, the installed equipment shall comply by meeting or exceeding both requirements. Documentation shall be provided to the *AHJ* that indicates that the *RECs* associated with the *on-site renewable energy system* will be retained and retired by the *owner*. Where the building *owner* does not have ownership of the *RECs* associated with the *on-site renewable energy system*, the *owner* shall obtain and retire an equal or greater quantity of *RECs*.

[. . .]

7.4.3.1 Minimum Equipment Efficiencies for the Alternate Renewables Approach. All *building projects* complying with the Alternate Renewables Approach in Section 7.4.1.1.2 shall comply with the applicable equipment efficiency requirements in Normative Appendix B and the applicable ENERGY STAR requirements in Section 7.4.7.3.2. Where equipment efficiency is not defined/listed in Normative Appendix B or in Section 7.4.7.3.2 or 7.4.7.6, the equipment shall meet the minimum efficiency requirements defined/listed in ANSI/ASHRAE/IES Standard 90.1. Specifically, this applies to the following products in ANSI/ASHRAE/IES Standard 90.1:

[. . .]

7.4.7.1 Equipment Efficiency for the Alternate Renewables Approach. All *building projects* complying with the Alternate Renewables Approach in Section 7.4.1.1.2 shall comply with the applicable equipment efficiency requirements in Normative Appendix B, ~~and~~ the applicable ENERGY STAR requirements in Section 7.4.7.3.2, and the pump efficiency requirements in Section 7.4.7.6.

[. . .]

Add new Section 7.4.7.6 as shown (I-P and SI units).

7.4.7.6 Pump Efficiency. In buildings complying with the Alternate Renewables Approach in Section 7.4.1.1.2, all pumps subject to the requirements of ASHRAE/IES Standard 90.1, Section 10.4.6, shall have a maximum Pump Energy Index no greater than 0.97.

**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.

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.

Standard 189.1 and the International Green Construction Code

Standard 189.1 serves as the complete technical content of the International Green Construction Code® (IgCC). The IgCC creates a regulatory framework for new and existing buildings, establishing minimum green requirements for buildings and complementing voluntary rating systems. For more information, visit www.iccsafe.org.

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Founded in 1894, ASHRAE is a global professional society committed to serve humanity by advancing the arts and sciences of heating, ventilation, air conditioning, refrigeration, and their allied fields.

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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