

**ERRATA SHEET FOR
ANSI/ASHRAE/USGBC/IES STANDARD 189.1-2014
Standard for the Design of High-Performance Green Buildings
Except Low-Rise Residential Buildings**

March 22, 2019

The corrections listed in this errata sheet apply to ANSI/ASHRAE/USGBC/IES Standard 189.1-2014. The first printing is identified on the outside back cover as “Product code: 86606 12/14”, the second printing as “Product code: 86606 9/15” *Includes errata dated March 23, 2015*, and the third printing as “Product code: 86606 4/17 *Includes errata dated March 23, 2017*”. The shaded items have been added since the previously published errata sheet dated March 8, 2018 was distributed. Items marked with an asterisk “*” apply to the first printing only and have already been incorporated into the second printing.

NOTICE: ASHRAE now has a list server for Standing Standard Project Committee 189.1 (SSPC 189.1). Interested parties can now subscribe and unsubscribe to the list server and be automatically notified via e-mail when activities and information related to the Standard is available. To sign up for the list server please visit **Project Committee List Servers for Standard** on the Technology / Standards section of the ASHRAE website at <https://www.ashrae.org/technical-resources/standards-and-guidelines/project-committee-list-servers>.

Page(s) Erratum

- Cover** In the first paragraph on the front cover of the standard change “Illuminating Engineering Society of North America” to “Illuminating Engineering Society”.
- 12** **3.3 Abbreviations.** Change IES from “Illuminating Engineering Society of North America” to “Illuminating Engineering Society”.
- 13*** **5.3.3.2 Greenfield Sites.** Section 5.3.3.2 was inadvertently omitted in the 2014 edition of Standard 189.1. Note that this section was added to the standard by Addendum u to 189.1-2011. (*Note: Additions are shown in underline.*)
- 5.3.3 Plants.**
- 5.3.3.1 Invasive Plants.** *Invasive plants shall be removed from the building project site and destroyed or disposed of in a land fill. Invasive plants shall not be planted on the building project site.*
- 5.3.3.2 Greenfield Sites.** *On a greenfield site:*
- a. *where more than 20% of the area of the predevelopment site has existing native plants or adapted plants, a minimum of 20% of the area of native plants or adapted plants shall be retained.*
- b. *where 20% or less of the area of the predevelopment site has existing native plants or adapted plants, a minimum of 20% of the site shall be developed or retained as vegetated area. Such vegetated areas include bioretention facilities, rain gardens, filter strips, grass swales, vegetated level spreaders, constructed wetlands, planters, and open space with plantings. A minimum of 60% of such vegetated area shall consist of biodiverse planting of native plants and/or adapted plants other than turfgrass.*

- 25 **7.4.3.3 Economizers.** Revise Section 7.4.3.3, Exception (a), as shown below.
(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~)

7.4.3.3 Economizers.

[...]

- a. Where the alternate reduced renewables approach defined in Section 7.4.1.1.42 is used, Exception (9) to Section 6.5.1 of ANSI/ASHRAE/IES Standard 90.1 shall be permitted to eliminate the economizer requirement, provided the requirements in Table 6.5.1-3 of ANSI/ASHRAE/IES Standard 90.1 are applied to the efficiency requirements required by Section 7.4.1.1.2. If the standard renewable approach is chosen as defined in Section 7.4.1.1.1 then the requirements in Table 6.5.1-3 of ANSI/ASHRAE/IES Standard 90.1 shall be applied to the efficiency requirements in ANSI/ASHRAE/IES Standard 90.1, Tables 6.8.1-1 through 6.8.1-11.

- 45 **10.3.1.4 Indoor Air Quality (IAQ) Construction Management.** Revise Equation 10-1 as shown below.
(Note: Deletions are shown in ~~strikethrough~~.)

$$TAC = V_{ot} \times 1/A \times 1/H \times \cancel{H} \times 60 \text{ min/hr} \times 24 \text{ h/day} \times 14 \text{ days (I-P)}$$

$$TAC = V_{ot} \times 1 \text{ m}^3/1000L \times 1/A \times 1/H \times 3600 \text{ s/h} \times 24 \text{ h/day} \times 14 \text{ days (SI)}$$

where

TAC = total air changes

V_{ot} = system design outdoor air intake flow, cfm (L/s) (according to Equation 6-8 of ANSI/ASHRAE Standard 62.1)

A = floor area, ft² (m²)

H = ceiling height, ft (m)

- 53 **11. Normative References.** Change “Illuminating Engineering Society of North America” to “Illuminating Engineering Society”.

- 61 **Table A-2 (Superseded Table 6.8.2A in ANSI/ASHRAE/IES Standard 90.1) Minimum Duct Insulation R-Value^a Heating- and Cooling-Only Supply Ducts and Return Ducts (SI).** In Table A-2 change “R-10” with “R-1.76” in three places (Duct Location-Ventilated Attic Climate Zone 8 and Duct Location-Unvented Attic Above Insulated Ceiling Climate Zones 1 and 2) and change “R-1.9” to “R-0.33” in one place (Duct Location - Exterior Climate Zone 7, 8).

- 99* **Table C1.1 Modifications and Additions to Tables G3.1 of Appendix G in ANSI/ASHRAE/IES Standard 90.1 (Continued).**

(Note: Additions are shown in underline and deletions are shown in ~~strikethrough~~.)

11. Service Hot-Water Systems

In addition to the requirements in Table G3.1 (11), service hot-water usage is allowed to be lower in the *proposed design* than in the *baseline building design* if service hot-water use can be demonstrated to be less than that resulting from compliance with Sections 6.3.2, 6.4.2, and 6.4.3.

~~The service hot water system in the *baseline building design* shall use the same energy source as the corresponding system in the *proposed design* and shall conform with the following conditions:~~

- a. ~~Where a complete service hot water system exists, the *baseline building design* shall reflect the actual system type using actual component capacities and efficiencies.~~

b. ~~Where a new service hot water system has been specified, the system shall be sized according to the provisions of Section 7.4.1 of ANSI/ASHRAE/IES Standard 90.1 and the equipment shall match the minimum efficiency requirements in Section 7.4.4 under the standard renewables approach as described in Section 7.4.1.1.1 and the super market heat recovery requirements in Section 7.4.7.2. The equipment efficiency requirements in Section 7.4.4.1 do not apply to the *baseline building design*. Where the energy source is electricity, the heating method shall be electrical resistance.~~

1. In addition to the requirements in Table G3.1 (11.b) and (11.c), service hot-water systems shall meet the requirements of Sections 7.4.4.1, 7.4.7.2, and 7.4.7.3.
2. In addition to the requirements in Table G3.1 (11.f), the *baseline building design* shall meet the requirements of Section 7.4.7.2. If a condenser heat recovery system meeting the requirements described in Section 7.4.7.2 cannot be modeled, the requirement for including such a system in the actual building shall be met as a prescriptive requirement and no heat-recovery system shall be included in the *proposed design* or *baseline building design*.
3. In addition to the requirements in Table G3.1 (11.i), the *baseline building design* shall meet the requirements of Sections 6.3.2 and 6.4.3.

122 Informative Appendix G Informative References. Change “Illuminating Engineering Society of North America” to “Illuminating Engineering Society”.