ADDENDA

ANSI/ASHRAE/IES Addendum ef to
ANSI/ASHRAE/IES Standard 90.1-2013

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee on August 24, 2016; by the ASHRAE Tech Council on August 29, 2016; by the IES Board of Directors on September 26, 2016; and by the American National Standards Institute on August 30, 2016.

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FOREWORD

Data from the 2012 update of the U.S. Department of Energy's Commercial Building Energy Consumption Survey indicate that some of the baseline choices between gas or electric water heaters in Appendix G of Standard 90.1 needed to be reexamined. After evaluating the new survey results some new building area types were added to Table G3.1.1-2 and some baseline water heater energy sources for the baseline were changed. While evaluating these changes, the charging language in Table G3.1 was also altered to be more consistent with other portions of Appendix G related to existing buildings, as well as to make clear that one service water heating system shall be modeled for each building area type in the proposed building.

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 ef to 90.1-2013

Modify the standard as follows (I-P and SI):

Table G3.1 Part 11 – Baseline Building Performance – Service Hot-Water Systems

The service hot-water system in the baseline building design shall be as specified in Table G3.1.1-2 and conform with the following conditions:

~~a. Where the complete service hot-water system exists, the baseline building design shall be as specified in Table G3.1.1-2 using the actual component capacities.~~

a. Where a complete service hot-water system exists or a new service hot-water system has been specified, one service water heating system shall be modeled for each building area type in the proposed building. ~~the heating method shall be as specified in Table G3.1.1-2. The~~Each system shall be sized according to the provisions of Section 7.4.1 and the equipment shall match the minimum efficiency requirements in Section 7.4.2.

b. Where no service hot-water system exists or has been specified but the building will have service hot-water loads, ~~a~~one service water heating system~~(s)~~ shall be modeled for each anticipated building area type in the proposed building.~~using the heating method as specified in Table G3.1.1-2 and matching~~Each system shall meet the minimum efficiency requirements of Section 7.4.2 ~~shall be assumed~~ and be modeled identical~~ly~~ ~~in~~ to the proposed ~~and baseline~~ building design~~s~~.

Reletter c. to j.

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TABLE G3.1.1-2 Baseline Service Hot-Water System

Building Area Type	*Baseline Heating Method*
Automotive facility	Gas storage water heater
Convenience Store	Electric resistance storage water heater
Convention center	Electric resistance storage water heater
Courthouse	Electric resistance storage water heater
Dining: Bar lounge/leisure	Gas storage water heater
Dining: Cafeteria/fast food	Gas storage water heater
Dining: Family	Gas storage water heater
Dormitory	Gas storage water heater
Exercise center	Gas storage water heater
Fire station	Gas storage water heater
Grocery Store	Gas storage water heater
Gymnasium	Gas storage water heater
Health-care clinic	~~Gas~~ Electric resistance storage water heater
Hospital and outpatient surgery center	Gas storage water heater
Hotel	Gas storage water heater
Library	Electric resistance storage water heater
Manufacturing facility	Gas storage water heater
Motel	Gas storage water heater
Motion picture theater	Electric resistance storage water heater
Multifamily	Gas storage water heater
Museum	Electric resistance storage water heater
Office	Electric resistance storage water heater
Parking garage	Electric resistance storage water heater
Penitentiary	Gas storage water heater
Performing arts theater	Gas storage water heater
Police station	Electric resistance storage water heater
Post office	Electric resistance storage water heater
Religious building	Electric resistance storage water heater
Retail	Electric resistance storage water heater
School/university	Gas storage water heater
Sports arena	Gas storage water heater
Town hall	Electric resistance storage water heater
Transportation	Electric resistance storage water heater
Warehouse	Electric resistance storage water heater
Workshop	~~Gas~~ Electric resistance storage water heater
All Others	Gas storage water heater

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.

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