

ADDENDA

**ANSI/ASHRAE/IES Addendum g to
ANSI/ASHRAE/IES Standard 90.1-2019**

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on December 30, 2020, and by the Illuminating Engineering Society on December 16, 2020.

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>).

The latest edition of an ASHRAE Standard may be purchased on the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway NW, Peachtree Corners, GA 30092. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

© 2020 ASHRAE

ISSN 1041-2336



ASHRAE Standard Project Committee 90.1
Cognizant TC: 7.6 Systems Energy Utilization
SPLS Liaison: Charles Barnaby
ASHRAE Staff Liaisons: Emily Toto
IES Liaison: Mark Lien

Donald Brundage*, <i>Chair</i>	Chad Johnson	Duane Jonlin*	Michael Patterson*
Thomas Culp*, <i>Co-Vice Chair</i>	David Fouss	Michael Jouaneh	Tien Peng
Richard Lord*, <i>Co-Vice Chair</i>	Phillip Gentry	Maria Karpman	Christopher Perry*
Rahul Athalye	Jason Glazer*	Andrew Klein	Laura Petrillo-Groh*
William Babington	Melissa Goren	Vladimir Kochkin*	Michael Rosenberg*
John Bade	Krishnan Gowri	Michael Lane*	Steven Rosenstock*
Sean Beilman*	Aaron Guzner	Toby Lau	Martha Salzberg*
Jeffrey Boldt*	David Handwork*	Chonghui Liu	Sean Smith
Scott Campbell	Armin Hauer	Joel Martell*	Wayne Stoppelmoor*
Elizabeth Cassin	Gary Heikkinen	Samuel Mason	Matthew Swenka
Paula Cino	Mark Heizer	Christopher Mathis*	Christian Taber*
Glen Clapper	David Herron*	Merle McBride	Steven Taylor*
Ernest Conrad*	Scott Hintz*	James McClendon*	Douglas Tucker
Shannon Corcoran*	Emily Hoffman	Benjamin Meyer*	Martha VanGeem*
Jay Crandell*	Mike Houston*	Darren Meyers	McHenry Wallace*
Brandon Damas*	Jonathan Humble*	Harry Misuriello	Jerry White*
Julie Donovan*	Michael Ivanovich	Frank Morrison*	Jeremiah Williams*
Craig Drumheller*	Harold Jepsen	Michael Myer	
Charles Foster	Greg Johnson	Frank Myers*	

* Denotes members of voting status when the document was approved for publication

ASHRAE STANDARDS COMMITTEE 2020–2021

Drury B. Crawley, <i>Chair</i>	Susanna S. Hanson	Cesar L. Lim	Christian R. Taber
Rick M. Heiden, <i>Vice Chair</i>	Jonathan Humble	James D. Lutz	Russell C. Tharp
Els Baert	Srinivas Katipamula	Karl L. Peterman	Theresa A. Weston
Charles S. Barnaby	Gerald J. Kettler	Erick A. Phelps	Craig P. Wray
Robert B. Burkhead	Essam E. Khalil	David Robin	Jaap Hogeling, <i>BOD ExO</i>
Thomas E. Cappellin	Malcolm D. Knight	Lawrence J. Schoen	William F. McQuade, <i>CO</i>
Douglas D. Fick	Jay A. Kohler	Steven C. Sill	
Walter T. Grondzik	Larry Kouma	Richard T. Swierczynna	

Connor Barbaree, *Senior Manager of Standards*

SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus Standard developed under the auspices of ASHRAE. *Consensus* is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this Standard as an ANS, as “substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution.” Compliance with this Standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

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.

The Senior Manager of Standards of ASHRAE should be contacted for

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

DISCLAIMER

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

The current language in Section 6.5.1.1.5 is “Systems shall provide a means to relieve excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet shall be located so as to avoid recirculation into the building.”

This is vague and unenforceable. Consequently, it is often ignored and violated. The language added by Addendum g is specific and enforceable and will achieve the desired intent of the current language.

When the relief path has a high static resistance, and the relief is not fan powered, economizer use can result in overpressurization of the building. Requiring return/relief fans or properly sized barometric relief will prevent overpressurization and thus save energy by allowing 100% economizing and eliminating the need for building operators to disable economizers.

This helps clarify how to comply with the current requirement and therefore does not affect cost effectiveness.

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 g to Standard 90.1-2019

Modify Section 6.5.1.1.5 as shown (I-P and SI).

6.5.1.1.5 Relief of Excess Outdoor Air

- a. Systems shall provide ~~a one of the following~~ means to relieve excess outdoor air during air economizer operation to prevent over pressurizing the building:
 1. Return or relief fan(s) meeting the requirements of Section 6.5.3.2.4.
 2. Barometric or motorized damper relief path with a total pressure drop at design relief airflow rate less than 0.10 in. of water (25 Pa) from the occupied space to outdoors. Design relief airflow rate shall be the design supply airflow rate minus any continuous exhaust flows, such as toilet exhaust fans, whose makeup is provided by the economizer system.
- b. The relief air outlet shall be located so as to avoid recirculation into the building.

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.

ASHRAE · 180 Technology Parkway NW · Peachtree Corners, GA 30092 · www.ashrae.org

About ASHRAE

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.

To stay current with this and other ASHRAE Standards and Guidelines, visit www.ashrae.org/standards, and connect on LinkedIn, Facebook, Twitter, and YouTube.

Visit the ASHRAE Bookstore

ASHRAE offers its Standards and Guidelines in print, as immediately downloadable PDFs, and via ASHRAE Digital Collections, which provides online access with automatic updates as well as historical versions of publications. Selected Standards and Guidelines are also offered in redline versions that indicate the changes made between the active Standard or Guideline and its previous version. For more information, visit the Standards and Guidelines section of the ASHRAE Bookstore at www.ashrae.org/bookstore.

IMPORTANT NOTICES ABOUT THIS STANDARD

To ensure that you have all of the approved addenda, errata, and interpretations for this Standard, visit www.ashrae.org/standards to download them free of charge.

Addenda, errata, and interpretations for ASHRAE Standards and Guidelines are no longer distributed with copies of the Standards and Guidelines. ASHRAE provides these addenda, errata, and interpretations only in electronic form to promote more sustainable use of resources.