

ADDENDA

**ANSI/ASHRAE/IES Addendum by to
ANSI/ASHRAE/IES Standard 90.1-2022**

Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on May 30, 2025; and by the Illuminating Engineering Society on May 16, 2025.

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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FOREWORD

As a result of new humidity set-point requirements in ANSI/ASHRAE/ASHE Standard 170-2021, hospitals generally no longer qualify for the Standard 90.1 economizer exception #4 to Section 6.5.1, which is based on zone dew point. Addendum by adds an exception to the economizer requirement for hospital buildings that use a heat recovery chiller for space heating. Using an economizer in these systems severely limits the potential for energy recovery, since the chiller is often off during economizer operation. To evaluate the impact of this exception, a simulation analysis was conducted with the PNNL Hospital prototype model in five climates with and without air economizers. The case without an economizer consistently uses less energy than the case with an economizer. The energy cost impact is shown in Table 1 without the social cost of carbon and in Table 2 with utility rates that account for the social cost of carbon.

Table 1 Annual Energy Cost Impact of Economizer Exception for Hospital with Heat Recovery Chiller

Annual Energy Cost without Social Cost of Carbon	CZ 3A, Atlanta	CZ 3B, El Paso	CZ 4A, New York	CZ 5B, Denver	CZ 6A, Rochester
With economizer	\$603,779	\$591,052	\$556,266	\$556,266	\$572,715
Without economizer	\$602,164	\$578,848	\$549,061	\$549,061	\$568,854
Savings	\$1,614	\$12,204	\$7,205	\$7,205	\$3,861
Percent savings	0.3%	2.1%	1.3%	1.3%	0.7%

Table 2 Annual Energy Cost Impact of Economizer Exception for Hospital with Heat Recovery Chiller, with Social Cost of Carbon

Annual Energy Cost with Social Cost of Carbon	CZ 3A, Atlanta	CZ 3B, El Paso	CZ 4A, New York	CZ 5B, Denver	CZ 6A, Rochester
With economizer	\$1,040,971	\$1,011,385	\$975,550	\$975,550	\$1,030,788
Without economizer	\$1,025,164	\$979,316	\$946,709	\$946,709	\$1,002,360
Savings	\$15,807	\$32,069	\$28,841	\$28,841	\$28,428
Percent savings	1.5%	3.2%	3.0%	3.0%	2.8%

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

Addendum by to Standard 90.1-2022

Add a new exception to Section 6.5.1 as shown (I-P and SI).

[...]

Exceptions to 6.5.1: Economizers are not required for the following systems:

[...]

13. Systems in acute inpatient hospitals that include a liquid-to-liquid chiller for heat recovery used for space conditioning, as in Section 6.5.6.3.

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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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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