ADDENDA

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

Energy Standard for Buildings Except Low-Rise Residential Buildings

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FOREWORD

This proposal requires monitoring central chiller plant efficiency in large electric motor-driven chilled-water plants. The requirement is for plants with a peak chilled-water output great than 1500 tons (5275 kW). This proposal is designed to help commissioning and ongoing operations of the aforementioned chilled-water plants. By provided data on plant efficiency in tons (kilowatts), the operators and those responsible for management of the plant can easily determine if the chilled-water plant is performing efficiently. This is a prescriptive requirement, not mandatory.

The ability for operators and responsible managers to determine the plant efficiency will encourage and support more efficient operations. The cost of the additional hardware to monitor efficiency is expected to be returned with just a 2% improvement in efficiency. This target is readily achievable.

[Note: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes.]

Addendum bd to 90.1-2013

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

6.4.3.11 Chilled-Water Plant Monitoring

6.4.3.11.1 Monitoring. For electric motor-driven chilled-water plants in new buildings, or for new plants in existing buildings, measurement devices shall be installed and shall measure the electric energy use and efficiency of the chilled-water plant for

a. water-cooled chilled-water plants larger than 1500 tons (5275 kW) peak cooling capacity for Climate Zones 5 through 8 , 3C, and 4C and larger than 1000 tons (3517 kW) peak cooling capacity for all other zones; and
b. air-cooled chilled-water plants larger than 860 tons (3024 kW) peak cooling capacity for Climate Zones 5 through 8 , 3C, and 4C and larger than 570 tons (2005 kW) peak cooling capacity for all other zones.

The efficiency shall be calculated in kW/tons (COP) (see Appendix E).

6.4.3.11.2 Electric Motor-Driven Chiller System Recording and Reporting. The electrical energy use efficiency shall be trended every 15 minutes and graphically displayed and include hourly, daily, monthly, and annual data. The system shall maintain all data collected for a minimum of 36 months.

Add the following informative reference to Appendix E under ASHRAE:

6.4.3.11 ASHRAE Guideline 22-2012—Instrumentation for Monitoring Central Chilled-Water Plant Efficiency

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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