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#### NOTE

When addenda, interpretations, or errata to this standard have been approved, they can be downloaded free of charge from the ASHRAE Web site at <http://www.ashrae.org>.

**(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

ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings, has been established by the amendment of the federal Energy Conservation and Production Act by the Energy Policy Act of 2005 as the commercial building reference standard for state building energy code incentives. The U.S. Green Building Council (USGBC) LEED® for New Construction (NC) Version 2.2 requires as a prerequisite that buildings shall be designed to comply with 90.1-2004 or an acceptably comparable local code. Compliance with Standard 90.1 requires meeting the prescriptive (design) requirements of the standard but for some of the design requirements allows the option of meeting specified energy-performance requirements.

For existing buildings, applicable standards are primarily performance based. For building types addressed in ENERGY STAR®, USGBC LEED for Existing Buildings (EB) Version 2.0 requires as a prerequisite that buildings demonstrate an ENERGY STAR rating of at least 60 using the EPA's Portfolio Manager and also that a summary of annual utility bills be provided, including cost and usage by energy amounts for each energy type used by the building. ENERGY STAR ratings use a building energy performance comparison framework.

This revision of ANSI/ASHRAE Standard 105-1984 provides a method of energy performance comparison that can be used for any building, proposed or existing, and that allows different methods of energy analysis to be compared. Historically Standard 105 has provided a basis for reporting energy use, with only limited ability to express or compare building energy performance. This version of Standard 105 extends the reach considerably and is intended to provide a common basis for reporting building energy use, expressions of energy performance, and comparisons of energy performance. This standard is classified as an ASHRAE Standard Method of Measurement.

## 1. PURPOSE

This standard is intended to foster a commonality in reporting the energy performance of existing or proposed buildings to facilitate comparison, design and operation improvements, and development of building energy performance standards. It provides a consistent method of measuring, expressing, and comparing the energy performance of buildings.

## 2. SCOPE

### 2.1 This standard

- a. covers the measurement of energy use for existing buildings and the prediction of energy use for proposed buildings,
- b. specifies techniques for measuring, expressing, and comparing the energy performance of buildings,
- c. provides minimum requirements for reporting predicted or measured energy performance, and
- d. provides minimum requirements for specifying a building energy performance comparison method.

### 2.2 This standard does not

- a. establish building energy goals or limits or
- b. present a method for certification of prediction methodology, such as computer programs.

## 3. DEFINITIONS

**comparison framework:** a set of data and a methodology that serve as the basis of comparison for a building or facility.

**conditioned:** heated and/or cooled. In this standard, *conditioned* means provided with a positive heat supply to maintain air temperature of 50°F (10°C) or higher, and/or provided with a positive cooling supply to maintain air temperature of 86°F (30°C) or lower.

**degree-day [Kelvin-day]:** the difference in temperature between the outdoor mean temperature over a 24-hour period and a given base temperature, used in estimating heating and cooling energy use. For any one day, there are as many degree-days (Kelvin-days) as there are degrees Fahrenheit (degrees Celsius) departure of the mean temperature for the day from the base temperature, 65°F (18°C). Note that the value of the cooling degree-days is always zero if the daily mean temperature is below 65°F (18°C) and the value of the heating degree-days is always zero if the daily mean temperature is above 65°F (18°C).

**depletable (non-renewable) energy:** energy that comes out of the ground in the form of liquids, gases, or solids and is considered depletable or non-renewable because it is energy that cannot be replenished in a short period of time.

**energy:** the capacity for doing work. Energy comes from many sources, including:

- a. fuels used for their energy value, as in steam and electric generation, process heating and cooling, space heating, and service water heating and cooling;
- b. purchased nonfuel forms of energy, such as purchased steam and electric power; and
- c. by-products, such as fuels, steam, and power, that are recovered from a source other than those listed in (a).

**energy form:** any viable source of energy, including electricity, purchased or delivered steam, hot water or chilled water, natural gas, bituminous coal, anthracite coal, coke, ethane, propane, liquid petroleum gas, gasoline (including aviation), special naphtha, kerosene, distillate fuel oil (including diesel),