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2010 Energy Standard Provides for 20 Percent-Plus Energy Savings

ATLANTA – By following the guidance in the newly published 2010 energy standard from ASHRAE and IES, more than 20 percent energy reduction can be achieved over savings in the 2004 standard.

“This year marks the 35th anniversary of our flagship energy conservation standard, and the 2010 version of 90.1 represents a milestone achievement in increased energy and cost savings,” Lynn G. Bellenger, ASHRAE president, said. “Working within the constraints of strict economic justification and a prescriptive format, the project committee has achieved remarkable energy savings across all building types and U.S. climate zones. The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations. We congratulate the project team and our partners of 35 years, the Illuminating Engineering Society.”

“IES is pleased to continue in its role as a partner with ASHRAE in this 2010 edition of standard 90.1,” Rita M. Harrold, director of technology, said. “Each revision brings new challenges to find ways to reduce energy. Our congratulations to the project committee for its diligence in identifying and demonstrating significant energy savings opportunities compared to the 2004 standard. IES contributions to the savings have been achieved by refining lighting power limits and placing more emphasis on controls and system energy use. We look forward to participating in future versions of the standard where even more focus will be placed on how we can support the goal of designing quality lighting while balancing human needs with energy and cost savings in all building types.”

ANSI/ASHRAE/IES Standard 90.1-2010, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. The standard contains 109 addenda approved since the 2007 standard was published.

At the time of publication, the energy cost savings of the new standard vs. the 2004 standard are estimated to be more than 20 percent. Not all addenda have been included in analysis for these energy savings estimates. Final savings estimates will be issued by ASHRAE when available.

How was the energy reduction achieved? Here are a few examples:

- The Scope was expanded so that 90.1 covers receptacles and process loads, including data centers. This allows future addenda to the standard to address energy consuming equipment and systems previously outside its scope.
- Continuous air barrier and cool/high albedo roof requirements were added.
- Lighting: Most interior Lighting Power Densities were lowered, and additional occupant sensing controls and mandatory daylighting requirements were added for specific spaces, along with a new five-zone exterior Lighting Power Density table.
- Mechanical: Most equipment efficiencies are higher, energy recovery is required in more applications, economizers are required in more climates and more energy-conserving controls are required.
- Modeling requirements have been clarified and expanded so that building modelers can more accurately compare energy cost of their building project with an appropriate baseline building as defined by the standard.

“The 2010 edition of Standard 90.1 represents a significant accomplishment by ASHRAE and IES to implement cost-effective measures for energy conservation in new buildings designed using the standard,” Steve Skalko, 90.1 committee chair, said.

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 has become the basis for building codes, and the standard for building design and construction throughout the United States.

The cost of 90.1-2010 is \$125 (\$106, members). The standard is currently available as a PDF download with hard copies slated to be available for purchase later in November. Hard copies are now available for pre-order. To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or visit www.ashrae.org/bookstore.