Setting the Standard

Codes and Standards—cooperative efforts to raise minimum energy efficiency standards

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OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
U.S. DEPARTMENT OF ENERGY

Deadline is Near for Residential Code Determination Certification

By **January 10, 2003**, each state is required to certify to the Department of Energy (DOE) that it has reviewed the provisions of its residential building code regarding energy efficiency and has made a determination as to whether it is appropriate for the state to revise its residential building code to meet or exceed the 2000 International Energy Conservation Code (IECC).

DOE determined that the 2000 IECC would improve energy efficiency after comparing it with the 1995 Model Energy Code (MEC) and the 1998 IECC. The determination fulfilled DOE's mandate under the Energy Conservation and Production Act, as amended, to determine if successors to the MEC will improve residential energy efficiency. Twenty-five states have adopted various editions of, or codes derived from, the MEC.

As a result of DOE's determination, states have two years to inform the Department whether it is appropriate to update their residential codes to meet the 2000 IECC. If a state reports that it is not appropriate to revise its code, the state must explain why. However, states are not required to adopt the IECC. States that inform the Department about their decision on updating to the 2000 IECC are excused from reporting their decision about adopting the 1998 IECC.

For more information visit
www.energycodes.gov/implement/determinations_res.stm

MEC*check*™ Gets New Name

Beginning in November, the MEC*check*™ software tool will be called RES*check* to better identify the software as a residential code compliance tool. The "MEC" in MEC*check*™, taken from the Model Energy Code, is outdated because its successor is named the International Energy Conservation Code. The "RES" in RES*check* is also a better fit with the companion commercial product, COM*check*™. This is the same quality product, only with a name change.

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U.S. Department of Energy Determines the Effectiveness of Model Commercial Building Energy Code

What is DOE's recent determination on the effectiveness of Standard 90.1-1999?

On July 15, 2002, DOE determined that the model energy code for commercial buildings, ANSI/ASHRAE/IESNA Standard 90.1-1999, "Energy Standard for Buildings Except Low-Rise Residential Buildings," would improve energy efficiency in commercial buildings. Standard 90.1-1999 was formulated by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE), under an American National Standards Institute (ANSI) consensus process involving 50 individuals and organizations interested in commercial building energy codes. The Illuminating Engineering Society of North America (IESNA) is a joint sponsor of the standard. Standard 90.1-1999 is also the basis of Chapter 7 of the International Code Council's 2001 International Energy Conservation Code (IECC), and forms the basis for many of the commercial requirements in codes that states are considering for adoption.

Why did DOE make this determination?

The Energy Conservation and Production Act requires DOE to determine whether revisions to ASHRAE Standard 90.1-1989 would improve energy efficiency in commercial buildings. Standard 90.1-1999 is the successor to Standard 90.1-1989 and incorporates code changes developed over a 10-year period.

What actions are states required to take as a result of the determination?

Federal law requires each state to review the energy efficiency provisions of its commercial building code and to revise the code to meet or exceed Standard 90.1-1999. By July 15, 2004, states must certify to DOE that this review has occurred and demonstrate that the revised code meets or exceeds Standard 90.1-1999.

What types of buildings are covered by Standard 90-1-1999?

The standard applies to all new commercial buildings, and all major remodeling or renovation of existing commercial buildings. For energy code purposes, commercial buildings include high-rise (greater than three story) multi-family residential buildings, as well as hotels, motels, offices, retail buildings, restaurants, churches, schools, hospitals, fire stations, police stations, and other transient residential building types of any height. States must include these building types in their certification to DOE.

How do Standard 90.1-1989 and Standard 90.1-1999 compare?

DOE's Building Energy Codes Program (BECP) offers a detailed comparison of the estimated differences between the 1989 and 1999 editions of Standard 90.1. This comparison is available on the BECP website at *http://www.energycodes.gov/implement/determinations_com.stm.*

What about the 2001 edition of Standard 90.1?

DOE has initiated an analysis of the 2001 edition of Standard 90.1 to determine whether it will improve energy efficiency beyond the 1999 edition. A positive determination would require each state to review and update the energy efficiency provisions of its commercial building code to meet or exceed the provisions in the 2001 edition. A negative determination will retain the requirement that the energy efficiency provisions of each state's commercial code meet or exceed the 1999 edition.

Where can states receive help on updating, implementing, and enforcing building energy codes?

DOE offers a range of products and services to help states update, implement, and enforce building energy codes, including economic analyses, code comparisons, training materials, and code compliance software. The Department also provides financial and technical assistance to states to upgrade and implement their building energy codes. For example, DOE provided New York State financial and technical assistance to update its building energy code. New York recently adopted a new energy code that went into effect in July. The new code is expected to save $46 million in energy costs per year. For more information, visit the BECP homepage at *www.energycodes.gov*.

Can users use COM*check-EZ*™ to demonstrate compliance with Standard 90.1-1999?

The COM*check-EZ*™ software and training tools can be used to demonstrate compliance with Standard 90.1-1999, as well as Standard 90.1-1989 and the 1998 and 2000 editions of the IECC.

IECC Final Action Hearings Held in Ft. Worth, Texas

In October 2002, the International Code Council (ICC) held the 2002 International Energy Conservation Code (IECC) Final Action Hearings in Ft. Worth, Texas. Ten proposed code changes to the IECC were up for final action by the ICC body. The ICC approved seven and disapproved three of the proposed changes. The following are highlights of the actions of the final ICC hearings. The approved changes will be incorporated in the 2003 version of the ICC codes.

Approved	Disapproved
o Moved the IECC maps for climates zones in each state to Chapter 10 of the IECC. o Changed the wording in section 502 related to air leakage/infiltration and added a section about air leakage in Chapter 8. o Removal of errors in metric units in the new IECC steel section. (2) o Changed wording related to window replacement requirements. o Created a requirement for separate electricity metering for individual tenants in multi-dwelling units. o Changed the values for commercial lighting systems.	o Proposal for insulation level in cathedral ceilings to be exempted to R-30 when the required insulation level is greater than R-30. o Wording changes proposed by the International Existing Building Code draft committee of sections 101, 201 and 202 of the IECC. o Proposal to make changes to energy recovery ventilation system requirements.

One of the approved changes increased the stringency of the required lighting values for the commercial section of the code. The change reduced compliant lighting power values allowed for whole and tenant portions of buildings.

Code change proposals that were accepted as the consensus agenda prior to the final hearings covered many topics. Many of these changes introduced new tables related to steel framing and appropriate correction factors. Changes related to sunrooms, moisture control, water heating and other areas were also made.

For specific information on the results and additional information about the changes, visit *http://www.intlcode.org/codes/2002cycle/2002final.html*.

Outreach Successes:

2002 National Workshop on State Building Energy Codes Held in America's Heartland

On July 15-18, 2002, 175 participants gathered in Des Moines, Iowa, for the 2002 National Workshop on State Building Energy Codes. The U.S. Department of Energy (DOE) through the Building Energy Codes Program (BECP) sponsored the workshop, which was hosted by the Iowa Department of Natural Resources.

Representatives from energy-related organizations in 38 states and territories attended the workshop, including staff from state energy offices, product suppliers, utilities, energy code consultants, energy efficiency advocacy groups, national laboratories, and model code organizations.

The workshop agenda was designed to support the needs of states, code proponents, and stakeholder groups as they strive to advocate, adopt, implement, enforce, and use building energy codes. It also provided face-to-face networking through formal and informal meetings, allowing states and other stakeholders to share code-related challenges and successes.

The event included pre- and post-workshop activities, and informative and technical sessions addressing a wide range of issues such as ASHRAE Standard 90.1-2001, the 2003 IEEC, code implementation, compliance and enforcement, ventilation and moisture control, indoor air quality, ducts, data in defense of codes, voluntary beyond codes, lighting, and partnering with the insurance industry. The Cracker Barrel sessions and Parade of States returned this year, providing helpful information as well as some fun and laughter.

Keynote speaker, Michael McCabe, DOE Director, Office of Building Technologies, discussed how energy efficiency and renewables have improved dramatically in buildings across the Nation. He also highlighted the importance of building energy codes and DOE's interest in continuing its support for energy codes.

The following were winners in the Best of Show competition, designed to encourage states to enter examples of tools or materials developed to support building energy codes:

- **Integrated Information –** Ted Miltiades, Georgia Department of Community Affairs, *Single-Step Compliance for Residential Buildings in Georgia*
- **Brochure –** David Weitz, Massachusetts Board of Building Regulations & Standards, *Energy Efficiency in New Homes*
- **Manual or Curriculum –** Paul Tschida, Montana Department of Environmental Quality, *The Montana Energy Savers Guide Book*
- **Poster –** Ted Miltiades, Georgia Department of Community Affairs, *Air Sealing – Key Points*
- **Instructional Video –** Ray Andrews, State of New York, Department of State, *Inspecting for Residential Provisions of the New York Energy Conservation Construction Code*
- **Education Computer Tool –** Ray Andrews, State of New York, Department of State, *Compliance Tools Worksheets, Manuals & Software Computerized Tools Including Residential and Commercial Video*
- **Other –** Howard Ebenstein, District of Columbia Energy Office, *2000 IECC – Paths of Compliance Fact Sheet*

The agenda, attendance list, and presentations from the 2002 National Workshop are available at *http://www.energycodes.gov/news/2002_workshop/index.stm.* The 2003 National Workshop will be held in Atlanta, GA, June 23-26, 2003. Details will be posted on the website and published in future issues of Setting the Standard.

Newsletter Receives an Award of Excellence

The Setting the Standard Newsletter won an Award of Excellence in the Fourteenth Annual Award for Publication Excellence (APEX) Competition. The APEX awards were based on excellence in graphic design, editorial content, and overall communications effectiveness. The competition received 5,863 entries and awarded 1,527 APEX awards.

State Activities

Status of State Energy Codes:

Highlights of recent state energy code activities are as follows:

Arkansas announced that the International Building, Fire, and Residential Codes with state amendments were approved to become effective September 1, 2002. Current state energy codes reflect requirements from ASHRAE Standard 90.1-1989 for commercial buildings and the CABO 1992 Model Energy Code for residential buildings. Arkansas Code will be referred to as The Arkansas Code Volume 1 (Fire), Volume 2 (Building/Commercial), and Volume 3 (Residential). The current energy codes are referenced in each volume.

Chicago, Illinois, has recently adopted the 2001 International Energy Conservation Code (IECC). Several other cities, including Peoria and Rockford (the second largest city in the state), have also adopted the 2001 IECC, adding to the momentum for statewide adoption.

The **Georgia** State Code Advisory Committee unanimously recommended approval to the Board of the Department of Community Affairs for an upgrade to the Georgia energy codes based on the 2000 IECC with 2001 updates and ASHRAE Standard 90.1-2001. The upgrade contains some Georgia-specific provisions, as well as prescriptive paths for residences and small commercial buildings. On October 9, 2002, the Board voted to approve the final code changes.

The state of **Pennsylvania** published proposed regulations and scheduled public hearings to implement the 2000 IECC. The Department of Labor and Industries is hopeful that the administration and enforcement regulation will be published in final form by the end of calendar year 2002. If finalized in 2002, the UCC (Uniform Construction Code) program will be operational in the summer of 2003.

North Dakota adopted the 2000 International Building Code (IBC) and International Residential Code (IRC) for all state, local government, and school buildings. Any locality that adopts a building code must also adopt the 2000 IBC and IRC, but local amendments are allowed.

Rhode Island adopted the 2000 IECC with amendments, including a reference to ASHRAE Standard 90.1-1999, effective August 1, 2002.

West Virginia's Fire Commission is looking at adopting the 2000 IBC as the state code. Home builders had no opposition. Referenced were the chapters on Plumbing, Electrical, Mechanical, and Energy, as well as the Residential Code. The Fire Commission has requested that the West Virginia Energy Efficiency Program (EEP) investigate the use of BOCA International to conduct training sessions. EEP anticipates one 3- to- 4- day session in Flatwoods during late November 2002. Funding for this training would be supported through the state's 2002-2003 State Energy Program award.

To view the status of all state energy codes, visit *www.energycodes.gov/implement/state_codes/index.stm*.

State Energy Offices Receive Grant Awards

On June 11, 2002, Secretary of Energy Spencer Abraham announced that the U.S. Department of Energy (DOE) awarded $1.989 million in grants to 22 states to update and implement building energy codes. Improved energy codes will save consumers millions of dollars in energy bills and increase national energy security.

"These grants will enable states to improve the energy efficiency of new and renovated buildings by upgrading building codes, and will provide energy code training to more than 2,000 architects, builders, code officials, and engineers," Secretary Abraham said. "The Department of Energy's Building Energy Codes Program contributes to President Bush's goal of improving the energy efficiency of buildings, as outlined in his National Energy Plan."
DOE provides funding through State Energy Program special project competitive awards. State energy offices and state code authorities administer the awards.

DOE's $37.5 million investment in the Building Energy Codes Program has resulted in energy savings of nearly $1 billion per year. Every $1 spent on the program has yielded more than $105 in annual energy savings.

For more information on the State Energy Program, summaries of individual state projects, and state energy office contacts, visit *www.eren.doe.gov/buildings/state_energy/* or call 1-800-DOE-3732.

Calendar

October 2002

21-23 **Automated Builders Consortium Annual Convention, Cincinnati, OH**
See www.automatedbuildersconsortium.org

31-2 **The Remodelers' Show, Indianapolis, IN**
See www.remodelersshow.com

November 2002

9-11 **NEMA's 76th Annual Meeting, Chicago, IL**
See www.nema.org

12-14 **18th Annual Build Boston, Boston, MA**
See www.buildboston.com

13-15 **USGBC's Green Building International Conference and Exposition, Austin, TX**
See www.usgbc.org

January 2003

21-24 **2003 International Builder's Show, Las Vegas, NV**
See www.buildersshow.com

25-29 **ASHRAE 2003 Winter Meeting, Chicago, IL**
See www.ashrae.org

February 2003

9-12 **Energy Outlook Conference, Washington, DC**
See www.naseo.org/events/outlook/default.htm

12-15 **Greenprints 2003: Sustainable Communities by Design, Atlanta, GA**
See www.southface.org/home/g2k3/g2k3index.htm

Setting the Standard is published by the Building Energy Codes Program of the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy at the Pacific Northwest National Laboratory. Its purpose is to encourage information exchange among building industry professionals and organizations, state and local code officials, and researchers to facilitate timely development and early adoption of the building energy conservation standards. Send comments and contributions to Pam Cole at Pacific Northwest National Laboratory (pam.cole@pnl.gov).

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