



*Accelerating the Implementation of Building Energy Codes*

## **Pennsylvania's New Energy Conservation Code**

### **Uniform Construction Code**

In November 1999, Pennsylvania enacted Act 45, the Uniform Construction Code Act, establishing a mandatory statewide building code for the first time. This act directed the state's Department of Labor and Industry to "... promulgate regulations adopting the 1999 BOCA National Building Code ... as a Uniform Construction Code." The law further states that "By Dec. 31 of the year of the issuance of a new ... BOCA ...code, or its successor building code, the Department shall promulgate regulations adopting the new code ..." The Department has interpreted this provision as a requirement to immediately implement the 2000 International Building Code and its companion codes. These codes were issued earlier this year by the International Codes Commission and are the successors to the BOCA family of codes.

### **The 2000 IECC**

The 2000 I-codes family comprises 11 separate building codes including the 2000 International Energy Conservation Code (IECC), which is the successor to the CABO Model Energy Code that was previously referenced in BOCA's National Building Code. The 2000 IECC is a comprehensive energy conservation code that establishes minimum design and construction parameters for energy-efficient buildings through the use of prescriptive and performance-based provisions. It establishes minimum thermal performance requirements for building envelopes, including insulation levels and windows, and sets minimum efficiencies for mechanical systems in buildings.

A new feature of the 2000 IECC is a simplified 5-page residential chapter (Chapter 6) that includes a simple prescriptive compliance table. This chapter is duplicated in the 2000 International Residential Code (IRC). Like the rest of the IRC, this energy chapter is intended to stand alone, so that builders of most residential buildings need only use this single code document. The result is easier compliance for builders and easier enforcement by code officials.

Like recent previous energy codes, the 2000 IECC references ASHRAE/IES 90.1-1989 for high rise residential and commercial buildings. The 2000 IECC includes a chapter with user-friendly language that simplifies compliance for commercial buildings (Chapter 8). A new feature of this simplified chapter is that it can be used for virtually all commercial buildings. Chapter 8 also includes significant improvements in commercial lighting energy efficiency that are similar to the more stringent requirements of the new ASHRAE 90.1-99 standard that will be referenced in 2001 amendments.

### **Prescriptive Methods**

The Uniform Construction Code Act further states that "The Department shall ... promulgate prescriptive methods to implement the energy-related standards of the Uniform Construction Code which take into account the various climatic conditions throughout the state. In deriving these standards the department shall seek to balance energy savings with initial construction costs." The

code already does this: the IECC includes prescriptive methods that consider both climatic conditions and cost. BCAP also believes that the simplified language in chapters 6 and 8 of the IECC, along with compliance software developed for The US Department of Energy (DOE), through its Pacific Northwest National Labs (PNNL), help to meet this legislative requirement for prescriptive methods.

PNNL has developed two compliance tools that simplify meeting the requirements of building energy codes. MECcheck 3.0 is a software program and workbook specifically designed to accommodate the residential requirements of the 2000 IECC. Included in the MECcheck workbook are tables of simplified compliance paths, and the software program that allows calculation of many additional acceptable compliance paths. For nonresidential buildings PNNL has developed COMcheck- EZ which emulates the simplified commercial compliance path included in chapter 8 of the IECC.

### **Code Implementation and Enforcement**

The PA Department of Labor and Industry is currently developing regulations to implement the 2000 I-codes. They expect to publish preliminary regulations later this year, following which public hearings will be held. Final regulations are expected to be issued about mid-year 2001, to become effective 90 days following their publication date. Local municipalities will have 90 days from the effective date to decide whether to enforce the residential codes directly, or to inform homebuyers to engage their own independent inspectors. The state will be responsible for inspection and enforcement of the code for commercial buildings.

### **BCAP**

The Building Codes Assistance Project (BCAP) is a 501(c)(3) non-profit organization formed in response to the Energy Policy Act of 1992 to promote building energy codes. Our activities include advocating for the passage of enabling legislation and regulations, providing technical assistance to states to implement building energy codes, and educating builders, code officials and others interested in energy efficient buildings. We are currently assisting the state's implementation efforts by conducting educational briefings to groups of builders and code officials throughout the state. Our services are available without charge upon request.

Copies of building codes are available from the three code organizations that founded the International Code Council (ICC) and can be ordered directly from their websites: The Building Officials and Code Administrators International (BOCA) [www.bocai.org](http://www.bocai.org); the International Conference of Building Officials (ICBO) [www.icbo.org](http://www.icbo.org); Southern Building Codes Conference International (SBCCI) [www.sbcci.org](http://www.sbcci.org). DOE's compliance materials can be ordered by phone (1-800-270-codes) or can be downloaded without charge from their website [www.energycodes.org](http://www.energycodes.org).

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