

Energy Code Intro (2 hr) Ohio, Indiana & Kentucky (2017) by John F. Robbins CEM / CSDP

2.0 hrs continuing education for engineers, contractors and certified energy professionals

Course Description

Engineers, designers, technicians, contractors, consultants, building/equipment operators, and sometimes owners who are responsible for new commercial or residential structures, additions and major upgrades in Ohio, Kentucky and Indiana are required to comply with state energy codes based on the International Energy Conservation Code (IECC). Current energy codes in Ohio and Kentucky are based on the 2012 IECC for commercial, 2009 IECC for residential. Indiana energy code is based on 2009 IECC for both commercial and residential. IECC allows alternative compliance for commercial projects via the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 90.1. 2009 IECC references ASHRAE 90.1-2007, 2012 IECC references the 2010 version of ASHRAE 90.1. These documents include many mandates affecting electrical and thermal efficiencies as well as specific instructions about how to correctly size and/or limit capacities, especially for lighting power and HVAC equipment capacities.

This course begins with a brief history of energy markets and events before energy codes, especially 1970 to the early 1980s, a timeline dominated by energy supply disruptions and seemingly one energy crisis after another. Heating demands expanded enormously because of several consecutive record-breaking winters while natural gas supplies were insufficient and unable to grow. Cooling demands expanded rapidly as air conditioning became suddenly more widespread. Rapid growth of conditioned space in new housing and new commercial buildings was causing very rapid increases in energy demand. International political situations in the Middle East were reducing our nation's access to petroleum. A massive oil spill and a nuclear powerplant's partial core meltdown caused sudden environmental concerns about energy. Our government kept trying to react and adapt to these various trends and crises with new energy policies and agencies including a new Department of Energy (DOE), new efficiency standards for appliances and equipments, and new commercial and residential energy codes.

The course continues with an introduction to the overall scopes and major differences between IECC and ASHRAE 90.1, as well as major differences between the 2009 and 2012 versions of IECC. Students learn how each document is formatted and outlined, including 2012 IECC's new formatting. Document covers and contents are examined, including what topics are covered in which chapters and sections. Websites are presented where each document can be viewed, downloaded or purchased. A map showing both codes' climate zones is explained, since climatic severity affects many thermal efficiency requirements and since a major climate zone dividing line occurs just north of Cincinnati. Tables are presented to show some of the differences in efficiency requirements for the 2 zones. Students are informed when energy code compliance is required and when it is not, like some replacements and repairs. Free compliance softwares REScheck and COMcheck are introduced.

Learning Objectives

- Become familiar with the IECC (2009 and 2012) and ASHRAE Standard 90.1, the 2 documents currently used for energy code compliance in Ohio, Kentucky and Indiana
- Understand when energy code compliance is required or not required
- Learn how the IECC and ASHRAE documents are formatted and outlined differently, with chapters and subsections numbered and ordered differently
- Understand the climate zones which affect thermal efficiency requirements. Become aware that a climate zone dividing line occurs in the Greater Cincinnati area, causing requirements to be different in some local areas than others
- Become aware of free energy code softwares "Comcheck" and "Rescheck"

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