

Agenda

Presented by John F. Robbins CEM/CSDP

Introduction

Brief energy history of USA since the 1960s
Development of energy efficiency programs, codes and standards including ASHRAE 90.1
How ASHRAE 90.1 associates with the International Energy Conservation Code (IECC)
Various versions of ASHRAE 90.1 and IECC adopted by various states throughout USA
Current versions of ASHRAE 90.1 and IECC in Ohio, Kentucky and Indiana, and how to get them
Expected future versions of ASHRAE 90.1 and IECC in Ohio, Kentucky and Indiana

Building Envelope

Conditioned vs semiheated space
Climate zone maps, especially zones 4 and 5 in Ohio, Kentucky and Indiana
Thermal conduction requirements for opaque assemblies and solar specs for glazed components in the building envelope, based on climate zone and which version of 90.1
Airtightness and testing requirements based on which version of 90.1
Envelope compliance and trade-off options

HVAC Controls & Equipment

Commercial building energy usage breakdown: 40% is for HVAC in 2010
Compliance paths
Minimum equipment efficiencies based on which version of 90.1
Controls, settings and sensors
Outdoor air, economizers and energy recovery
Duct insulation and airtightness
Pipe insulation and service hot water equipment efficiencies

Lighting Controls, Efficacy & Power Allowances

Commercial building energy usage breakdown: 20% is for lighting in 2010
Compliance paths
How to calculate interior installed lighting power
Interior lighting power allowances based on which version of 90.1
Switches, controls and sensors
Exterior lighting power allowances based on which version of 90.1

Compliance Alternatives

Mandatory provisions + prescriptive requirements
Mandatory provisions + energy cost budget method
Mandatory provisions + performance rating method (90.1-2016 only)

Complying with ASHRAE 90.1: 2007 to 2016
Cincinnati, OH - Monday, January 29, 2018

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Learning Objectives

You'll be able to:

Learn about current and expected future versions of ASHRAE 90.1 and IECC in Ohio, Kentucky and Indiana.

Explore building envelope airtightness and testing requirements.

Examine HVAC controls and equipment.

Review lighting controls, efficacy and power allowances.

Study compliance alternatives for different versions of ASHRAE 90.1.



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Continuing Education Credits

Architects

6.5 HSW Continuing Ed. Hours
6.5 AIA HSW Learning Units

Professional Engineers

6.5 PDHs

International Code Council

.65 CEUs (Energy)

Contractors

Non-Credit Continuing Ed.



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Faculty

John F. Robbins CEM/CSDP *Energy Consultant in Morning View, KY*

Mr. Robbins is a residential and small commercial designer and energy consultant since the mid-1980s, having worked on projects in 13 states but mostly in Ohio, Indiana and Kentucky. His projects aim for much lower utility bills and energy usage with less negative environmental impacts. Mr. Robbins also designs and consults on super-insulated passive solar homes which sometime include solar water heating and solar electricity. He consults on stand-alone renewable energy projects like the battery-backed PV electric system which has powered his office since November 2001.

Mr. Robbins serves on the board of the SW Ohio Chapter of the Association of Energy Engineers (AEE). He has earned two AEE certifications, a “CEM” for energy management and a “CSDP” for sustainable development. Mr. Robbins has received six awards from AEE since 1990 for energy and environmental achievements, including 1994 Southwestern Ohio Energy Engineer of the Year and 2004 Southwestern Ohio Environmental Engineer of the Year. In 2012 AEE honored Mr. Robbins as its Region III Renewable Energy Innovator of the Year. He was co-recipient of the 1998 Ohio Governor’s Award for Excellence in Energy Efficiency in the Education Category.

A renewable energy advocate and user who led the Southwestern Ohio Alternate Energy Association (AEA) from 1995 to 2005, Mr. Robbins is also well known for encouraging, assisting and teaching energy users to become more aggressive and hands-on in managing and minimizing their heating, cooling and non-HVAC energy use. Whether designing, consulting or educating, he teaches that reducing conventional energy use is equal to new renewable energy supplies. Since 2005 his educational offerings for professionals as well as energy users have been hosted or sponsored by Great Oaks Institute in Southwestern Ohio, Appalachia - Science in the Public Interest in Kentucky, Columbus (OH) Green Building Forum, Impact Management Services in Cincinnati and HalfMoon Education in Ohio, Kentucky and Indiana. Since 2016 Mr. Robbins has held the “Speaker Chair” for Southwestern Ohio AEE. As speaker for the chapter, he develops and provides energy presentations to local high schools and colleges when requested.

Mr. Robbins sells no products, receives no commissions for referrals and has had no commercial affiliation with manufacturers and retailers of products and services which he has used, recommended or specified.

Seminar Information

Holiday Inn Eastgate (I-275E)
4501 Eastgate Blvd.
Cincinnati, OH 45245
(513) 752-4400

Tuition
\$279 for individual registration
\$259 for three or more registrations.
Each registration includes a complimentary continental breakfast and printed seminar manual.

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the CD/manual package. You may also send another person to take your place.

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 HSW continuing education hours to architects and 6.5 PDHs to professional engineers in all states, excluding Florida architects. Educators and courses are not subject to preapproval in Ohio.

HalfMoon Education is deemed an approved continuing education sponsor for New York architects. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota.

This seminar is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

The International Code Council has approved this event for .65 CEUs in the subject area of Energy.

This course offers a non-credit continuing education opportunity to contractors. It has not been approved by any state contractor licensing entity for licensing maintenance.

Attendance will be monitored and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Additional Learning

Webinar Series

Solar Photovoltaic Project Design and Development

- **Solar Photovoltaic Project Design and Development, Part I**
Thurs., Nov. 30, 2017, 11:00 AM - 3:15 PM CST
- **Solar Photovoltaic Project Design and Development, Part II**
Fri., Dec. 1, 2017, 11:00 AM - 2:15 PM CST

Construction Cost Estimating

- **Introduction to Cost Estimating**
Thurs., Dec. 7, 2017, 11:00 AM - 12:30 PM CST
- **Cost Components - A Closer Look at the Estimates**
Thurs., Dec. 7, 2017, 1:00 - 3:00 PM CST
- **Cost Estimate Organization**
Fri., Dec. 8, 2017, 11:00 AM - 1:00 PM CST
- **Cost Estimating Topics**
Fri., Dec. 8, 2017, 1:30 AM - 3:00 PM CST

Retaining Walls and Slope Stabilization

- **Retaining Wall Basics**
Thurs., Dec. 14, 2017, 11:00 AM - 12:00 PM CST
- **Geosynthetics and Retaining Walls**
Thurs., Dec. 14, 2017, 12:30 - 2:30 PM CST
- **Slope Stability and Geosynthetics**
Fri., Dec. 15, 2017, 11:00 AM - 12:30 PM CST
- **Slope and Retaining Wall Failures, Fixes and Prevention**
Fri., Dec. 15, 2017, 1:00 - 2:30 PM CST

International Energy Conservation Code

- **International Energy Conservation Code, Part I**
Thurs., Dec. 21, 2017, 8:00 - 11:00 AM CST
- **International Energy Conservation Code, Part II**
Thurs., Dec. 21, 2017, 12:00 - 3:00 PM CST

Seismic Design and Construction

- **Seismology and Building Codes**
Wed., Dec. 27, 2017, 11:00 AM - 3:30 PM CST
- **Seismic Design of Building Structures**
Thurs., Dec. 28, 2017, 11:00 AM - 3:30 PM CST

For more information visit:
www.halfmoonseminars.org/webinars/

Can’t Attend? Order the CD/Manual Package:

A full recording of this seminar is available for \$289, which includes shipping and handling. This learning method does not qualify for the continuing education requirements of Ohio engineers, AIA, BPI, ICC or BPI members. No contractor credit available. Please allow five weeks from the seminar date for delivery.

Registration

Complying with ASHRAE 90.1: 2007 to 2016
Cincinnati, OH - Monday, January 29, 2018

How to Register		Registrant Information
Online: www.halfmoonseminars.org		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900		Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____ Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066		
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		
Complete the entire form. Attach duplicates if necessary.		
		Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.

() I need special accommodations. Please contact me.

Tuition

- () **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.
- () **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

Checks: Make payable to HalfMoon Education Inc.

Credit Card: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____
Email: _____