

Engineering Extension  
Kansas State University  
133 Ward Hall  
Manhattan, Kansas 66506-2508

**ASHRAE/IESNA**

**Standard 90.1-89**

**Feb. 9, 10, 11 – Topeka**

**ASHRAE/IESNA**

**Standard 90.1-89**

**If you are involved in commercial building construction, you should attend this workshop!**

**Feb. 9, 10, 11 – Topeka**

**1999**

*Sponsored by:  
Kansas Corporation Commission  
US Department of Energy  
Engineering Extension at Kansas State University*

#### Why you should attend

If you are an architect, building HVAC and electrical system design engineer, lighting designer, utility customer representative, building code official, general contractor, developer, or lender, you should attend because the *American Society of Heating, Refrigerating, and Air-Conditioning Engineers/Illuminating Society of North America 90.1, 1989*, Standard or Code (ASHRAE/IESNA 90.1-89) has been adopted as the applicable energy efficiency standard for commercial buildings by the Kansas Legislature.

Learn about ASHRAE/IESNA Standard 90.1-89, Kansas' new energy code that establishes minimum requirements for building envelope, lighting, HVAC systems, and service hot water energy use.

#### What you will learn

You will learn how to comply with the new Kansas energy efficiency standards for commercial construction. After attending this class, you will understand

- Code compliance requirements for commercial construction including:
  - basic requirements
  - prescriptive and system performance methods
  - energy-cost budget method
- How to use COMcheck™-EZ compliance tools
- How to use ENVSTD and LTGSTD compliance tools
- How to use spreadsheets developed to track and record compliance

COMcheck™-EZ is a new compliance tool developed by the US Department of Energy Building Standards and Guidelines Program. COMcheck™-EZ was developed to assist code or standard users in complying with Standard 90.1.

ENVSTD and LTGSTD are computer tools developed by ASHRAE and updated by US Department of Energy Building Standards and Guidelines Program. They assist code or standards users in complying with envelope and lighting requirements of Standard 90.1.

Compliance spreadsheets were developed by workshop

presenters as a road map to Standard 90.1. The spreadsheets can also be used by design professionals to document compliance.

The workshop has been formatted with each topic area taught on a single day. This will allow design professionals to attend only those days of interest and allow greater treatment of the subject material. The schedule will be as follows:

- Day one– Building envelope
- Day two– Electric power and lighting
- Day three– HVAC systems and equipment, and Energy-Cost Budget method

The workshop will include a detailed discussion and demonstration of LTGSTD and ENVSTD software, COMcheck™-EZ software, and compliance spreadsheets. A comprehensive example building will be used to demonstrate software capabilities and lead the designer through Standard 90.1 compliance.

Day one will cover the building envelope including ENVSTD and appropriate sections of COMcheck™-EZ; day two, power and lighting requirements including LTGSTD and appropriate sections of COMcheck™-EZ; and day three, HVAC systems and related sections of COMcheck™-EZ.

#### Your instructors

- Gene Meyer, PE, KSU
- Joe King, AIA, Lawrence

#### For more information

- Gene Meyer, Engineering Extension - KSU, 785-532-6026, or
- Jim Ploger, Kansas Corporation Commission, 785-271-3349

#### Continuing Education Units

Continuing Education Units or AIA/CES learning units are available. Participants may receive a Certificate of Participation reporting six (6) contact hours for each day's attendance which will provide documentation for engineering Professional Development Hours (PDH) of Continuing Education (CEU) requirements. Mark the

“CEU/PDH” line on your registration form and include \$10 with your registration fee if you want certification.

Kansas State University is registered with the American Institute of Architects Continuing Education System (AIA/CES) and is committed to developing quality learning activities in accordance with CES criteria.

The *ASHRAE/IESNA Standard 90.1-89* Workshop meets AIA/CES criteria for 12 learning units (LUs) at Quality Level 2 for each day’s participation. AIA members may receive 12 LUs for each day’s participation which will be reported directly to the AIA for them. Participants who are members of AIA and who wish to receive AIA/CES LUs should mark the “AIA/CES” line on their registration forms and include \$15 with their registration fees.

### To register

By fax Fax form to 785-532-5637  
 By phone Contact Conference and Non-credit Programs registration at 800-432-8222  
 By mail Fill out the registration form and mail with check to:  
*ASHRAE/IESNA Std. 90.1* Workshop Registration  
 Division of Continuing Education  
 Kansas State University  
 141 College Court Building  
 Manhattan, KS 66506-6015

### Registration fee

Registration fee for a single day is \$60, for two days \$85, and for three days \$110. Registration is limited so register before February 1, 1999 to assure participation. The registration fee includes lunch; User’s Manual developed by ASHRAE; workbooks; plus copies of *COMcheck™-EZ*, *ENVSTD*, *LTGSTD*, and compliance spreadsheet software on disk.

Copies of *ASHRAE/IESNA Standard 90.1 - 1989* are available, either with advanced registration or on-site, for an additional fee.

Standard version *ASHRAE/IESNA 90.1 - 1989*—\$50  
 Codification of *ASHRAE/IESNA 90.1 - 1989*—\$65

### Workshop Locations

*ASHRAE/IESNA Standard 90.1-89* Workshop is offered at only one location:

February 9, 10, 11– Topeka  
 Shawnee County Extension Office  
 1740 S.W. Western Ave.  
 Topeka, KS

Sleeping accommodations are available in Topeka for participants. Blocks of sleeping rooms are reserved.

### Special assistance

Special assistance is available. Kansas State University is committed to making programs accessible to all participants. If you have special requirements due to disabilities or dietary restrictions, please contact the Division of Continuing Education registrar at 785-532-5566. In order to guarantee your accommodation, we must receive your request no later than February 1, 1999. After this date, we will make every effort to provide assistance, but cannot guarantee that requested equipment or services will be available.

# ASHRAE/IESNA



### Tentative Agenda: *ASHRAE/IESNA Std 90.1-89* Workshop

#### Day one

8:00 Registration  
 8:30 Adoption of Standard 90.1 in Kansas  
 Standard 90.1 compliance requirements  
 9:00 Building envelope requirements  
 Use of *ENVSTD*  
 Use of *COMcheck™-EZ* for envelope compliance  
 Use of envelope compliance spreadsheets  
 Noon Lunch (provided)  
 1:00 Continuation of envelope requirements  
 3:30 Adjourn

#### Day two

8:00 Registration  
 8:30 Adoption of Standard 90.1 in Kansas  
 Standard 90.1 compliance requirements  
 9:00 Electric power requirements  
 Lighting requirements  
 Use of *LTGSTG*  
 Use of *COMcheck™-EZ* for lighting compliance  
 Use of lighting compliance spreadsheets  
 Noon Lunch (provided)  
 1:00 Continuation of lighting requirements  
 3:30 Adjourn

#### Day three

8:00 Registration  
 8:30 Adoption of Standard 90.1 in Kansas  
 Standard 90.1 compliance requirements  
 9:00 HVAC systems and equipment  
 requirements  
 Service water heating requirements  
 Use of *COMcheck™-EZ* for mechanical system  
 compliance  
 Use of HVAC and SWH compliance spreadsheets  
 Noon Lunch (provided)  
 1:00 Continuation of HVAC and SWH requirements  
 Energy cost budget method requirements  
 3:30 Adjourn



#### Notice of nondiscrimination

Kansas State University is committed to a policy of nondiscrimination on the basis of race, sex, national origin, disability, religion, age, sexual orientation, or other nonmerit reasons, in admissions, educational programs or activities, and employment (including employment of disabled veterans and veterans of the Vietnam Era), all as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries, including those concerning Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act, has been delegated to Jane D. Rowlett, Ph.D., Director of Unclassified Affairs and University Compliance, Kansas State University, 111 Anderson Hall, Manhattan, KS 66506-0124 (785-532-4392).

### Registration Form: *ASHRAE/IESNA Std 90.1-89* Workshop

Name
Affiliation
Address
City, State, Zip
SSN
AIA Member Number (for AIA/CES only)
Work Phone
Fax Number
Email

I will attend: (check all that you wish to attend)

February 9 – Topeka (Envelope)  
 February 10–Topeka (Power and Lighting)  
 February 11–Topeka (HVAC system)

I want:

\$60 registration for one day  
 \$85 registration for two days  
 \$110 registration for three days  
 \$50 Standard version *ASHRAE/IES 90.1 - 1989*  
 \$65 Codification of *ASHRAE/IES 90.1 - 1989*  
 \$10 CEU/PDH  
 \$15 AIA/CES  
 Total fee

Method of Payment

Check enclosed (Make check payable to KSU)  
 Invoice my company  
 Charge \$ \_\_\_\_\_ to:  VISA  Mastercard

Card number and expiration date

Cardholder’s signature

Register by February 1, by returning the card to:  
*ASHRAE/IESNA Std 90.1-89* Workshop Registration  
 Division of Continuing Education  
 Kansas State University  
 141 College Court Building  
 Manhattan, KS 66506-6015  
 FAX: 785-532-5637 Phone: 800-432-8222  
 Assistance for participants with disabilities/dietary requirements: Kansas State University is committed to making conference activities accessible to all participants. Please indicate by February 1, 1999, any special requirements or services needed.