



The Razorback Report

www.arkansasashrae.org

Volume XX, Issue 7, March 2009

Arkansas Chapter Newsletter for the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.

MARCH MEETINGS

Northwest Arkansas

Date: Thursday, March 5th

Location: AQ Chicken Springdale

Cost: TBD

Schedule:

10:30 am Steering Committee Meeting

11:30 am Social

12:00 noon ASHRAE Business / Dinner

Program—"ASHRAE 90.1-2007" - Mick Schwedler

Central Arkansas

Date: Wednesday March 4th

Location: Camp Aldersgate

Cost: \$15 / person

Schedule:

10:30 am Board Meeting

11:30 am Tech Session - TBA

11:45 pm Lunch

12:00-1:00 pm Program - "ASHRAE 90.1-2007" - Mick Schwedler

The President's Message

By Kim Koch

Chapter President

If you haven't received your phone call yet, then be expecting a phone call soon from your friendly ASHRAE research promotion volunteers. We are in the middle of our research promotion campaign this year, and as always our goal is a high one. It will take everyone helping out in the time honored tradition of Arkansas ASHRAE Research Promotion to meet our goal this year. Don't wait for a phone call, please consider giving to help us meet our goal. Also please remember to thank the volunteers that call and harass you, remember they are doing so on their own time for the good of our society.

Chris Ahne and I have recently returned from ASHRAE leadership training in Dallas, TX. This was a great opportunity to see others from the region and gain some valuable leadership training at the same time. While there we discussed that we have several individuals in the chapter and several projects in our chapter area that would be good nominations for Regional and Society awards. Please make sure your bio is up to date on the ASHRAE website so we can recognize all that you have done for the society.

Of course everyone in the region is now looking forward to CRC. The CRC website is up and running and new information is being added all the time. Check it out at <http://www.crclubbock.com/>. to make your hotel and plane reservations.

We will be looking for people to fill committee positions prior to CRC so please take some time to consider if you would like to take this opportunity to get involved in the chapter.

Thanks,
-Kim

Inside This Issue : Page

Chapter Meeting Calendar : 2

NWA Golf Tournament: 2

Membership Report: 5

Chapter Board Meeting Minutes : 3

CRC : 4

CTTC: 4

Continuing Education : 9

Officer and Committee Chair list : 6

ASHRAE Press Release : 8

March Meeting RSVP Form : 7



A Little Rock Engineer
Has Ben Nominated For:

ASHRAE
New Faces of Engineering

WHO IS IT ?!?!

See Full Story on page 8

Month	Tech Session	Speaker	Meeting Topic	Speaker	Section	Date	Location	Meeting Designation	Sponsor
Sept	BIM— Lessons Learned	Mike Fullerton	ASHRAE & BIM	Gordon Holness ASHRAE President Elect	Central	9/4	Next Level Events— Union Station	Membership Promotion	TBA
					NWA	9/4	Golden Corral		
Oct	Eco Friendly Water Treatment	Gary Wirges	Water Conservation In The Sustainable Environment	Dennis Schnell	Central	10/1	Camp Aldersgate	Sustainability	TBA
					NWA	10/2	Whole Hog		
Nov	NA	NA	Presidential Visit— Maintain To Sustain	ASHRAE President Bill Harrison	Central	11/5	Next Level Events	Student Meeting	TBA
					NWA	11/4	AQ Chicken		
Dec	Research Promotion	Steve Titus	Data Center Cooling Requirements	Mike Lawler	Central	12/3	Camp Aldersgate	Research Promotion	TBA
					NWA	12/4	Whole Hog Bentonville		
Jan	TBA – <i>Joint Meeting with CSI</i>	Rich Roe	Building Be- yond The Code	Rich Roe	Central	1/13	Next Level Events	Joint Meeting w/ CSI	TBA
	-				-	Energy & Sustainability	Dr. Darin Nutter		
Feb	TBA	TBA	Refrigerant Piping Practices	Joe Kirby	Central	2/4	Camp Aldersgate	Refrigeration	TBA
			Supermarket Refrigeration Design	Richard Royal	NWA	2/5	TBA		
March	TBA	TBA	ASHRAE 90.1-2007 Update	Mick Schwedler	Central	3/4	Camp Aldersgate	Student Day	TBA
					NWA	3/5	AQ Chicken		
April	TBA	TBA	Tour Bethel Elementary	NA	Central	4/1	Bethel Elementary Bryant AR	Sustainability	TBA
	TBA	TBA	Tour Tyson Discovery	NA	NWA	4/2	TBA		
May	Social	N/A	Past Presidents Night	NA	Central	TBA	Dickey Stephens Park	Past Presidents	TBA
	N/A				NWA	N/A	N/A		

Northwest Section Update

Submitted by Landon Lay

NWA ASHRAE Golf Tournament Friday May 29Th - 4 Man Scramble

Lunch - 11:30 am

Tee Off - 1:00 pm

Location - Creeks Golf Course in Cave Springs

Cost - \$80 Per Person or \$320 per team - 1st 20 teams only.

Contact Sam Browning to register or ask any questions—sbrowning@trane.com , PH: (479) 361-2030

Meeting Minutes

Submitted by Marc White—Secretary

Officers and Board Members Present

Kim Koch, President
Chris Ahne, President-elect/CTTC
Marc White, Secretary
Chris Shaw, BOG
Charles Wetzler, BOG

Committee Chairs Present

Bill Simpson, Student Activities Chair
Lee Greeson, Reception Chair
Tony Demarco, Social Chair
Mark Ring, Newsletter Editor

Board Meeting Minutes

Kim Koch announced that this year's CRC web site is now active. Kim will be attending the president's training seminar along with Chris Ahne in Dallas on February 20. Kim will update the chapter during the meeting on Steve Keen's status.

Chris Ahne informed the board that to date there have been 23 people sign up for the March CEM seminar. In addition, for today's ASHRAE meeting there are 53 RSVPs. Chris reminded everyone that March's meeting topic will be ASHRAE Standard 90.1-2007 and April's meeting will be the facility tour of Bethel Middle School in Bryant. Chris also brought up the possibility of having a non-technical presentation next meeting from the Rice Depot, a non-profit organization that provides food to under privileged kids. After some discussion, the board agreed that this would be the tech session for the March meeting.

In Steve Keen's absence, Marc White distributed the treasurer's report. The report was reviewed and approved by acclamation. The January meeting minutes were also approved by acclamation.

The chapter's Continuing Education committee will present a satellite broadcast on April 22. The topic will be "Clean, Lean and Green – IAQ for Sustainable Buildings".

Bill Simpson announced that for Engineer Week several students will be at today's meeting. Bill will also hand out the scholarships that have been awarded by the chapter at today's meeting.

AD announced that the website has been updated.

Tony DeMarco announced that the spring golf tournament is tentatively scheduled for May 15.

Mark Ring stated that the deadline for next month's newsletter will be February 20.

Kim Koch adjourned the Board Meeting.

Announcements:

Kim Koch announced to the chapter that Steve Keen has been diagnosed with colon cancer, but that he has received a good prognosis from the doctor. She also let everyone know that information about this year's CRC is available on the website. Kim stated that the slate of officer candidates will be sent out so that we can have elections next month.

(Continued on page 5)

Region VIII CRC

Submitted By David Laughlin - CRC Host

April is right around the corner and it'll be time for the Region VIII CRC in Lubbock, Texas. The dates are set, the venue is set, the entertainment is set, the speakers are set, everything's set! All we need is you.

We've made it easy for you. Follow the link below to the CRCLubbock.com website and you'll find everything you need. One web page gets you to the automatic registration at the hotel, links to airline and car rental reservation pages, and hopefully in a few days the registration page run through ASHRAE. (They're kind of busy with the Winter Conference right now but they will have our registration page up and running shortly.) Until then you can go ahead and get your rooms at the hotel, take a closer look at the speakers we have lined up for the technical session, and get ready for your trip to the High Plains of West Texas.

Ya'll come. . .we're looking forward to it.

<http://www.crclubbock.com/>

Chapter Technology Transfer

Submitted By Chris Ahne — CTTC Chair

Please see the attached flyer beginning on page (9) for some upcoming training that our ASHRAE chapter is hosting and is made available through a grant from Energy Efficiency Arkansas.

Please note that the costs of this seminar are a **great value**. There is a maximum class size of 32 so please RSVP to me as soon as possible!

ASHRAE Satellite Broadcast/Webcast

On Wednesday, April 22, 2009, ASHRAE's Chapter Technology Transfer Committee (CTTC) will present a satellite broadcast and simultaneous webcast on "**Clean, Lean and Green – IAQ for Sustainable Buildings.**"

Online registration for site coordinators and webcast viewers begins March 2nd at www.ashrae.org/iaqbroadcast. Registration for satellite viewers begins March 16th. Information about the program and speakers is available at www.ashrae.org/iaqbroadcast.

Three PDH credits may be granted to those who view the program and then complete the Participant Reaction Form on our webpage following the broadcast.

If you have questions, call (678) 539-1206 or email ashrae-SatelliteBroadcast@ashrae.org.

(Continued from page 3)

Dr. Helmer, of ATU, and several of his students, were at the meeting and were introduced to the chapter.

Bill Simpson handed out three of the five scholarships awarded by the chapter. Mark Mizell and Robert Jacks, ATU students, accepted there scholarships and chapter member, Mark Emmerling, accepted the scholarship for his son.

Joel Funkhouser introduced this month's four new ASHRAE members.

Chris Ahne announced the CEM seminar which will be held March 2 through 6 has room for 10 more attendees.

The topic for today's meeting was "Refrigeration Piping." The presentation was made by Joe Kirby. Refrigerant R-22 is likely the most used refrigerant in North America. The production of new R-22 refrigerant will be reduced to 65% of 1996 levels by 2009, to 35% of 1996 levels by 2010 and by 2015 there will be no new production. R-22 will begin to be in short supply and, therefore, recycled R-22 will begin to become more prominent to fill this need. Currently, only about 3% to 6% of the R-22 used is recycled. Joe predicts that recyclers will begin to pay for recovered R-22, but that even then only about 25% will be recycled. On the equipment side, no new R-22 equipment can be manufactured after January 1, 2010. Joe advised going to refrigerant R-410A for current designs if possible. The life cycle cost of R-22 equipment is now higher than that of R-410A equipment. Conversion of existing systems from R-22 to R-410A mainly involves removing the oil and contaminants from the system. There are commercially available products to clean out the lines. The pressure ratings for the conversion to R-410A are not an issue.

Meeting adjourned.

If you, or someone you know isn't receiving the electronic version of the **Razorback Report** and would like to, please send an email to : Mark@airetechcorp.com

Membership Report

Submitted By: Joel Funkhouser – Membership Chair

Well, this is the first monthly newsletter in a year and a half that hasn't welcomed new ASHRAE members, which is both good and bad. It's good because having regular new members for the past year and a half has enabled our chapter to grow and strengthen, but bad because having new members every month has been a source of pride for our chapter, and this month we do not have any!

We have a strong chapter, and additional members will help to make us even stronger. ASHRAE offers invaluable resources to design engineers, contractors, and owners alike, and everyone that attends meetings is encouraged to seek membership to aid in strengthening our chapter. As always, if you have any questions pertaining to membership, please contact me and I'll be happy to assist you.

Future ASHRAE Meetings:

**2009 ASHRAE Annual Meeting
June 20 - 24
Chicago, IL**

**2010 ASHRAE Winter Meeting
January 23-27 2010
Orlando, FL**

The Razorback Report is published monthly by the Arkansas Chapter of ASHRAE. Statements made in this publication are not expressions of the Society or of the chapter and may not be reproduced without special permission from the chapter.

2007-2008 Chapter Officers

<u>President</u>	Kim Koch	501.666-6776	kkoch@tmecorp.com
<u>Vice-Pres.</u>	Chris Ahne	501.661-0621	cahne@trane.com
<u>Treasurer</u>	Steve Keen	501.374-5420	skeen@powersar.com
<u>Secretary</u>	Marc White	501.664-3311	mwhite@batsonbravo.com

Board of Governors

Charles Wetzler	501.590-2703	cgwetzler@yahoo.com
Don Huggins	501.374-3731	dhuggins@pettitinc.com
Chris Shaw	501-280-0404	chris@airetechcorp.com
Steve Titus (CRC Alternate)	501-280.0404	chance@airetechcorp.com
John Hodoway (CRC Delegate)	501.372.2900	john.hodoway@mail.ashrae.org

Committee Chairs

Membership	Joel Funkhouser	jcfunkhouser@garverengineers.com
Student Activities	Bill Simpson	wsimpson@trane.com
Programs	James Dayer	jdayer@fluidsolutionsinc.com
Historian	Steve Titus	sctitus@aristotle.net
Refrigeration	Miguel Purdy	mlpurdy@vcaw.com
Research Promotion	Steve Titus	sctitus@aristotle.net
Newsletter	Mark Ring	mark@airetechcorp.com
Publicity	Charlotte Bruner	charlotte@johnprinceco.com
NW Section	Landon Lay	landon.lay@hei-eng.com
Social	Tony Demarco	tony@airetechcorp.com
Reception	Lee Greeson	lgreeson@batsonbravo.com
Webmaster	Haidara Agalheir	hagalheir@trane.com
Continuing Education	John Carter	john@jtcarterco.com
Sustainability	Tom Hanlon	thanlon@tmecorp.com

THE RAZORBACK REPORT

ARKANSAS CHAPTER OF ASHRAE
P.O. Box 180
LITTLE ROCK, AR 72203

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Arkansas Chapter Meeting RSVP Form

Company Name: _____

Phone #: _____ Fax #: _____

Signed: _____

ROUTING

For reservations to the Central Arkansas Chapter meeting send this form by **Monday March 2nd** to **Kim Koch** : kkoch@tmecorp.com or via **FAX** at 501- 663-8888

For reservations to the Northwest Arkansas Chapter meeting send this form by **Tuesday March 3rd** to **Landon Lay** : landon.lay@hei-eng.com or via **FAX** at 479-361-5977.

MEMBER NAME (PLEASE PRINT)	CENTRAL March 4th.	NW ARK March 5th.	EATING (Y or N)

NOTES: Please fax this form to the name and fax number as referenced above
 The meal is no cost to student members, however an RSVP is necessary.
 All "no shows" will be responsible for the cost of their meal.
In order to provide you with the best service for your Chapter's money, it is necessary to RSVP for each meeting.

RSVP for the March meeting online at www.arkansasashrae.org

March Meeting Topic

“ASHRAE 90.1-2007 Update” - Mick Schwedler

ASHRAE Press Release

Submitted By: Jodi Dunlop – ASHRAE Public Relations



Little Rock Engineer Nominated as ASHRAE New Face of Engineering

ATLANTA – Michael Fullerton, P.E., ASHRAE Healthcare Facilities Design Professional, is one of the 19 nominees received by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) for the New Faces of Engineering recognition program. The program, part of National Engineers Week and co-sponsored by ASHRAE, promotes the accomplishments of young engineers by highlighting their engineering contributions and the resulting impact on public welfare. The program targets those age 30 and younger.

ASHRAE has submitted its top five nominees to the National Engineers Week Committee. The top nominee from each engineering society represented on the committee will appear in a full-page ad in *USA Today* during National Engineers Week, Feb. 15-21, 2009.

Fullerton is an associate principal/project manager with TME, Inc., Little Rock, Ark.

He holds a Bachelor of Science in Mechanical Engineering from the University of Arkansas, Fayetteville, Ark. Fullerton has served as project manager and lead mechanical engineer on multi-million dollar projects such as the Oklahoma Heart Hospital in Oklahoma City, Oklahoma, the central energy plant renovation at Columbus Medical Center in Columbus, Ga., and a new science facility for Southern Arkansas University in Magnolia, Arkansas.

Continuing Education

Submitted By Chris Ahne — CTTC Chair

Now available, the expanded in depth course you've been asking for!



This is the course that will empower you to "put it all together" and get the results your company expects.

Comprehensive in scope, this five-day program takes you systematically from the underlying fundamentals to the specific "how to's."

This week-long program of instruction covers the specific techniques necessary to maximize your effectiveness as an energy manager, vice president of operations, or facilities manager.

PLUS
EARN YOUR C.E.M.

CEM[®]
The optional Certified Energy Manager (CEM[®]) examination will be administered at the conclusion of this program (separate application required). See inside for details.

LEARN HOW TO ENHANCE YOUR OPERATIONS, CONTROL YOUR COSTS, AND EXPAND YOUR CAREER DEVELOPMENT

Your opportunity to take part in AEE's unique Comprehensive Five-day Training Program for Energy Managers

☆☆☆ Covers the 2005 Energy Policy Act ☆☆☆



A comprehensive, detailed instructional program covering the full scope of technical, economic, and regulatory components of effective energy management.

Presented by: **AEE**
The Association of Energy Engineers

Brought to you by:
Arkansas ASHRAE Chapter

Sponsored by:
Energy Efficiency Arkansas

Mark your Calendar!

March 2nd - 6th, 2009

Location:
**1501 Westpark Drive, Suite 9
Little Rock, AR 72211**

(Continued on page 10)

Continuing Education

Submitted By Chris Ahne — CTTC Chair

Everything you need to know about energy management in one week!

THE NEED FOR ENERGY MANAGEMENT

- Building energy cost control
- Utility DSM programs and deregulation — energy efficiency and peak demand reduction
- Commercial business energy cost control
- Industrial plant operation improvement
- Reducing energy costs
- Reducing environmental emissions
- Improving product quality
- Improving plant productivity

CONDUCTING AN ENERGY AUDIT

- Purpose of the energy audit
- Facility description and data needs
- Major systems in the facility
- Data forms for recording information
- Collecting the actual data
- Identification of preliminary energy management opportunities

ENERGY AUDIT INSTRUMENTATION

- The need for instrumentation
- Light level meters
- Electric meters
- Volts, current, power, energy, power factor
- Temperature-measuring instruments
- Combustion efficiency measurement
- Air flow and air leak measurement
- Thermography
- Data logging

ENERGY CODES AND STANDARDS

- Building codes
- ASHRAE standards (62, 15, 3, 90.1)
- ASME, IEEE, and other standards
- Federal legislation
- NECPA, PURPA, NGPA, CAAA, NEPA of 1992
- CFC replacements
- Montreal Protocol, Global Climate Change
- National Energy Policy Act of 2005
- Proposed tax incentives 2002

BUILDING ENERGY USE AND PERFORMANCE

- Fuel types and costs
- Energy content of fuels
- Energy conversion factors
- Building envelope
- Natural gas purchasing
- Retail wheeling of electricity
- Major building energy use systems

ENERGY ACCOUNTING IN BUILDINGS AND FACILITIES

- Energy use index, energy cost index
- Where energy is used in facilities
- Lighting and HVAC energy use

ENERGY RATE STRUCTURES

- Identifying types of energy use
- Electric rates, gas rates
- Oil, coal, and other rates
- Steam and hot water rates
- Factors in controlling fuel costs
- Utility incentive programs

ELECTRIC RATE STRUCTURES

- Short history of electric rates
- The difference between power and energy

WORKBOOK, TEXT, AND PDH CREDIT

COMPREHENSIVE COURSE WORKBOOK AND TEXT. The seminar workbook has been written to function as a valuable resource, not only during the seminar presentation, but also back on the job. Detailed guidelines, supporting data, and graphic elements reinforce the points made during instruction. Each participant will also receive a copy of the textbook, *Guide to Energy Management*.

PDH CREDITS AND A COURSE CERTIFICATE. All participants in this five-day course will receive PDH Credits. The Association of Energy Engineers will also award you an attractive certificate of completion.

COURSE OUTLINE

- Electric meters
- Components of electric rates
- Example rate structures
- Factors in controlling electric costs
- Electric utility incentive programs
- Special schedules (interruptible, TOU, real-time pricing)
- ECONOMIC ANALYSIS OF ALTERNATIVE INVESTMENTS
- Economic decision analysis
- Simple economic measures
- The time value of money
- Present and future values
- Cost and benefit analysis
- After tax cash flows
- ALTERNATIVE FINANCING
- Role of performance contracting
- Different sources (loans, stock sales, bonds, etc.)
- FEMP and alternative financing
- True lease, capital lease, bonds, etc.
- WASTE HEAT RECOVERY
- Objectives: design criteria
- Types and maintenance of heat exchangers
- Regeneration; economizers
- LIFE CYCLE COSTING
- Concept of life cycle costing
- Purchase costs vs. operating costs
- Example analyses
- Government standards — FEMP
- FUEL SUPPLY AND FUEL SWITCHING
- Alternative fuel choices
- Technology choices
- HVAC systems, boilers, heaters, industrial processes
- Benefits of deregulation — electric, gas, and oil
- ELECTRICAL ENERGY MANAGEMENT
- Peak load reduction
- Power factor improvement
- Energy management control systems
- Load management
- Harmonics and other power quality issues
- LIGHTING
- Basics of lighting and current lighting technologies
- New lighting technologies
- Economic evaluation of example lighting improvements
- Lighting standards
- EPA Green Lights program
- T12, T8, T5 lamps
- Compact fluorescents
- HID, sulfur lamps
- MOTORS AND ADJUSTABLE SPEED DRIVES
- How motors work
- High-efficiency motors
- Examples of cost-effective motor changes
- Use of adjustable speed drives
- Example of cost-effective ASD use
- Improved motor belts and drives
- Compressed air management
- Adjustable speed drive alternatives: eddy current clutches, permanent magnet

- clutches, variable frequency drives, inlet and outlet vane control, etc.
- HVAC SYSTEM
- Types of HVAC systems and new technologies
- The vapor-compression cycle
- Air conditioning loads
- Chiller improvement example
- Control, thermal storage, absorption systems
- CONTROLS AND ENERGY MANAGEMENT
- Night set back
- Optimum start/stop
- Thermostatic economizers
- Temperature resets
- PID control, pneumatic controls
- Control characteristics
- DDC
- INSULATION
- Types of insulation
- Heat flow calculations
- Economic levels of insulation
- Passive thermal energy
- Process insulation
- GREEN BUILDINGS, LEED®, AND ENERGY STAR
- Green buildings and sustainable design
- U.S. Green Buildings Council and LEED®
- LEED® certification: LEED®-NC, EB, CI, CS
- ASHRAE 90.1 Energy Cost Budget Method
- Energy and atmosphere, indoor environmental quality, water efficiency
- EPA and the ENERGY STAR program
- ENERGY STAR Building Label
- Energy performance ratings and profile manager
- BOILERS AND STEAM GENERATION
- Basics of combustion systems
- Excess air control
- Boiler efficiency improvement
- Blowdown management, condensate return, turndowns
- Combustion controls
- Waste heat recovery
- Steam traps — purpose and testing
- Process insulation
- Example of boiler improvement
- COGENERATION (CHP)
- What is cogeneration
- Types of cogeneration cycles
- Examples of cost-effective use of cogeneration
- QPs and deregulation
- Use of waste for fuel
- Fuel cells, microturbines, etc.
- MAINTENANCE
- Maintenance management systems
- Monitoring for maintenance
- Infrared photography for maintenance
- Cost of:
 - Air, steam, gas leaks; uninsulated surfaces
- ALTERNATIVE FINANCING
- Different financing methods
- Attributes of each method
- After-tax cash flow analysis

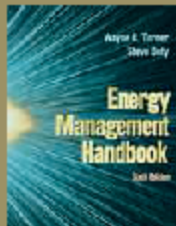
ALSO AVAILABLE FOR PURCHASE...

Energy Management Handbook Sixth Edition
By Wayne C. Turner

This comprehensive handbook has become recognized as the definitive stand-alone energy manager's desk reference, used by thousands of energy management professionals throughout the industry. The fifth edition includes new chapters on building commissioning and green buildings. You'll find in-depth coverage of every component of effective energy management, including boiler and steam system optimization, lighting and electrical systems, HVAC system performance, waste heat recovery, cogeneration, thermal energy storage, energy management control systems, energy systems maintenance, building envelope, industrial insulation, indoor air quality, energy economic analysis, energy procurement decision making, energy security and reliability, project financing, outsourcing of energy services, and overall energy management program organization.

81/2 x 11, 917 pp., illus., Hardcover, \$235 (Price includes \$10 shipping & handling)

TO ORDER, go to the bookstore at www.aecenter.org or complete the appropriate portions of the seminar registration form provided in this brochure.



(Continued on page 11)

Continuing Education

Submitted By Chris Ahne — CTTC Chair

Please note: you must apply separately to take the C.E.M. examination!

The path to becoming a more successful energy manager starts here.

In its years of developing seminar programs, AEE has come to realize that certain disciplines require more intensive instruction than others. Based on this realization, this five-day program was designed to provide professionals with the kind of in-depth energy management training they need to achieve the highest possible degree of success as energy managers. Now AEE's most requested program, this seminar has been completed by thousands of professionals since its inception in 1994.

The program begins by examining the basic fundamentals within all key areas of energy management. From there, the instructors systematically move to a "working level" knowledge of the specific principles and techniques needed to really get the job done. This approach has been specially designed to fulfill the needs of professionals who seek a broader and more detailed learning experience than can be provided in AEE's shorter courses. In only five days, you can gain the knowledge and confidence it takes to effectively apply state-of-the-art principles of energy management, and to achieve control over energy costs in your organization — whether you're responsible for managing a single facility or developing an energy management program for multiple corporate facilities, government buildings, etc.

The course covers all areas critical to effective energy management.

The program is designed for energy managers and other professionals who can benefit from in-depth exposure in areas such as analyzing energy bills, understanding energy rate structures, conducting economic analyses, or applying cost-effective, cost-cutting technologies that can have a real impact on the bottom line. Maintenance personnel — especially those who come to this course without extensive technical backgrounds — can particularly benefit from the instructor's step-by-step approach. Each topic is introduced at a beginning level, and gradually proceeds to more complex issues so that, ultimately, the new skills learned can be applied as soon as attendees return to their companies and operations.

ABOUT YOUR INSTRUCTORS...

T. KENNETH SPAIN, P.E., C.E.M., C.L.E.P., is an experienced energy analyst with over two decades of experience helping clients find ways to reduce energy costs. Mr. Spain is a Senior Research Associate at The University of Alabama in Huntsville, where he also serves as Project Manager for IdEAS, the Industrial Energy Advisory Service; the purpose of IdEAS is to advise business, industrial, institutional, and government clients regarding cost-effective applications of energy-saving technology.

STEVE SAIN, P.E., C.E.M., C.M.V.P., C.E.P., brings to this program more than twenty years of experience in the energy conservation industry, including involvement in numerous energy conservation and alternative financing projects, especially involving U.S. federal agencies. He has served as expert witness in multiple performance contracting lawsuits, representing the owner or the contractor, never losing a case. In 1994, Mr. Sain was named AEE's "International Energy Engineer of the Year," and in 1995 was also awarded "Birmingham Engineer of the Year" (covering all engineering disciplines) by the Engineering Council of Birmingham. He has traveled throughout the U.S., as well as Europe, Asia, and South Africa teaching energy conservation, life-cycle costing, and alternative financing seminars for the U.S. Army, Air Force, General Services Administration, Edison Electric Institute and AEE. Mr. Sain is a Certified Life-Cycle Costing Trainer in accordance with the Federal Energy Management Program.

ABOUT EEA Sponsorship

This event is being sponsored by Energy Efficiency Arkansas. (EEA) The Energy Efficiency Arkansas program is fuel neutral and has a high probability of providing aggregate ratepayer benefits to the majority of utility customers, and should benefit the Arkansas economy and promote a sustainable market for energy efficiency services and products. To encourage participation in the Certified Energy Manager course, EEA will off-set the cost of tuition by sponsoring one-half of the tuition (\$543.00), the other half is paid by the attendee. The funds made available by EEA are administered by the Arkansas Energy Office.

OPTIONAL CERTIFICATION EXAMINATION

Take the Certified Energy Manager (CEM) examination on the last day of the seminar.

The "Certified Energy Manager" credential provides recognition to individuals who have demonstrated a high level of competence, proficiency, and experience in the field of energy management. Those wishing to earn the CEM credential must meet specific educational and professional experience requirements, and in addition must pass a written examination. This five-day training course is an excellent "refresher" program for those preparing to take the CEM exam. AEE will administer the CEM exam on the afternoon of the final day of the five-day seminar program. Those wishing to sit for the exam at that time must submit a separate application to AEE's Certification Administrator in advance of the deadline specified below. For further information on the CEM program, or to receive an application, please visit our website at www.aeecenter.org/certification, or contact:

Certification Administrator
 Association of Energy Engineers
 4025 Pleasantdale Road, Suite 420
 Atlanta, GA 30340
 Phone: (770) 447-5083 Ext. 310

(Send completed form to: cttc@arkansasashrae.org or fax to (501) - 661-9109)

CEM Course Registration

Sign up for:

- | | |
|--|----------|
| <input type="checkbox"/> 4-day seminar | \$1085 |
| <input type="checkbox"/> Exam (please note requirements to sit for exam) | included |
| <input type="checkbox"/> Energy Management Handbook | \$235 |
| <input checked="" type="checkbox"/> EEA Sponsorship | -\$543 |
| Total | _____ |

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone _____

Email _____

Method of Payment

- Check Bill Me
 Checks should be made out to **Arkansas ASHRAE**
 Please mail payment to: **ASHRAE, PO BOX 1081, Little Rock, AR 72203**

Signature _____

(Send completed form to: cttc@arkansasashrae.org or fax to (501) - 661-9109)

AEE requires each C.E.M. candidate to meet one of the following criteria:

- A four-year engineering degree and/or P.E., with at least three years experience in energy engineering or energy management.
- A four-year business or related degree, with at least five years experience in energy engineering or energy management.
- A two-year technical degree, with eight years experience in energy engineering or energy management.
- Ten years or more verified experience in energy engineering or energy management.

(Continued on page 12)

Continuing Education

Submitted By Chris Ahne — CTTC Chair

A total course* that teaches what it takes to significantly cut costs!



The ideal course for any professional seeking...

- To become a good (or better) energy manager.
- To take and pass the CEM exam.
- To know what energy management can do for their company
- To know what to expect from energy management consultants.

CONSIDER THESE IMPORTANT BENEFITS...

- ◆ Teaches you energy management technologies and how to successfully apply them in your building or plant.
- ◆ Provides new energy managers and facility managers with the in-depth training they need to minimize energy costs and improve energy efficiency.
- ◆ Covers each topic in sufficient detail so that you are ready to apply new ideas and approaches when you finish the course.
- ◆ Presents topics initially in an introductory manner, but rather than proceeding as a review, quickly builds to a working level that incorporates practical applications.
- ◆ Shows the benefits of energy management and how to perform all the calculations needed to understand and control energy costs in buildings and other facilities.
- ◆ Explains thoroughly the steps in an energy audit or energy survey, and shows how those steps accomplish the overall goal of reducing energy costs.
- ◆ Offers a hands-on explanation of energy audit instrumentation, and lets you see some of the equipment, meters, and measuring devices that are used to collect data.
- ◆ Teaches you why utilities want to help their customers save money on their energy bills and become more energy-efficient.
- ◆ Unravels the maze of buzzwords on energy codes and standards — explains NECPA, PURPA, NGPA, ICP, ASHRAE, CFCs, CAAA of 1990, and NEPA of 1992.
- ◆ Increases your understanding of the major energy-consuming systems in buildings, and shows how the building envelope affects building energy use.
- ◆ Reveals how energy is used in your building; how that compares to other buildings.
- ◆ Covers the various factors that are involved in energy rate structures, and how that knowledge can help you save money.
- ◆ Devotes enough time to electric rate structures to assure you fully understand how they work, and how you can change equipment, processes, and operating procedures to keep electric costs to a minimum.
- ◆ Covers economic decision measures thoroughly, then proceeds step-by-step through the development of present values and present worth of discounted cash flows.
- ◆ Explains fully the various ways to perform life cycle costing.
- ◆ Teaches you how to evaluate alternative fuel choices and how to capitalize on the benefits of deregulation of gas supply and electric power generation.
- ◆ Focuses on electrical peak demand control and how much that can save your facility.
- ◆ Examines new lighting technologies to discover what changes can dramatically.
- ◆ lower your electric costs — usually with an incentive from your electric utility.
- ◆ Reveals why motors probably use over half the electric energy in your facility, and how you can cut those costs with high-efficiency motors and adjustable speed drives.
- ◆ Assures that you understand the basic air conditioning cycle, as well as how to reduce air conditioning costs by using better controls, more efficient equipment, and new technologies like heat pipes and thermal storage.
- ◆ Makes sure you have a thorough understanding of how boilers, furnaces, and heaters work, and the steps you can take to improve their efficiencies.
- ◆ Teaches you what cogeneration really is and where it could help you provide low cost heat and electric power.
- ◆ Puts all of the pieces together, enabling you to identify and integrate real opportunities to use new equipment, new operating procedures, and new processes to significantly improve energy efficiency and reduce energy costs.