

SOL AIR

Newsletter of the Southern California Chapter: American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
December 1999 website: www.ashrae-socal.org Vol. 45, No. 4

DECEMBER JOINT MEETING INFO

December 14, 1999

Joint Chapter ASHRAE Meeting

The Gas Co. Energy Resource Center (ERC)
9240 E. Firestone Blvd., Downey, CA
(310) 803-7500

Time: Cocktails: 5:30-7:00 p.m.
Dinner: 7:00-8:00 p.m.
Program: 8:00-9:00 p.m.

Cost: \$23 with reservation
\$27 without reservation
\$10 student member

Main Program:
Flexible Cooling Facility serves
Multiple Programmable Loads

Arrangements:

1. OE handles all reservations into ERC.
2. Chapters process their members on night of meeting.
3. Information line for meeting is (714) 634-7272. (No reservations taken at this number)

LIFE MEMBERS NIGHT

At our January meeting, we will be celebrating the many Life Members of The Southern California Chapter of ASHRAE. Please come and join us in honoring the New Life Members and also the many current Life Members.

DECEMBER MAIN MEETING

Flexible Cooling Facility serves Multiple Programmable Loads

My planned talk will discuss in case history format an interesting and challenging project we undertook as prime professional at the Multi-Commodity Maintenance Center located at the Marine Corps Logistic Base in Barstow, CA., involving at the same time (and possibly even today) the largest indirect cooling tower installation in the western US (4500 cooling tons) for a multi-building dynamometer facilities expansion program involving existing and newly planned additional dynamometers and buildings.

Constraining design, site, time and micro-climate issues will be described.

The goal of the Center is to improve operational procedures and facilities continuously to provide serviceable equipment to fleet marine forces and to its other customers through repair and rebuild programs of military equipment and our work included replacing a 30-year-old cooling tower distribution system that no longer satisfied planned future expanded cooling demands.

The new industrial coolers were strategically placed to provide cooling water to multiple locations serving numerous new existing dynamometers in programmatic engine testing.

The Center's new 4000-hp transmission dynamometer required conducting quality tests on the PAXMAN engines subsequently used in Desert Storm tanks and along with those of other armored vehicles.

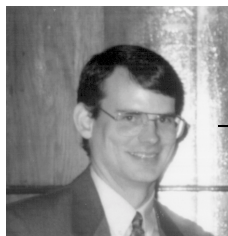
SOL*AIR GOES ONLINE

by: **David Kuo**

*Sol*Air* is now available online. Visit the Chapter website at <http://www.ashrae-socal.org/solair.pdf> to view it. The file is in Adobe PDF format. You will need the current Adobe Acrobat Reader to open it.

Acrobat Reader is a freeware and can be downloaded at <http://www.adobe.com/products/acrobat/readstep.html>.

We plan to create an index online to archive past electronic issues of *Sol*Air*. Stay tuned...



Will's Testament

by: Will Clark

As the holiday season approaches, we begin to think about giving. I would like to suggest to you some things you (and your associates, friends and colleagues) can benefit from with participation in ASHRAE.

The Twelve Days of Participation in ASHRAE (holiday addition):

- On my *1st* day in ASHRAE, SoCal Chapter gave to me *My very own ASHRAE name badge.*
- On my *2nd* day in ASHRAE, SoCal Chapter gave to me *Information on cutting edge designs and systems.*
- On my *3rd* day in ASHRAE, SoCal Chapter gave to me *A chance to pass along what I've learned to the next generation.*
- On my *4th* day in ASHRAE, SoCal Chapter gave to me *A chance to have Dinner with the one and only Phil Trafton*
- On my *5th* day in ASHRAE, SoCal Chapter gave to me *The very best technical resources available for the HVAC industry.*
- On my *6th* day in ASHRAE, SoCal Chapter gave to me *Interesting discussions with a group of exciting engineers (OK, excitement is all-relative).*
- On my *7th* day in ASHRAE, SoCal Chapter gave to me *Recognition by your clients that you are a leader in your industry.*
- On my *8th* day in ASHRAE, SoCal Chapter gave to me *Cheap eats.*
- On my *9th* day in ASHRAE, SoCal Chapter gave to me *An impressive set of hand books on my bookshelf.*
- On my *10th* day in ASHRAE, SoCal Chapter gave to me *A formidable network of contacts.*
- On my *11th* day in ASHRAE, SoCal Chapter gave to me *Getting on the "A" list for all good engineer jokes.*
- On my *12th* day in ASHRAE, SoCal Chapter gave to me *Friendships that last a life time.*

DIGITAL CAMERA

by: David Kuo



Olympus
D-450 Zoom

The Chapter has acquired a digital camera. It was provided by Siemens Building Technologies as a result of Mary Johnson's directed leadership. We greatly appreciate this contribution. Air Conditioning Specialties augmented the contribution with rechargeable batteries for the camera.

This digital camera will aide the efforts in streamlining the communication process in creating the monthly newsletter. I like to add to Ralph's statement in his November article, in that, the Southern California Chapter of ASHRAE is evolving into the next century.

After a couple of months debating which camera to purchase, we decided on the Olympus D-450 Zoom. The Olympus unit features high resolution (1.3 million megapixels) in a compact size and comes with a bright LCD display. There are five variable modes of flash and the optical 3X glass aspherical zoom lens and 2x digital telephoto makes it equivalent to a zoom of 35-105mm on a 35mm film camera.

We have also opted for the floppy disk adapter to make downloading from the camera easier. The adapter converts the 8MB Olympus SmartMedia™ removable memory, which stores up to 122 images, into a standard 1.44 MB floppy disk. This disk can be read by any standard 3 1/2" floppy drive. A serial cable (RS-232), or PCMCIA card can also be used for downloading purposes.

Enough said about the features of this camera. For additional specifics, visit the Olympus website at <http://www.olympusamerica.com/product.asp?product=379&p=16>

The *Sol*Air* editor will keep and maintain the camera. The camera will be available to any one for usage in ASHRAE events. Please coordinate with Ralph Panting if you would like to reserve the camera.

1999-2000 ASHRAE SOUTHERN CALIFORNIA CHAPTER AND WESTERN PROGRAMS

SOUTHERN CALIFORNIA CHAPTER

JANUARY 11, 2000: RESEARCH NIGHT

Location: Les Freres TAIX
Tech Program: Variable Frequency Drives
Speaker: TBD
Main Program: IDEC
Speaker: TBD
Chairperson: George Orf

FEBRUARY 1, 1999: GOVERNMENT AFFAIRS NIGHT

Location: Les Freres TAIX
Tech Program: Chillers
Speaker: Mr. John Clark
Main Program: Architect and Mechanical Liability Lawyer
Speakers: Panel Discussion
Chairperson: Bob Brennan

MARCH 7, 2000:

Location: Les Freres TAIX
Tech Program: Cooling Towers
Speaker: TBD
Main Program: Energy Efficient Update
Speakers: Panel Discussion (SCE and The Gas Co.)
Co-chairs: David Kuo and Ishtiaq Chisti

APRIL 4, 2000: RESEARCH NIGHT

Location: Les Freres TAIX
Tech Program: Boilers
Speaker: TBD
Main Program: Meeting Code for Minimum OSA per person with VAV Systems
Speaker: Representative from Air Monitor
Chairperson: Ron Sweet

MAY 5, 2000: STUDENT NIGHT

Location: Les Freres TAIX
Tech Program: Microbial Contamination of Mechanical Systems
Speaker: TBD
Main Program: Ductliner Safety Issues
Speakers: Panel Discussion
Co-Chairs: Simon Turner and Paul Dedona

JUNE, 2000: INSTALLATION DINNER/DANCE

To be announced.

HELP WANTED COLUMN

Anybody wishing to place an ad in this column for an engineering or other position please submit your request to:

RALPH PANTING
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e-mail: ralph_judy@msn.com

Please make a donation of \$50 per ad made payable to:
ASHRAE Southern California Chapter

People looking for a job may place an ad without donating.


TECHNICAL PROGRAM SPECIALIST

The Energy Resource Center (ERC) is seeking a Technical Program Specialist who will be responsible for developing programs that promote energy-efficient technologies to potential and current customers within the commercial and industrial markets. This is accomplished primarily through development of customer-training seminars on both established and emerging natural gas technologies. The seminars explain how these technologies can be utilized to increase energy efficiency and reduce operating costs for customers. The Technical Program Specialist supports the sales organization by providing technical expertise in industrial applications and offering it in the form of consultations and demonstrations. This position also helps to identify and secure cutting-edge technologies to display and exhibit at the ERC.

The ideal candidate should have at least two years of experience in technical sales, project management, or design work. A bachelor's degree in engineering is required.

Southern California Gas Company offers competitive compensation and benefits. Please send your resumé to:

Diane Morrison
Southern California Gas Company
Energy Resource Center
9240 E. Firestone Blvd.
Downey, CA 90241-5388
Or e-mail to: ERC@socalgas.com



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FOURTH QUARTER CALENDAR OF EVENTS

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CLASSES & WORKSHOPS AT EDISON CTAC



Welcome to Edison CTAC's Calendar of Events. This is where you'll see what's happening at the Edison Customer Technology Application Center (CTAC). At CTAC you'll find the information, training and support you need to make important energy management and energy efficiency choices. You'll also find solutions tailored to fit your business.

REGISTRATION

It's easy to register for Edison CTAC seminars. Simply call **(626) 812-7537**.

Registration fees can be paid by VISA, MasterCard or check.

However, payment must be received prior to seminar attendance.

Reservations are held until ten minutes after the class starts. If you are late, your seat may be given to a waiting client.

The display or presentation of particular products as part of any seminar or workshop shall not be deemed to imply endorsement thereof by SCE.

CANCELLATION POLICY

A full refund will be issued or a credit extended for cancellations received more than 72 hours (excluding weekends and holidays) prior to an event.

6TH ANNUAL WATER CONFERENCE
Improved Water Technologies for the New Millennium

#9859

The need for electrotechnologies for water and wastewater treatment has increased greatly because of governmental environmental regulations and increased service needs. This conference and vendor show offers you an excellent opportunity to learn more about the current water and wastewater environment and to get a look into what the future brings.

Customer Fee: \$70

Date: Wednesday, November 17, 1999

Time: 7:00 a.m. Exhibits Open 8:00 a.m.-4:00 p.m.

COMPRESSED AIR ENERGY SAVINGS

#10248

Do you make compressed air? Let us help you pinpoint the most common causes of waste. Leading technologies will be displayed and explained during the seminar. You will be able to make the best choices for your business to produce and deliver compressed air while saving money. Topics include leak detection, safety products, and air technology.

Customer Fee: No Charge

Date: Tuesday, November 23, 1999

Time: 8:30 a.m.-12:30 p.m.

EMF WORKSHOP

Interactive exhibits and hands-on activities give participants a better understanding of electric and magnetic fields. Our educational objectives are to explore the physical, biological and societal aspects of EMF.

Reservation required: (626) 812-7545
 Customer Fee: No Charge

Dates:

Wednesday, September 15, 1999 #9050

Wednesday, October 13, 1999 #9055

Wednesday, October 27, 1999 #9056

Wednesday, November 10, 1999 #9057

Wednesday, November 24, 1999 #9058

Wednesday, December 8, 1999 #9059

Time: 9:00 a.m.-2:00 p.m. with Lunch

Presenter: EMF Education Team, SCE

OWNING AND OPERATING AN EFFICIENT COOLING TOWER

#10244

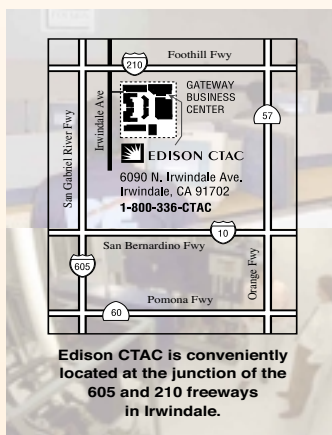
Cooling towers and evaporative condensers are the usual means of heat rejection for significant size commercial and industrial air conditioning and refrigeration systems. Let's look at the trade-off between tower size and energy savings. This seminar will address several tower efficiency measures, sizing, operating fans (approach control strategies), water treatment (including ozone), water conservation with several local case studies. Utility incentives are available to achieve better efficiency.

Customer Fee: \$55

Date: Wednesday, December 8, 1999

Time: 8:00 a.m.-12:00 p.m. Seminar

For directions to other locations, call **(626) 812-7537**.



Date: _____ Seminar #: _____ Fee: \$ _____
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CALENDAR OF EVENTS

CLASSES & WORKSHOPS AT EDISON CTAC

IRVINDALE Here's what's happening in the fourth quarter of 1999.

REGISTER NOW FOR SEPTEMBER CLASSES

OSHA'S RESPIRATORY PROTECTION PROGRAM ADMINISTRATOR — YOUR RESPONSIBILITIES

#9719

This program will provide an overview of your requirements as a Respiratory Protection Program Administrator (RPPA) under OSHA's new Respiratory Protection Standard. Any employer whose employees are allowed to use respiratory protection must have an RPPA. The RPPA is responsible for assuring compliance with the Standard. You will learn what the Standard requires and how you can comply.

Date: **Tuesday, September 14, 1999**

Time: **8:30 a.m.–4:30 p.m.**

ELECTRICAL SAFETY SEMINAR

#9550

Comply with OSHA regulations and prevent electrical accidents! This seminar provides an overview of safe work practices and OSHA requirements for industrial, commercial and power facilities.

Customer Fee: \$125

Date: **Monday, September 20, 1999**

Time: **8:30 a.m.–4:00 p.m. with Lunch**

UNDERSTANDING POWER QUALITY

#9819

This is an introductory course.

Topics to be covered include:

- Effects and causes of sags, transients, harmonics, and voltage imbalance
- Strategies for proper wiring and grounding
- New construction design principles
- How to identify power quality improvement opportunities
- Adjusting your equipment for optimum operation
- Choosing the right mitigation device
- How Southern California Edison can help

Customer Fee: \$110 (Make checks payable to The Waller Group, Inc.)

Date: **Tuesday, September 21, 1999**

Time: **8:30 a.m.–4:00 p.m. with Lunch**

HOW TO MANAGE YOUR BUSINESS' ENERGY COSTS

#9765

Learn to understand how your business uses energy and how to save money on your monthly operating costs. You will learn how to use an audit checklist to conduct a basic audit for small and medium commercial businesses and receive an Excel software program to compile the results, calculate savings, prepare a report, and prepare recommendations based upon the results. Course fee includes software and workbook.

Customer Fee: \$80

Date: **Wednesday, September 22, 1999**

Time: **8:30 a.m.–12:30 p.m.**

ENERGY MANAGEMENT SYSTEMS FOR FOOD SERVICE OPERATIONS

#9917

Come meet the experts and see first-hand how the new energy management system technology has changed and brings value to you. Learn how the new systems add a safety element to your food preparation operations and experience the new EMS ease of operation!

Customer Fee: \$65

Date: **Wednesday, September 22, 1999**

Time: **7:45 a.m. Exhibits open
8:30 a.m.–4:00 p.m. Seminar and Lunch**

HANDS-ON POWER QUALITY

This is an advanced course.

Come to CTAC and spend the day in our Power Quality Demonstration Center, seeing what power disturbances look like on power monitors, and on end-use equipment. Then you'll learn how different mitigation technologies work, and get to see first-hand how particular devices solve common power problems.

Limited seating available, register early!

Customer Fee: \$175 (Make checks payable to The Waller Group, Inc.)

Dates: **Wednesday, September 29, 1999 #9820**

Thursday, October 21, 1999 #10164

Thursday, November 18, 1999 #10166

Time: **8:30 a.m.–4:00 p.m. with Lunch**

EDISON AMICOS™

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Welcome to AMICOS™, Edison's Advanced Metering Information Communication and Operational System. You'll discover how to access your electrical usage, perform rate analysis and cost estimations, review historical data, identify peak demand or unusual trends using the internet infrastructure.

Customer Fee: No Charge

Dates: **Monday, September 27, 1999 #9704**

Tuesday, October 26, 1999 #10178

Time: **9:00 a.m.–12:00 noon**

Continental Breakfast at 8:30 a.m.

CALIFORNIA NONRESIDENTIAL TITLE 24 — ENERGY EFFICIENCY STANDARDS

These one-day training sessions will help prepare design professionals and code compliance officials for the latest changes in Nonresidential Title 24 Standards. There are notable changes to the Envelope and Lighting Standards, and more emphasis is being placed on mechanical system compliance.

Customer Fee: No Charge

Dates: **Wednesday, October 6, 1999**

Irwindale, CTAC #10218

Thursday, October 7, 1999 #10219

Irvine #10219

Friday, October 8, 1999 #10220

Santa Monica #10220

Wednesday, October 20, 1999 #910202

Tulare, AgTAC #910202

Time: **8:30 a.m.–4:00 p.m. with Lunch**

ASSOCIATION OF PROFESSIONAL ENERGY MANAGERS (APEM) L.A./Orange County Chapter Annual Seminar and Meeting

#9768

You're Invited!

Vendor tabletop displays and presentations on the future of energy applications, including T-5 lighting, distributed generation, EMCS interoperability, and featuring keynote speaker Arthur O'Donnell of California Energy Markets discussing the future of electricity after Y2K. Includes lunch and an optional tour of CTAC.

APEM Member: \$20 (Make checks payable to APEM)

Non-Member: \$30

Date: **Wednesday, October 20, 1999**

Time: **8:00 a.m. Continental Breakfast and Exhibits**

9:00 a.m.–1:30 p.m. Meeting and Lunch

Reservation required: Call Pat Lake at (949) 646-3163

CERTIFIED FOOD HANDLER PROGRAM

Make sure your employees are properly trained and educated in a continually updated and FDA approved program designed to teach safe food handling, receiving standards and procedures, temperature control, and equipment guidelines. Course includes study guide and Certified Food Handler's Certificate upon successful completion of the exam.

Customer Fee: \$125.00 (Make checks payable to Jeffrey Nelken, MA., R.D.)

Dates: **Irwindale — CTAC**

Thursday, October 21, 1999 #10177

Tuesday, October 26, 1999 #10178

Tuesday, November 2, 1999 #10179

Dates: **Irvine —**

Tuesday, September 14, 1999 #9758

Wednesday, September 29, 1999 #9841

Thursday, October 14, 1999 #10176

Tuesday, November 9, 1999 #10180

Time: **8:30 a.m.–5:00 p.m. Course and Exam**

FIBRE OPTIC SIGN, ILLUMINATION SPECIFICATION AND APPLICATION

#10203

Wirefree Lighting Association (WLA) members present a one-day Seminar/Tradeshow. This event will focus on the latest fibre optic technologies and standards. Design and product specification, signs and illumination aesthetics, plenum fire rating and UL issues, as well as specific cost saving benefits will be discussed.

Customer Fee: \$75

Early Registration: \$60 (before October 15)

Date: **Monday, November 1, 1999**

Time: **12:00 noon – 5:00 p.m. with Lunch**

Exhibit space available.

REFRIGERATION FUNDAMENTALS

#9860

Looking for the fundamentals? Take this course in refrigeration. It covers refrigeration principles, types of machinery/systems, new refrigerants and energy utilization. Service personnel, facility managers and sales representatives will find this course invaluable. An excellent follow-up to Refrigeration Fundamentals is Energy Efficient Refrigeration.

Customer Fee: \$55

Date: **Wednesday, November 3, 1999**

Time: **7:30 a.m. Registration
8:00 a.m.–12:00 p.m. Seminar**

ENERGY EFFICIENT REFRIGERATION

#9861

Discover some of the new methods of conserving energy. This course demonstrates money-saving measures for refrigeration systems — both small and large, new and retrofit. Specific focus will be on floating head pressure, liquid sub-cooling, multiplexed compressors and refrigerant choices.

Customer Fee: \$55

Date: **Wednesday, November 3, 1999**

Time: **12:30 p.m. Registration
1:00 p.m.–5:00 p.m. Seminar**

HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP)

#10181

This 8-hour course focuses on the principles of HACCP, and will include the system criteria, recipes, and flowcharts. This program follows the National Restaurant Association's safe food practice guidelines. Course includes course book and exam. THIS IS NOT A CERTIFICATION PROGRAM. Certificates of completion will be awarded to all participants.

Customer Fee: \$145.00 (Make checks payable to Jeffrey Nelken, MA., R.D.)

Date: **Irvine —**

Thursday, November 4, 1999

Time: **8:30 a.m.–5:00 p.m. Course and Exam**



Technical Forum

Sudhir Agrawal (left) presents a certificate of appreciation to Fady Mattar from the City of Los Angeles Department of Building and Safety for his presentation of UMC air conditioning and piping updates. Paul Dedona program chairman is on the right.

Published by the Southern California Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Los Angeles. Statements made herein are not expressions of the Society or of the Chapter. Republication of material printed herein is expressly forbidden without Chapter authorization.

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

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