

Sol Air

Newsletter of the Southern California Chapter: American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
 December 2002 website: www.ashrae-socal.org Vol. 48, No. 5

FEBRUARY 4, 2003 MEETING INFO

Les Freres TAIX

1911 Sunset Blvd., Los Angeles, California

5:30 Direct Digital Controls
Speakers: Mr. Gregg Arnold and Mr. Jeffrey Mann

6:05 Social Hour (Fun Time!)


6:45 Dinner
 \$25 with reservation
 \$30 without reservation
 \$10 student member

7:45 Main Program: Recent Load Calculation Research Results from TC 4.1
Speaker: Mr. Larry Sun

9:00 Meeting Ends

Reservations: Dale Au or Brenda Montmarquet (626) 961-9640, Fax (626) 961-9041 by Mon., February 3, 2003.

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FEBRUARY MAIN MEETING: RECENT LOAD CALCULATION RESEARCH RESULTS FROM TC 4.1

by Cindy Callaway

Heating and Cooling Load Calculation is the foundation of HVAC System Design. In this time of concern regarding energy issues, the key to designing energy efficient HVAC systems is to first accurately understand the thermal requirements of a building.

The current Chapter 29 in the ASHRAE Handbook of Fundamentals presents two methodologies for Load Calculation, the Heat Balance (HB) Method and the Radiant Time Series (RTS) Method. The HB is the more rigorous and accurate methodology, however, until the advent of personal computers, this method was difficult to apply in every day design process. The RTS is a new simplified methodology, based on HB principles, replacing previous methods such as CLTD/CLF, TFM and TETD/TA. The discussion will present a historical perspective of load calculation methodologies as well as an overview of the current HB and RTS methods.

Larry Sun is a principal in the firm of Tsuchiyama & Kaino Consulting Mechanical Engineers, joining the firm in 1985 after graduating from California Polytechnic State University in San Luis Obispo with a degree in Mechanical Environmental Engineering. Larry has been involved in numerous projects in the Orange County Area including the Oakley Technical Center, Ford Lincoln Mercury Premier Automotive Group World Headquarters and the Ronald Reagan Federal Building and U.S. Courthouse.

Larry began his involvement in ASHRAE as a student member at Cal Poly. He has served as a Student Activities Chair in the Orange Empire Chapter and is currently the Chair of the Student Activities Grassroots Committee for ASHRAE. For the past five years Larry has also been a member of Technical Committee (TC) 4.1, Load Calculation Data and Procedures, and is currently serving as Secretary for the TC. This TC is responsible for the materials presented in Chapters 28 & 29 Residential & Nonresidential Cooling and Heating Load Calculation Procedures.



From the President's Desk

*Ralph Panting, President,
Southern California Chapter,
ASHRAE*

Our year started well with a well attended January 7th meeting. Our Tech Forum speaker Andy Busse from Xcel Mechanical gave a talk on "Organizing Your Engineering Project" with the use of a project check list. Our Main speaker, David Kuo from SCACD gave a cutting edge talk on fuel cells and Micro-Turbines. His talk was very interesting and presented well. Many good points were made in both talks and hopefully we all took something home that night.

On May 14 through May 17 our chapter will host the Chapter Regional Conference (CRC) held at the Radisson Hotel in Culver City. The conference is a great place to get training about chapter operations and afford training for in coming officers, directors, and major committee members. It also gives you an opportunity to meet your industry peers.

All are welcome to attend. We will need members to help with this seminar. Let me know if you can help. Thanks in advance.

Orange Empire Chapter has been assigned the responsibility of organizing the Winter 2004 Semi-Annual ASHRAE meeting. Approximately 90 monitors are required to help with the various jobs at the meeting. If you can help, please let Ed Schmidt know by e-mail at edschmidt@attbi.com.

Each month our chapter presents interesting and diverse programs with the intent to offer something different and exciting to the membership. Each year our board of directors and the program committee work hard putting together new program ideas for the following year programs. If you have any ideas for proposed topics for next year, please let us know. Think about it and give Bob Woods a call if you have any ideas or possible speakers that might want to present a talk. Thanks in advance for your help.

See you at our February 4th meeting.

FEBRUARY TECHNICAL MEETING: DIRECT DIGITAL CONTROLS

Speakers: Mr. Gregg Arnold and Mr. Jeffrey Mann

The meeting will be a short overview of RSC, Inc. Inclusive, in the opening will be the history of the company, our capabilities from a Direct Digital Control-DDC standpoint and the services we provide to design engineers. Should time permit, we can discuss BACKnet versus LONmark communication protocols, sequence of operations, point lists, etc.

Lastly, we will talk about the systems we represent: **ASI, Carrier, Solidyne, Staefa, and Trane D.D.C.** systems.

Gregg's industry background includes: DSM Marketing for Southern California Edison, marketing and selling energy efficiency products for a large ESCO in the Southern California marketplace, and promoting and selling total solution energy efficiency products for a large HVAC control company in the United States.

Since joining RSC, Inc., Gregg has spearheaded it's strategic planning for infrastructure energy management programs. By incorporating Gregg's background of utilities, energy management and mechanical infrastructure disciplines, RSC, Inc. has embarked on attractive opportunities in a variety of markets throughout the Southern California region.

Mr. Arnold's goals for RSC, Inc. are to build productive, long lasting business partnerships, by listening to its customers needs. The company's leading edge technology solutions, exemplary customer service principals and outstanding workmanship, has positioned RSC, Inc. as an industry innovator. As the company continues to exceed its customer's expectations, RSC, Inc., the industry, and society will benefit from greater technology capabilities, energy infrastructure improvements, and living/work environments.

about Mr. Jeffrey Mann

Jeffrey Mann is co-founder of RSC, Inc. Since 1981 RSC, Inc. has enjoyed much success diagnosing and providing mechanical solutions. Jeff has carried the "service first" philosophy through the years the company has been in business. This basic principal is followed in all of RSC, Inc projects.

More recently, Jeff has expanded the company's capabilities through product and service offerings. This has opened up many opportunities to provide the very best solutions for infrastructure improvements within various markets.

Jeff's most recent work, 'designing energy management solution sets,' provides the needed assistance to all markets that have been affected by the states utility crisis. This fosters the "service first" philosophy the company embraces.

During the year 2000, Mann acquired the dealership rights to the Siemens Staefa product line. This has allowed RSC, Inc. to further expand its capabilities and to better serve our existing customer base as well as pursue new market opportunities.

The future of RSC, Inc. is bright. The company is positioned perfectly to capture new market opportunities and better serve its existing customer base. The company's leading edge solutions, exemplary customer service principal, and outstanding workmanship add up to a company poised and ready to assist markets with their energy management needs.

JANUARY MAIN MEETING RECAP: CHP SYSTEMS – FUEL CELLS AND MICRO-TURBINES

by:Ralph Panting



Jan. Main Speaker: David Kuo with President Ralph Panting.

David Kuo, PE, Energy Services Manager at Southern California Air Conditioning Distributors presented a new and interesting technology on co-generation with the use of fuel cell systems and micro-turbines. He started his talk by describing the basic fuel cell which than was combined into a fuel cell system which consists of a fuel processor, fuel cell power section and the power conditioner. These packages are

produced by several manufacturers I various forms and come in sizes appropriate to the project requirement.

Another approach in generating electrical power is the use of natural gas as fuel and micro-turbines. These devices work by burning natural gas, which turns a turbine shaft at high speed, which turns a generator creating electric power. Exhaust heat can be given off to atmosphere or reclaimed by a heat exchanger, the later being the preferred method because of increased efficiency.

David reviewed the strengths and weaknesses of these alternative forms of energy. He stated that this is a new high quality, highly efficient and innovative cutting edge technology to clean power. David's presentation was well received by all. Thanks for your contribution David.



Jan. Tech Speaker





ASHRAE RESEARCH FULL CHAPTER AWARD

By Carmen Urenda, PE

The Southern California chapter of ASHRAE has once again qualified for the Research Promotion Full Chapter award. To reach this level, all officers, directors and the Research Promotion chair submitted honor roll level contributions of \$100 or more for ASHRAE research prior to the end of the year, 2002. In recognition of this show of support, the chapter will receive an award patch at the Region CRC, be recognized in the February, 2003 Insights publication and will be highlighted in a special section of the October Journal Honor Roll along with all other qualifying chapters. In addition, the chapter will receive 200 PAOE bonus points. Please join your officers in supporting ASHRAE Research. Contributions can be made payable to ASHRAE Research and sent to ASHRAE Research, 1791 Tullie Circle NE, Atlanta, GA 30329.

The following chapter members have donated to the ASHRAE Research Fund in the past month and we thank them for their generous support:

Joe Ablay
Narendra Amarnani
John Clarkson
Donald F. Dickerson
Michael W. Gallagher
Chad A. Herrick
Don LaMarr
Carmen Urenda
Robert H. Woods

SOUTHERN CALIFORNIA WILL HOST THE ASHRAE 2004 WINTER MEETING

By John Sosoka, General Chair, 2004 Host Committee

The Convention and Exhibition will be held in Anaheim and all four So. California Chapters will have

an opportunity to participate. While the Host Committee has been functioning for several months, there are still a few Committee Chair positions available; Sponsors, VIP Assistance, General Tours and the Farewell Party. In addition to the Chair positions we also need committee members. Anyone wishing to participate on the Host committee should contact the General Chair, John Sosoka at (562) 497-2999 or jrs@p2seng.com.

The use of Sponsors at the annual Meeting is a new concept. It is being implemented by the Chicago Chapter at the January 2003 meeting. We will be looking for sponsors to help us make the social activities more exciting. So, California certainly does not want to be less of a Host than Chicago. The Sponsorships will provide an opportunity for the participating companies to demonstrate their support of ASHRAE and the HVAC community. The proposed levels of participation are Gold \$5,000; Silver \$3,000; and Bronze \$1,000.

Sponsors will receive:

- ❖ Incorporation into the chapter marketing campaign.
- ❖ Recognition at the Welcome Party, President's Luncheon & Farewell Party.

The Technical Tours Committee is looking for possible sites in the area. If you have a suggestion contact the Chair, Dean Graen at (714) 897-1036 or dbsales@aol.com.



NATIONAL ENGINEERS WEEK

February 16-22, 2003

Hold your calendars... **February 20, 2003**

In support of National Engineers Week, the Southern California Chapter of ASHRAE will host an E-Week activity. We are looking for local schools to participate, once again targeting high school students.

For additional information and volunteering/ sponsorship opportunities, contact David Kuo at (626) 854-6801 or d.kuo@scacd.com.

If past performance is an indicator of the future, we will have lots of fun again.



You are invited to participate in an important emerging energy technology event: The 5th Annual International Colloquium on Environmentally Preferred Advanced Generation (ICEPAG 2003).

This event will be held at the Radisson Hotel in Newport Beach, California. ICEPAG is organized by the US. Department of Energy, the California Energy Commission, the Pacific Rim Consortium on Energy, Combustion, and the Environment (PARCON) and the Advanced Power & Energy Program (UC Irvine). The colloquium features Tutorials from world-renowned experts in emerging energy technologies like fuel cells; exploration of the environmental impacts of such technologies; focus on regional issues of power generation, economic drivers; and regulatory impacts.

As part of the Colloquium, participants will also be invited to a reception and tour at the National Fuel Cell Research Center and University of California Combustion Laboratory to see operational fuel cells and microturbine generators.

Intensive half day Workshops are offered on March 17th on Distributed Generation Technologies and Applications; and on March 20th on Fuel Cell Technology.

For further information and to register for the colloquium, please click on the following address:
<http://www.parcon.uci.edu/icepag2003/index.htm>

If you have questions, please contact Barbara Valencia at 949-824-1999 x212 or email:
bev@apep.uci.edu

SOUTHERN CALIFORNIA CHAPTER PROGRAM SCHEDULE

February 4, 2003

Main Program Recent Load Calculation Research Results from TC 4.1

Speaker: Larry Sun
 Tech Forum Direct Digital Controls

Speaker: Gregg Arnold & Jeffrey Mann

March 4, 2003

Main Program: Underground Thermal Storage/Heat Pumps

Speaker: Karl Fisher
 Tech Forum Complying with SCAQMD for Boiler Emissions

Speaker: Greg Danenhower

April 1, 2003

Main Program: IAQ-Tech 62
 Speaker: Vicken Arabien
 Tech Forum Modular Cooling Towers

Speaker: TBD

May 6, 2003

Main Program: Acoustics
 Speaker: Mark Schaefer
 Tech Forum VAV Turndown
 Speaker: TBD

June 2003

Installation Dinner/Dance

Western Section Programs

- ❖ February 11, 2003 (Santa Barbara)
- ❖ March 11, 2003 (Ventura)
- ❖ April 8, 2003 (Santa Barbara)
- ❖ May 13, 2003 (Ventura)
- ❖ June 10, 2003 (Santa Barbara)

HELP WANTED

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

JOEY JIRON
 1040 Lincoln Ave., Ste. 210,
 Pasadena, CA 91103
 (626) 449-4188, x207
 Fax: (626) 449-4122
jjiron@budlong.com

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

MECHANICAL ENGINEER

Requirements: BS degree in Mechanical Engineering. Looking for energetic self-starter with excellent communication skills. Sales experience and computer skills a plus.

Job Description: Assist consulting engineers, mechanical contractors, and building owners in the design, selection, and application of HVAC systems.

If you are interested, please send your resume to
 Samy Rezine at SCACD
 16900 Chestnut St.
 City of Industry, CA 91748
 e-mail: samy@rezine.net
 fax: (626) 854-4690
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Charlie Ioimo
Senior Project Manager
cioimo@eberhardco.com

Mechanical, General/
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15228 Raymer Street
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Jerry Conklin
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GENERAL LEGAL EDUCATION PROGRAM SURVEY

By Ralph Panting

In late August 2002 a General Legal Education Survey was circulated throughout the country. Nationwide there was a total of 3247 responses, nearly a 60% return rate out of approximately 5600 to the survey. Region X expressed greatest interest in order of preference are as follows:

1. Negotiating Skills: Dealing with Contract Negotiations, clients and Code Officials.
2. Business, Technical and Legal Issues Relating to Design/Build Services.
3. Indoor Air Quality: Liability Concerns for Engineers and Related Industry Members.
4. Business, Technical and Legal Issues Relating to Shop Drawings and Change Orders.

The survey showed an overwhelming preference to receive information through live presentations at chapter meetings, followed by articles in the ASHRAE Journal.

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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Editor: Joey Jiron, e-mail: jjiron@budlong.com

Editor's Office:

1040 Lincoln Ave., Ste. 210, Pasadena, CA 91103

(626) 449-4188, x207 / fax: (626) 449-4122

www.ashrae-socal.org



Newsletter of the Southern California Chapter

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

Mail Change of Address to:

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

JODY RUSLING, Executive Secretary
1942 Endicott Road, San Marino, California 91108
Fax: (626) 285-9568

