



CLEVELAND *ASHRAE Newsletter*

January 2007

JANUARY MEETING

HYBRID HVAC SYSTEMS: CAN THEY BE THE FUTURE?

January 15, 2007



4:15-5:30 PM	Board Meeting
5:30-6:15 PM	Happy Hour
6:15-7:15 PM	Dinner
7:15-8:15 PM	Presentation

Speaker: Dr. Birol I. Kilkis, *ASHRAE Distinguished Lecturer*
Location: Harry's Steakhouse

*R.S.V.P. at (216) 373-0315 by 12:00 Noon on Friday, January 12th for
Reservations. Please state if you will need a PDH Certificate.
Dress Attire is Business Casual.*

We are very fortunate to have an ASHRAE Distinguished Lecturer visit our chapter. Dr. Birol Kilkis, also an ASHRAE Fellow, will be speaking to us about "Hybrid HVAC Systems: Can they be the future?" In Europe, there are several applications, which combine forced-air HVAC with radiant panel systems for an optimum cost, optimum comfort, and optimum control. This presentation will provide an in-depth coverage of fundamentals about how these systems can be combined and controlled. Some design examples will be given and advantages of hybrid systems will be discussed. If time permits, an analytical algorithm about cost optimization of a zero energy house, using a hybrid HVAC system, will be presented.

**This Month's
Sponsor:**

*If you are interested in sponsoring the news letter,
please contact Matt Nelson at 440-243-3535.*

R.L. Deppmann Company

5145 Brecksville Road, Suite 101
Richfield, OH 44286
Phone (330) 659-0200
FAX (330) 659-0365
Website: www.deppmann.com



TEAM SOLUTIONS FOR THE HYDRONIC AND STEAM INDUSTRY

Officers and Committee Chairmen

2006-2007

Officers and Board of Governors

President	Kenneth Borah
President Elect	Kenneth Wissner
Treasurer	Matt Nelson
Secretary	Frank Eisenhower
Board of Governors	Robert Laneve Andrew Tenhundfeld Brian Chambers

Committees and Chairs

Chapter Technical Transfer Committee	Rob Laneve
Programs (CTTC)	Robert J. Laneve
Refrigeration (CTTC)	Richard B. Long
Gov't Activities (CTTC)	Matt Nelson
Membership & Roster	Billy Kodosky
Product Directory	Daniel J. Bacik
Research Promotion	Terry Kretch
Newsletter	Andrew Tenhundfeld Matt Morgan
Student Activities	Scott K. Jordan Richard B. Long
Honors & Awards	Fred H. Hollman
Historian	Dave Deschler
Science Fair	Steven R. Armstrong
Meeting Host	Shawn Beres
Scholarship Fund (Sal Triana & Gardiner)	Scott K. Jordan Richard B. Long Jerald K. Cohen Gary Gardiner
Golf Outing	Ken Borah Louis A. Bentzen
Engineer's Week	James G. MacMillan
Special Events (December Social)	Mike Denk
Budget & IRS Compliance	Fred H. Hollman
Sunshine Fund	James W. Wickert

The President's Corner by Ken Borah

I hope everyone had a very Merry Christmas and is Blessed with a great New Year.

And speaking of the new year...the ASHRAE Cleveland Chapter team has been hard at work planning for 2007 and beyond. We begin this month with a regular meeting at Harry's Steakhouse. Birol Kilgis is a distinguished lecturer for ASHRAE and will be speaking about Hybrid HVAC Systems. Although the complexity of these systems is more than that of the systems we are accustomed to using, they offer some flexibility and "green" attributes for our industry's future.

A big "thanks" to Andrew Tenhundfeld for leading the charge in bringing back our spring product show. The show will be filled with PDH courses, products on display, and fellowship (not to mention food). I know of one engineering firm that will be in mass attendance to partake in all three attributes.

Lastly, ASHRAE has awarded two Sal Triana scholarships for 2006. One recipient was Mr. Jack Malone currently attending CSU, and the other was Mr. Jason Witterman (from the NE Ohio area) currently attending Penn State. Congratulations to these individuals for receiving these scholarships and pledging to careers in the HVAC industry.

I look forward to the upcoming meeting and getting an opportunity to see you all early in 2007.



Speaker Brief:

Dr. Birol I. Kilgis is a consultant for Watts Radiant, a radiant floor heating and snow melting company, and the Principal of Green Way Technologies International, a green building and low-energy systems design and consulting company. He has been a professor in Mechanical Engineering Departments for over 20 years, author of over 250 technical and scientific papers and has co-edited two books. He is the member of the editorial board of the International Journal of Green Energy. He has been engaged in the design and analysis of all aspects of HVAC systems, alternative and waste energy utilization, and pioneered in a hybrid wall HVAC panel system. Currently, he is the USA representative of the International Energy Agency's LowEX network and head of ASHRAE Technical Activities Committees in Section 6. For the past 12 years, he has been continuously contributing to several ASHRAE Handbook chapters and ASHRAE Standards. He holds a Ph. D. degree in mechanical engineering and a diploma with honors from the von Karman Institute for Fluid Dynamics.



In the News...

The following article was published in the December 2005 issue of *Properties Magazine*.

Future Visions

Predictions in engineering and design for 2130

We knew that as part of the CES 125th anniversary issue, we would be traveling back in time to examine the history of this integral organization. As such, we thought it might be interesting – and entertaining – to try to gaze into the future of engineering and design as well. So we asked Cleveland-based firm Karpinski Engineering to design a building for the year 2130. What would it look like? How would it work? Obliging our invitation, Karpinski decided to design a hospital of the future. Below is an example of a typical day-to-day memo regarding such a facility, which Karpinski has named Sky Shore Memorial Hospital. Read on and enjoy! –Ken Krych

DOCUMENTATION MEMO

Date: September 14, 2130

To: Mr. Jerry Atricks, Sky Shore Hospital

From: James Karpinski VI

Subject: SD Narrative

Project: New Facility

Project Number: 2130-152

Schematics Development narrative

New Hospital Design

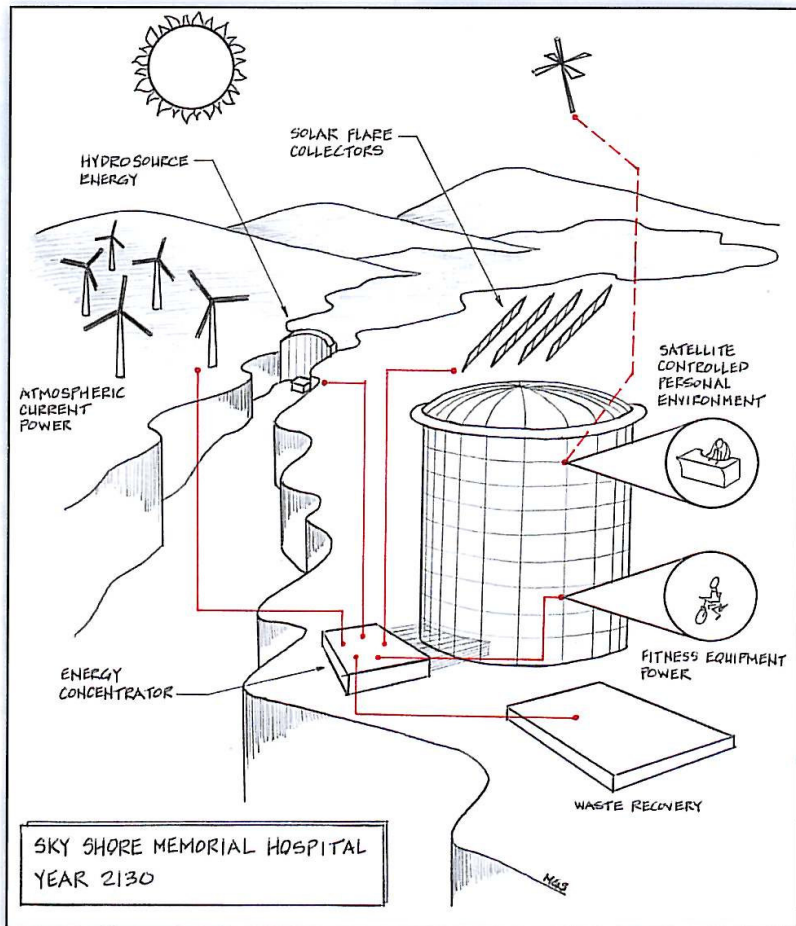
Fuel Source

A. Due to the new Energy Policy Act of 2127 new building construction cannot use fossil fuels. Therefore, the following on site energy generation capabilities have been incorporated into most new building designs, as they will be for the new Sky Memorial. As you know, even though the typical hospital fuel consumption is down from an average 8 watts per square foot of a mere 50 years ago to 3 watts per SF today the very limited availability of utility company provided energy dictates the need for this on site generation. In spite of the numerous wind farms, solar collection systems and sea water (thermocline) generated power systems operated by the government, we are recommending the following on site energy systems:

- Hydrogen Fuel Cells
- Methane production cells in combination with your on site waste recovery system
- Nuclear Fusion Power Modules
- Solar Flare Collectors
- Wind Power Generation
- Hydrogen generation
- Fitness equipment generated power
- Solar concentration (steam generation)

In addition, your on site Ozone generation system will continue to assist in environmental improvement by aiding in ozone layer replenishment. The reduction in environmental impact of these systems will increase your available world environmental impact units.

B. Your proposed "Virtual" facility management system will incorporate virtual



reality remote system observation and VM maintenance with robotic manipulation capabilities. This system will operate on the world wireless network (WWN).

C. You have been registered for the newest version of the SCPE (Satellite Controlled Personal Environment) system that you will use for personal operation. This system will continue to provide your personal environmental settings at all building locations whether you are at home, work or at the world trade markets.

D. Your administrative office employees will be working in their individual Virtual offices with remote office access via the interplanetary web (IPW). This feature of the system will permit employees to avoid leaving their individual biosphere residential units. This same remote access system will be used for your virtual health evaluation system as well as your Virtual surgery performance.

E. You are confirmed for the transfer of 4500 WMU (World Monetary Units) to our corporate account for the provision of these updated services. **P**

November Meeting Recap

By Rob Laneve

Our November 13, 2006 lunch meeting was well attended...almost 60 attendees! Thank you for supporting our ASHRAE Chapter. Our presenter was Ms. Paula Selvaggio, of Selvaggio, Teske & Associates, Incorporated. With over eighteen years of experience in the professional liability insurance industry, Paula offered many insightful comments including a profile of the Architectural/Engineering Industry, the A/E industry challenges, risk drivers for the A/E and how the A/E can reduce risk.

Since 2001, there has been a 17% loss in the number of design firms in the A/E industry. Lack of profitability has been a driving force behind this loss and key factors influencing profitability include scope creep, quality control and personnel. Scope creep can be reduced by managing the client's expectations from the outset and by keeping the construction team informed of changes and the impact of those changes. Quality control must be viewed as a continuous process, measuring both success and failures; a firm must understand Why things happened right, as well as Why things happened wrong. To maintain efficiency, a firm's personnel must be developed and monitored to meet the needs of its clients.

There are both technical and non-technical risk drivers for the industry. Most technical drivers involve some sort of error or omission in the design. Non-technical drivers include: negotiations and contracts, client selection, project team capabilities and communications. Communication breakdown leads the non-technical risk drivers and accounts for nearly 30% of claims. Communications must be clear, concise and complete, especially with the project scope.

Within the A/E industry, Architects are involved in 42% of insurance claims, followed by civil/survey (25%), structural (11%), mechanical (8%), electrical (2%) and other disciplines (12%). Over 60% of the time, the Owner/Client is filing the claim and over 85% of the time the claim is for economic loss or property damage.

Controlling risk is a continuous process. Firms should use checklists for every job; making sure that all appropriate tasks are completed and utilizing "the right contract for the right job" is a necessity. Communication will always be a key to successful projects. Thank you Paula for sharing your time and knowledge with our Chapter.

Northeast Ohio ASHRAE Presents: *NEO Expo*

Dear ASHRAE Members:

On March 21st, we are having our 1st New Products and Education Expo. Every one hour education session attended will earn you one PDH credit. These sessions are a easy way to meet the Ohio PDH requirements for Professional Engineers. While there, you also have the opportunity to see the latest products of our industry and your fellow ASHRAE members. We look forward to your attendance at the Expo.

Sincerely,
Andrew Tenhundfeld
Expo Coordinator

Time & Place:

March 21st (2 P.M. - 6 P.M.)

Quality Inn in Richfield on Route 21

Activities:

- HVAC Equipment Displays
- Hors D'Oeuvres
- Cash Bar

PDH Topics:

- Boilers
- AMCA Update
- BAS Integration & Hospitals
- Others TBA



Northeast Ohio ASHRAE 2007 NEO Expo

New products, Education, & Opportunities to network

Wednesday, March 21st, 2007



Quality Inn Richfield Ohio, 4742 Brecksville Road

Schedule:	11:00 AM – 2:00 PM	Exhibit / display setup
	2:00 PM – 6:00 PM	Product Show and Seminars
	3:00 PM – 6:00 PM	Cash Bar and Hors d'oeuvres
	6:00 PM -- 7:00 PM	Display Tear Down

Please return this form with your registration fee. Please list your company name as you would like it to appear in the newsletter and program, (or simply attach a business card to the form).

COMPANY: _____

CONTACT: _____

ADDRESS: _____

PHONE: _____ FAX: _____

EMAIL: _____

Will you need space outside for product Yes ☐ No ☐

How much space will you need? _____

Displays:

Single – 6'-0" x 2'-6" table\$200.00 ☐

Double – 12'-0" x 2'-6" table.....\$275.00 ☐

Triple – 18'-0" x 2'-6" table.....\$350.00 ☐

Special sizes available – Call for details..... ☐

Will your display include a tall backdrop? (**important!**) Yes ☐ No ☐

Will you require electricity? **BRING EXTENSION CORDS AND TAPE TO COVER CORDS.**

Yes ☐ No ☐

→ Make checks payable to: "ASHRAE Cleveland Chapter – NEO Expo"

Mail or fax to: Andrew Tenhundfeld
Johnson Controls
9797 Midwest Ave
Cleveland, OH 44125
Phone: 216-518-5919
Fax: 216-587-22556

DEADLINE: *January 22, 2007*

.....
Remember! Register early to get your company in the show and program, but pay early for the best location!



Dinner Location:

Harry's Steakhouse
5664 Brecksville Rd.
Independence, OH 44131
(216) 524-5300

Chapter Calendar:

Jan. 15, 2007	Distinguished Lecture
Location:	Harry's Steakhouse
Feb 19, 2007	Joint Meeting with Akron
Location:	Quality Inn and Suites
March 21, 2007	<i>NEO Expo</i>
Location:	Quality Inn in Richfield
April 16, 2007	ASHRAE Structure
Location:	Harry's Steakhouse
May 21, 2007	ASHRAE Jeopardy
Location:	Harry's Steakhouse
June 2007	ASHRAE Golf Outing