



CLEVELAND *ASHRAE Newsletter*

October, 2004

OCTOBER MEETING

Monday October 18, 2004



Meet Up:
(Parking Lot)

5:15-5:30
See Location

Tour
Attitude Adjustment
Dinner

5:30-6:30 PM
6:30-7:00 PM
7:00 PM – at Quinn's
Aurora Rd., Solon

Location:

Great Lakes Cold Storage:
6531 Cochran Road
Solon, Ohio 44139

*R.S.V.P. at (216)-373-0315 by 12:00 Noon on Friday, October 15th for Reservations
Dress Attire is NOW Business Casual*

Come with us to visit Great Lakes Cold Storage.

This facility is 4,500,000 cubic feet of modern space for public frozen and refrigerated warehousing and distribution. Great Lakes Cold Storage services its customers by providing storage of production overflow, seasonal inventory, promotional inventory, raw ingredients, commodity and agricultural products. This facility has store door pick operations and inventory strategically placed for chain and distributor pick up. It is a modern single story fully racked facility with -20 to + 45 Fahrenheit capabilities. It utilizes state of the art computerized refrigeration system with penthouse evaporators with all external piping to assure product integrity. There is a refrigerated rail dock with 5 doors and a refrigerated truck dock with 24 doors. The computerized technology allows for a variety of time tested EDI alternatives, WINS (Warehouse Information Network system), bar code and RF capabilities.

Note: Bring your own winter coat and hat.

We will be touring the Freezer!!

This Month's Sponsor:

 **YORK** INTERNATIONAL
CORPORATION

9000 Bank Street
Valley View, OH 44125-3426
Telephone (216) 447-0696
Fax (216) 524-3589

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

Officers and Committee Chairmen

2004-2005

Officers and Board of Governors

President	Richard B. Long
Vice President	Brian P. Chambers
Treasurer	Kenneth F. Borah
Secretary	Kenneth Wissner
Board of Governors	Matt Nelson Dale VanLehn Frank Eisenhower

Committees and Chairs

Chapter Technical Transfer Committee	Chuck Nachman
Programs (CTTC)	Chuck Nachman Robert J. Laneve
Refrigeration CTTC)	Richard B. Long
Gov't Activities (CTTC)	Matt Nelson
Membership & Roster	Frank Eisenhower Billy Kodosky
Product Directory	Daniel J. Bacik
Resource Promotion (Research)	Mike Moats Terry Kretch Dominic Cacolici
Newsletter	Andrew Tenhundfeld
Student Activities	Scott K. Jordan Richard B. Long
Honors & Awards	Fred H. Hollman
Historian	Dave Deschler
Science Fair	Steven R. Armstrong
Meeting Host	Kevin Kindbom
Scholarship Fund (Sal Traina & 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 Richard Long

Last month I eluded to addressing two topics:

ASHRAE Operations & Technical Issues

So let's begin with Operations!

ASHRAE Operations

Nationally: ASHRAE is an extremely large non-profit organization with over 57,000 members. It exceeds a revenue of 17 million annually from dues, shows, publications, advertising and contributions. One of ASHRAE's main recent goals is to "move at the speed of business". ASHRAE has recognized that bureaucracy has slowed operations and many society reorganizations are coming. I will be doing some research regarding some of the changes taking place at ASHRAE and disseminating this information over the next few months.

Where might we see changes? One change will be finding information and links on the ASHRAE web site. The process of looking for current or archived information will become much quicker and less painless. Changes are coming!

Locally: For those young members who have thought about becoming active – I must admit, it has been particularly valuable for me both professionally and personally to be involved and active in ASHRAE and I advocate to others especially young engineers – stop waiting - get involved – talk to me or other committee chairman! Since most all of us are often or perhaps always on the computer, feel free to e-mail me at Rlong@trane.com if anyone would like to discuss getting active on any committee now or perhaps in the near future.

Cleveland ASHRAE TOUR: I look forward to seeing many of you at the Cold storage plant this moth 10-20- 04 in Solon, Ohio. It will definitely be *cool* inside this mammoth cold storage facility since this is a low temp operation as in ZERO degrees. Do not forget to bring some warm clothes!!

Technical Issues

The final draft has now been approved by ASHRAE for a new design manual "Advanced Energy Design Guide, Small Office Building" which will be available this fall. It has a wealth of knowledge, yet, it looked more like a reference guide with many tables. This guide took over 5000 man-hours and was released quicker then any other technical guide ASHRAE has completed. It addresses the overall process for designing, constructing and operating energy efficient buildings from pre-design through operation. The guide includes many specific recommendations for energy efficient improvements in technical areas such as the building envelope, lighting, HVAC equipment and systems. The guide will strive to reduce energy costs in buildings by a minimum of 30%.

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The President's Corner by Richard Long

Refrigerant Update: *What changes are coming to A/C equipment with R-22?*

Since R-22 is a HCFC (with a small chlorine content), the Montreal Protocol in 1987 stated that substances that deplete the Ozone Layer shall be phased out in developed countries by 2020 and servicing of HCFC's allowed until the year 2030. Keep in mind that recycled and stockpiled HCFC refrigerants will insure adequate quantities for future use during the economic life of current equipment. The two expected replacement refrigerants for R-22 are **R-410a** and **R-407c** which are blends and fall into the category of the HFC's (Hydrofluorocarbons).

When it comes to political issues, even though we witnessed the Bush Kerry debates of late, the Montreal Protocol with Ozone Depletion Potential - ODP concerns is not the only significant refrigerant issue today. Global warming (GWP) with it's threat to our habitat etc. continues to raise major concerns with the intergovernmental Panel on Climate Change. Some new HFC blends have higher Global Warming Potential (GWP) than R-22. What I see is that politics not chemicals appear to be swaying many of our future choices of refrigerants!

What are some of the differences of R-22 vs HFC blends?

➤ R-22 is a true compound (as is the popular R134a). Blends are mixtures.

• **R-410a = HFC-32 (50%) + HFC-125 (50%)**

• **R-407c = HFC-32 (23%) + HFC-125 (25%) + HFC-134a (52%)**

➤ Those of you who have ever had a leak with an R-22 unit, were able to top off the charge by letting the compressor suction pull in refrigerant from a R-22 tank in the vapor phase. A very simple process. The newer HFC blends need to be charged in the liquid phase. A more challenging process for the service technician. The pressures of some of these blends are also much higher than R-22. How much higher? - if R-22 = 241psi, R-407c = 256psi and R-410a = 379psi. Refrigerant oil, driers, x-changers etc. are different for blends than for R-22. Thus, blends are not a drop-in replacement with R-22 equipment.

The ANSI/ASHRAE numbering system of Refrigerants:

R-22 : rated in the 000 series refrigerants - Methane based compounds

R-134a : rated in the 100 series refrigerants - Ethane based compounds

R-407c : rated in the 400 series refrigerants - Blend / Zeotrope

R-410a: rated in the 400 series refrigerants - Blend / Zeotrope - a near Azeotrope

R-500: rated in the 500 series refrigerants - Azeotropes

Whether we like it or not, it appears the blends **R-410a** and **R-407c** are here to stay. At least for a while. Some manufactures are choosing R-410a and others R-407c. One thing is certain as of today, our lives are much more dependent on global political decisions than in years past. Something I heard from an ASHRAE distinguished lecturer specializing in refrigerants - There are serious discussions in Europe taking place now to ban high GWP refrigerants production by the year 2018. The popular R-134a falls into that category and **R-410a** along with **R-407c** are not far behind? Are changes coming? You can bet on it!!

SEPTEMBER MEETING SUMMARY

By: Rob Laneve

Our Healthcare System: Doomed or Can it be Saved?

Mr. Charles B. Miner, retired President and CEO of the Cleveland Clinic Health System-Eastern Region, presented a very well received and entertaining presentation at our September meeting. It was a great way to start the year off. The present and future economy of Northeast Ohio is, and will be, largely driven by the healthcare systems in our region; especially by the Cleveland Clinic and the University Hospitals health systems. In fact, after the federal government, the Clinic is the largest employer in Northeast Ohio. However, as a whole, the healthcare systems are in a crisis situation: increasing costs and poorer service...neither of which is a benefit to the patient. Rising liability insurance premiums, healthcare worker shortages, reduced healthcare facility capacity and increased regulations are just a few of the factors crippling our healthcare system. Medical enrollments are even down because of the gloomy outlook. Healthcare has fallen victim to reinventing the wheel many times with multiple diagnosis for similar illnesses. Mr. Minor predicts that the solution to the crisis can be found through the engineering discipline...specifically an engineer's mindset of "process implementation." An engineer typically has the ability to take multiple tasks and implement a process to achieve the greatest efficiency. Mr. Minor suggests that the healthcare professionals must collaborate and develop uniform processes for treating our illnesses. Process oriented procedures yield greater efficiency and produce less errors; thus reducing costs, improving service and creating a better experience for the patient. In the upcoming years, each of us will take a greater role in our healthcare, as much more information is readily available to us through the Internet, but for the benefit of all, let's hope that the healthcare professionals can cure the health system. Hope to see you at the October meeting....bring your jacket!

ASHRAE Audiovisual Program

To assist local ASHRAE Chapters and Student Branches in planning and presenting programs and technical sessions, as well as presentations to outside groups, ASHRAE has developed a collection of audiovisual programs on topics of interest to ASHRAE members and others. The following describes the various programs and their appropriate uses. These audiovisual programs are not designed to stand alone and their use should always include a speaker or facilitator to lead and direct discussion.

This program is designed strictly for use by ASHRAE Chapters, Sections and Student Branches. Requests for programs may be made by authorized Chapter Officers or Student Branch Advisors who are ASHRAE members. All AV materials in the program are available for loan. Asterisked (*) items are available for purchase in Video at \$20 each (price includes shipping). Please see the attached request form for information needed to place an order for loan or purchase.

CHAPTER PROGRAM MATERIALS

Subject matter for these programs is generally of technical interest to ASHRAE members, but without being scientifically rigorous or detailed. Most programs are appropriate for outside groups as well.

1. * THE HISTORY OF ASHRAE

This six-part program tells the story of the turn-of-the century America, when engineers and men and women of science needed reliable information to practice the arts and sciences of heating, ventilation and refrigeration. The story begins in the 1890s and continues to present day concerns such as indoor air quality, energy management, and refrigerant development. VIDEO available for loan for purchase (NTSC) Available in DVD format for loan only. [1 hr. and 15 min.] 1994

2. * ASHRAE: IMPROVING THE QUALITY OF LIFE

A five-minute presentation designed to provide an overview of ASHRAE. VIDEO (NTSC) [5 min.]

3. * TECHNOLOGY AND HUMAN DESTINY

The purpose of this program is to communicate to potential members, students, and to the public at large why ASHRAE membership is important to the quality of life we now enjoy. VIDEO (NTSC) [5 min.] (A Spanish version is also available).

4. * INDOOR AIR QUALITY, HEALTH, AND ENERGY CONSERVATION

This program discusses the effect of indoor air quality on the health and comfort of building occupants, effective methods of regulating indoor air quality while conserving energy, and providing solutions to common indoor air quality problems. Designed to provide information to both engineers and to the general public, the show may be effectively used at an ASHRAE chapter meeting or a community service or civic group within the local community. SLIDE/AUDIO [25 min.] 1994. Copyrighted program (may not be duplicated).

Chapter Calendar:



Happy
Halloween

Nov 9, 2004

Panel Discussion on OSFC
with Heapy Engineering and
School Owners

Location:

Holiday Inn - Richfield
*Joint meeting with Akron
ASHRAE*

Dec 10th, 2004

ASHRAE Social - Bowling
across from Harry's
Details will be sent next month!

NEW! NEW! NEW! R.S.V.P Hotline for All ASHRAE Meetings!

Are you coming the next meeting? Then call-in to the new Cleveland ASHRAE reservation line to let us know. It's a new number that you can dial anytime of the day or night! Enough jibber-jabber here it is:

(216) 373-0315

If you have any opinions or feedback you would like to leave when you call just add it to your message. Some say change is good, what's your take on the new reservation system ?



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ASHRAE Cleveland Chapter

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