



# CLEVELAND *ASHRAE Newsletter*

November, 2004

## NOVEMEBER MEETING

Tuesday November 9, 2004



Attitude Adjustment

5:00-5:45 PM

Dinner

5:45 PM

Presentation

6:30 PM by Heapy Engineering (Dayton)  
Joint meeting with Akron ASHRAE

Topic:

Ohio School Facility Commission  
(OSFC) Projects with Heapy  
Engineer's leading the discussion

Location:

Richfield Holiday Inn (I77 and Route 21)

Cost:

Free to Cleveland ASHRAE Members  
Non-Members - \$25.00

*R.S.V.P. at (216)-373-0315 by 12:00 Noon on Friday, November 5th for Reservations  
Dress Attire is NOW Business Casual*

Dear ASHRAE Member,

If you or somewhere you work with is not receiving the ASHRAE monthly newsletter, please email me at [Andrew.Tenhundfeld@york.com](mailto:Andrew.Tenhundfeld@york.com) to set up your account. Please also check with your office computer support to make sure that a Spam blocker is not filtering out the newsletters. Thanks for your time.

Sincerely,

Andrew Tenhundfeld  
ASHRAE Newsletter Editor  
216-447-0696 Ext. 119

**This Month's  
Sponsor:**

**Gardiner**  
**Trane**

*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

### ASHRAE Operations

**LOCALLY:** The summer has vanished, most of the leaves have fallen and the holiday season is just around the corner. So what do we do now? Now is the time to **SIGN UP** to attend our joint meeting with the Akron ASHRAE chapter on November 9<sup>th</sup> at the Holiday Inn Richfield, Ohio. We are predicting close to 200 attendees with many school officials, building owners, facility engineers, mechanical engineers, contractors and manufacturer representatives which will be a great venue for networking. We are fortunate to have engineers from Heapy Engineering (Dayton Ohio) who have specialized for many years in the school market to discuss CURRENT OSFC rules along with problems and concerns that relate to many Ohio School Facility Commission (OSFC) projects – what's been good and what's been bad!

This is a membership promotion night for us so please do - **bring a friend.**

**NATIONALLY:** It is also time to think about **SIGNING UP** for the National ASHRAE winter meeting in Orlando, Florida. Not only is it Florida in February (5<sup>th</sup> – 9<sup>th</sup>), the educational forums this year appear to be outstanding. ASHRAE is sponsoring 14 professional development courses on:

- Designing HVAC Systems to Control Noise and Vibration\*
- Preventing Moisture and Mold Problems\*
- System Selection and Report
- Designing Residential Ventilation Systems to meet ASHRAE 62-2-2003
- Introduction to Green Buildings and Sustainable Construction
- An Introduction to BACnet
- Leadership skills for Engineering Leaders
- Cost Effective Commercial and Industrial Solar Applications
- Understanding and Designing Dedicated Outdoor Air Systems
- Design of Commercial Ground-Source Heat Pumps
- Compliance with ASHRAE/IESNA Standard 90.1 HVAC/Mechanical
- Introduction to Thermal Energy Storage Systems
- A Designer's Introduction to Commercial Desiccant Systems
- Determining Energy Savings from Performance Contracting Projects
- \*All Day course

Additionally, there will be over a hundred technical topics with experts from around the world on every imaginable technical topic in our industry providing short one or two hour forums with highly valuable technical information for our industry. Indeed, I have found through the years that this venue of technical training is one of a kind and something that as they say is – **PRICELESS!!!**

I look forward to seeing many of you at this month's ASHRAE meeting and remember – help our membership committee out by bringing a potential member to our **membership promotion night!**

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## The President's Corner by Richard Long

# Cleveland ASHRAE Technical Topic

Last month I wrote about **REFRIGERANTS** – the fate of R-22, blends etc. In writing this article, I thought that if I can share some technical knowledge with local members, why shouldn't others share some of their expertise within our chapter? Is it human nature for some people to share knowledge and others to hold it sacred? Could this perhaps be a method to get local members especially older more experienced engineers and perhaps retired members to share some of their hard earned knowledge? Even young engineers who have a knack for writing and would like to hone their skill and get some exposure within our chapter would be welcomed. I would like this **"Technical Topic"** section to be for any technical topic within our industry and my intentions is not to be the only author but to encourage other local members to spread **"LOTS"** (Love of Technical Shit) of knowledge and think about writing technical articles to be shared with all local members. Lets have the members of our Cleveland ASHRAE chapter get something out of the newsletter of some real value. While there needs to be a legitimate consideration to prevent any commercialism, the president and board members at our board meetings will be able to judge articles to publish - unanimous vote to prevail. Thus, I encourage and would like to be the instigator for many of you to share some or **LOTS** of expertise to e-mail me your article at [Rlong@trane.com](mailto:Rlong@trane.com) Fax is also welcomed at 440-349-6980. With this said, here is an article regarding "bearing ratings" from Rob Laneve of Air Control Products (please see next page);

## **Bearings, just the facts.....**

Although **bearings** are one of the most critical components in the operation of a fan, their specified life is often misunderstood or incorrectly specified.

The American Bearing Manufacturers Association recommends using an “ $L_{10}$ ” rating life for bearings, even though an “ $L_{50}$ ” is sometimes specified. The rating life is theoretical and is based on a collection of statistics.

### **Definitions**

$L_{10}$  Life: The bearing life associated with a 90% reliability when operating under conventional conditions (i.e. after

a stated amount of time, only 10% of a group of identical bearings will have developed metal fatigue in the rings or rolling elements).

$L_{50}$  Life = the bearing life associated with a 50% reliability (i.e. after a stated amount of time, 50% of a group of identical bearings will have developed metal fatigue in the rings or rolling elements).

### **In Your Specifications**

**Always provide the desired rating life together with the required hours of life.**

**This will allow “apples - to - apples” comparisons!**

**An equivalent to specifying an “ $L_{10}$  - 80,000 hour” bearing would be an “ $L_{50}$  - 400,000 hour” bearing.**

**Table 1: “ $L_{10}$ ” Life Rating**

Required $L_{10}$ Life(hours)	Calculated Life (in years) running 16/hours/day for $L_{10}$ Bearings
20,000	3.4
40,000	6.8
80,000	13.7

Notes: 1) Calculated life assumes fan operation of 7 days/week and 52 weeks per year.

2) Field life will typically be greater than calculated because bearings are selected for the maximum RPM and horsepower, but most fans are selected significantly below their maximum fan rpm

# Let's Talk about “OHIO SCHOOL FACILITY COMMISSION Projects” This Month's Meeting Speakers!

Developed in 1997, the Ohio School Design Manual has provided successful guidelines for numerous outstanding facilities throughout the State of Ohio. This year, a new revision has been introduced.

Dynamic in nature, our November 9 Program will review the latest changes to the mechanical specification in this Manual.

Our presenters for the evening are Bart Grunenwald, P.E., and Bruce Knapp, QCxP from Heapy Engineering in Dayton, Ohio. Heapy Engineering has been involved from the beginning with the Ohio Schools Facilities Commission, as a consultant and administrator of the OSFC Design Manual.

As presenters and problem solvers, they come to us this evening with the specifics of mechanical design in specifications.

Bart Grunenwald provides a wide range of experience from his involvement in the design and construction industry. He has worked on both the contracting side of the industry, as well as designing Mechanical systems for many years with Heapy Engineering.

Recently Bart has spearheaded the development of Heapy Engineering's Commissioning Services Department, in which he now works as a commissioning Project Manager. He is also filling the role of Project Manager for Heapy Engineering's mechanical consulting work for the Ohio School Facilities Commission.

Bart is certified as a LEED™ Accredited Professional and provides oversight and direction for Heapy Engineering's design staff relating to Sustainable Design issues.

Bart is a licensed Professional Engineer in the State of Ohio; he holds a bachelor's degree in mechanical engineering and an MBA from the University of Dayton. He is the out-going President for the Dayton ASHRAE Chapter and is an active member of the West Central Ohio Chapter of the Association of Energy Engineers (WCOAEE).

Bruce Knapp QCxP is the current President of the Dayton ASHRAE Chapter, a Qualified Commissioning Provider, and a professional member of the Building Commissioning Association. Bruce has 25 years experience in the HVAC industry with an extensive background in Building Automation Systems. He has been involved on both sides of the commissioning process as contractor and as commissioning agent. Currently, Bruce is a Senior Commissioning Administrator for Heapy Engineering. Don't wait! Sign up now. We want you and your guest to join us for this valuable meeting for anyone on Ohio School jobs!

## **Review of October 2004-Tour**

*by: Rob Laneve*

### **Frozen Buns All Around...**

Thirty-seven ASHRAE members toured the Great Lakes Cold Storage facility in Solon on October 18<sup>th</sup> and we froze our buns along the way. If you missed this one, you missed a bone chilling experience; just imagine walking through  $-18^{\circ}$  F, amongst 4.5 million cubic feet of garlic bread, strawberries, meat, french fries, ice cream, etc. Great Lakes Cold Storage refrigerates approximately 32,000 pallets of frozen food; this equates to nearly the capacity of 1500 semi-trailers! An ammonia refrigeration system, with compressors of 150, 200, 250 and 300 horsepower, is used to chill the warehouse. Mr. Patrick Gorbett, owner of Great Lakes, was very kind to allow us to tour his facility and is also personal friends with ASHRAE's current President, Mr. Ron Vallort. After thawing out, please plan on attending our November meeting involving a panel discussion on the Ohio School Facilities Commission guidelines. This will be a combined meeting with the Akron ASHRAE chapter. See you there!

## Chapter Calendar:



Happy  
Thanksgiving

**Dec 10<sup>th</sup>, 2004**

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

**Jan 17<sup>th</sup>, 2005**

OSFC Update with Franklin  
Brown  
Resource Donor recognition  
night with commemorative coin

**Location:**

Harry's Steakhouse

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**NEW! NEW! NEW!**

### **R.S.V.P Hotline for All ASHRAE Meetings!**

Are you coming to the next meeting? Then call-in to the new Cleveland ASHRAE reservation line to let us know. Sally is now retired. It's a new phone 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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**CLEVELAND**  
**ASHRAE Newsletter**

#### ***ASHRAE Cleveland Chapter***

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