



Mississippi Valley Chapter Newsletter

February 2006

<http://www.mississippivalleyashrae.org>

Monthly Newsletter

Event Schedule

- **September 15, 2005**
Pool De-Humidification
Systems
- **October 20, 2005**
Geo-Thermal Heat
Pump Systems
- **November 14, 2005**
ASHRAE 90.1 Seminar
@ The Mark
- **December 15 2005**
State of Iowa - Ethanol
Incentives
- **January 19, 2006**
In Floor Radiant
Systems
- **February 16, 2006**
Vibration Isolation
- **March 13 2006**
ASHRAE President Lee
Burgett - in Iowa City
- **April 20, 2006**
High Performance
Buildings
- **May 18, 2006**
Building Tour
- **June 2006**
Resource Promotion
Golf Outing

Vibration Isolation

This month's presentation is on vibration isolation and seismic restraint systems for equipment by Jonathan Reinhardt of Mason Industries. Jonathan graduated from the University of Rochester with a B.S. in Mechanical Engineering in 1992. He joined Mason Industries as a Design Engineer upon graduation to develop the knowledge to design all aspects of vibration isolation and seismic restraint systems for mechanical equipment. In 2001 he joined the sales management team to support all phases of marketing sales and support efforts.

MVC Scholarship

It is time for the Mississippi Valley Region's annual scholarship. Please let prospective and current undergraduate engineering students know of this opportunity to help pay for education. The amount is \$2000 and all questions can be directed to Matthew Schneider. They can also visit the chapter website for more details.

Monthly Meetings

The regular monthly meetings for the Mississippi Valley Chapter of ASHRAE are held on the 3rd Thursday of each month from September to May unless otherwise noted. Meetings are located at the Steeplegate Best Western in Davenport Iowa unless noted otherwise.

www.mississippivalleyashrae.org

February 16th Program

Location: The SteepleGate Inn
100 W 76th St
Davenport, IA

Program: Vibration Isolation

Agenda: 4:20-5:30 Meeting
5:30-5:45 Q&A
5:45-6:30 Dinner

Menu: Prime Rib
Tossed Salad
Baked Potato
Snap Peas and Carrots
Strawberry Mousse

Cost: Members: Free
Others: \$15

RSVP: [Online](http://www.mississippivalleyashrae.org) or call Andy
Price @ (563) 264-6670
by Monday, February
13, 2005

2005-2006 Officers/Board of Governors

President:	Gary Lange
Vice President:	Bruce Britson
Treasurer:	Jim Nonnenmann
Secretary:	Andrew Price
Past President	Jon Bovenkamp
Member at Large:	Mike Taube
Member at Large:	Brian Hodgins

2005-2006 Committee Chairs

CRC Delegate:	Bruce Britson
CRC Alternate:	Jim Nonnenmann
Historian:	Sherm Sweeney
Membership:	Tracy Van Damme
Programs:	Bruce Britson
Resource Promotion:	Stan Fowler
Seminar:	Bruce Davis
Student Activities:	Matt Schneider
CTTC:	Jon Bovenkamp
Webmaster:	Eric Granzow

Student Zone

Student Zone has been created by Region VI and Young Engineers in ASHRAE (YEA) to bring together students interested in HVAC engineering from all across the country. Student Zone will allow you to post resumes and get a professional mentor. Currently you can communicate with other students using the forum or blog. Comments and suggestions on what you'd like to see on this site are greatly appreciated.

"The Region looks forward to seeing and greeting you at all ASHRAE meetings and functions. Education is a powerful tool in preparing engineering students for real world situations. In my thirty-three years in the mechanical contracting business as a design/build contractor the knowledge you need to gain insight to a consulting and contracting business is a continuous learning experience. I hope each and everyone of you utilize this important tool to mentoring in the Region."
John A. Day Region VI Director & Regional Chair

<http://studentzone.ashrae6.org/>

Only You Can Help!!!

In order for our chapter to grow and maintain the great membership we have enjoyed we need volunteers to help with the running of the chapter. Volunteers are needed for the following Officer positions or committees:

Membership	CTTC
Student Activities	Webmaster
Resource Promotion	History

Contact any officer or committee chair to Volunteer!

March's Speaker Bio

Lee Burgett, P.E., Fellow ASHRAE
2005-06, President
ASHRAE

Lee Burgett, P.E., Fellow ASHRAE, serves as consultant to Trane, a business of American Standard Companies, and others, following his retirement from Trane as vice president-new ventures. He resides in La Crosse, Wisconsin.

As ASHRAE's president, Mr. Burgett directs the Society's Board of Directors and oversees the Executive Committee. During his term, he is focusing on ASHRAE technology, including standards development, support of HVAC&R research, and technical activities aimed at disseminating information and educating its membership.

He served on the Board of Directors as president-elect, treasurer, vice president and director-at-large.

He was chair of the Finance Committee, Members Council, the Board Policy Committee for Standards, the Standards Committee, the presidential ad hoc committee on health impacts in standards, Technology Council and Publishing and Education Council.

He is an ASHRAE Distinguished Service Award recipient. and is active in a number of related industry organizations, including the U.S. Green Building Council, the Canadian Standards Association, Underwriters Laboratories Inc., the Air-Conditioning and Refrigeration Institute and the American Society of Mechanical Engineers.

Mr. Burgett completed his secondary education at East Grand Rapids (Michigan) in 1957, received his bachelor of science in 1961 and his master of science in mechanical engineering in 1962 from Michigan State University and his master's in business administration from the University of Wisconsin in 1972.

Chapter Technology Award

After many years of absence the chapter is calling for applications for the chapter technology awards. These awards are a chance for chapter members to show off their best work and to be recognized by the chapter. The applications for the technology awards may use either the short or long form as found on ASHRAE's Website. To find the forms go to the ASHRAE web site (www.ASHRAE.org) Select the committees on the shortcuts menu. Once on the committees page select the "CTTC activities and programs" link. This page will have links to PDF files for both the short and long entry forms. The use of the long form is encouraged if the applicant would like to submit their project to the regional level. Applications are due by March 3rd. Awards will be judged using the same criteria used for regional and society technology awards. Awards are given at the discretion of the judges. Award Winners will be announced at the April meeting.

Technology Award Program Overview, Requirements, Judging Criteria and Helpful Hints

Program Overview

Effective energy utilization is just one of several aspects of facility and building design. The ASHRAE Technology Awards program recognizes, on an international scale, successful applications of innovative design, which incorporate ASHRAE standards for effective energy management, indoor air quality, and good mechanical design.

The purpose of the ASHRAE Technology Awards is threefold:

1. To recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data.
2. To communicate innovative systems design to other ASHRAE members.
3. To highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners.

All current members of ASHRAE and its Associate Societies may submit entries. Entrants must have had a significant role in the design or development of the project.

ASHRAE Technology Award applications are accepted in each of the following categories:

- I. Commercial Buildings (New and Existing)
- II. Institutional Buildings (New and Existing)
- III. Health Care Facilities (New and Existing)
- IV. Industrial Facilities or Processes (New and Existing)
- V. Public Assembly Facilities (New and Existing)
- VI. Residential Buildings (New and Existing)
Single Family
Multi-Family (Low and High Rise)
- VII. Alternative or Renewable Energy Use

Awards are given at the judges' discretion. All first-place awards in each category are automatically eligible for consideration for the "ASHRAE Award of Engineering Excellence." Second-place and Honorable Mention may also be awarded.

ASHRAE honors only buildings and industrial facilities or processes that are outstanding in design innovation. An award in a category is not given if entries do not meet the highest standards. The "ASHRAE Award of Engineering Excellence" is given at the judges' discretion.

The first-place Society Technology Awards and the "ASHRAE Award of Engineering Excellence" are presented during the Plenary Session at ASHRAE's Winter Meeting. Second and Honorable Mention awards are generally presented at ASHRAE Regional Conferences.

Requirements

1. Entries are to be submitted in the following format with no more than twelve (12) letter size (8 1/2 x 11 inches or S-I equivalent) pages, typed on one side only (font 12 characters per inch or equivalent), 1-inch margins, to include:

The Application Form (2 pages); this is two sided. A maximum of ten (10) double-spaced, typewritten sheets to address items IV—VIII on page two of the Application Form. (Charts, schematics, graphics are included in the 10-page limit. *All pages should be numbered*).

2. The entrant (1) must be a member (any grade) of ASHRAE or of an Associate Society, (2) must have a significant role in the project, and (3) must be willing to supply any additional information if requested by the judging panel.
3. The entrant, property owner and engineer of record must sign the entry Application Form where indicated.
4. The entrant must submit one (1) *completed entry form with original signatures* and (1) *additional copy of the complete entry*.
5. The project must have been in successful operation for at least one year at the time of entry.
6. In order for an entry to be judged at the Society level, it must have received a first-place award at the regional level. Interested applicants should contact the chapter CTTC Chair, or the CTTC Regional Vice Chair (RVC) for deadlines for the regional competition. International entries (outside of Region XIII) should be submitted to the CTTC Staff Liaison at ASHRAE; these entries will be processed as regional winners. (See "Submission Schedule" below.)
7. The Society-level competition requirements are not necessarily identical to the requirements that may apply in chapter competitions. A chapter may use whatever criteria it chooses. The entry must use the criteria listed, herein, when submitted by the region for Society competition. The number of entries a chapter may submit per category to the regional competition is at the region's discretion.

General Instructions/Guidelines

1. A system schematic is strongly recommended (color-coded schematics may not duplicate well for the judges' black-and-white copies).
2. If a "judging criterion" is not applicable to the entry, a brief explanation should be provided.
3. Claims that are not sufficiently supported with verifiable technical evidence may receive little or no credit.
4. Information should be clear and concise.
5. If the project involves technology which is new and innovative, this feature should be clearly identified.
6. Commercialized items and notations are to be avoided. *Brand names of equipment or processes should not appear in the entry.*
7. Information may be submitted in I-P or S-I units or a combination of both.
8. All text must be in English.
9. Entries should be legible, uncluttered and attractive. The competition does not require nor encourage the entry be professionally produced.
10. Photographs are neither necessary nor encouraged (because judges use black-and-white duplicated copies).

Judging Criteria

General

If any of the scoring topics (listed below) are not applicable to the project, the entrant should state why. In such cases, judges are instructed to assign a "plug" score on the non-applicable topics so that the overall project score is on an equivalent basis with other entries.

Energy Efficiency (15 points)

This is a major criterion. Entries, where applicable, must comply with the latest ASHRAE Standard 90.1 for new construction and Standard 100 series for existing buildings. The applicant is encouraged to use the computer modeling programs in Standard 90.1 and include summarized results to substantiate compliance. Innovative ways to control, reuse or reduce energy consumption should be discussed.

One year's energy consumption data should be included. If not available, an explanation should be provided, and the results of a nationally recognized computer modeling program employed to demonstrate one year's energy use. In an industrial process, past energy usage may be compared to new, improved energy consumption.

Indoor Air Quality (IAQ) and Thermal Comfort (15 Points)

This is a major criterion. IAQ encompasses indoor environmental quality, thereby including thermal comfort and, if appropriate to the project, other factors as well. Judges are interested in pertinent topics such as operating procedures (where, for example, pre-occupancy ventilation is a significant factor), source control of contaminants, system commissioning and evidence that design objectives have been achieved. Ventilation effectiveness could be an important aspect of the project (e.g., air distribution in auditoriums or with landscape office partitioning).

While carbon dioxide, air velocity and other field measurements are impressive, they are not essential for making an award. Judges realize that such data may not be available and do not want to discourage a worthy entry. Descriptions of means of compliance with ASHRAE Standards 55 and Standard 62 are of value. Merely stating that ventilation and thermal comfort comply with these standards is superficial treatment.

The information should show that the entrant has indeed addressed these standards in the design. For example:

Standard 55

- Assumed activity levels
- Clothing thermal resistance values assumed
- Air velocities measured
- Space air temperatures
- Radiant thermal control
- Humidity/condensation
- Innovative approaches assuring good IAQ and thermal comfort in an efficient manner are of interest to judges. Support data or evidence of building performance claims might include:
 - The rate of occupant complaints, if any
 - Objective measurements of ventilation, air pollution, and thermal comfort parameters (Carbon dioxide levels, measured outside air ventilation rates, pollutant concentrations measured)
 - Improvements in human performance such as decreased absenteeism
 - Building pressure relationships for odor or IAQ control

Standard 62

- Ventilation rate or IAQ criteria specified
- Ventilation effectiveness assumptions
- Methods of handling special pollutant sources

Innovation (15 Points)

The innovative aspect of the project design must be clearly described—especially innovative application of technologies (both old and new) to a particular situation. New technology or innovation itself is not sufficient unless the needs of the facility are truly met. The uniqueness of the application is the basis of judgement. It should be indicated, for example, how the innovations are key to overall building performance.

Operation and Maintenance (15 Points)

The intensity of required maintenance for the installed system should be addressed as compared to those non-selected options and/or previous systems. The building commissioning process, if thought to be innovative, shall be included in this category.

Cost Effectiveness (15 Points)

One-year's data demonstrating the performance of the design or process should be provided. Data from prior years should be included if the project is a retrofit situation. Payback periods (in years) should be established. Entrant shall fully explain the basis for all cost savings, including utility rate schedules (off-peak rates and other charges).

Environmental Impact (15 Points)

Design shall address items on reduction of global climate change gases, elimination of CFCs, reduction in waste discharge and other environmentally favorable items, if applicable.

Quality of Presentation (5 Points)

Entries are judged for logical presentation with good features clearly highlighted. Simple-to-read system schematics, charts and graphs are advantageous and are encouraged as the most effective tool in concise presentation of a system and its performance. Points may be deducted for failure to follow type size, spacing and format instructions. Photographs are not encouraged since judges work with black-and-white duplicated copies of all entries. All pages should be numbered.

Judges' Prerogative (5 Points)

Judges may award up to five (5) additional discretionary points.

Helpful Hints

Entries which fail to receive recognition frequently do not address important items relative to the project. The following items are among those cited by the judges. Not all the items shown would necessarily apply to all entries.

Energy Efficiency Category

- No actual or projected energy use data
- Efficiency not addressed
- Project, *as presented*, not feasible

Indoor Air Quality

- Claims unsubstantiated with any supporting evidence
- Ventilation rate not in compliance with current ASHRAE standard at time project designed; indicate time frame of design process
- No discussion of occupant comfort or IAQ complaints or lack of complaints
- No discussion of ventilation effectiveness

Cost Effectiveness

- No cost payback figures
- Incorrect calculations
- Unsubstantiated payback claims

Presentation

- Type size too small
- Spacing or margins not per instructions
- Flow charts unreadable or unclear
- Schematics vague or incorrect
- Excessive pages (10 pages plus the two-page application form)

Innovation

- Innovative aspect of project not discussed or explained

General

- Project description too general
- Excessive use of brand names giving the appearance of a sales brochure

- Old project with no new work performed

Maintenance and Operation

- Maintenance and operation not discussed

Frequently Asked Questions

If not all the scoring topics apply to the project, can the entry be considered in the competition?

Yes. Judges are instructed to use a "plug" score for a project that is innovative and good in most respects, but does not lend itself to all criteria. For example, a wood-drying operation may not have an impact on indoor air quality. However, points will be deducted from the scoring where the topic definitely applies to the project but was ignored.

Do Society competition rules apply to chapter or regional competitions?

Chapter competitions may develop their own criteria, as long as it *clearly* states that the recognition is an ASHRAE *Chapter Award*. Regions are encouraged to follow the Society criteria to facilitate easy "clean-up" and entry for Society competition.

Can changes be made to an entry after the regional competition prior to submitting to Society judging?

Yes. A regional winner may make changes to the entry to incorporate comments from regional judges or to improve the submittal.

Can an entry be considered if one year's operating data are not obtainable?

Yes. A reasonable explanation must be included as to why the data are not available. The results of a nationally recognized computer modeling program showing one year's energy use must be provided. However, the project must still have been in operation for at least one year.

Is professional registration required to be an entrant?

No. Entrants must simply be a member (any grade) of ASHRAE.

Benefits of Winning a Society Award

ASHRAE Technology Award winners are recognized by peers as being innovative and capable of achieving a high level of competence. Winning projects are highlighted in articles in the *ASHRAE Journal*. Reprints are provided to the recipient for personal professional use. ASHRAE provides publicity which may include, but is not limited to, the broadcast and print media in the recipient's home market. The Society provides press releases to industry publications and *ASHRAE Insights*.

Recipients are honored at the Plenary Session of the Society's Winter Meeting where the first-place awards as well as the "Engineering Award of Excellence" are presented. Special Award posters featuring individual winning projects are displayed at the poster session at the Society's Winter Meeting.