AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116
LondonCanada.AshraeChapters.org

FEB 27/2006

Program

UPDATES TO THE NATURAL GAS AND PROPANE INSTALLATION CODE

Ontario recently required the adoption of CAN/CSA-B149.1-05 Natural Gas and Propane Installation Code for all new work on gas appliances and piping. The presentation will review the code changes (effective January 1, 2006) and the Ontario Amendments issued by the Technical Standards & Safety Authority (TSSA).

Meeting - Monday Feb 27/2006

THE LAMPLIGHTER INN - THE OAK ROOM
591 Wellington Rd., London

>>> NEW LOWER RATES FOR MEMBERS <<<
London Chapter Members = $25.00
Students = $10.00 Others = $35.00

RESEARCH NIGHT

CASH BAR ALL YOU CAN EAT BUFFET
5:15-Social 6:00-Dinner 7:15-Program

If you plan on attending, and are not contacted by the telephone committee, please advise:
Scott Turner (ph:652-1977 scott@somersep.com)

President's Message

Our February meeting will be our second Research Promotion night of the year. "ASHRAE was founded in 1894; it is an international organization of over 55,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education, the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public." The importance of Research is what ASHRAE is about, so we ask that you seriously consider making a donation. There are many ASHRAE research projects in Canada which are founded by the Canadian research dollar, all the money raised through ASHRAE Research in Canada stays in Canada.

This months meeting is dealing with the revisions to the new Gas Code which came into effect on January 1, 2006. We will have some input from a few of our own members as well as our guest speaker. It is a topic that will be helpful to almost everyone in the industry.

On April 19, 2006 there is a ASHRAE Sustainability and the Building Environment Satellite Broadcast and Webcast about the principles, practices, and emerging concepts for building sustainability design. Trane has generously donated their boardroom for anyone who is interested. The broadcast will be from 1:00 PM to approximately 4:00 PM. The London Chapter will provide some snacks and soft drinks. Don't forget to bring a friend! All broadcast/webcast attendees who are not currently ASHRAE members are invited to join ASHRAE at a special introductory rate for the first year of membership. A special membership application will be available at the satellite broadcast sites or by request by emailing membership@ashrae.org after March 1, 2006.

I look forward to seeing you at the meeting.

Joe Claessens
London Canada Chapter President

January Meeting Summary

In January, John Paleczy from Yorkland Controls presented possible energy efficiency improvements that are possible by converting boiler air and fuel mixing controls to a microprocessor based system. John showed before and after photos and control set points at a typical project. Retrofitting boiler control systems allowed better energy efficiency while reducing discharges to the atmosphere.

Also in attendance at the January meeting was Grant Miles with Natural Resources Canada. Grant spoke about possible grants available to assist Owners and Designers in performing energy studies and project upgrades. More information can be found on the web site of The Office of Energy Efficiency (http://oee.nrcan.gc.ca)

February Research Promotion Night

Last year, almost 7,000 individuals and companies worldwide supported ASHRAE Research. Close to $1.5 million was raised in last year's campaign. Your investment is needed today for this year's campaign.

Investment in ASHRAE Research benefits the HVAC&R industry in many ways. For example, results from the research program are used to shape and revise the ASHRAE Handbook, which is used by professionals around the world. The results of our research initiatives are incorporated into ASHRAE standards to benefit the public and the HVAC&R industry. The results are also being published in many formats so ASHRAE members and the HVAC&R industry can readily find and use the valuable information.

Your investment in ASHRAE Research Canada is doubly important because ASHRAE has a policy of matching contributions dollar for dollar with the revenues generated from the Winter AHR Expo. The research program is currently funding over 71 projects around the globe valued at over $7 million. While this is impressive, ASHRAE has an additional eight projects in negotiation that will need another $1 million of investments!

Investment in ASHRAE Research Canada results in Canadian Research. For every dollar contributed in Canada, approximately four U.S. dollars are invested in Canadian HVAC&R research projects.

I hope that we can count on your support. Individual contributors over $99 and corporate contributors over $150 are designated as Honour Roll investors and are acknowledged in the ASHRAE Journal. Your cheque should be made payable to "ASHRAE Research Canada". Please send your cheque to me, so that I can pass it along to ASHRAE with the appropriate paperwork to ensure you get credit. If you have any questions, please call me at 679-8660.

Thank you in advance for your support of ASHRAE Research.

Derek Vakaras
Resource Promotion Chair
London Chapter

Other Events

CMX.CIPHEX • www.cmxciphexshow.com
Metro Toronto Convention Centre, North Building
March 23,24,25/2006

ASHRAE Sustainability and the Building Environment Satellite Broadcast and Webcast • www.ashrae.org
April 19, 2006

ASHRAE 2006 Annual Meeting • www.ashrae.org/quebeccity
Quebec City • June 24-28, 2006

ASHRAE Recognizes Outstanding HVAC&R Industry Achievements

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recognized 38 people for their contributions to ASHRAE and the HVAC&R industry at the Society's 2006 Winter Meeting held here Jan. 21-25.

The ASHRAE Hall of Fame honors deceased members of the Society who have made milestone contributions to the growth of HVAC&R technology. The Society inducts Jasper Guy Woodroof, Ph.D., Fellow ASHRAE, into the ASHRAE Hall of Fame. Woodroof died in 1998 at the age of 98. His contributions included development of freezing and canning processes for the preservation of fruits and vegetables as well as techniques for the long-term storage of military rations. Much of the technology of fruit, vegetable and nut handling and processing used today was developed by Woodroof.

The ASHRAE/ALCO Medal for Distinguished Public Service recognizes distinguished public service by an ASHRAE member. The recipient is Alfred Greenberg, ASHRAE Fellow, Life Member, who resides in Marlboro, N.J.

Fellow ASHRAE is a membership grade that recognizes distinction in the arts and sciences of environmental technology. The honor is earned through achievement as a researcher, designer, educator or engineering executive. The Society elevated 18 members to the grade of Fellow ASHRAE:

- James E. Braun, Ph.D., P.E., professor, School of Mechanical Engineering, Purdue University, West Lafayette, Ind.
- Qingyan Chen, Ph.D., professor, Purdue University, West Lafayette, Ind.
- Piya Chongvatana, president, Patkol Public Co. Ltd., Bangkok, Thailand.
- S.K. Chou, Ph.D., professor and vice president, External and Industry Relations, Faculty of Engineering, National University of Singapore.
- Kenneth W. Cooper, Ph.D., P.E., director of engineering, Poolpak International, York, Pa.
- Charles H. Culp, Ph.D., P.E., associate professor, Department of Architecture, and associate director, Energy Systems Laboratory, Texas A&M University, College Station, Texas.
- William Fisk, P.E., senior staff scientist and department head, Indoor Environment Department, Lawrence Berkeley National Laboratory, Berkeley, Calif.
- Arthur P. Garbarino, president and CEO, Air Service Inc., West Palm Beach, Fla.
- David T. Grimsrud, Ph.D., principal, Grimsrud and Associates, Minneapolis, Minn., and professor emeritus, Department of Bio-Based Products, University of Minnesota.
- Carl C. Hiller, Ph.D., P.E., president, Applied Energy Technology Co., Davis, Calif.
- Vojislav Novakovic, Ph.D., a professor, Norwegian University of Science and Technology (NTNU), Department for Energy and Process Engineering, Trondheim, Norway.
- Deepak Pahwa, managing director, Bry-Air (Asia), Delhi, India.
- Srinivasan Sankaran, vice president, business development, Blue Star Ltd., Chennai, India.
- Avraham Shitzer, Ph.D., James H. Belfer professor of mechanical engineering, Technion, Israel Institute of Technology, Haifa, Israel.
- David R. Tree, professor, mechanical engineering, Purdue University, West Lafayette, Ind.
- George N. Walton, Building Physics Division, National Institute of Standards and Technology, Gaithersburg, Md.
- Chi-Chuan Wang, Ph.D., senior researcher, manager, Energy and Resources Lab, Industrial Technology Research Institute, Hsinchu, Taiwan.
- Gary L. Wingfield, P.E., mechanical project principal, The Haskell Co., Jacksonville, Fla.

The ASHRAE Technology Awards recognize outstanding achievements by members who have successfully applied innovative building designs, which incorporate ASHRAE standards for effective energy management and indoor air quality. Three projects received first-place ASHRAE Technology Awards:

- Lev H. Zvenyach, P.E., for Chicago Center for Green Technology, Chicago, in the existing commercial buildings category. He is vice president of IBC Engineering Services, Waukesha, Wis.
- Martin Roy for TOHU's Capiteua Des Arts, Montreal, in the public assembly category. Roy is president, Martin Roy and Associates, Deux-Montagnes, Quebec.
- Laurier Nichols for the Ecole Du Tournant, Saint-Constant, Quebec, in the alternative and/or renewable energy use category. Nichols is team leader, energy efficiency, Dessua-Soprin, Longueuil, Quebec.

Projects receiving ASHRAE Technology Awards honorable mentions are:

- Dennis Sczmok and Thom Barry for Compuware World Headquarters, Detroit, in the new commercial buildings category. Sczmok is vice president, Peter Basso Associates, Troy, Mich. Barry is vice president, Mechanical Professional Services, Plymouth, Mich.
- Wing Hong Chan for Swire Properties Management, Hong Kong, in the existing commercial buildings category. Chan is head of technical services, Swire Properties Management.
- James Megerson, P.E., for Blue Valley North High School, Overland Park, Kans., in the existing institutional buildings category. Megerson is vice president Larson Binkley, Leawood, Kans.
- Peter Johnson for the Brunswick (Ohio) School Performing Arts Center in the new institutional buildings category. Johnson is service manager, Pier Associates, Akron, Ohio.
- Siang Hwa Lek for the National Institute of Education, Nanyang Technological University, Singapore. Lek is vice president, CPG Consultants, Singapore.
- Mehdi Jalayerian for the Exelon Elevator and Stair Pavilions North, Millennium Park, Chicago in the alternative and/or renewal energy use category. He is senior vice president, Environmental Systems Design, Chicago.

The ASHRAE Student Design Project Competition challenged teams of undergraduate students to focus on The Brewery Blocks, a mixed use retail, residential and office grouping of five buildings in Portland's Pearl District.

First place in the HVAC system design category was awarded to Jesse Fisher and Amy Pastor of The Pennsylvania State University, University Park, Pa.

First place in the architectural design category was awarded to Scott Poloney and Dan Guith of Lawrence Technological University in Southfield, Mich.

First place in the refrigeration system design category was awarded to Thammarat Wittayakerkkrai, Chaiwat Puttanuntadech and Kittipong Sookochai of Chulalongkorn University in Bangkok, Thailand.

The E.K. Campbell Award honors outstanding achievements by engineering educators. The recipient is Arthur Hurlbut, Ph.D., dean, School of Engineering Technology, State University of New York College of Technology, Canton, N.Y.

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ASHRAE Technology Awards
Sustainable Design Recognized in ASHRAE Technology Awards

A circus big top, a school using 80 percent less energy than typical, and a Chicago sustainability education center are being recognized for innovative design by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

Three projects received first-place ASHRAE Technology Awards during ASHRAE's 2006 Winter Meeting, Jan. 21-25, Chicago.

The awards recognize outstanding achievements by members who have successfully applied innovative building design in the areas of occupant comfort, indoor air quality (IAQ) and energy conservation. Their designs incorporate ASHRAE standards for effective energy management and IAQ.

Receiving first place in the alternatives and/or renewable energy use category is Laurier Nichols for Ecole Du Tournant, Saint-Constant, Quebec. Nichols is team leader, energy efficiency, Dessau-Soprin, Longueuil, Quebec.

The alternative school has no greenhouse gas emissions and is the most energy efficient school in Quebec. It is 80 percent more efficient than a similar school built according to the energy code used in Canada. ASHRAE's energy conservation standard, 90.1, was the model used to develop the code.

Innovative design methods used include a high quality building envelope, a highly efficient lighting system, and a low energy HVAC&R system with intelligent control system.

Energy bills from the past two years show that the school saves $34,4000 in energy per year, resulting in a payback period of 3.9 years.

Also receiving first place is Lev Zvenyach, P.E., vice president of IBC Engineering Services, Waukesha, Wis., for a City of Chicago building designed to serve as a national model of environmentally sensitive design. He is receiving the award in the existing commercial buildings category.

The Chicago Center for Green Technology functions as an office building, educational facility, a high-tech factory, interpretive center and a "garden in the city." The building houses tenants with a sustainable mission, such as a solar panel manufacturer, and its campus is open to visitors to help educate the public on how green buildings function and how they benefit the public and the environment.

The center incorporates a number of demand (lighting, cooling and heating) and energy consumption reduction measures. As a result, the building has a significant reduction in energy consumption: some 75 percent over typical office buildings in Chicago, 45 percent over ASHRAE Standard 90.1 compliant buildings without photovoltaic credit and 60 percent over buildings with the credit.

Receiving first place in the public assembly category is Martin Roy for TOHU's Capiteau Des Arts, Montreal, which is the first concert hall dedicated to the circus arts in North America. Martin is president, Martin Roy and Associates, Deux-Montagnes, Quebec.

The building features natural ventilation, passive solar heating, water conservation, use of wasted heat and energy efficiency.

Most the concepts and technologies used are new in local industries. District heating using waste heat, underground cuts, solar walls and natural/hybrid ventilation will help demonstrate the feasibility of such innovative designs.

Projects receiving ASHRAE Technology Awards honorable mentions are:

- Dennis Sczmok and Thom Barry for Compuware World Headquarters, Detroit, in the new commercial buildings category. Sczmok is vice president, Peter Basso Associates, Troy, Mich. Barry is vice president, Mechanical Professional Services, Plymouth, Mich.
- Wing Hong Chan for Swire Properties Management, Hong Kong, in the existing commercial buildings category. Chan is head of technical services, Swire Properties Management.
- James Megerson, P.E., for Blue Valley North High School, Overland Park, Kans., in the existing institutional buildings category. Megerson is vice president Larson Binkley, Leawood, Kans.
- Peter Johnson for the Brunswick (Ohio) School Performing Arts Center in the new institutional buildings category. Peterson is service manager, Pier Associates, Akron, Ohio.
- Siang Hwa Lek for the National Institute of Education, Nanyang Technological University, Singapore. Lek is vice president, CPG Consultants, Singapore.
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ASHRAE and Elsevier Launch New eLearning System

A new eLearning system is being launched by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and Elsevier.

The system provides complete learning experiences that focus on learning-by-doing that can be taken at any time and at the learner's own pace. It offers online instruction with interactive exercises and problem-solving demonstrations supplemented by authoritative course readers in eBook and printed formats.

The launch was announced at ASHRAE's 2006 Winter Meeting held in Chicago from Jan. 21-25.

The system also offers integrated assessment, skills tracking for earning CEU/PDH credits and online registration and retrieval of certificates of course completion.

The first course Fundamentals of HVAC Systems will be available April 3. The course will be supported by Learning Bursts, in-depth scenario-based training and simulation
exercises with a heavy focus on applicability. Learning Bursts allow learners to apply the information presented and practice extensively without making costly mistakes in the real world.

"ASHRAE eLearning Systems from the ASHRAE Learning Institute offer a flexible, skills-focused, approach that meet today's learning needs," said Gordon V.R. Holness, PE, chairman emeritus, Albert Kahn Associates, Inc. Architects and Engineers. "These learning on-demand programs are backed up with authoritative references from the ASHRAE Learning Institute, providing the 'real-world' training experience that employers are seeking."

"We believe the ASHRAE eLearning System will revolutionize HVAC&R professional development by allowing engineers to earn their CEU/PDH in an interactive online environment from their office or home without being burdened by the additional expense of accommodation and travel," said Jim DeWolf, vice-president publishing with Elsevier.

For more information about ASHRAE eLearning Systems, visit www.ashrae-elearning.org.

ASHRAE e-Learning Systems are the latest offering of the ASHRAE Learning Institute, www.ashrae.org/ali, the arm of the Society that produces seminars, courses and other professional development tools to assist the HVAC&R industry in staying current with rapidly changing technology.

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Elsevier is a world-leading publisher of scientific, technical and medical information products and services. Elsevier's 7,000 employees in 77 offices worldwide publish more than 2,000 journals and 1,900 new books per year, in addition to offering a suite of innovative electronic products, bibliographic databases, and online reference works.

ASHRAE Sets Sustainability Course with New Roadmap

A new roadmap adopted by ASHRAE will help members lead the march toward a sustainable built environment through use of advanced technologies.

ASHRAE's Sustainability Roadmap was adopted at the Society's 2006 Winter Meeting held Jan. 21-25 in Chicago. The roadmap can be viewed at www.engineeringforsustainabilty.org or www.ashrae.org.

"By implementing the goals in this roadmap, buildings employing sustainable technologies will flourish, the critical need for contributions by ASHRAE members will be better understood and the quality of life will be enhanced in the present and long into the future," Lee Burgett, P.E., ASHRAE president, said.

Ron Jarnagin, who chaired the committee that wrote the roadmap, agreed.

"Implementation of the roadmap will help propel ASHRAE into a leadership position in sustainability, energize our members, raise our spirits, attract and retain young members, and contribute substantially to the well being of our world," he said.

Jarnagin noted that sustainabilty has become a strong focus for ASHRAE and the industry with the growing realization of the impact on future generations.

"Efficient energy use is of prime importance but so are the materials used, what is emitted and disposed of, and how we impact existing ecosystems," he said. "We cannot do these things at the expense of human health and well-being. As an organization of professionals responsible for the total life cycle cost of the building, ASHRAE has expertise that impacts elements related to sustainability."

These elements include energy use, atmospheric emissions, building materials, indoor environmental quality, engineering design and architecture, land use, water use, and waste management and disposal.

As part of the roadmap, ASHRAE will explore making ASHRAE's meetings greener, developing a standard for recycling used equipment and funding more sustainability- related research projects.

Recommendations in the roadmap include:

- Develop and maintain productive relationships with other organizations in the sustainability field;
- Raise public awareness of ASHRAE's contributions to sustainability;
- Aggressively market ASHRAE's sustainability profile in the industry;
- "Walk the talk" by practicing what we preach;
- Develop educational products that assist in sustainable building design, building operation and evaluation;
- Implement the sustainability-oriented objectives in the Society's Research Strategic plan;
- Accelerate development of the Advanced Energy Design Guide series;
- Consider sustainability certification programs.

ASHRAE, ASHE Partner to Ensure Healthy Health Care Facilities

As part of a continuing partnership, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the American Society for Healthcare Engineering (ASHE) will work together to advance and promote the mutual interests of engineers and health care facility professionals.

A memorandum of understanding (MOU) between the two groups was signed at ASHRAE's 2006 Winter Meeting held in Chicago, Jan. 21-25.

"With ASHRAE having the primary expertise in HVAC and ASHE having the primary expertise in health care engineering, our joint efforts will ensure that the design and operation of our health care facilities meet the patients' needs for health and safety," Lee Burgett, P.E., ASHRAE president, said.

"Our signatures on this MOU signify an important day in the history of our two organizations," said William Morgan, SASHE, CHFM, 2006 ASHE president. "By formalizing the already strong relationship shared by ASHE and ASHRAE we have committed our organization to continuously improve engineering design and construction for the creation of optimal health care environments."

ASHRAE and ASHE are working together in a number of areas, including jointly developing proposed standard 170P, Ventilation for Healthcare Facilities. The proposed standard will define requirements for ventilation system design intended to provide environmental control for comfort, as well as infection and odor control.

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ASHE is an association of diverse professionals dedicated to continued improvement in the health care environment through advocacy, education, information and collaboration.

ASHRAE and CIBSE Issue Joint Statement on Climate Change

Continued reductions in emissions, guidelines leading to reduced energy consumption and responsible refrigerant use are encouraged in a new joint statement on climate change issued by ASHRAE and CIBSE.

The statement was signed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the Chartered Institution of Building Services Engineers (CIBSE) at ASHRAE's 2006 Winter Meeting held Jan. 21-25 in Chicago. To read the statement, visit www.ashrae.org/positiondocuments.

"The use of HVAC&R technologies is an essential element of contemporary life," Lee Burgett, ASHRAE president, said. "Yet, HVAC&R systems contribute to greenhouse gas releases through energy-related effects and through the effect of refrigerant losses. Together, ASHRAE and CIBSE are emphasizing improved energy efficiency in HVAC&R technology, low or zero emission energy technologies and responsible refrigerant use."

"This joint statement makes very clear how our two bodies are determined to use the expertise of our members internationally to address the challenges of climate change and sustainability," Donald Leeper, CIBSE president, said.

CIBSE and ASHRAE provide building design, operation, and energy efficiency standards used globally. Since energy production often contributes greenhouse gas emissions to the atmosphere, these standards potentially reduce emissions. Energy-related impacts are addressed by reducing the equipment system and building energy consumption, and by modifying user behavior, thereby reducing emissions including CO2.

ASHRAE and CIBSE are implementing the following:

- Coordinated approaches to environmental issues at all stages of building and component life cycles;
- Adoption and development of designs, materials, components, systems and processes that minimize environmental impacts, including climate change;
- Promotion of practices that encourage energy efficiency by building users;
- Encouragement of renewable energy supply into buildings and building engineering systems when economically feasible;
- Education of building owners, operators and engineers on the importance of energy efficiency and climate change; and
- Providing of advice, information and assistance related to energy efficiency and climate change to governments and other influential bodies.

"ASHRAE and CIBSE reaffirm their joint commitment to developing and adopting energy efficient practices and resources, and call upon their members, governments, and colleagues in the buildings and related industries to likewise respond," Burgett said.

ASHRAE/CIBSE joint statement.

Worldwide concern for the global climate has emerged with the recognition of increasing concentrations of atmospheric greenhouse gases (GHGs) and increased average global temperatures. The Intergovernmental Panel on Climate Change (Third Assessment Report, 2001) noted that a signal of human-induced change is emerging from the noise of climate variability.

CIBSE and ASHRAE provide building design, operation, and energy efficiency standards used globally. Since energy production often contributes GHGs to the atmosphere, these standards potentially reduce emissions. Energy-related impacts are addressed by reducing the equipment, system and building energy consumption, and by modifying user behavior, thereby reducing GHG emissions including CO2.

The public has indicated its concern about global warming and climate change. This must be supported by sound business practices, and government incentives where appropriate.

CIBSE and ASHRAE specifically support:
- The goals of the United Nations Framework Convention on Climate Change.
- Government and industry leadership in technology and atmospheric research.
- Development of low-or zero-emission energy technologies.
- Long-term reductions in emissions based on life cycle environmental design, economics and operation.
- Design and operating guidelines leading to reduced energy consumption.
- Responsible refrigerant use, including emissions reduction technologies and practices.
- Building and systems design, and their operation and maintenance, to minimize total GHG emissions.
- Membership education and actions based on environmental responsibility and ASHRAE/CIBSE standards and publications.
- Maintaining economic growth without compromising the needs of future generations.

CIBSE and ASHRAE are implementing the following:
- Coordinated approaches to environmental issues at all stages of building and component life cycles from conception, design, construction, and through operation, maintenance and refurbishment.
- Adoption and development of designs, materials, components, systems and processes that minimize environmental impacts, including climate change.
- Promotion of practices that encourage energy efficiency by building users.
- Encouragement of renewable energy supply into buildings and building engineering systems when economically feasible.
- Education of building owners, operators and engineers on the importance of energy efficiency and climate change.
- Providing of advice, information and assistance related to energy efficiency and climate change to governments and other influential bodies.

CIBSE and ASHRAE reaffirm their joint commitment to developing and adopting energy efficient practices and resources, and call upon their members, governments, and colleagues in the buildings and related industries to likewise respond.

ASHRAE Headquarters Renovation to Showcase Sustainability

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is studying renovation of its headquarters to showcase sustainability.

"The proposed renovation of our current headquarters would incorporate ASHRAE technology and demonstrate our strong commitment to sustainability," Lee Burgett, P.E., ASHRAE president, said. "ASHRAE launched an engineering for sustainability movement this past year. The headquarters renovation is another example of ASHRAE's role as an engineering engine that drives sustainability."

ASHRAE moved to its current headquarters in Atlanta from New York in 1981. The 31,000-square-foot building houses some 100 employees. Recent inspections indicated that the building, constructed in 1965 and last renovated in 1991, needs substantial repairs. ASHRAE explored several options, including purchasing a new building or leasing.

"The potential beneficial environmental impact gained by refurbishing existing buildings to sustainability standards is far greater than new sustainable buildings," Burgett said. "Through this project ASHRAE proposes demonstrating that potential."

The Society's Board of Directors agreed at its 2006 Winter Meeting to study renovating headquarters into a sustainable building.

ASHRAE would work toward the U.S. Green Building Council's Leadership in Energy and Environment Design certification for existing buildings (LEED-EB), with a goal of a gold rating.

The Society also plans to demonstrate specific compliance with ASHRAE standards with respect to energy conservation and indoor air quality. Selected ASHRAE technical committees will be brought into the study to determine how the ASHRAE headquarters renovation can become a "living lab" regarding both energy conservation and indoor air quality.

The study is expected to begin by March 2006 with a final decision on renovation due by September 2006.

ASHRAE Research Program Hits $50 Million Milestone

With approval of projects at the Society's 2006 Winter Meeting, ASHRAE has funded $50 million in research since the merger of its two predecessor societies in 1959.

"ASHRAE research furthers technology to help keep indoor environments comfortable and productive, deliver healthy food to consumers and preserve the natural environment," Lee Burgett, P.E., ASHRAE president, said. "Only an organization such as ASHRAE has the continuity, the ability to generate research funding, and the expertise to attract researchers from disparate backgrounds and institutions. Only ASHRAE provides a forum to integrate their knowledge and transfer that knowledge to the industry to advance the science of engineering and the art of human comfort."

The first project contracted by ASHRAE was a study of condensing refrigerants in horizontal and inclined tubes at Kansas State University for $7,600. Since that time, ASHRAE has funded some 700 projects. A complete listing of the projects funded since 1960 can be viewed at www.ashrae.org/research.

ASHRAE recently approved funding totaling $1.4 million for 12 research projects. These are:

- Revised Heat Gain and Capture and Containment Exhaust Rates from Typical Commercial Cooking Appliances, 1362-RP, researcher Donald Fisher, Fisher-Nickel Inc., San Ramon, Calif., 2 years, $261,000, sponsored by ASHRAE technical committee (TC) 5.10, Kitchen Ventilation.
- Develop a Standard for Testing and Stating the Efficiency of Industrial Pulse Cleaned Dust Collectors, 1284-RP, Robert Burkhead and Charles Rose, Blue Heaven Technologies Inc., Louisville, Ky., 18 months, $114,617, TC 5.4, Industrial Process Air Cleaning.
- Incident-Response Monitoring Technologies for Aircraft Cabin Air Quality, 1306-RP, J.B.G.A. Havermans, TNO, Delft, the Netherlands, 10 months, $98,000, TC 9.3, Transportation Air Conditioning.
- Identification and Evaluation of Working Fluids for High Temperature Heating Applications (including Replacements for R-114), 1308-RP, J. Steven Brown, Catholic University of America, Washington, D.C., 1 year, $68,497, TC 3.1, Refrigerants and Secondary Coolants.
- Algorithm for Smoke Modeling in Large, Multi-Compartmented Buildings, 1328-RP, A. Kashef, National Research Council Canada, Ottawa, 18 months, $80,000, TC 5.6, Fire and Smoke Control.
- Intelligent Control of Combined Heat and Power Systems, 1340-RP, Itzhak Maor, PWI Energy, Philadelphia, Pa., 18 months, $100,563, TC 7.4, Building Operation Dynamics.
- Common Data Definitions for HVAC&R Industry Applications, Jason Glazer, GARD Analytics Inc., Park Ridge, Ill., 18 months, $127,500, TC 1.5, Computer Applications.
- Generation of Hourly Design-Day Weather Data, 1363-RP, Roger Hedrick, GARD Analytics Inc., Park Ridge, Ill., 18 months, $78,400, TC 4.2, Climatic Information.
- Characterization of Effluents from Additional Cooking Appliances, 1375-RP, Thomas Kuehn, University of Minnesota, Minneapolis, Minn., 18 months, $124,779, TC 5.10, Kitchen Ventilation.
- Development of Design Guidelines for Hybrid Ground Source Heat Pump Systems, 1384-RP, Greg Nellis, Sandy Klein and Jeff Thornton, University of Wisconsin, Madison, Wis., 18 months, $98,135, TC 6.8, Geothermal Energy Utilization.
- Heat Gains from Electrical and Control Equipment in Industrial Plants, Part 2, 1395-RP, Warren White, Kansas State University, Manhattan, Kans., 2 years, $192,101, TC 9.2, Industrial Air Conditioning.
- Scientific Review of Existing Information Related to the Impact of Ventilation Related to Health, 1443-RP, Hal Levin and Jan Sundell, Indoor Air Institute, Santa Cruz, Calif., 18 months, $50,000, Environmental Health Committee.

Compliance with Standard 90.1, 62.1 Tops ASHRAE's Online Courses

Six online professional development seminars will be offered this spring by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

ASHRAE Learning Institute's professional development seminars provide in-depth information that is timely, practical and advanced beyond a fundamental level. Seminar participants will earn professional development hours, continuing education units, or American Institute of Architects learning units for each seminar completed.

Seminars are:

- Complying with ASHRAE Standard 90.1-2004, Energy Standard for Buildings Except for Low-Rise Residential Buildings, HVAC/Mechanical Code, 1-4 p.m. EST, March 15.
- Complying with Requirements of ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality, 1-4 p.m. EST, March 22.
- Humidity Control I, Basic Principles, Loads and Equipment, 1-4 p.m. EST, March 29.
- Humidity Control II, Applications, Control Levels and Mold Avoidance, 1-4 p.m. EDT, April 5.
- An Introduction to BACnet, 1-4 p.m. EDT, April 12.
- Life-Cycle Cost Analysis, 1-4 p.m. EDT, April 26.

The cost of the seminars is $225 ($150, ASHRAE members).

To register for any of the seminars, visit www.ashrae.org/onlinepds or call ASHRAE's Customer Service Department at 1-800-527-4723 or 404-636-8400 (worldwide), fax 404-321-5478, or mail at 1791 Tullie Circle NE, Atlanta, GA 30329.

Five BACnet Addenda Recommended for Public Review

Five addenda to ASHRAE's BACnet standard were recommended for public review at the Society's 2006 Winter Meeting held Jan. 21-25, Chicago.

ANSI/ASHRAE Standard 135-2004, BACnet® -- A Data Communication Protocol for Building Automation and Control Networks, allows building equipment and systems manufactuured by different companies to work together.

The proposed addenda, c, d, e, f and g, are expected to be released for public comment in March.

In other news, BACnet committee chair Bill Swan announced the formation of the wireless BACnet working group.

"There is considerable interest in wireless applications for building automation," he said, "This group will work out the details of BACnet wireless communications."

A new means for securing network communications would be provided through proposed addendum g. Over four years in development, the proposed addendum draws on advances in encryption and authentication technologies.

"This system can be scaled way up for high security or way down for simplicity," said Dave Robin, network security working group leader. "It provides two levels of access, with a general key for reading and writing basis system data, and application-specific keys plus authentication for connecting to critical systems including access control (security) and fire safety."

Proposed addendum f includes the first of a series of new BACnet access control objects in development in the life safety and security working group. The access door object represents the physical characteristics of an access-controlled door and its associated physical hardware and devices, including door contacts, door locks and card readers.

The BACnet Web services proposed in addendum c has been revised by the XML working group and recommended for second public review following the resolution of 53 comments received from first public review. BACnet Web services provide access to data in BACnet systems using standard PC desktop software vs. specialized drivers. They also are proposed for the communications between energy utilities and BACnet systems for demand limiting and real-time pricing.

The load control object proposed in addendum e has been recommended for second public review. It provides a standardized means for external control over load shedding and is the first of several proposals from the utilities integration working group, working to connect the energy utilities with building automation systems.

The BACnet committee continues its broad range of work on items such as defining a standard mechanism for presenting application devices such as VFDs and VAV controllers; accommodating and adopting new IP technologies; advanced lighting control support; and extending conformance testing as new capabilities are added to BACnet.

ASHRAE Publishes Principles of HVAC&R

ATLANTA **n** A new textbook designed to also be used as a reference manual that allows engineers to build on their knowledge of HVAC&R design procedures and methods has been published by ASHRAE.

"Principles of Heating, Ventilating and Air-Conditioning builds on much of the basic information in the ASHRAE 2005 Handbook, Fundamentals, which includes many significant changes," said co-author Ron Howell, Ph.D., P.E. "It serves as a good source for many of the procedures or methods used in HVAC&R design."

The book can be used as an undergraduate or graduate level textbook or for self instruction and as a reference for those who would like reinforcement of their understanding of HVAC&R.

Principles of HVAC elaborates on the use of technical guidance in the Fundamentals Handbook, such as the new radiant time series (RTS) methodology, which includes enhanced treatment of RTS procedures for non-residential cooling and heating loads; a new chapter on residential cooing and heating loads; inclusion of the new ventilation air procedure from ASHRAE 62.1-2004; and changes in the format and quantity of design weather conditions around the world.

The book includes a CD that contains a spreadsheet for the RTS method and the expanded weather data.

Also available is Principles of HVAC Solutions Manual, which contains solutions to most of the problems in the principles book.

Co-authors are Harry Sauer Jr., Ph.D., P.E., and William Coad.

The cost of Principles of HVAC is $84 ($67, ASHRAE members), while the cost of the solutions manual is $57 ($46, ASHRAE members).

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, by mail at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the ASHRAE.org Bookstore at www.ashrae.org.

HVAC Simplified in New Book from ASHRAE

Step-by-step engineering design methods and tools are emphasized in a new design manual from ASHRAE.

"HVAC Simplified provides an understanding of fundamental HVAC concepts and explains simple design tools used to create building systems that are efficient and provide comfortable and healthy environments," said author Stephen Kavanaugh, Ph.D., a professor of mechanical engineering at the University of Alabama.

Topics include equipment selection and specification, comfort and indoor air quality, ventilation air, ASHRAE standards, building assemblies, heating and cooling loads, electrical and control systems, and design of air and water distribution systems.

"This publication provides the instruction and tools required to specify HVAC systems for many small to medium-sized buildings," he said.

The book includes a CD with spreadsheet programs that incorporate design and computation procedures.

The cost of HVAC Simplified is $79 ($59, ASHRAE members).

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, by mail at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the ASHRAE.org Bookstore at www.ashrae.org.

ASHRAE, USGBC, IESNA Partner on Baseline Standard for Green Building
New standard to drive high performance building practices to the mainstream

The U.S. Green Building Council (USGBC); the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE); and the Illuminating Engineering Society of North America (IESNA) announced today that the three organizations have agreed to co-sponsor the development of a new ASHRAE/USGBC/IESNA minimum standard for high performance green building.

Proposed Standard 189, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, will provide minimum requirements for the design of sustainable buildings to balance environmental responsibility, resource efficiency, occupant comfort and well-being, and community sensitivity. Using USGBC's LEED Green Building Rating System, which addresses the top 25% of building practice, as

a key resource, Standard 189P will provide a baseline that will drive green building into mainstream building practices.

Scheduled for completion in 2007, the proposed standard will apply to new commercial buildings and major renovation projects, addressing sustainable sites, water use efficiency, energy efficiency, a building's impact on the atmosphere, materials and resources, and indoor environmental quality.

Standard 189P will be an ANSI-accredited standard that can be incorporated into building code. It is intended that the standard will eventually become a prerequisite under LEED.

"This standard will establish a baseline for a high-performance, green building," ASHRAE president Lee Burgett, P.E., said. "It will allow us to provide for the needs of the present without detracting from the ability to fulfill the needs of the future. Our partnership with USGBC to develop the proposed standard draws on their extensive experience in the green building market and assures that the needs of those who create sustainable buildings are met. We also are pleased to partner again with IESNA, building on the earlier efforts of our two societies in creating design guidance for more energy efficient buildings."

"We are proud to work with ASHRAE and IESNA to bring high performance green building practices to the mainstream," said Rick Fedrizzi, President, CEO and Founding Chair, USGBC. "USGBC's mission is market transformation, and we've long recognized the need to reach beyond the market leaders served by LEED to accomplish it. Given ASHRAE's integrity and long history of leadership in energy efficiency and indoor environment, and IESNA's technical strength in lighting, they're the ideal partners in the effort. We're confident that the baseline standard we'll develop together will raise the entirety of the commercial building marketplace to a new level of resource efficiency."

Fedrizzi noted that concurrent with this initiative, USGBC will begin work on LEED v3.0, which will encompass major advancements in building science and technology, such as LifeCycle Assessment and bioregional weighting.

"Sustainability is the next natural progression in the evolution of standards for building design, allowing us to weigh system solutions against the impact on the environment, while ensuring that buildings meet the needs of those who must work or live in them" said Dr. Alan Lewis, president, IESNA. "Sustainable design is a collaborative approach to architecture and construction and IESNA is pleased to be in partnership with ASHRAE and USGBC."

ASHRAE's technical resources provide the engineering basis for sustainable buildings. Through the Society's Roadmap for Sustainability, ASHRAE advocates a sustainable built environment via the use of advanced technologies and develops and maintains productive relationships with other organizations in the sustainability field.

About ASHRAE

Founded in 1894, ASHRAE is an international organization of 55,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education the arts and sciences of HVAC&R to serve the evolving needs of the public.

About USGBC

USGBC is the nation's leading nonprofit organization working to promote buildings that are environmentally responsible, profitable and healthy places to live and work. USGBC's membership includes 6,000 corporations, federal agencies, state and local governments, and nonprofits; and encompasses 65 local chapters and affiliates nationwide.

About IESNA

IESNA is the recognized technical authority on illumination. For over 100 years, its objective has been to communicate information on all aspects of good lighting practice to its members, to the lighting community, and to consumers, through a variety of programs, publications, and services.

SAVE THE DATE!
ASHRAE 2006 Annual Meeting
Quebec City • June 24-28, 2006

Registration for ASHRAE's 2006 Annual Meeting opens March 1, 2006. Attending the meeting provides you with opportunities to influence the future of HVAC&R technology, outstanding networking and career advancement. We look forward to seeing you here.

Meeting highlights include:

A varied technical program.

Sightseeing opportunities - Located on the St. Lawrence River, Quebec City, with its walled Old City and narrow cobblestone lanes, is by far the most European of destinations in North America. The City of Quebec, founded in 1608 by Samuel de Champlain, is known as the cradle of French civilization in North America. It is the capital of the province of Quebec and seat of the National Assembly. The greater Quebec area offers a variety of activities.

Celebration of a national holiday – Saint-Jean-Baptiste Day will take place June 23-24. The celebration will begin on Friday, June 23 with a musical show and bonfire on the Plains of Abraham. This is a huge celebration in Quebec City so plan to arrive in time to enjoy the festivities.

Revamped social activities, including a members' night out, to provide better networking opportunities.

A chance to further your education by taking ASHRAE Learning Institute courses – including a new short course on terrorism threat assessment.

For complete information, including housing information, visit www.ashrae.org/quebeccity

ASHRAE Sustainability and the Building Environment Satellite Broadcast and Webcast

Learn more about the principles, practices, and emerging concepts for building sustainability design by attending the ASHRAE Sustainability and the Building Environment Satellite Broadcast and Webcast on April 19, 2006.
For more information on how to sign up, go to http://www.ashrae.org/greenbuildingsbroadcast. On-line registration will begin on March 15, 2006.
Don't forget to bring a friend! All broadcast/webcast attendees who are not currently ASHRAE members are invited to join ASHRAE at a special introductory rate for the first year of membership. A special membership application will be available at the satellite broadcast sites or by request by emailing membership@ashrae.org after March 1, 2006.

ASHRAE's Most Used Standards Available on One CD

ASHRAE's "greatest hits" **n** its 12 top selling standards and guidelines - are now available on one CD.

Design Essentials: ASHRAE's Most Referenced Standards and Guidelines contains a library of documents that can be easily searched and printed with copy and paste features for text and graphics. The standards and guidelines address design or system operations, and most are code-intended standards.

"Because ASHRAE standards/guidelines often refer to requirements in other standards, our documents need to be used together in order to understand the means for compliance with any one of them," Rick Hermans, chair of ASHRAE's Standards Committee, said. "The Design Essentials CD is intended to make that process simpler for the user."

Hermans noted that the standards and guidelines included in the CD serve as the basis for HVAC&R design and some of them are referenced in building codes.

Included are:

- ANSI/ASHRAE Standard 15-2004, Safety Standard for Refrigeration Systems;
- ANSI/ASHRAE Standard 34-2004, Designation and Safety Classification of Refrigerants;
- ANSI/ASHRAE Standard 52.2-1999, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size;
- ANSI/ASHRAE Standard 55-2004, Thermal Environmental Conditions for Human Occupancy;
- ANSI/ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality;
- ANSI/ASHRAE Standard 62.2-2004, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings;
- ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings (I-P edition);
- ANSI/ASHRAE Standard 90.2-2004, Energy-Efficient Design of Low-Rise Residential Buildings;
- ANSI/ASHRAE Standard 135-2004, BACnet®: A Data Communication Protocol for Building Automation and Control Networks;
- ASHRAE Guideline 0-2005, The Commissioning Process;
- ASHRAE Guideline 1-1996, The HVAC Commissioning Process;
- ASHRAE Guideline 13-2000, Specifying Direct Digital Control System.

The cost of the single-user version of Design Essentials: ASHRAE's Most Referenced Standards and Guidelines is $499 ($429, ASHRAE members). Annual renewal fee for access to updates after the first year is $290 ($220, ASHRAE members).

A network version also is available for organizations so multiple users can have simultaneous access.

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, by mail at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the ASHRAE.org Bookstore at www.ashrae.org/bookstore.

CMX.CIPHEX
Metro Toronto Convention Centre, North Building

CMX.CIPHEX is the combination of HRAI's CMX and CIPH's CIPHEX Ontario tradeshow all under one roof to create Canada's largest trade show for the air conditioning, heating (forced air and hydronic), hearth, plumbing, piping, refrigeration and ventilation industries.

This sold-out three-day event will host over 400 of Canada's leading companies, showing fabulous new products & design ideas, and is expected to attract over 12,000 visitors to this ultimate training and information centre. CMX.CIPHEX will prove to be one of your most effective sales and education tools available in Canada in 2006.

The CMX.CIPHEX 2006 learning forum's scheduled line-up of speakers includes North American renowned presenters such as Richard Trethewey, John Siegenthaler, and Robert Bean along with well known industry personnel such as Garth Dennison (Sporlan Valve), and Rick Proulx (Cash Acme). The seminars, technical workshops, and critical updates will help position you to profit from the building and renovation explosion. The Learning Forum will provide you, your contractors, customers and your employees with an excellent opportunity to learn what is new and innovative in the industry.

Bonus:

1. Skills Canada - Ontario will showcase the 17th Annual Technological Skills Competition. The Competition promotes careers in the skilled trades and technologies through provincial and national competitions.

2. Canadian Hydronics Pump Challenge is designed to test who can remove and replace a working circulating pump in record time without springing a leak.

For more information visit www.cmxciphexshow.com website for more details.

ASHRAE, founded in 1894, is an international organization of 55,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public.