



ASHRAE NATIONAL NEWS

American Society of Heating, Refrigerating and Air-Conditioning

January 2008

Volume 5

For Release:
January 4, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE Publishes User's Manual for Standard 62.1

ATLANTA – A manual to help users navigate the changes in ASHRAE's 2007 ventilation standard is now available.

The Standard 62.1-2007 User's Manual provides users with a better understanding of the design, installation and operation requirements in ANSI/ASHRAE Standard 62.1-2007, *Ventilation for Acceptable Indoor Air Quality*.

The standard, published last year, contains new requirements for separation of environmental tobacco smoke (ETS) spaces from ETS-free spaces, clarification of humidity control design requirements, and the inclusion of new rates for high-rise residential occupancies.

"The manual provides guidance for designers and contractors to clarify the requirements, explains why the requirements are included (in some cases), and how to comply," Roger Hedrick, vice chair of the 62.1 committee, said.

The cost of the user's manual is \$69 (\$55, 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, or visit at www.ashrae.org/bookstore.

For Release:
January 7, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE News Briefs

ASHRAE to Host Satellite Broadcast on Integrated Building Design

ATLANTA - A free satellite broadcast and Webcast, *Integrated Building Design: Bringing the Pieces Together to Unleash the Power of Teamwork*, will be held from 1-4 p.m. EDT on April 16. The ASHRAE program focuses on whole-building integrated design.

"The broadcast explains what you and other members of the building team must do to advance high-performance buildings with improved design, construction and operations processes," said Bill Williams, chair of the event. "Buildings that meet the needs of occupants and truly achieve sustainability objectives can only be created if the building community shares its knowledge and experiences."

Online registration opens March 1 for satellite broadcast site coordinators and Webcast participants. Registration for satellite downlink viewers opens March 15. For more information, visit www.ashrae.org/IBDbroadcast. Registration is free.

ASHRAE Seeks Papers on Sustainable Urban Design

ATLANTA – ASHRAE is seeking papers focused on sustainable urban design for its 2009 Winter Meeting, Jan. 24-28, Chicago.

Papers and programs should present the latest developments in sustainability as applied to systems and equipment, application of their use in different types of buildings and, especially, the impact on urban settings. Topics include energy conservation, indoor environmental quality, application of ASHRAE guidance to achieve high-performing sustainable results, and international sustainability efforts.

The deadline for paper submittal is April 4. Submit papers online at mc.manuscriptcentral.com/ashrae or contact Mary McGee, meeting program administrator, at mmcgee@ashrae.org for more information. The deadline for other technical program submissions is Aug. 8.

For Release:
January 10, 2008

Contact: Wendy Angel
Public Relations
678-539-1216
wangel@ashrae.org

New Datacom Book Offers Structural and Vibration Guidelines

ATLANTA – Shock and vibration can be problems for datacom facilities, causing equipment and structures to degrade over time. With a new publication from the American Society of Heating, Refrigerating and Air-Conditioning Engineers, datacom design teams and equipment manufacturers can learn how to prevent such issues from occurring.

Structural and Vibration Guidelines for Datacom Equipment Centers is the fifth publication in the ASHRAE Datacom Series.

Shock and vibration sources can include internal equipment that transmit vibration to their surroundings as well as external sources such as trains, construction activities, airports, earthquakes and weather events. To control these sources, datacom equipment centers must consider the performance of the building structure; the building infrastructure such as power, cooling, flooring and ceiling systems; and the equipment itself, including servers, storage and network equipment.

“This book discusses datacom equipment as well as a building’s structure and infrastructure in a holistic way while providing best practices for their design and installation,” says Budy Notohardjono, vice chair of the book’s committee. “Since structural systems are increasingly integrated and specialized to meet the needs of data centers, it is important for not only designers but also owners and operators to know the basics of structure and vibration.”

The cost of Structural and Vibration Guidelines for Datacom Equipment Centers, is \$48 (\$38 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, or visit at www.ashrae.org/bookstore.

For Release:
January 15, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org <<mailto:jdunlop@ashrae.org>>
1791 Tullie Circle NE
Atlanta, GA 30329

HVAC&R Trends Highlighted by AHR Expo Attendees, Exhibitors

ATLANTA – Energy efficiency along with first cost and product costs are top concerns of attendees and exhibitors at next week’s Air Conditioning, Heating, Refrigerating (AHR) Exposition taking place in New York City.

The 2008 Expo takes place Jan. 22-24 at Javits Convention Center. The show is sponsored by ASHRAE, the Air-Conditioning, Heating and Refrigeration Institute (AHRI) and the International Exposition Co. Held in conjunction with the Expo is ASHRAE’s 2008 Winter Meeting, Jan. 19-23, New York Hilton.

The Expo is slated to feature more than 1,800 exhibiting companies in 363,205 square feet of space. There will be 385 non U.S. exhibitors representing 39 countries.

The ASHRAE Journal recently surveyed 1,300 exhibitors and 10,500 pre-registered attendees about their thoughts on trends in the industry and the future of the marketplace.

"The responses show that both attendees and exhibitors are optimistic about business prospects in the coming year," Fred Turner, ASHRAE Journal editor, said. "The industry feels good about the U.S. market, about expanded presence outside the U.S. and about growth in most market segments."

When asked about top concerns to customers, attendees noted that first cost ranks most important (68 percent) followed by reliability (65 percent), energy efficiency (64 percent) and comfort (54 percent).

The same question posed to exhibitors showed that product costs ranked first (74 percent), followed by energy efficiency (64 percent), maintainability (60 percent) and sustainability (52 percent).

Looking ahead, health care is expected to be the strong market segment this year for attendees followed by large commercial. Attendees also see retrofit/renovation as their best prospect for business in 2008.

Market growth outside the U.S. continues to grow with as nearly 80 percent of exhibitors having a presence or plans for a presence in Asia/Pacific. This was followed by Europe (72 percent), Mexico (71 percent), Central/South America (57 percent) the Middle East (56 percent) and Africa (23 percent).

For more information on ASHRAE meeting, visit www.ashrae.org/newyork <<http://www.ashrae.org/newyork>> , or the AHR Expo, visit www.ahrexpo.com <<http://www.ahrexpo.com>> .

January 16, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE Publishes Book on Hot, Humid Climate Building Design Guidance

ATLANTA – Building operators and designers around the world face common issues related to thermal comfort, ventilation and energy.

But these measures take on greater concern for buildings in hot and humid climates. In addition, areas with these climates, such as South Asia, are experiencing rapid construction growth.

Design guidance on critical issues for achieving excellence and long-term sustainability in these climates is contained in a new book from ASHRAE. *The ASHRAE Guide for Buildings in Hot and Humid Climates* identifies and explains key issues for owners, architects, HVAC designers, contractors and building owners as they plan, build and operate air-conditioned buildings – in a sustainable way – in hot and humid climates.

"All countries want to achieve high standards of energy efficiency," author Lew Harriman said. "But recent history warns that mold and mildew problems in hot and humid climates can overshadow any gains made through energy reduction. On the other hand, the practical experience of ASHRAE's members shows that by focusing on several critical building enclosure design details and by keeping the indoor air dry, owners and designers can avoid mold problems and have high indoor air quality, while their buildings use much less energy than outdated designs."

Topics covered in the book include improving thermal comfort, managing ventilation air, reducing energy consumption and avoiding bugs, mold and rot. The book explains ASHRAE's standards in these areas. It also highlights common problems seen in hot and humid climates, along with practical alternatives for avoiding such problems.

"The guide was created in part because of requests from designers and owners in North America, but also because of requests from government agencies in developing countries that are working to establish robust building codes to guide energy use and indoor environmental quality," Harriman said. "When balancing the equally important concerns of low energy consumption, high thermal comfort and healthy indoor air, ASHRAE's experience and internally-informed consensus standards can be very helpful."

A second edition is planned for January 2009 that will add more information arranged into sections aimed at each different member of the construction and delivery team.

The cost of the *ASHRAE Guide for Buildings in Hot and Humid Climates* is \$59 (ASHRAE members, \$49). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

For Release:
January 17, 2008

Contact: Wendy Angel
Public Relations
678-539-1216
wangel@ashrae.org

Energy Efficient Buildings Encouraged Through Free Download of Advanced Energy Design Guide Series

ATLANTA – To encourage energy efficient design in a range of building types, ASHRAE and its partnering organizations are making available for free the Advanced Energy Design Guide series.

Electronic versions of the newest book in the series, Advanced Energy Design Guides for K-12 School Buildings, as well as the existing guides on small office and small retail buildings are available for free download at www.ashrae.org/freeaedg. Future guides, including one focused on warehouses to be published this spring, will be available for free electronic download as well.

"Energy efficiency is still a vast and underutilized energy resource that is essential to the long-term survival of our world," says ASHRAE President Kent Peterson. "Buildings consume approximately 40 percent of the primary energy in the United States. As part of our energy efficiency market deployment strategy, we want to get this valuable building guidance into the marketplace and into the hands of owners, contractors and design teams. The technology is available today to construct substantially more efficient buildings. Free distribution of the Advanced Energy Design Guide series will help educate the marketplace on how to build energy efficient buildings that use significantly less energy than those built to the minimum code requirements.

"The Illuminating Engineering Society of North America (IESNA) supports the electronic distribution of the Advanced Energy Design Guide series to ensure widespread availability of these voluntary recommendations," said Rita Harrold, IESNA member of the AEDG Steering Committee. "Offering these important Guides for free download to a large audience of users will help further the partnering organizations' efforts to create a more secure energy future."

In addition, the K-12 guide was sent to nearly 14,000 school systems around the country to assist with the design of energy-efficient schools that create safe and comfortable environments conducive to learning.

Partnering organizations include the American Institute of Architects, the Illuminating Engineering Society of North America, the U.S. Green Building Council and the U.S. Department of Energy.

"Addressing energy use in our buildings is one of the most important measures we can take in our efforts to protect the health of our environment," said Brendan Owens, vice president of LEED Technical Development, U.S. Green Building Council. "The Advanced Energy Design Guide series are critical publications for the building industry. Every percentage point reduction in buildings' energy use brings us that much closer to our goal of mitigating climate change."

"The importance for all design and construction professionals to move toward carbon neutral, sustainable buildings is of paramount importance to the American Institute of Architects," said Christine McEntee, executive vice president and CEO of the AIA. "The Advanced Energy Design Guides are an approachable, important tool to help achieve that goal."

The guides provide a sensible, hands-on approach to design through use of products that are practical and commercially available as "off-the-shelf" technology. They offer designers and contractors the tools needed for achieving a 30% energy savings compared to buildings that meet the minimum energy efficiency requirements of Standard 90.1-1999.

Hard copies of all of the guides are available for purchase. For more information, visit www.ashrae.org/freeaedg.

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

For Release:
January 19, 2008

Contact: Wendy Angel
Public Relations
678-539-1216
wangel@ashrae.org

ASHRAE Technology Awards Highlight Outstanding Building Projects

NEW YORK CITY – The importance of HVAC&R as it applies to a range of building types is highlighted in the winning entries for the ASHRAE Technology Awards.

Designers of systems for a hospital, a poultry slaughter house, a community center, a school and a hotel are recognized for incorporating elements of innovative building design in the areas of occupant comfort, indoor air quality (IAQ)

and energy conservation. Winners have applied ASHRAE standards for effective energy management and IAQ. The awards are being presented at ASHRAE's 2008 Winter Meeting held this week in New York City.

"While each project was unique in its application of the technologies, many of the projects used similar systems or ideas to reach a design solution on a wide range of building types," Stephen Abernathy, P.E., chair of the Technology Awards judging panel, said. "With submittals from all over the world, the program spotlights engineering innovation in applying systems that have been around for years to new applications and sharing that innovative thought with others in our industry. This helps engineers realize that there are multiple solutions to everyday design problems and that we don't have to re-invent the wheel to come up with an answer that is workable and that contributes to our desire to sustain our environment and reduce our usage of natural resources."

Following are summaries of the winning projects.

Honore-Mercier Hospital

Laurier Nichols, P.E., Rejean Blais, Simon Pelletier, P.Eng., Oanh Nguyen, Jean Molina and Marco Freitas, Dessau-Soprin, Montreal, Quebec, Canada, receive first place in the existing health care facilities category for their rehabilitation of Honore-Mercier Hospital, Saint-Hyacinthe, Quebec, Canada.

In April 2003, a serious aspergillus contamination, resulting from the spread of mildew within the walls caused by a deficient building envelope, was discovered. The situation required decontamination and rehabilitation while continuing to provide functional hospital services. The project required temporary relocation of 300 beds to an adjacent hospital that had not been used since the 1990s. It also required use of 60,000 square feet of temporary facilities for other hospital services.

The team offered integrated solutions where energy efficiency and the principles of sustainable development were determining criteria for selection of designs based on a life-cycle cost approach. This led to reduction in natural gas consumption and to a high-performance building whose greenhouse gas emissions have been reduced by 3,576 tons per year.

Springhill Suites

Albert Barfield, marketing principal with Gulf Power Co., Pensacola, Fla., receives first place in the new commercial buildings category for his project work of Springhill Suites, Pensacola, Fla.

This hotel on a barrier island on the Florida Gulf Coast uses a hybrid geothermal system. The system features a 150-ton closed-loop evaporative fluid cooler. The loop field is set up in parallel with the 150-ton fluid cooler, which offers considerable heat rejection control and redundancy. The primary domestic water heaters are three each, five horsepower water-to-water geothermal heat pumps. All pool and spa heating is provided by geothermal heat pumps. In addition, over 300 tons of room unitary, ducted geothermal heat pumps are used in guest suites and to serve all other conditioned areas of the hotel.

Overall annual energy intensity for this hybrid geothermal hotel is 79 kBTU/sq.ft., which is 37 percent below the 1995 Commercial Building Energy Consumption Survey intensity for the lodging segment national average of 135 kBTU/sq.ft. By comparison, another hotel in the same geographic location but with air source equipment operates at an annual energy intensity of 139 kBTU/sq.ft.

Fossil Ridge High School

Craig Watts, principal/vice president of MKK Consulting Engineers, Greenwood Village, Colo., receives first place in the new institutional buildings category for his design of Fossil Ridge High School, Fort Collins, Colo.

Functioning as a small community in itself, the high school has several different types of mechanical systems ranging in size from small DX split systems for computer room cooling to large air handlers with energy recovery devices for spaces such as the auditorium.

When operated together as a package, these components provide the school with an innovative and energy-efficient mechanical system. The demand-controlled classroom ventilation via occupancy sensors and window sensors allows for reduced energy consumption by eliminating the treatment of unneeded outside air, while providing occupants with the ability to bring in naturally ventilated outside air when they feel it is appropriate.

The dollar value of the energy savings from the mechanical, plumbing, irrigation and building lighting systems projected over the life span of the building is estimated at more than \$6 million at current utility rates.

Firstenburg Community Center

Rick Grove, P.E., senior engineer with Stantec Consulting, Seattle, receives first place in the new public assembly category for his design of Firstenburg Community Center, Vancouver, Wash.

The community center is a two-story, 72,500-square-foot, multi-use facility that includes a fitness area, aquatics space, meeting rooms, lounges, administration areas and a gymnasium with an elevated jogging track.

The majority of the spaces use either natural ventilation, assisted ventilation or a hybrid system. Two 97 percent thermally efficient natural gas condensing boilers, each sized to 50 percent of the full heating requirement, provide heating water for domestic, pool, building skin and ventilation heating loads. Another sustainable feature is that gray water collected

from the pools' backwash filters is captured for use in flushing toilets, decreasing the amount of water introduced into the municipal sanitary system by some 500,000 gallons per year.

Thermal analysis models were developed to validate the natural ventilation design. An energy model of the building based on construction documents and documented actual operating assumptions showed 26 percent energy savings as compared to a Washington state baseline model.

Charoen Pokphan Foods Public Co.

Apichit Lumlertpongpana, managing director, and Wichai Rungruangprug, engineering manager, I.T.C., Bangkok, receive first place in the new industrial facilities or processes category for his design of Charoen Pokphan Foods Public Co., Chokchai, Thailand.

The design focused on a refrigeration system and low-temperature air conditioning for a poultry slaughter and processing plant, with a slaughter capacity of 360,000 birds per day.

By installing smaller compressors, smaller suction pipes and insulation material, the system saves some \$200,000 of the first cost of equipment and material. The estimated annual energy savings is nearly \$300,000 a year, with an estimated total reduction of carbon dioxide emissions equal to 1,900 metric tons per year. Water usage was reduced by 91.3 percent.

For Release:
January 19, 2008

Contact: Wendy Angel
Public Relations
678-539-1216
wangel@ashrae.org

ASHRAE Recognizes Outstanding HVAC&R Industry Achievements

NEW YORK CITY - The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recognized 49 people for their contributions to ASHRAE and the HVAC&R industry at the Society's 2008 Winter Meeting held here Jan. 19-23.

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 Frank Dean, a pioneer in HVAC systems design and installation, and P. Ole Fanger, widely considered the world's leading expert on the effects of the indoor environment on human comfort, into the ASHRAE Hall of Fame.

Considered "an HVAC systems thinker," Dean conceptualized and implemented an overall method of designing and installing air-conditioning systems that provided a unique combination of low first cost and low energy cost without sacrificing high quality.

Fanger's pioneering work on thermal comfort and indoor air quality provided the scientific foundation for standards across the world. His research was almost exclusively directed toward people's response to the indoor environment. He and his associates identified for the first time a significant impact of indoor air quality on productivity and as a cause of sick building syndrome.

The ASHRAE/ALCO Medal for Distinguished Public Service recognizes distinguished public service by an ASHRAE member. The recipient is Clark Bullard, Ph.D., Fellow ASHRAE, a research professor, University of Illinois at Urbana-Champaign, Urbana, Illinois

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 22 members to the grade of Fellow ASHRAE:

- Donald L. Beaty, P.E., president, DLB Associates, Tinton Falls, N.J.
- Alberto Cavallini, P.E., a professor at Padova University, Padova, Italy.
- David Claridge, Ph.D., P.E., the Leland Jordan professor of mechanical engineering and director, Energy Systems Laboratory, Texas A&M University, College Station, Texas.
- Life Member Lindell A. Davidson, P.E., lives in Norfolk, Va.
- Piotr A. Domanski, Ph.D., leader, HVAC&R Equipment Performance Group, National Institute of Standards and Technology, Gaithersburg, Md.
- Ashley F. Emery, Ph.D., P.E., a professor of mechanical engineering and adjunct professor of industrial engineering and architecture, University of Washington, Seattle, Wash.
- Patricia T. Graef, P.E., research and development manager, Munters Corp., HumiCool Division, Fort Myers, Fla.
- Maureen Grasso, Ph.D., dean of the Graduate School and a professor of textile sciences, University of Georgia, Athens, Ga.
- Walter T. Grondzik, P.E., a professor, Department of Architecture, Ball State University, Muncie, Ind.

•Fariborz Haghighat, Ph.D., P.Eng., a professor, Department of Building, Civil and Environmental Engineering, Concordia University, Montreal, Canada.

•Hugo S.L.C. Hens, Ph.D., a member of the faculty of engineering, Department of Civic Engineering, Unit of Building Physics, and head of the Laboratory of Building Physics, K.U. Leuven, Leuven, Belgium.

•Jan L.M. Hensen, Ph.D., a professor of building performance simulation, Eindhoven University of Technology, Eindhoven, Netherlands.

•Daniel Int-Hout III, chief engineer, Krueger, Richardson, Texas

•Shinsuke Kato, Ph.D., a professor, Institute of Industrial Science, the University of Tokyo, Tokyo, Japan.

•Howard J. McKew, P.E., director of building solutions, RDK Engineers, Andover, Mass.

•Life Member James H. Norman, retired as ASHRAE's manager of technical services. He lives in Atlanta, Ga.

•D. Nirmal Ram, principal consultant, Cerebration Consultants, Bangalore, India.

•T. Agami Reddy, Ph.D., P.E., a professor, Civil, Architectural and Environmental Engineering, Drexel University, Philadelphia, Pa.

•Sitaraman Chandra Sekhar, Ph.D., an associate professor, Department of Building, National University of Singapore, Singapore.

•Dennis A. Stanke, staff applications engineer, Trane Co., La Crosse, Wis.

•Life Member T. David Underwood, P.Eng., president, Isotherm Engineering, Mississauga, Ontario.

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.

Five projects received first-place ASHRAE Technology Awards:

•Albert Barfield, marketing principal with Gulf Power Co., Pensacola, Fla., in the new commercial buildings category for his design of Springhill Suites, Pensacola, Fla.

•Craig Watts, principal/vice president of MKK Consulting Engineers, Greenwood Village, Colo., in the new institutional buildings category for his design of Fossil Ridge High School, Fort Collins, Colo.

•Rick Grove, P.E., senior engineer with Stantec Consulting, Seattle, in the new public assembly category for his design of Firstenburg Community Center, Vancouver, Wash.

•Apichit Lumlertpongpana, managing director, and Wichai Rungruangprug, engineering manager, I.T.C., Bangkok, in the new industrial facilities or processes category for his design of Charoen Pokphan Foods Public Co., Chokchai, Thailand

•Laurier Nichols, P.E., Rejean Blais, Simon Pelletier, P.Eng., Oanh Nguyen, Jean Molina and Marco Freitas, Dessau-Soprin, Montreal, Quebec, Canada, in the existing health care facilities category for their design of the rehabilitation of Honore-Mercier Hospital, Saint-Hyacinthe, Quebec, Canada.

The ASHRAE Student Design Project Competition challenged teams of undergraduate students to transform a New York City distribution center into a biotech research laboratory. First place in the HVAC system selection category is awarded to Kevin Chow, Brandon Damas, Jeremy Fowler, Brandon Frey, Brendan Gleason and Ben Willey from Kansas State University, Manhattan, Kansas. Their advisors are Julia Keen, P.E., and Fred Hasler, P.E. First place in the HVAC system design category goes to Gary Schrader, Jeremy Saddison, Ryan Larson and Chad Gydesen of Ferris State University, Big Rapids, Mich. Their faculty advisor is Douglas Zentz. First place in the architectural design category is awarded to Stuart Johnson and Grant Helmkamp of Lawrence Technological University, Southfield, Mich. Their advisor is Daniel Faoro.

The E.K. Campbell Award honors outstanding achievements by engineering educators. The recipient is David B. Meredith, P.E. The award honors an individual for outstanding service and achievement in teaching and is presented by the ASHRAE Life Members Club. Meredith is an associate professor of general engineering, Engineering Department, Pennsylvania State University Fayette-the Eberly Campus, Uniontown, Pa.

The John F. James International Award is given to an ASHRAE member who has done the most to enhance the Society's international presence. The recipient is Walid Chakroun, Ph.D., chairman, Mechanical Engineering Department, College of Engineering and Petroleum, Kuwait University, Kuwait.

For Release:
January 20, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE Hosts Workshops on Data Center Energy Savings

ATLANTA – Data centers in New York State use an estimated \$593 million worth of energy each year.

Implementation of energy efficiency guidance and best practices information will be presented at five upcoming workshops from ASHRAE held throughout New York State. This information could result in a savings of at least \$25 million for New York data centers over the next five years. Specifically, a 75 percent reduction in data center energy use could be experienced for some data centers.

“Estimates show that the total energy usage by data centers approaches 2 percent of the United States electricity usage, which is equivalent to about eight 1000 MW power plants,” said Roger Schmidt, chair of ASHRAE’s technical committee on mission critical facilities, technology spaces and electronic equipment. “The significant energy usage by datacom equipment has governmental agencies and utility companies very interested in how energy efficiency opportunities can be implemented.”

ASHRAE received an \$180,000 grant from the New York State Energy Research and Development Authority to host five workshops in New York focused on data center energy efficiency and best practices. Registration is free to attend the workshops.

The first workshop takes place March 25 in Albany at the Nanotechnology Center, University of Albany, State University of New York. For more information, visit www.ashrae.org/datacenter. Additional workshops are planned for May 28, Baruch College, New York City; July 29, Syracuse University; Sept. 9, New York Power Authority, Buffalo; and Nov. 6 at Baruch College, New York City.

The workshops will focus on how data center operators, users, chief information officers, and data center designers and consultants can use energy efficiency opportunities and best practices. They are centered on three ASHRAE publications, *Thermal Guidelines for Data Processing Environments*, *Improving Datacom Facility Energy Efficiency* and *High Density Data Centers – Case Studies and Best Practices*. These three publications are free to workshop attendees.

Following the workshops, attendees will perform a survey of current practices and energy usage with their data centers.

“These ASHRAE workshops will demonstrate that significant energy improvements can be made in data centers, and that employing current technologies and ASHRAE guidance can show up to a 75 percent reduction in energy usage,” Schmidt said.

For Release:
January 21, 2008

Contact: Wendy Angel
Public Relations
678-539-1216
wangel@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

New Publication Provides Energy Efficiency Guidance for K-12 Schools

ATLANTA – A full 16 percent of schools districts’ controllable costs is spent on energy. A new publication written specifically for K-12 school buildings will aid design teams in constructing energy-smart schools using off-the-shelf technology that can cut energy use 30 percent or more annually.

The *Advanced Energy Design Guide for K-12 School Buildings*, published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, instructs architects, engineers and others on building design teams how to use best design practices to create energy-saving buildings. Written in partnership with the American Institute of Architects, the Illuminating Engineering Society of North America, the U.S. Green Building Council and the U.S. Department of Energy, the book is available for free in electronic form at www.ashrae.org/freeaedg. Hard copies are available for purchase.

ASHRAE and its partners are sending more than 14,000 complimentary copies of the publication to school district officials nationwide to assist with the design of energy-efficient schools that create safe and comfortable environments conducive to learning.

“Many schools throughout the country have increased energy efficiency, cut costs, and reduced their environmental footprints through energy efficiency measures,” says Paul Torcellini, chair of the committee that wrote the book. “Many others, however, still spend more money on energy than they do on educational supplies. It’s like money just goes out the single-pane windows or through the poorly insulated ceiling. Just think of all the things a school could do each year with the money it saves on energy: buy more books and computers, increase teachers’ salaries, upgrade the media center and gymnasium . . . the list goes on and on.”

The publication features easy-to-follow recommendations for various climate zones and how-to implementation tips via a series of real-life school construction case studies. Included are suggested steps for achieving LEED energy credits and supplemental strategies for achieving advanced energy savings beyond 30 percent.

Some of the design tips included in the guide are:

- Provide daylighting to the classrooms and gym so that lights can be off most of the day, but design it carefully so additional cooling needs are not required.
- Design lighting systems that use the most current energy-efficient lamps, ballasts and integrated controls.
- Control the HVAC system bas on actual occupancy of each space at a given time. This requires the school to be zoned so that a zone's HVAC system can be shut down when that specific part of the school is unoccupied.
- Design a well-insulated "envelope", including good wall and roof insulation and low-e windows.
- Use high-efficiency heating and cooling equipment.

The cost of the print version of *Advanced Energy Design Guide for K-12 School Buildings*, is \$59 (\$47 members). To download the free electronic version, please visit www.ashrae.org/freeaedg.

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

Note: A high-resolution graphics with energy efficiency tips for schools are available for print use. Please e-mail wangel@ashrae.org to receive a copy.

For Release:
January 22, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE Publishes Updated Version of Energy Efficiency Standard

ATLANTA – Energy reduction through new requirements related to lighting, façades, and mechanical systems is achievable in the latest energy efficiency standard from ASHRAE and the Illuminating Engineering Society of North America (IESNA).

Just published, the 2007 version of ANSI/ASHRAE/IESNA Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. The standard contains changes made through 47 addenda to the 2004 standard.

"One of the best ways to reduce building energy consumption is to reduce, or eliminate, the cooling or heating loads," Mick Schwedler, chair of the Standard 90.1 committee, stated. "By doing so, the systems installed in buildings become smaller and use less energy. For example, on a hot, sunny day, having more insulation in the roof and better glass on the southern and western façades of a building reduce the air conditioning necessary as well as its resultant energy use. Two of the addenda do this by enhancing the insulation and fenestration (or window) requirements for the building exterior."

The standard also addresses reduction of electrical and cooling loads and thus electricity by allowing less power for lighting. An addendum revised lighting allowances for retail displays, as it allows more flexibility for designers and better reflects actual retail lighting function.

Schwedler cited forewords from three approved mechanical addenda to quantify a portion of the energy savings:

- Addendum an: "...would save about 18 trillion Btu of gas and oil annually once the existing boiler stock turns over."
- Addendum g: "will save an estimated 1.05 Quads of cumulative primary energy by 2035."
- Addendum f: "will save an estimated 2.3 Quads of cumulative primary energy by 2035."

"These substantial savings are credited to the work of past Standard 90.1 Chair Jerry White, the Standard 90.1 committee, and those that aided in the rigorous public review process," Schwedler said. "We know that many projects are achieving considerable energy savings at reasonable costs and ask the entire design, operation, and owner communities to share these project ideas and contribute toward future energy and energy cost savings."

The cost of the I-P version of ANSI/ASHRAE/IESNA Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, is \$119 (\$95, ASHRAE members). The SI version will be available later this spring. The standard is co-sponsored by the Illuminating Engineering Society of North America (IESNA).

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

For Release:
January 25, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

Design of Energy Efficient Datacom Facilities Focus of ASHRAE Book

ATLANTA – Datacom center energy use is typically large and concentrated (it can be 100 times the watts per square foot of an office building), with operations running 24 hours, 7 days a week, about three times the annual operating hours of most commercial properties.

As a result, issues such as sustainable design, energy efficiency and operating cost become critically important for these facilities.

Guidance to assist those involved in the design, construction, commissioning, operation, implementation and maintenance of datacom equipment centers is available in a new book from ASHRAE, *Best Practices for Datacom Facility Energy Efficiency*.

“This book provides detailed information on the design of datacom facilities that will aid in minimizing life-cycle cost and maximizing energy efficiency,” said Tom Davidson. “The overall goal is to minimize total cost of ownership (TCO) for the end user, while helping to conserve energy resources on a global scale.”

Davidson is a member of ASHRAE’s technical committee on mission control facilities, technology spaces and electronic equipment, which wrote the book.

A study conducted by Lawrence Berkeley National Laboratory on average data center power allocation showed that only 46 percent of power was used by information technology (IT) equipment such as servers, while 23 percent was used by HVAC cooling equipment, 8 percent by HVAC fans, 8 percent by uninterruptible power supply equipment losses, and 4 percent by lighting. Another 11 percent was attributed to other uses, such as miscellaneous electrical losses, support office area, etc.

“Since the infrastructure/energy cost is an increasing component of total cost of ownership, a strong emphasis must be placed on this cost to keep a datacom facility energy efficient and operating at the lowest cost to support the level of reliability and availability of the equipment it houses,” he said.

The book provides a listing of best practices in the areas of environmental criteria, mechanical equipment and systems, economizer cycles, airflow distribution, HVAC controls and energy management, electrical distribution equipment, datacom equipment efficiency, liquid cooling, total cost of ownership and emerging technologies. Examples of the best practices include:

Environmental Criteria

- Adoption of temperature and humidity ranges provided in ASHRAE’s *Thermal Guidelines for Data Processing Environments* publication can result in increased energy efficiency.

Mechanical Equipment and Systems

- For computer room air-conditioning equipment, focus the cooling solution on very high sensible/total cooling capacities per the revised ANSI/ASHRAE Standard 127-2007.

Economizer Cycles

- Raising the supply air setpoint in a facility can significantly increase the number of cooling hours in economizer mode.

Airflow Distribution

- Recognize that datacom equipment loads will change over the next 10 to 15 years. Develop a cooling distribution strategy that can adjust to these changes.

HVAC Controls and Energy Management

- Investigate the costs and benefits of different methods for humidity control. System design and control algorithms should allow the primary cooling coils to ‘run dry’ and thus allow for chilled-water reset at light loads without impacting relative humidity.

Electrical Distribution Systems

- Consider distributing high-voltage AC or DC power to point of use.

Datacom Equipment Efficiency

- Select power equipment from the highest input voltage available within its input voltage rating range.

Liquid Cooling

- Consider the use of a cooling distribution unit (CDU) to isolate the liquid cooling loop from the building chilled-water cooling loop. This allows the liquid cooling loop temperature to be set above the room dew-point temperature, thus eliminating condensation.

Total Cost of Ownership (TCO)

- Use energy system modeling software to aid in developing an accurate TCO.

Commissioning

Verify and document that the facility, its systems and assemblies are designed, installed and maintained in accordance with the owner's program requirements.

The book is part of the *ASHRAE Datacom Series*, developed to provide a more comprehensive treatment of datacom cooling and related subjects. Other books in the series are ASHRAE's *Design Considerations for Datacom Equipment Centers*, *Thermal Guidelines for Data Processing Environments*, *Liquid Cooling Guidelines for Datacom Equipment Centers*, *Datacom Equipment Power Trends and Cooling Applications* and *Structural and Vibration Guidelines for Datacom Equipment Centers*.

The cost of *Best Practices for Datacom Facility Energy Efficiency* is \$59 (ASHRAE members, \$47). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit at www.ashrae.org/bookstore.

For Release:
January 31, 2008

Contact: Jodi Dunlop
Public Relations
678-539-1140
jdunlop@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

ASHRAE '08: Reaching New Heights

ATLANTA – Major announcements at ASHRAE's 2008 Winter Meeting included free electronic distribution of the Advanced Energy Design Guide series, publication of the 2007 energy conservation standard from ASHRAE and IESNA, and signing of memorandums of understanding with the Brazil Green Building Council and the Building Owners and Managers Association.

More than 2,700 people attended the meeting, held Jan. 19-23, New York City. Held in conjunction with the meeting was the Air Conditioning, Heating, Refrigerating Exposition, which set a new attendance record with 39,298 registered visitors (excluding exhibitors). Records for a Northeast HVAC&R event also were set with total number of exhibitors of 1,885 and square footage of exhibit space of 363, 505.

Centered on the theme *Reaching New Heights*, a nod to the skyscraper skyline of New York City, the ASHRAE meeting offered a technical program with more than 130 sessions, 21 educational courses and social events. The meeting also featured more than 500 meetings of technical, standards and standing committees, developing guidance for the future of the industry and ASHRAE.

"ASHRAE hit new heights at this meeting in regard to driving the industry forward through our distribution of technical information, educational offerings and networking opportunities," ASHRAE President Kent Peterson said. "Being surrounded by the thousands of buildings in New York City was a great reminder that ASHRAE and our industry must truly aim to reach new heights in creating high performing buildings. The accomplishments at this meeting certainly helped move us along the sustainability path."

At the meeting, President Peterson debuted a new video that highlights how existing design and technology can be used in creating net-zero-energy buildings. The video and his state-of-the-Society address can be found at www.ashrae.org/peterson.

"Since we last met in June, oil has hit the \$100-per-barrel milestone," he said in his speech. "As you recall, we were concerned in 2004 when the price of oil roughly doubled in a year to \$55 per barrel. Rising energy costs and the increased global awareness of the potential impact of climate change continues to drive home the message that low-energy, environmentally responsible, high-performance buildings are the future."

Meeting highlights include the technical program, with its theme of *Reaching New Heights in Net-Zero Energy Design*, featuring more than 130 sessions with presentation of 59 papers. The most well-attended sessions dealt with net-zero-energy design, exergy, designing for mold and dehumidification avoidance and energy efficient datacom facilities.

Top best-selling books at the ASHRAE Bookstore included the 2007 version of Standard 90.1, the Handbook CD+, the Spanish Pocket Guide and the new *Advanced Energy Design Guide* for K-12 Schools.

More than 900 people attended the ASHRAE Learning Institute's seven Professional Development Seminars and 14 short courses. The most popular courses dealt with health care, Standard 62.1 and natural ventilation.