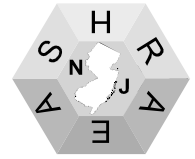




# THERMOGRAM



The New Jersey Chapter of ASHRAE Newsletter

WWW. NJASHRAE.COM

MAY 2007

REPLY@NJASHRAE.COM

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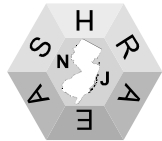
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201-945-9999

### REFRIGERATION

JIM CASEY

### ROSTER/DIRECTORY

OPEN



## PRESIDENTS MESSAGE



We are fast approaching the end of our ASHRAE year – general meetings will start up again in October. This year has been one of changes for our chapter – we have gone electronic – our website allows for meeting rsvp's and we've got voicemail so we can easily communicate with our members. We have made our newsletters available online – which saves 10-12 sheets of paper per newsletter and with 400+ paid chapter members receiving the newsletter, that's a savings of 4000 – 4800 sheets of paper per month, 8 newsletters per year yields 40,000 sheets saved. This is part of our effort to keep the chapter green.

We had a fact-filled meeting year with a vast array of topics covered. ASHRAE President Terry Townsend attended our January joint meeting with ASPE and MCA and spoke about Sustainability.

What can we accomplish next year? How can NJ ASHRAE support Terry Townsend's call for Sustainability? What can you do to participate? Contact any member of the executive board or the board of governors and tell them what you see NJ ASHRAE doing next year and what you're interested in doing to help us get there.

Are you making the most of your ASHRAE membership? Sure you refer to your ASHRAE guides on a regular basis when faced with a new technology or product that you haven't work with previously. You page through your ASHRAE Journal to keep up with what's happening in HVC&R. But have you thought about becoming active locally in the New Jersey Chapter? Attend chapter meetings which are held the first Thursday of the month at the Sheraton Woodbridge on Route 1, Iselin. There are excellent networking opportunities with engineers, contractors, manufacturers' reps, engineering students, and others involved with HVAC&R. Visit our website: [www.njashrae.org](http://www.njashrae.org) for current information about the chapter.

There are many ways for you to be involved in the chapter as a member of a committee - take a look at the list of committees. Any questions about what they do? Contact the committee chair or any board member who can help answer your questions.

Did you graduate from an engineering program in a NJ college or university? Are you interested in working with an ASHRAE student chapter at your alma mater? Contact Peter Frangiskou to learn more about opportunities for mentoring the next generation of HVAC&R professionals.

Are you interested in working on a standards committee to write and update standards that we all use on a daily basis? Or are you interested in working with young engineers? Become involved with YEA (Young Engineers in ASHRAE) as a mentor or as a member of the subcommittee. Visit [www.ashrae.org](http://www.ashrae.org) and see what opportunities are available to you.

**COMMITTEES**  
 (CONTINUED)
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**NEWSLETTER ADS**

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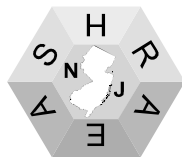
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 TOLL FREE NUMBER  
 1-(800)-527-4723

## PRESIDENTS MESSAGE ... continued

NJ ASHRAE could not function without its dedicated staff of volunteers who contribute their time and energy to making things happen. Many thanks to Peter Frangiskou for his work as President-Elect this year and stepping in to take over the Treasurer's position when our treasurer could not continue this year. Mark Richter as Vice President arranged our speakers for this year and worked to coordinate our joint meetings. Mark also single-handedly turns out our NJ ASHRAE newsletter each month. Janet Shipton worked as Secretary this year and is stepping into a dual role next year as Treasurer and VP. Our Board of Governor members, Linda Carolan, Ruth Giacobbe, Russ Graham, Chris Phelan and Yogesh Shah continue to lend support to our programs and keep us on course for our future. Chris also did an outstanding job arranging our golf outings. Thanks to all for making this year a success!

Sincerely,  
 Jori Fahrenfeld, Chapter President



### CONGRATULATIONS !!



## NJ ASHRAE

### 2007 – 2008 OFFICER & BOARD OF GOVERNORS

**OFFICERS**

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**MR. RUSS GRAHAM**

### Russ Graham - Leadership Recall Interview

Russ Graham was the president of the New Jersey Chapter of ASHRAE in 2004-2005. I interviewed him recently. He spent four years in the Navy and then attended Somerset County College. He received a degree in computer science. I am not sure if his unique sense of humor was improved or damaged during those times. While working at Johnson & Johnson as a computer operations analyst he became acquainted with Chuck Hoffmann of Stillwell-Hansen. Chuck is also known to have a great sense of humor. The two became friends and Russ was offered a job at Stillwell-Hansen. His career in the HVAC world began. He never imagined himself as a sales person, but quickly realized that he would be dealing with peers. He could help them purchase products that he was extremely familiar with and comfortable selling.

One of his favorite stories took place just before he left Johnson & Johnson. He was dealing with an ongoing problem associated with batteries they had purchased for their UPS. The salesman was Chuck Hoffman. On his last day (a Friday), they grilled Chuck as to what he was going to do to fix their problems. Chuck committed to returning on the following Monday with answers. Russ started his new job on the following Monday. He accompanied Chuck to the follow-up meeting at J&J. He was now sitting on the opposite side of the table and he was now in the hot seat.

His best ASHRAE memories revolve around meeting with other folks from other chapters. They are faced with the same challenges and goals. The exchange of ideas about what worked or did not work was enlightening. He has enjoyed traveling to other chapters in the Region as well as to the Winter Meetings and Trade Shows. He stated that "I can only tell them that my experience on the whole has been very rewarding. There are many levels of involvement so it doesn't require a person to make a major change in their life in order to get more out of their membership." The on the job training as chapter president has served many of us well. For those interested in forming their own company, chapter president is an excellent first step.

Even though the chapter is quite large, it is possible for just a few people to have a major impact on the organization. He is concerned that the decision making process fails to include the diverse input of enough members to reflect the grass roots of the chapter. He was disappointed with the continuing struggle with participation. He found it nearly impossible to entice members to step forward and become an active part of the organization.

Russ started a manufacture's rep firm in March of 2005 with Linda Carolan. G&C Sales is located in Scotch Plains. He purchased a Honda Ridgeline truck shortly afterwards. The large vehicle has a big trunk in the bed. He enjoys people's reactions when he tells them it can hold up to two bodies. Russ continues to remain active in ASHRAE. I spotted him at the Winter Meeting in Dallas. He had his stand up routine polished and ready to go. He has been married to his wife Julie for the past 23 years. He is an avid golfer that has been known to have some difficulty keeping an accurate score. He finds golf to be an integral part of his personal and professional life.

Bob Daly  
*Chapter Historian*

### 2006-2007 PRESIDENTIAL AWARD OF EXCELLENCE (PAOE) SUMMARY

Chapter #	Chapter Name	Chapter Members/students	Member Promotion	Student Activities	Research Promotion	CTTC	History	Chapter Operations	Chapter PAOE Totals
007	N.J.	831	335	640	330	665	200	895	3065

## HELP WANTED

<b>Company:</b>	Clive Samuels and Associates	<b>Location:</b>	Princeton New Jersey
<b>Company Profile:</b>		<b>Other Categories:</b>	
<b>Specialty Field:</b>	Commercial	<b>Training/Education:</b>	BSME; PE License Required
<b>Experience:</b>	10+	<b>Salary Range:</b>	TBD

### Specific job responsibilities / qualifications required including certifications:

Would you like to be part of the MEP Design Engineer industry? Do you want to be challenged by opportunities that expose you to many facets of building design development?

As a Mechanical Lead Engineer for our Princeton NJ based MEP Consulting Engineering Firm (Division of Emerson Electric a Fortune 200 Corp), you will play a key role in performing complex engineering, design, analysis and other technical tasks utilizing current technology and available standards.

Perform a technical leadership role supervising, coordinating and directing others in the production of customer-focused design services that meet established project requirements.

Participate in business development activities including sales, proposal preparation and client presentations.

#### Requirements:

- + Senior-level engineering assignment to a project or organizational team, or as a Lead Engineer for a specific discipline or larger projects
- + Independently develops and/or supervises the creation of engineering documents that meet customer quality requirements; typical responsibilities may include detailed calculations and analyses, drawing review, technical reports, proposal evaluations, design and installation packages and development of specifications
- + May supervise or mentor one or more subordinates and provide input regarding performance.
- + Responsible for selection, layout and sizing of applicable systems and equipment
- + Identifies problems, establishes work scope, prepares budget and schedule, plans work, provides technical direction, and reports work status
- + Performs internal and external project management responsibilities as required
- + Represents design team at project and client meetings
- + Reviews, signs and seals drawings, specifications, calculations, reports and other documents.

CSA offers a competitive salary and excellent benefits, including medical, dental, life insurance, 401K with company match. We are an Equal Opportunity Employer and hire regardless of race, color, religion, general, natural origin, disability or veteran status.

### Clive Samuels and Associates

105 College Road East 105 College Road East 105 College Road E  
Princeton, NJ

## HELP WANTED

HVAC Engineer wanted for Princeton, New Jersey consulting firm. Experience in design of HVAC systems for institutional and commercial buildings required. AutoCad proficiency is a must. Position is for a hands-on, production oriented individual.

Our firm provides full building systems design services for a variety of building types, including theaters, government, university and historical structures.

Work is interesting and challenging in an informal atmosphere with opportunity for advancement.

Candidate should have worked at a consulting firm doing similar work for a minimum of two years.

Four year college degree desirable, EIT a plus.

Send resumes to [contact@pegllc.com](mailto:contact@pegllc.com).

*Princeton Engineering Group, LLC*

*100A Forrestal Road*

*Princeton, NJ 08540*



## SHINE ENGINEERING, P.A.

---

Shine Engineering a multi-disciplined engineering firm seeks HVAC Design Engineer with a minimum of 3 years experience in designing commercial spaces. Must be proficient with AutoCAD. This represents an excellent opportunity to work for a small company and learn all phases of the business including project management, design, engineering and building surveys.

### Qualifications:

- Excellent communication skills and have ability to articulate conceptual ideas with clients.
- BSME Required
- Autocad

### Responsibilities:

1. Mechanical design engineer on multiple projects from schematic through construction phases.
2. Complete design and specifications with supervision.
3. Coordinate project work between mechanical, electrical & plumbing engineering's.

### Salary/Benefits:

Competitive salary, 100% full medical, retirement plan

Submit resume via email with salary requirement to: [john@shineengineering.com](mailto:john@shineengineering.com)

**SHINE ENGINEERING, P.A.**

**6 Renshaw Drive**

**Montville, New Jersey 07045**

Tel (973) 402-2125 Fax (973) 402-2126

## HELP WANTED



Andover, MA  
Boston, MA  
New Brunswick, NJ

### COMMISSIONING MECHANICAL (HVAC) ENGINEER

Richard D. Kimball Company, Inc. has specialized for over 100 years in providing high-quality HVAC, Plumbing, Fire Protection, and Electrical design engineering services. Today we deliver MEP/FP and telecommunications design, systems commissioning and building management support services to some of New England's leading businesses and institutions.

RDK's New Brunswick, New Jersey office is searching for a Commissioning Mechanical (HVAC) Engineer. Applicants must have a thorough understanding of the principles of mechanical (HVAC) design. Responsibilities include development of commissioning plans and specifications, design review, writing functional performance test narratives, site observations (including multiple days on a job site) and facilitation of functional performance test demonstration.

Five to eight years of relevant experience in designing and construction administration for a variety of building types is required. Engineering degree preferred, project management interest is required. Candidates should be proficient in the operation of computer systems including Outlook, Microsoft Word, Microsoft Excel, and AutoCAD 2004. Building Systems a plus. Also requires excellent verbal and written communication skills

**PLEASE NOTE:  
RDK HAS HVAC ENGINEERING OPPORTUNITIES  
AT ALL LEVELS**

RDK offers a comprehensive benefits package which includes Health Insurance (One option has 90% of premiums paid by RDK), Dental, 401(k), Profit Sharing, Short-Term and Long-Term Disability Insurance, Tuition Reimbursement, Flextime, Life Insurance, Bonus Opportunities, and more. Interested applicants should visit our website [www.rdkengineers.com](http://www.rdkengineers.com) to apply or resumes can be mailed or faxed to:

Richard D. Kimball Company, Inc.  
200 Brickstone Square  
Andover, MA 01810-1488  
978-296-6315  
Fax 978-296-6316

## SOCIETY NEWS.....

### Purdue Professor Chosen for First ASHRAE D.C. Fellowship

ATLANTA – An associate professor from Purdue University has been selected for ASHRAE's first Washington, D.C., Federal fellowship.

"I am eager to learn about how energy policies and research strategies are formulated at the federal level," William "Bill" Hutzel, P.E., who works in Purdue's College of Technology, Department of Mechanical Engineering Technology, said. "I hope to play a small role in advocating for sustainable design practices in buildings. I am proud to be representing ASHRAE because it is the professional society ideally suited for leadership on this important topic."

The one-year fellowship allows participants to work in the federal government in a technical advisory role. This year's Fellow will be placed on Capitol Hill, most likely in the Science Committee staff office.

At Purdue, Hutzel teaches undergraduate courses in thermodynamics, controls, fluid mechanics and HVAC. He has developed a modern laboratory to teaching graduate-level facilities engineering courses and conducting applied research. Recent projects have designed an air flow testing laboratory for heat recovery equipment, used Web-enabled building controls for remotely accessible laboratory experiments, and evaluated the performance of evacuated tube heat pipe solar collectors.

He serves as co-faculty advisor for the ASHRAE Purdue Student Branch.

The fellowship is designed to educate participants on the inner workings of federal policy-making, to provide scientific guidance and analysis to decision-makers, and to increase the visibility and involvement of scientists and engineers in the public policy arena. The fellowship runs from September through August and typically begins after a two-week orientation sponsored by the American Association for the Advancement of Science.

ASHRAE members interested in applying for the 2008 Fellowship can contact Doug Read, ASHRAE program director of government affairs, at e-mail [dread@ashrae.org](mailto:dread@ashrae.org).

ASHRAE, founded in 1894, is an international organization of 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

###

### ASHRAE '007—Natural and Mechanical Ventilation in Schools Discussed in Seminar

ATLANTA - When it comes to ensuring safe, comfortable environments for students, which earns a higher grade – natural or mechanical ventilation?

The pros and cons of natural ventilation are examined in a seminar, Natural Ventilation in Schools: Boon or Bust?, from 8-9:30 a.m. Sunday, June 24, at ASHRAE's '007 Annual Meeting, June 23-27, Long Beach.

"Natural ventilation in schools is used to lower cooling and ventilation costs," said seminar chair Chris Muller, Purafil, Doraville, Ga. "However, uncontrolled ventilation can allow contaminants to bypass filters and permit the introduction of excess moisture. Given the number of schools located in non-attainment areas for one or more of the U.S. Environmental Protection Agency's priority pollutants, natural ventilation can present increased health risks to a large segment of the student population."

The seminar looks at ventilation in schools from the standpoint of outdoor air quality, covers air cleaning requirements of ASHRAE Standard 62.1 and presents a case study.

"Although you may expect to pay more for the operation of mechanical HVAC systems vs. natural ventilation, ASHRAE Standard 62.1 provides design options that reduce operating costs while still providing for acceptable indoor air quality," said Brad Stanley, Purafil, Doraville, Ga. His presentation is titled, Mechanical vs. Natural Ventilation in Schools: Less Can be More.

Jerry Lamping with the North East Independent School District in San Antonio, Texas, shares how the district uses only natural and mechanical ventilation with no air conditioning in gyms and locker rooms. Voters will soon decide whether to convert these areas to full mechanical air-conditioned spaces.

Michael G. Apte, Ph.D., Lawrence Berkeley National Laboratory, Berkeley, Calif., talks about Ventilation Considerations in Areas with Elevated Ozone Levels.

"As we get more information on reactions by oxidants to organic compounds and their by-products, the rationale to control ozone entry into buildings and to select materials less prone to ozone reactions becomes stronger," he said.

For more information on the meeting, June 23-27, Long Beach, visit [www.ashrae.org/longbeach](http://www.ashrae.org/longbeach).

## SOCIETY NEWS.....

### ASHRAE to Provide Energy Guidance in Clinton Retrofit Program

ATLANTA – ASHRAE will play a primary role in former President Bill Clinton's initiative to reduce energy consumption in existing buildings by providing design guidance and tools to reach energy efficiency targets.

On May 16, Clinton announced the creation of a global Energy Efficiency Building Retrofit Program, a project of the Clinton Climate Initiative (CCI). This program brings together four of the world's largest energy service companies, five of the world's largest banks, and 16 of the world's largest cities in a landmark program designed to reduce energy consumption in existing buildings.

CCI and its partners, including the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and U.S. Green Building Council, will assist participating cities with their initiation and development of programs to train local workers on the installation and maintenance of energy saving and clean energy products.

"Climate change is a global problem that requires local action," said President Clinton. "The businesses, banks and cities partnering with my foundation are addressing the issue of global warming because it's the right thing to do, but also because it's good for their bottom line. They're going to save money, make money, create jobs and have a tremendous collective impact on climate change all at once. I'm proud of them for showing leadership on the critical issue of climate change and I thank them for their commitment to this new initiative."

"ASHRAE is in the best position to provide immediate support to the cities seeking guidance through the Clinton Climate Initiative due to our 30-year involvement in design guidance for energy conservation for both new and existing buildings," ASHRAE President Terry Townsend said.

Townsend notes that most guidance developed for the HVAC&R industry focuses on new construction, which represents only 2 percent of the building stock in the United States.

"We must broaden our focus to include existing buildings, which accounts for the other 98 percent," he said.

As such, ASHRAE currently is working to provide energy guidance in existing buildings through its Advanced Energy Design Guide series. This existing buildings guide, developed in collaboration with the Illuminating Engineering Society of North America and the U.S. Green Building Council with participation by BOMA and the U.S. General Service Administration, will show building owners how they can initially reduce their energy consumption by 30 percent. It is tentatively scheduled to be available in fall 2008.

ASHRAE also provides guidance through its Standard 100, Energy Conservation in Buildings, which provides procedures and programs essential to energy-conserving operation, maintenance and monitoring, and Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings.

The Energy Efficiency Building Retrofit Program will provide both cities and their private building owners with access to the necessary funds to retrofit existing buildings with more energy efficient products, typically leading to energy savings between 20 to 50 percent. Those involved include:

Honeywell, Johnson Controls, Inc, Siemens and Trane will conduct energy audits, perform building retrofits, and guarantee the energy savings of the retrofit projects.

Citibank, UBS, Deutsche Bank, ABN AMRO, and JP Morgan have agreed in principle to commit to arrange \$1 billion each to finance cities and private building owners to undertake these retrofits at no capital cost, doubling the global market for energy retrofit in buildings.

These banks will work alongside energy efficiency finance specialist Hannon Armstrong and CCI to develop effective mechanisms to deploy this capital globally.

An initial group of 16 of the world's largest cities has agreed to participate in the retrofit program, and offer their municipal buildings for the first round of energy retrofits: New York, Chicago, Houston, Toronto, Mexico City, London, Berlin, Johannesburg, Delhi, Mumbai, Karachi, Tokyo, Seoul, Sao Paulo, Bangkok, and Melbourne.



## SOCIETY NEWS.....

### ASHRAE Publishes New Standard 62.1

ATLANTA – ASHRAE's new 2007 ventilation standard contains key changes impacting ventilation system designers and their designs.

ANSI/ASHRAE Standard 62.1-2007, Ventilation for Acceptable Indoor Air Quality, sets minimum ventilation rates and other requirements for commercial and institutional buildings.

“Standard 62.1 has served the building industry and the public as the most prominent standard on ventilation for indoor air quality,” Dennis Stanke, committee chair, said. “Changes in the 2007 standard build on the improvements published in the 2004 version, providing additional guidance for designers of building ventilation systems.”

The new standard includes requirements for the separation of areas with environmental tobacco smoke (ETS) from areas without ETS in the same building. Although some local building and health codes prohibit smoking indoors in many buildings and locations, other codes allow smoking in designated areas. In buildings that allow smoking in designated areas, effective separation of ETS areas ensures “ETS-free” areas contain little or no ETS-related contaminants. The new separation requirements help designers ensure effective separation, according to Stanke.

Another change clarifies of how designers must analyze mechanical cooling systems to help limit space relative humidity. Many buildings suffer from air quality problems related to dampness, including mold and other microbial growth. In the past, the standard required a design analysis at specified load conditions, in an effort to demonstrate that a given design approach in a given climate could successfully limit space RH to 65 percent or less.

“Those load conditions could be confusing and difficult to establish,” Stanke said. “The new requirements include a specific easy-to-establish load condition. Each system must be analyzed to check its dehumidification performance at this challenging condition to help designers make system configuration and control choices that reduce the likelihood of high-humidity problems in buildings.”

Other changes include:

Additions to Table 6-1 of minimum outdoor air requirements for dwelling units in high-rise residential buildings. These requirements apply to residences in buildings over three stories. Low-rise residential buildings are covered by ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.

New or previously overlooked occupancy categories. In response to proposed changes from users of the standard, ASHRAE added several occupancy categories to Table 6-1 with associated minimum outdoor air rates. These include, for example, daycare sickrooms, university/college laboratories, break rooms and coffee stations, and laundry rooms.

The cost of ASHRAE Standard 62.1-2007 is \$65 (\$52 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](http://www.ashrae.org).

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

###

### International Code Council Adopts 62.1 Ventilation Rate Procedure

ATLANTA – Approval of ASHRAE's Standard 62.1 ventilation rate calculation procedure for the International Mechanical Code (IMC) marks a milestone for the high-profile mandatory-language standard after years of development aimed at code adoption.

This week, the International Code Council approved an ASHRAE proposal to incorporate the prescriptive ventilation rate procedure from ANSI/ASHRAE Standard 62.1-2004, Ventilation for Acceptable Indoor Air Quality, in the IMC. The code establishes minimum regulations adopted and implemented by federal, state and local government agencies for mechanical systems in new buildings.

“With adoption of the new ventilation rates into building codes, we can expect to see reduced air intake flow in many previously over-ventilated buildings,” Dennis Stanke, chair of the 62.1 committee. “With adoption of the new calculation procedures, we can expect to see improved indoor air quality in many previously under-ventilated multiple-zone systems. Ventilation systems with lower outdoor rates compared to the current code reduce both first costs and energy costs, while system designs that account properly for air distribution within buildings result in better indoor air quality than designs based on over-simplified air distribution assumptions.”

## SOCIETY NEWS.....

### International Code Council Adopts 62.1 Ventilation Rate Procedure—cont'd

The current ventilation criteria in the IMC are based on ASHRAE Standard 62-1989. Based on 20 years of IAQ research and experience with ventilation system design, ASHRAE introduced an improved version of the standard in 2004 to include the new rates and calculation procedures. This code change makes both the IMC and the 2006 Uniform Mechanical Code consistent with the ASHRAE standard.

"The new ventilation rate procedure requires designers to account for pollutant sources from both the building and its occupants, and to account for the efficiency of different ventilation systems when delivering outdoor air to the breathing zone," Stanke said.

The new requirements will be included in the 2007 IMC Supplement.

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###

### Sustainable Buildings Standard to Define Green Buildings

ATLANTA – A proposed new standard that will provide minimum guidelines for green building practices is nearing completion. Applicable to new commercial buildings and major renovation projects, it will address energy efficiency, a building's impact on the atmosphere, sustainable sites, water use efficiency, materials and resources, and indoor environmental quality.

Proposed Standard 189, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, is being developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) in conjunction with the Illuminating Engineering Society of North America (IESNA) and the U.S. Green Building Council (USGBC). This is the first such green building standard in the United States.

The proposed standard has been released for public review. Comments will be accepted through July 9, 2007.

"Standard 189P will become the benchmark for all sustainable green buildings in the United States because it is being developed for inclusion into building codes," said committee chair John Hogan. "This means that owners and designers will have a consensus-based document that will set the minimum criteria that a building must satisfy in order to be considered a green building. The real impact of Standard 189P is that ASHRAE, along with IESNA and USGBC, are taking advanced energy conservation guidance mainstream for the general public's benefit."

John Hogan, chair of the Standard 189 Project Committee, notes that the standard is not a building rating system but rather a compilation of criteria that must be met in order for local building code officials to provide a Certificate of Occupancy for a facility.

Energy efficiency will be a large part of the standard. The goal is to achieve a minimum of 30 percent reduction in energy cost (and carbon dioxide equivalent) over that in ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings, which provides minimum energy efficiency design requirements for buildings except low-rise residential buildings and is the basis for building codes worldwide.

The standard shows leadership in renewable power generation on-site by having high-performance, green buildings avoid a total reliance on conventional energy sources. The committee that wrote the standard wants building projects to produce a minimum percentage of their peak electrical load through on-site generation such as by photovoltaic panels or equivalent solar water heating systems.

Another important part of the proposed standard will be water use efficiency. Hogan said the standard may require that interior water achieve a minimum of 25 percent reduction through improvements from the Energy Policy Act of 1992 for plumbing fixtures and strategies for reclaiming water in other areas. Exterior water systems would have more sophisticated controls and not use potable water, he said.

Hogan said one topic of interest to the committee is sustainable sites. Members are discussing requiring construction to take place appropriate sites where construction already exists or on a "greenfield" site that is close to high-density areas or has access to mass transit.

In the area of indoor environmental quality, the committee is considering requiring that supply outdoor air exceed the minimum requirements of ASHRAE 62.1-2007, Ventilation for Acceptable Indoor Air Quality. Also being discussed are the use of low-emitting materials and installation of CO2 sensors to monitor densely-occupied spaces.

The committee is also looking at requirements for a construction plan, a transportation management plan, and an indoor air quality (IAQ) management plan, according to Hogan, to reduce materials and energy consumption as well as to reduce carbon emissions.

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