

Capital Communiqué



**ASHRAE - AMERICAN SOCIETY OF
HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS**

<http://www.ashrae.ottawa.on.ca> **OTTAWA VALLEY CHAPTER** e-mail:contact@ashrae.ottawa.on.ca

November 2007

2007 - 2008

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Georges Maamari

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Table Top

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Robert Lefebvre

EVENING PROGRAM

- DATE:** Tuesday **November 20th, 2007**. Social: 17:30 Dinner: 18:30 Program: 20:00
CLEO Banquet Center, 156 Cleopatra Dr., Nepean, Ont., (613) 225-2255
- TOUR SESSION** **Tour of NRC Carleton Place Facility. The facility in Carleton Place houses projects and experiments for smoke migration, spatial separation, design fires, etc. The map, meeting location and start time for the tour will follow. Please make sure to bring your hard hats and safety boots.**
- THEME:** **Research**
- PROGRAM:** **Algorithm for Smoke Modeling in Large Multi-compartmented Buildings**
- SPEAKER:** **Dr. Ahmed H. Kashef**, Ph. D., P. Eng., Senior Research Officer - Fire Research, Institute for Research and Construction - National Research Council of Canada
- OVERVIEW:** The above mentioned smoke modeling project has received funding from ASHRAE Research. Dr. Kashef will provide us with the details of the smoke modeling project. The computer programs developed based on the algorithm of this project could result in efficient smoke transport analysis. These programs could allow us to quickly simulate smoke transport and develop cost effective designs of superior performance.
- SPEAKER BIO:** Dr. Ahmed Kashef is a Senior Research Officer at the Fire Research Program of the Institute for Research in Construction (IRC) of the National Research Council of Canada (NRC). Prior to joining the NRC, he worked in the consulting field as a specialist. His responsibilities included computer modelling of indoor thermal comfort and wind effects on structures. Dr. Kashef's expertise covers several engineering areas including applying numerical and experimental techniques in modelling smoke movement in built environment and transportation systems. In addition he has developed numerical models for fire risk assessment of light industrial buildings. He is the author of over 100 publications and is a member of Association of Professional Engineers of Ontario (PEO), ASHRAE, Fires in Tunnels European Network (FIT), and World Road Association (PIARC).

Menu

Greens salad with balsamic vinaigrette
 Chicken Kiev on a bed of rice with potatoes and steamed vegetables
 Strawberry cheesecake with coffee and tea
 Chapter Members: \$30.00 Guests: \$45.00



David Fanset
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President &
CRC Delegate



President's Message

By Robert Lefebvre
P.Eng., LEED AP
2007-2008 OVC President

For our second meeting of the year we were back at CLEO (formerly known as La Contessa). We started off early Tuesday morning with a full day seminar on Life Cycle Costing that was well attended and by all accounts was well received. The evening presentation was equally well attended, with Jonathan Westeinde of Windmill Developments discussing his company's philosophies on 'green' developments and some of his lessons learned along the way. It was a fantastic presentation. Read more about the evening's events in Patrick St.Onge's [What You Missed](#) article.

Our November meeting is back at CLEO again. The theme for the evening is Research Promotion. Glenn MacLean is our Research Promotion Chair. To kick off our chapter's Research campaign, we are going to showcase how your ASHRAE Research money is put to use right here in our own back yard. A tour will be held at the NRC labs where an ASHRAE funded research project on smoke modeling in large buildings is under way. In the evening, Dr. Kashef the project leader, will discuss the project in more detail. Read more about [Research Promotion in Glenn MacLean's article here](#) and about the [program here](#).

In January, our chapter will be hosting a career fair for the local students. The format will be similar to last year's very successful event. Local companies can purchase space for a booth and the chapter will arrange to transport students from Algonquin, Carleton, U of O, La Cite Collegial and CEGEP de L'Outaouais to the venue. This is your opportunity to get first choice at this year's crop of graduates, and it gives students the opportunity to learn more about what types of jobs are available in our industry. Refer to [Stephen Lynch's article on Student Activities](#) for more details

As promised last month, here are the top five benefits that ASHRAE members and their Employers receive when they are active chapter members:

1. **Improved Networking Skills** by tapping into an industry network with a wide spectrum of people.
2. **Improved Communication Skills** through public speaking and presentations, working with and introducing speakers, conducting meetings, and organization of events.
3. **Improved Management Skills** by developing the ability to delegate and assign tasks, monitor the progress of tasks, and solve problems without conflict.
4. **Management Education Training** from ASHRAE at CRCs and society meetings for development of coordination and scheduling skills, learning to differentiate between leadership and management, and improvement of goal setting skills.
5. **Professional Development** through the ASHRAE Journal, local Chapter meetings, Society Annual meetings and continuing education programs.

I look forward to seeing you at November's meeting.

Yours very truly,

Robert Lefebvre, P.Eng., LEED AP
ASHRAE Ottawa Valley Chapter
2007-2008 President



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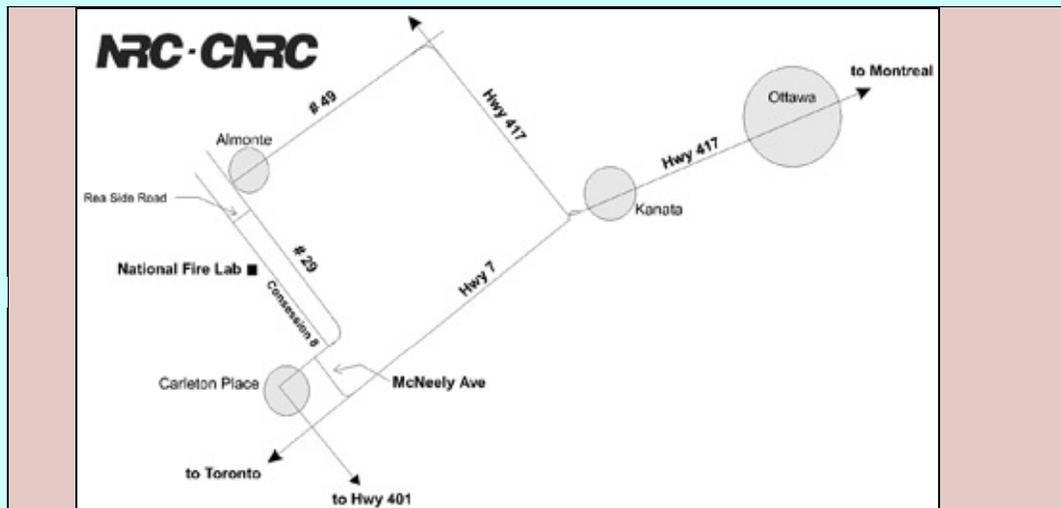
Tour: NRC National Fire Laboratory. Almonte Research Facility

The Fire Research facility aids in creating technologies for advancing fire safety design and operation of buildings and transportation systems, enhancing fire detection and suppression systems, and reducing the risks and costs of fire. The facility in Carleton Place houses projects and experiments for smoke migration, spatial separation, design fires, etc.

SITE TOUR:

3:00 PM TO 4:00 PM- TOUR OF THE NATIONAL FIRE LABORATORY

Guided by **Dr. Ahmed Kashef** of NRC



1. Take HIGHWAY 417 WEST
2. Exit at HIGHWAY 7 to CARLETON PLACE
3. Before CARLETON PLACE take McNEELY AVE to REGIONAL RD 29
4. Turn RIGHT on REGIONAL RD 29 towards ALMONTE
5. Take the first LEFT onto RAMSAY CONCESSION 8
6. Follow CONCESSION 8 to National Fire Lab (4 km)

Parking is available in the signed lot.

Please respond to Jeff Jarvis at (613) 247-7937 or jeff.jarvis@directenergy.com before November 16, 2007 if you plan to attend this tour. Limit of twelve attendees.

HARD HATS AND WORK BOOTS REQUIRED.



What You Missed

by Patrick St-Onge
P.Eng., LEED AP
2007-2008 Chapter Secretary

The October meeting was preceded by a full day seminar on Life Cycle Costing. The seminar was very well attended as there were no empty seats. Mr. Robert Charette introduced us to the basics of life cycle costing calculations; a very interesting and informative day.

The theme of the meeting was “TEGA / Student”. Many students were present, in particular from the Cégep de l’Outaouais, showing great interest in our chapter’s activities. Stephen Lynch indicated that the chapter will once again organize a career fair in January. The winter meeting will be held in New York, sponsorships for traveling will be welcomed to help student attend the meeting in January.

On the TEGA side, Tom Chiykowski emphasized on the importance for our chapter to have participants in the design contest.

The program was an overview of how to practically develop and implement LEED designs, presented by Jonathan Westeinde, CEO of Windmill Development Group, a company dedicated to develop projects that will attain LEED Gold certification as a minimum. Projects such as The Currents, in Ottawa, Acqua-Vento in Calgary and Dockside were presented.



Jonathan Westeinde, CEO of Windmill Development Group



Jonathan Westeinde being thanked by our Chapter President Robert Lefebvre.

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**Committee
Chair**



Membership

by Christine Kemp
2007-2008 OVC Membership Promotion Chair

ASHRAE Ottawa Valley Chapter would like to welcome the following new members:

Rick Cottingham, Doug Wellman, Sid Feasey, Pat Fowler and Gaby El-Asmar.

We are happy to have you join us.
I Hope to see you at the next meeting.

Thanks,
Christine Kemp
ASHRAE Ottawa Valley Chapter
Membership Chair Person

Past President



Research Promotion

By Glenn MacLean
P.Eng.
2007-2008 OVC Past President

Well our campaign for ASHRAE Research Canada is starting to take shape and thanks to the golf tournament and some personal contributions that have started to flow in we've already collected 15% of our goal for the year. Thank you to Rob Lefebvre and Patrick St.Onge who have joined me in the Full Circle promotion, and I'm sure by the time we see everyone on November 20th, Jason and Francois will have chipped in as well. For those of you who are not familiar, the Full Circle promotion is an award given to each chapter in which the 5 executives (President, Vice-President, Secretary, Treasurer, and Past President) all contribute \$100 (or more) to ASHRAE Research. The Ottawa Valley Chapter has received this award almost every year that it has been offered and truly shows the commitment our chapter officers have made to supporting ASHRAE Research over the years.

This year we actually get to experience ASHRAE Research investment at work. Our speaker for November, Ahmed Kashef, is a recipient of an ASHRAE Research grant and will be giving us a presentation on the work he does in smoke modeling in large multi-compartmented buildings. We look forward to hearing about your work Ahmed. As the year progresses I hope to bring more examples of ASHRAE Research at work in our chapter to your attention.

(cont...)

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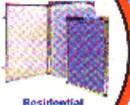
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There are numerous benefits to investing in ASHRAE Research - the most immediate benefits are the jobs created by the companies and individuals endeavoring to do the research itself. Further to this, however, is the long term benefit of finding new technologies or methodologies that will help our building design for many years to come. These advances have historically made the places we live and work in better, safer, and more energy efficient many times over. The challenges of the future will continue to be great, but with continued investment and a lot of perseverance, so will our accomplishments.

Most great inventions are 1% inspiration and 99% perspiration (A. Einstein). Together we can be part of that highly important 1%.

See you all November 20th, and don't forget your cheque books!

Regards,

Glenn MacLean, P.Eng.

Past President & Research Promotion Chair (07-08)
ASHRAE Ottawa Valley Chapter

President &
CRC Delegate



Membership Renewal

By Robert Lefebvre
P.Eng., LEED AP
2007-2008 OVC President

In the Fall of 2006, ASHRAE society replaced their database software. To say there have been some glitches in the new system is an understatement. Fortunately, most of the issues have had to do with chapter operations and have not directly affected the membership.

One problem that does remain is on-line membership renewal for Ontario members. When you verify or update your member information as part of the membership renewal process, the system automatically transfers you to the Toronto chapter. I have spoken to ASHRAE society and they are aware of the problem and are working on it, but as yet do not have a solution.

At this time, I am strongly recommending to all our chapter membership that you **do not renew your memberships on-line**. You can renew your membership by either returning your renewal form by mail or by calling toll free at 1-800-5-ASHRAE (1-800-527-4723).

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Jack Teevens
Region General Manager

Committee
Chair



ASHRAE Student Activities

By Stephen Lynch
2007-2008 OVC Student Activities Chair

I hope we have had a chance to come down from our Halloween candy buzz. October's meeting was a great success for students. I would like to thank everyone who sponsored a student dinner and made a point of interacting with the students and their professors.

Student Activities Committee is getting ready for our second annual Career Fair – 'ASHRAE OVC – Career Fair '08.' It will be held on January 15th starting at 2:00 pm and will blend in with our regular monthly meeting.

Why should your company be involved?

1. Benefit from a large gathering of educated and ambitious students and graduates.
2. Booths are cheap - \$200.00 (proceeds go towards the evening and student events)
3. Opportunity to take part in an ASHRAE event and meet other industry professionals.
4. Fun and informative evening.
5. One free dinner with your booth purchase
6. Schools that are being canvassed;
 - a. Carleton University
 - b. University of Ottawa
 - c. Algonquin college
 - d. La Cite
 - e. CEGEP de l'Outaouais

Information:

- Booth size – 8' x 8'
- 120 VAC available (bring your own ext. cords and power bars)
- Tables and skirts provided
- Notify Stephen Lynch of special requirements (stephenlynch@rogers.com)

Tell your friends, family and colleagues. This is going to be a great event and we are expecting even more students than last year.

As with all other monthly meetings, we encourage individuals or companies to support a student through sponsoring their meals. Please let the greeters at the front know that you would like to sponsor a student for the night. If you would like to sponsor student meals throughout the year we will recognize your contributions by issuing you a receipt for your investment in Student Activities, publish your name and/or company's name on our website, and include you in our list of previous donors in the Capital Communiqué.

Thank you for your support,

Stephen Lynch

FRANK JEFFERIES, P.ENG.
OPERATIONS MANAGER

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Committee
Chair



ASHRAE Undergraduate Grants

By Stephen Lynch
2007-2008 OVC Student Activities Chair

Did you know about ASHRAE's Senior Undergraduate Project Grants?

The *ASHRAE Senior Undergraduate Project Grant Program* provides grants to engineering, technical and architectural schools worldwide with the goal of increasing student knowledge, learning and awareness of the HVAC&R industry through the design and construction of senior projects. Grants are to be used to fund equipment and supplies for senior projects and 2-year technical school projects that focus on ASHRAE-related topics. Grants may cover projects lasting from one academic term up to one year.

Projects involving the building of working models, testing equipment, experimental teaching aids, and laboratory experiments are encouraged. Projects only involving data collection, computer modeling or computer programming will receive lower funding priority. Computer hardware will not be funded; however, computer software if utilized in conjunction with the above listed project is acceptable. When the project is complete, the student or group of students will submit a final report to ASHRAE. Additionally, full-year projects will require a mid-year progress report.

For more information... www.ashrae.org/students/page/743

Committee
Chair



ASHRAE Student Sponsors

By Stephen Lynch
2007-2008 OVC Student Activities Chair

The Ottawa Valley Chapter would like to thank the following individuals for sponsoring a student at the October meeting:

- Gary Hartman
- Rod Potter
- Mike Swayne for 2
- Dan Booth

Many thanks to these individuals and we look forward to having more sponsors for our next student night in January.

Thank you for your support,

Stephen Lynch



Table Top Display

By Frank Bann
P.Eng.

This month's Table Top is presented by Philippe Lemieux from Lar-Mex.



Our mission is to provide innovative and energy efficient building automated systems with reliable mechanical service; in order to earn the loyalty of our customers. As well as being a controls contractor, Lar-Mex is a full service and preventive maintenance company with over 20 years of experience working to suit the requirements of our clients. Since 1987 Lar-Mex has proven it's expertise by successfully completing many HVAC system and controls projects. At the November table top Lar-Mex will be displaying a variety of control products that include KMC controls, Distech Controls, Istech BTU metering and newly added Yaskawa VFD products. Apart from presenting our product we will also be informing the chapter of our services such as, design build team, refrigeration team, mechanical system service department and building automation experts.



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The Energy Conservation People

President &
CRC Delegate



News Update

By Robert Lefebvre
P.Eng., LEED AP
2007-2008 OVC President

Technical News:

Water-Cooled Chiller Proposal Represents Energy Savings for ASHRAE/IESNA Standard 90.1

October 16, 2007, ATLANTA

An estimated annual energy savings of 13 percent relative to ASHRAE/IESNA Standard 90.1-2004 should result from a proposed addendum regarding air- and water-cooled chillers.

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. Fourteen proposed addenda to the 2007 standard, due out for publication later this year, currently are open for public comment.

Among the addenda is proposed addendum *m*, which establishes effective Jan. 1, 2010, an additional path of compliance for water-cooled chillers as well as consolidation and new requirements for some of the existing categories. The proposed addendum was developed by a team of Standard 90.1 members, industry manufacturers and energy advocacy groups, including the American Council for an Energy Efficiency Economy and the Air-Conditioning and Refrigeration Institute (ARI) and was supported by ARI chiller manufacturers.

Product development for water-cooled chillers in recent years has focused on improving off-design and part-load performance where most of the operating hours occur, according to Drake Erbe, chair of the standard's mechanical subcommittee. Variable speed drives (VSD) technology has advanced and is finding widespread application in water-cooled chillers. The use of VSDs has led to off-design and part load improvement of the chiller's performance with efficiencies of up to 30 percent in integrated part-load value (IPLV).

Under the proposed addendum, an alternative set of efficiency levels, Path B, is established for water-cooled chillers intended for applications where significant time is expected at part load. All Path B chillers must be equipped with demand limiting controls. Under this proposal, compliance with Standard 90.1 can be achieved by either meeting the requirements of Path B or Path A (intended for applications where significant operating time is expected at full load conditions). However, both full-load and IPLV levels must be met to fulfill the requirements of Paths A or B, according to Erbe.

The proposed addendum also combines water-cooled positive displacement chillers into one category and adds a new size category for centrifugal chillers at or above 600 tons. The air-cooled chiller without condenser equipment type category has been eliminated. All air-cooled chillers without condensers must now be rated with matching condensers.

(cont...)



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The minimum efficiencies of air-cooled chillers have also been updated, Erbe said. Efficiencies in the inch-pound version of Standard 90.1 are now expressed in energy efficiency ratio (EER) for air-cooled chillers, kW/ton for water-cooled chillers and coefficient of performance (COP) for absorption chillers to reflect industry practices. Tables 6.8.1 H through J listing minimum full load and non-standard part load value (NPLV) efficiencies of water-cooled centrifugal chillers at non-standard rating conditions have been eliminated and replaced by an algebraic equation. The tables will now be included in the User’s Manual.

This proposal is estimated to save 457.6 GWh of energy per year compared to the requirements of the 2004 version of Standard 90.1. This represents an annual chiller energy savings of 13.3 percent over Standard 90.1-2007, according to Erbe.

Proposed addend *m* to ASHRAE/IESNA Standard 90.1 is available during its public review period. To read the addendum or to comment, visit www.ashrae.org/publicreviews.

Sustainability News:

Lessons Learned in Sustainable Design Highlighted in ASHRAE Roundtable

October 22, 2007

ATLANTA - New York City is home to some of the world’s best known green buildings and leading design firms that test new boundaries in high-performance, sustainable design.

In a special roundtable session at ASHRAE’s 2008 Winter Meeting, two of New York’s best-known owner/developer firms, along with the engineering designers who bring their projects to reality, discuss the challenges, opportunities and successes in delivering new green high-rise towers that add to New York City’s skyline and grace the covers of engineering trade magazines.

High-Performance Buildings: Lessons from the Leaders takes place 11 a.m.-12:30 p.m. Tuesday, Jan. 22, at ASHRAE’s meeting, Jan. 19-23, New York City. Registration is required to attend.

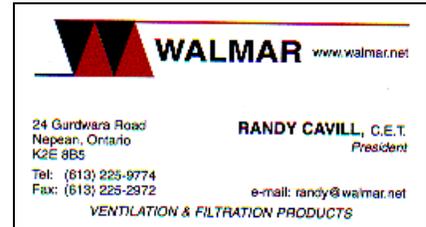
Learn about owner motivations, technical challenges, design choices and trade-offs, costs for these projects, and perspectives about whether the expectations set early in the design process have been met once the buildings are occupied.

“The building market is transitioning to high-performance green buildings,” Kent Peterson, ASHRAE president, said. “It is essential that ASHRAE continue to educate owners, contractors and designers on both the challenges and successes in delivering such buildings. This roundtable offers participants the chance to hear what it takes to provide buildings that perform and are environmentally responsible.”

Participants in the session are:

- Donald J. Winston, P.E., director of technical services, The Durst Organization, Inc., whose buildings include Bank of America Tower at One Bryant Park, 4 Times Square and the Helena, all of which are featured on technical tours at the ASHRAE meeting.

(cont...)



- Tom Scarola, director of engineering, Tishman Speyer, whose buildings include the Chrysler Center.
- Scott Frank, P.E., partner, Jaros Baum & Bolles, whose buildings include One Bryant Park, World Trade Center Site (Towers 1 through 4) and World Trade Center 7.
- Daniel H. Nall, P.E., senior vice president/director-advanced technologies, Flack + Kurtz, whose projects include The New York Times Headquarters, The Hearst Headquarters and the Verdesian.



Government Involvement in ASHRAE

IMPORTANT NOTE

My articles represent my own personal views, opinions, and knowledge. They should not be construed in any way as representing the viewpoint of the organization I work for, or ASHRAE Society, or the Ottawa Valley Chapter.

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There is a growing need for more involvement of the government in the activities of Standard-setting organizations such as ASHRAE. These organizations, particularly ASHRAE, produce documents that are of great relevance to the industry, but, unfortunately, the government provides very little input except, perhaps, in the final public review phase. As a result we often get standards and guidelines that do not quite meet the needs of the government.

Let me give just a few examples, based on my own experience in working with some ASHRAE Standards. The most significant is the ASHRAE BACnet Standard 135, for using Open Protocols in building control systems. As a government employee, to my mind there can be only one real reason for using Open Protocols – to break the “lock-in” strategies used by some control companies. They try to tie down the buyer to a single vendor for replacements, upgrades, maintenance work and for future contracts.

In the computer industry, we can buy a computer from one source, and a printer from another, and be confident that the two will work together. As a result the prices keep crashing down, while the market has expanded – all due to competition, standardization, and interoperability. And everybody is a winner.

I had hoped that the same thing would happen to the building controls industry through the development of standards for open protocols. But it hasn't. We do have better communications between disparate control systems when they follow the same protocol, but the BACnet standard is way too complex. The systems do talk to each other a little better, but only on occasion and only when both parties want to, and if the products follow exactly the right profile, plus any other conditions that apply.

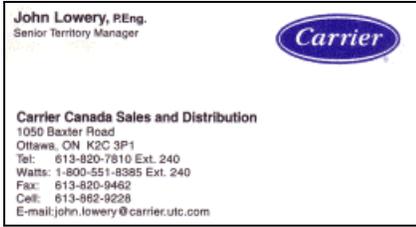
It's pretty obvious what happened – the controls companies were well represented on the committees, and protected their own interests. The government did not.

And then, there is the ASHRAE Standard 62.1-2004/2007 regarding ventilation for indoor air quality. The latest ventilation rate procedure is complex and a little harder to apply. For a building, it would be very difficult to verify compliance with the new Standard. Since the new Standard reduces ventilation rates in many instances, the impact on indoor air quality is also uncertain. In fact, LEED Eqc2 allows an additional credit for exceeding the Standard 62.1-2004 level by 30%. Again, government interests were not served, since there was not much representation from its side on the ASHRAE SSPC 62.1 committee.

ASHRAE Standard 55 relating to thermal environmental conditions for buildings, provides yet another example. The latest version of the standard has dropped the requirement for minimum relative humidity levels. This, too, has caused some problems for government departments that reference this Standard.

ASHRAE Standards are only as good as the volunteer committee members make them. The committees do follow a democratic process, and the membership supposedly represents a wide range of interests. There is also an effort to balance one competing interest against another, so that all viewpoints are represented. So, if the government is not present at the table, it has only itself to blame when it has problems with the Standards.

Niraj Chandra



Swell Guy



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