THE LONG ISLAND SOUNDER

November 2009

ASHRAE Long Island Chapter, Region 1...*Founded in 1957*

www.ashraeli.org

American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

Inside this issue:

President's Message

Halloween came early for those who attended our October meeting. We were treated to two speakers. Burner/combustion industry veteran Mark Wehmeier, VP of Engineering at Power Flame Inc., delivered a powerful presentation on identifying greenhouse and pollution gases, how they are formed, and their environmental impact. He walked us through how these gases are produced in commercial and industrial boilers and highlighted various technologies aimed at reducing emissions. Mr. Wehmeier also delivered strategies to improve boiler/burner efficiency.

Burner efficiency goes hand-in-hand with potential cost savings. National Grid Energy Efficiency Group spokesman Kenneth J. Camilleri outlined several incentive programs that the Utility offers to provide rebates based on the implementation of burner control strategies. No tricks here, folks … saving on energy is certainly a treat.

The October meeting was also Student Activities Night. Special thanks to Committee Chair Thomas Fields, P.E., LEED AP. Tom did a lot of behind-the-scenes work to make the night a huge success. We had a very strong turnout from local colleges, including Nassau Community College. As always, let's continue to work together to encourage local students to pursue careers in our field. Our next Student Activities Night is scheduled for February 9, 2010.

Our next meeting will be on November 10, and is sure to propel our Chapter momentum even further. We will be given an introduction to LEED New Construction Building Commissioning. Please keep in mind that our November meeting will be a joint meeting with the U.S. Green Building Council (USGBC).

Additionally, November 10 will be Membership and Resource Promotion night. Special thanks to Membership Chairman Richard Rosner, P.E., who continues to not only sustain our chapter but also to grow it. For any renewal or new membership questions or concerns, please contact Richard at rrosner@nassausuffolkea.com. I'd also like to thank Resource and Promotion Chairman Andrew Manos, LEED AP, for keeping ASHRAE's overall mission in mind: to serve humanity and promote a sustainable world. Of course, the way we do that is through research, and thus resources. As previously reported by

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CHAPTER MONTHLY MEETING

DATE:	**Tuesday, November 10, 2009**
TIME:	6:00 PM - Cocktails/Dinner 7:00 PM - Dinner Presentation 8:45 PM - Conclusion
LOCATION:	Westbury Manor South Side of Jericho Tpke. 25 Westbury, NY 11590
FEES:	
Members -	$35.00
Guest -	$40.00
Student -	$15.00

Reservations requested, but not required.

Call (516) 333-7117

Long Island Chapter Officers & Committees

ASHRAE 2009/2010 OFFICERS

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Board of Governors	**Steven Friedman, P.E., HFDP, LEED AP**	212.695.1000	212.695.1299	sfriedman@lilker.com

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Webmaster	**Janeth Costa**	631.242.8787	631.242.7084	jcosta@apollohvac.com
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Reception & Attendance	**Anita Singh, LEED AP**	516.827.4900	516.827.4920	abs@cameronengineering.com
PR & Engineering Joint Council of LI	**Peter Gerazounis, P.E. LEED AP**	212.643.9055	212.643.0503	peter.gerazounis@mgepc.net
Golf Outing	**Peter Gerazounis, P.E., LEED AP** **Steven Friedman, P.E., HFDP, LEED AP**	212.643.9055 212.695.1000	212.643.0503 212.695.1299	peter.gerazounis@mgepc.net sfriedman@lilker.com

President Message (Cont'd. from Page 1)

Andy upon his return from this year's Resource Promotion training in Chicago, this year's overall resource promotion goal for ASHRAE is $2,001,900, with more than 75 research projects on board. Our chapter is expected to raise approximately $12,881. Please contact Andy at amanos@emtec-engineers.com with any Resource-related questions.

Looking a bit further ahead, please mark your calendars for our Chapter holiday party on December 8. I am thankful to work with such a talented and dedicated group of professionals, all of whom share a common goal: to continue to advance our industry. I look forward to seeing you all on November 10.

Steven Giammona, P.E., LEED AP
President - Long Island Chapter

Chapter Monthly Meeting - Program for 2009/2010

September 15, 2009 * At Westbury Manor - **1 PDH** ✓ Dinner Presentation - Chilled Beam Systems **MEMBERSHIP PROMOTION NIGHT**	**February 2010** **NATIONAL ENGINEERS WEEK DINNER**
October 20, 2009 * *At Westbury Manor* - **1 PDH** ✓ Dinner Presentation - Going Green-Reducing Emissions and Improving Fuel Efficiency in Commercial and Industrial Boiler Applications **STUDENT ACTIVITIES NIGHT**	**March 9, 2010** * *At Westbury Manor* Dinner Presentation - Stack Effect **RESOURCE PROMOTION NIGHT**
November 10, 2009 * *At Westbury Manor* - **1.5 PDH** Dinner Presentation - Introduction to LEED NC Building Commissioning **JOINT MEETING WITH USBGC** **RESOURCE PROMOTION** **MEMBERSHIP PROMOTION NIGHT**	**April 13, 2010** **FIELD TRIP - Allegria Hotel Facility**
December 8, 2009 Holiday Party - Westbury Manor	**May 3, 2010** * *Cherry Valley Club, Garden City, NY* **ANNUAL GOLF OUTING**
January 12, 2010 * *At Westbury Manor* Dinner Presentation - Interpretation of HVAC Systems Test/Balancing Procedures and Reported Data	**May 11, 2010** * *At Westbury Manor* Dinner Presentation - Refrigeration **REFRIGERATION NIGHT**
February 9, 2010 * *At Westbury Manor* **JOINT MEETING WITH SMACNA** Dinner Presentation - TBD **STUDENT ACTIVITIES NIGHT**	**June 8, 2010** * *At Westbury Manor* **PAST PRESIDENTS & OFFICER INSTALLATION**
February 2010 ASHRAE Winter Meeting	**June 2009 - TBD** ASHRAE Annual Meeting
August 2009 - Chapter Regional Conference Region I	

PAOE POINTS FOR 2009/2010

Chapter Members	Membership Promotion	Student Activities	Research Promotion	History	Chapter Operations	CTTC	Chapter PAOE Totals
301	300	0	0	0	40	100	440

November Program

You are cordially invited to our November 2009 Joint Meeting with USGBC…

Dinner Presentation

"Introduction to LEED NC Building Commissioning"

Presented by

Paul M. Meyer, P.E., LEED AP
Horizon Engineering

DATE:	**TUESDAY, NOVEMBER 10, 2009**		
Time:	6:00 PM – Cocktails and Hors D'ouevres 7:00 PM – Dinner Presentation 8:45 PM – Conclusion	***Fee:**	$ 35.00 ASHRAE/USGBC Members $ 40.00 Non-Members *** Includes 2 Drink Tickets & Dinner** *** Payments received at the Door**
Location:	**WESTBURY MANOR** (516) 333-7117 Jericho Tpke (South Side), 3/10 of mile east from Glen Cove Rd., Nassau County, NY. **Directions are posted at @ www.ashraeli.org.**		
Presentation:	ASHRAE Guideline 0 defines the Commissioning Process as a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria. The LEED green building rating system requires commissioning. This presentation will describe the important steps in the commissioning process and how to meet the LEED requirements. The presentation will also cover LIPA funding available for commissioning and LEED projects. *** All attendees shall receive 1.5 PDH**		
About our Speaker:	**Paul Meyer** is a Senior Engineer with Horizon Engineering Associates, a consulting engineering firm specializing in building commissioning. He has almost 30 years of extensive experience in the construction, operation and maintenance of major building systems for the biopharmaceutical and medical manufacturing industries. He has a degree in mechanical engineering and has been a registered Professional Engineer for over twenty years. Mr. Meyer is knowledgeable in building construction, electrical distribution, plumbing systems, equipment design, HVAC, computer automation, process controls and PLC systems. Mr. Meyer is a LEED Accredited Professional, and is a board member and Chairman of the Education Committee of the U.S. Green Building Council, Long Island Chapter. Mr. Meyer also is currently serving on the Board of Directors of the Building Commissioning Association – Northeast Regional Chapter as the Treasurer.		

Board of Governors Meeting Minutes

On Tuesday, October 20th, 2009, a meeting of the Board of Governors was held at the Westbury Manor. Attendees were: Steven Giammona, Nancy Roman, Carolyn Arote, Brian Simkins, Janeth Costa, Andy Manos, Richard Rosner and Tom Fields. President Steven Giammona called the meeting into session at 5:06pm.

General Items: We discussed making sure that everyone has gotten reimbursed for the CRC trip. Steve also stressed the importance of updating PAOE points monthly.

Resource Promotion: Andy Manos confirmed Resource Promotion nights. He is going to start working on vendor directory as well. All board members must give Andy a check for $100 for Full Circle ASAP.

Programs: Nancy Roman said that joint meeting with USGBC Is set up for November.

Historian: Carolyn Arote has to update the PAOE points.

Webmaster: Janeth Costa is still waiting on proposals from Anthony for the web work. She will talk to Anthony about setting up Paypal as well. PAOE points are to be updated monthly for web.

Treasurer: Andy Manos gave the board a financial update on Savings/MM accounts was given.

Membership: Richard Rosner needs to confirm Membership Promotion Nights. He also needs to review reports on all current members and those that are past due. He also reported that there are 5 new members. PAOE points are to be updated monthly for membership promotion.

Student Activities: Tom Fields needs to confirm Student Activities Nights. PAOE points are to be updated monthly for student activities.

Chapter Technology Transfer (CTTC): Brian Simkins plans on having Refrigeration Night in May. PAOE points are to be updated monthly for CTTC.

Open Board Discussion: Field trip needs to be confirmed and we have to figure out where we are having the dinner that night. We are also planning to have Superbowl Boxes as a means to raise some money.

Having discussed all open issues, the meeting was adjourned at 5:53pm.

Janeth Costa
Chapter Secretary, 2009-2010

Membership

Tom Fields, at our October meeting, signed up 6 new student members, thanks Tom, and two others also took applications to join, including our second guest speaker from National Grid. At this November meeting we will be having a **Membership Promotion Night** along with a joint meeting with USBGC and a 1.5 PDH accredited guest speaker on Going Green. This is a meeting you don't want to miss. Please try to bring down a prospective member(s); they will thank you for doing so. Membership forms will be on hand and I will be ready to tell them of the benefits of joining our organization. For those of us that have forgotten to renew, applications are available online at http://www.ashrae.org/members/ or ask me for a hard copy at the meeting.

See you at the November 10th meeting; if you have any questions concerning membership please feel free to ask anytime.

Richard Rosner, P.E.
Membership Chairman

Research Promotion

Please mark your calendars – our **November 10th** meeting is **Resource Promotion Night**. We hope to have all our past donors, as well as future donors attend and contribute

This year's overall resource promotion goal is $2,001,900 with over 75 research projects on board. Our chapter is expected to raise approximately $12,881 towards the overall goal. I am hoping I can count on the continued support of all of our past contributors who have generously supported us over the years.

I also look forward to gaining the support of new contributors this coming year. Please help support ASHRAE in any way you can.

I would like say 'thank you' to all the contributors listed below whom have already donated to ASHRAE this year:

Mr Andrew E Manos	Mr Michael Gerazounis, PE
Mr Andrew J Garda	Mr Michael O'Rourke
Mr Arthur A Huebner	Mr Patrick J Lama
Mr Brian C Simkins	Mr Raymond G Schmitt
Mr Christopher M Schwarz	Mr William L Mahon
Mr Fred H Weber	A O Smith Water Heaters
Mr Jerome T Norris	Taco Inc
Mr Jerome A Silecchia	Viessmann
Mr John D Nally	

CONTRIBUTIONS CAN BE MADE IN THE FOLLOWING WAYS:

1) You can mail your checks, made out to ASHRAE Resource Promotion, to:

Andrew Manos
ASHRAE Research Promotion Chair
c/o Emtec Consulting Engineers
3555 Veterans Memorial Highway
Ronkonkoma, NY 11779

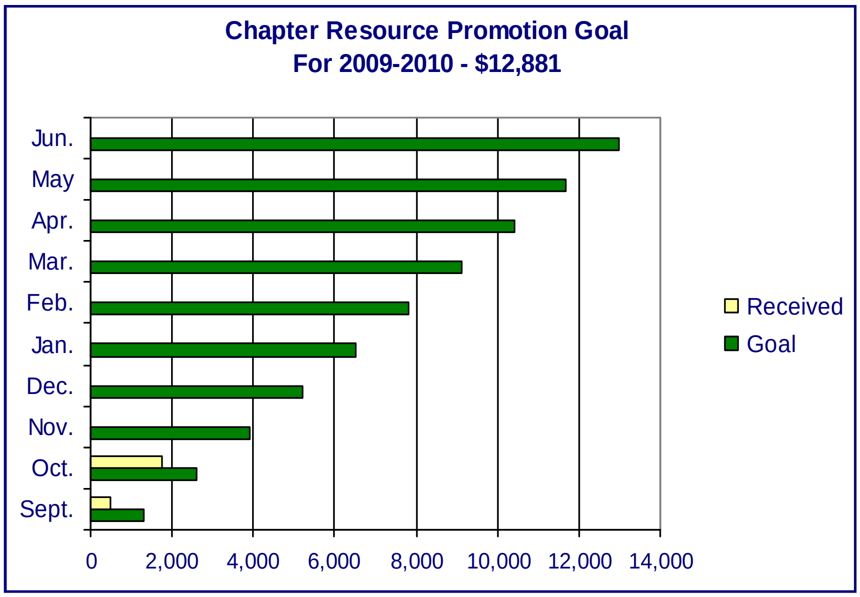
2) You can bring your check to any of the meetings and give it to me. I will mail it into headquarters.

3) You can contribute directly on-line.
www.ashrae.org

Please make sure your accredit your contribution to the LONG ISLAND CHAPTER 006 *

Thank you again for all your support!

Andrew Manos, LEED AP
Resource Promotion Chair



CTTC

Using Off Peak Pre-Cooling

All buildings have thermal mass, i.e., components with physical mass that acts as a thermal capacitor and changes temperature in proportion to the physical mass and its specific heat. However, most buildings are not operated to take advantage of this thermal mass. That is, they maintain a desired temperature setpoint, *Tsp*, throughout the building's operating hours and another *Tsp* when the building is unoccupied (i.e., temperature setup and setback).

In contrast, a building precooling operational strategy cools the building prior to peak demand periods to reduce space cool-ing loads—and electric power demand—during peak demand periods. This strategy is analogous to chilled-water or ice-based thermal energy storage approaches1 using the building's thermal mass to store "coolness" instead of chilled water or ice. As Braun2 notes, the indoor temperature of a typical concrete con-struction building without air conditioning and external loads will rise approximately 1°F – 2° F (0.6°C – 1.1°C) per hour.

Thus, building precooling has the same goal as thermal energy storage: to reduce building electric costs by reducing peak electric demand and/or electricity consumption charges during peak electric demand periods.

Air conditioning and associated ventilation accounts for almost half of peak electric demand of commercial build-ings,3,4 so using off-peak electricity to provide a significant portion of space cooling can achieve considerable electricity cost savings.

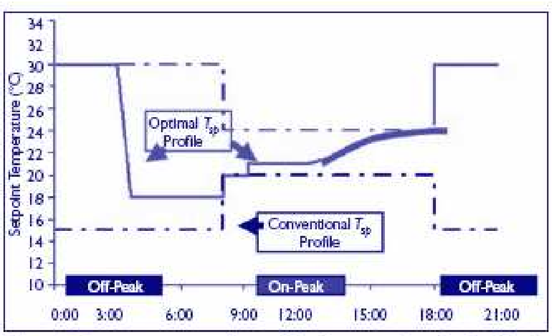


Figure 1: Temperature setpoint profiles for conventional and off-peak precooling control strategies.[5]

Figure 1 illustrates the basic concept. In the early morning hours, the control system decreases the setpoint temperature, *Tsp,* to begin precooling the building in anticipation of the on-peak period. When the building is occupied in the morning, *Tsp* is increased slightly but maintained at or near the lower bound of the acceptable indoor temperature range. This maintains the maximum precooling of building thermal mass while avoid-ing extensive use of cooling that would result in high electric demand during this period. Later in the day, the control system allows space temperatures to rise, allowing the thermal mass to discharge in an optimal way to meet a large portion of the space cooling load until the on-peak period ends. During this period, it is important to effectively manage the *Tsp* profiles to avoid spikes in cooling power demand that compromise peak demand reductions.6 At the end of the peak-demand period, *Tsp* reverts to that used for a conventional strategy.

Precooling of building thermal mass can use either air condi-tioning or outdoor air to cool the building. AC-based precool -ing can provide large quantities of cooling under a range of outdoor conditions, i.e., even if the OA temperature, *TOA*, or moisture levels exceed zone temperatures, *TZ*, or acceptable indoor humidity levels.

An OA-based precooling approach operates the supply fan to provide 100% OA to precool the building when *TOA* is less than *TZ*. Since OA ventilation uses ventilation energy instead of mechani-cal cooling* energy, the actual temperature when OA ventilation operates must take into account this additional fan energy, i.e., it operates when *TZ minus* an offset factor based on fan energy ex-ceeds *TOA*. Depending on the ratio of off- to on-peak electric rates and fan efficacy (i.e.,

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CTTC (Cont'd. from Page 7)

W/cfm), this offset factor ranges between 2°F and 1 2°F (–17°C and –11°C), with a lower threshold for a higher ratio of electric rates and higher fan efficacies.7

OA ventilation typically works best in climates where night-time OA temperatures fall appreciably below *Tsp* and where the OA has relatively low moisture levels. Excess humidity would be stored in hygroscopic materials within the space and released as the building warmed up. These conditions are generally similar to those favorable for economizer operation.

Off-peak precooling impacts sensible cooling loads, but latent cooling capacity must still be provided to maintain comfort conditions. Depending on the reduction in sensible loads, con-ventional air-conditioning equipment may not have sufficient latent capacity to meet the latent load at all conditions. For buildings where moisture from OA ventilation is the primary latent load, a dedicated outdoor air system with energy recovery ventilation is an efficient way to address latent loads.

Effective control plays a decisive role in implementing night-time precooling of commercial buildings. Specifically, an effec-tive control algorithm must develop the ideal *Tsp* profile for each zone in the building to minimize energy costs within a given utility rate structure without compromising occupant comfort. The need to avoid uncomfortable conditions in the pursuit of energy savings bears repeating, as employees' salaries in an of-fice building are approximately two orders greater than energy costs.8 Many commercial buildings have utility rate structures that include different on- and off-peak electricity consumption ($/kWh) charges in addition to peak electric demand charges. Furthermore, the key variables driving peak electric demand, such as temperatures, cannot be precisely known ahead of time. This optimization becomes particularly challenging in the case of ratch-eted demand charges, i.e., where the peak demand over a period of several months is applied to all of those months. Consequently, such an optimization can be complex.2,5

Energy Savings Potential

Off-peak precooling can save energy in several ways:2,7

- Lower ••*TOA* at night reduces chiller lift, increasing chiller or AC efficiency (particularly for air-cooled condensers);†,9
- Decreased use of mechanical cooling (if OA is used to cool the building);
- Reduced electricity generation consumption from using off-peak electricity generated by more efficient baseload generation capacity;9 and
- Reduced electric transmission and distribution losses from using off-peak electricity.9

Conversely, precooling can increase building cooling loads because it decreases the indoor temperature relative to the outdoor temperature. In addition, as noted earlier, it can in-crease ventilation energy consumption by increasing ventilation system runtime. Consequently, any control strategy must effectively balance these energy pros and cons to attain and maximize energy cost savings.

Almost all evaluations of off-peak precooling have focused on the energy *cost* savings instead of the energy savings. One study evaluated the energy impact in California, which gener-ally has a favorable climate for off-peak precooling (i.e., dry climate, larger diurnal temperature swings with moderate average daily temperatures in many locations). It simulated nighttime ventilation for office, restaurant, school, and retail buildings in various regions of California. The study found an average reduction in annual cooling electricity consumption of between 0% and 8%.7

Overall, the net energy impact of off-peak precooling is not clear. Prior research indicates that efficient precooling should occur no more than around six hours prior to occupancy.7

Conversely, several studies have evaluated the energy *cost* and cooling electric demand impact of off-peak precooling and found reductions in both are possible.

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Overall, the energy *cost* savings from off-peak precooling depend on several factors, including:

- Ratio of on- to off-peak electric rates (higher ratio in-••creases savings);2,5
- Cooling plant and ventilation part-load efficiencies ••(higher increases savings);2,10
- Average daily temperature (lower increases sav-••ings);2,7
- Building thermal mass (higher tends to increase sav-••ings); 2,10,11
- Ratio of building mass to surface area (higher increases ••savings, generally favoring larger buildings);2
- Building internal loads (greater savings as internal loads decrease);5
- Building occupancy patterns (occupancy coincident with peak demand periods favorable; 24-hour occupancy not as favorable,2 as comfort considerations can limit pre-cooling use); and
- Presence of carpet (lack of carpet increases savings, ••particularly in single-story buildings, because a slab floor represents a significant part of the building thermal mass and the carpet impedes heat transfer between the air and the concrete).7

The aforementioned simulations of four building types in California achieved reductions in peak electric demand and cooling cost of between 0% and 28% and 0% and 17%, respec-tively, depending on the climate.7 These findings are generally similar to the cost savings ranges simulated by Armstrong, et al, for Los Angeles.12 Another study simulated the energy cost performance of a three-story office building in Phoenix. It found that the cooling cost savings varied most strongly with utility rate structure and, to a smaller extent, building thermal mass.11

Specifically, in a "weak" time-of-use rate structure,‡ the optimum operating strategy achieved negligible energy cost sav-ings for the three thermal mass cases evaluated, while the savings in a "strong" rate structure ranged from 22% ("light" thermal mass) to 27% ("heavy" thermal mass).11

Finally, Henze, et al,10 simulated four different building types in four different climates combined with an algorithm to optimize energy cost savings through control strategies that take advantage of the building's thermal mass.

As part of their study, they varied 10 parameters that impact the effectiveness of off-peak precooling control strategies. They found that the optimized control approach yielded whole-building energy cost savings ranging from 0% to 27%.

Simulations of a four-story building under different control strategies found that precooling achieved energy cost§ sav-ings of around 20%.13 When analyzed with a rate structure with a more moderate demand charge,# the energy cost savings was around 10%.

In Miami and Phoenix, the savings ranged from 10% to 18%, increasing as the degree of precooling increased.II Con-versely, simulations for Seattle, which has a temperate climate with no difference between on- and off-peak elec-tricity rates and low ($1.46/kW) demand charges, found that precooling strategies actually increased energy cost (and energy consumption).

The same study performed simulations where the on-peak indoor temperature was allowed to rise appreciably higher, i.e., to 77℉ (25℃) instead of 73℉ (23℃). Higher indoor air temperatures bring two energy consumption benefits: they increase the effective thermal capacitance of the buildings (larger temperature difference attained) and also decrease building cooling loads (by reducing the indoor-outdoor tem-perature difference).7

It would be expected to achieve appreciable energy savings *without* using a precooling control algorithm designed to exploit building thermal mass. This approach reduced energy costs by approximately 40%, or twice the energy cost sav-ings of the other control strategies investigated. This validates the substantial value of allowing indoor air temperatures to rise significantly during peak demand periods.

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CTTC (Cont'd. from Page 9)

Overall, there have been few field studies evaluating the impact of off-peak precooling.2,14 One study applied con-ventional and nighttime precooling of two "nearly identical" four-story buildings. It found that the precooled building, with an interior cooled to 68°F (20°C) at night and indo or temperatures maintained at or below 71°F (22°C) prior to the peak demand period, had a 25% reduction in peak cool-ing load. Other field studies have not clearly demonstrated significant reductions.2,14

Market Factors

In buildings where off-peak precooling can reduce peak cooling demand, it can produce significant first-cost savings by enabling downsizing of the chilled-water plant as well as, potentially, the ventilation system. With chiller installed costs of approximately $400 to $600 per ton15 and peak cooling load reductions on the order of 10% to 30% indicated by simula-tions, this control strategy could realize significant equipment cost savings.

Few buildings use control algorithms designed to exploit building thermal mass to reduce energy costs via off-peak pre-cooling, in large part due to the complexity of develop-ing effective control algorithms.5 Improper control has the poten-tial to increase operating costs.10

Given the sizeable number of building-specific variables that impact the energy cost savings potential of off-peak pre-cooling and the sensitivity of the savings to these variables, control algorithms need to be optimized for each specific situation.2 This, in turn, requires training building energy models for a specific building using actual building data. Al-though this can be done (e.g., Braun2 notes that an inverse model for a four-story office building that predicted energy and demand costs to within 5% has been developed13), such models are site-specific and require significant effort.

The lack of digital communications impedes the imple-mentation of such advanced control algorithms. Specifically, this strategy requires a control system with communication between the control system and all zones to reset target zone temperatures in response to those calculated by the thermostat. This requires a digital control system that a significant portion of buildings lack.2,14 Moreover, developing a credible inverse model for a building without a digital data acquisi-tion and management infrastructure would be challenging.

In addition, the results of one field test show that properly operating mechanical systems are crucial to effectively imple-menting precooling while maintaining occupant comfort. For example, undersized cooling coils can limit the degree of precooling obtained and poorly balanced ductwork can lead to over-cooling of some spaces, compromising comfort.6,14

Finally, applying OA-based off-peak precooling to exist-ing unitary equipment—which accounts for more than half of commercial building cooling energy consumption—will require retrofitting new controllers in many units. In addition, units without an economizer will need an additional return damper to supply OA unmixed with the return air.** For new RTUs with more sophisticated controllers, implementation will have negligible cost impact, although adding return air damper and its controls would increase unit price by ~$300 – $500 in units that lack this functionality.16

Looking to the future, increased use of digital and central-ized controls in commercial buildings17 will overcome exist-ing communication and data acquisition challenges, while the continued increase in the computing power deployed with commercial building control systems will facilitate the development and use inverse models for building energy consump-tion.2 Together, they increase the likelihood that commercial buildings will begin to implement nighttime precooling con-trol algorithms to realize the significant energy cost, peak electric demand, and cooling plant first cost savings opportuni-ties.

Brian Simkins
CTTC
Article In: ASHRAE Journal, March 2009. Please see article for all references and credits.

Student Activities

We had an excellent showing for last month's Student Activities Night. I want to thank Mr. Craig Capria and his engineering students from Nassau Community College for attending our monthly meeting. I hope you were able to speak to each student, as they are eager to learn more about our industry.

We do not plan on limiting our student outreach to select nights. Should you know of an engineering student that you think would benefit from attending one of our chapter meetings, please encourage them to attend.

ASHRAE offers a variety of scholarships to students on the society level. Applications are now being accepted. Please refer any interested students to me or to www.ashrae.org/scholarships.

On a personal note, the ACE mentoring program 2009-2010 year has begun. I hope to incorporate our ASHRAE student activities with this K-12 mentoring program. As always, we encourage our members to reach out to their local schools to discuss engineering.

Thomas Fields, PE, LEED AP
Student Activities Committee Chair

Charles Lesniak
Vice Chair

Long Island Chapter - Past Presidents

1958	H. Campbell, Jr. PE	1984	Raymond Combs
1959	Clyde Alston, PE	1985	Edward W. Hoffmann
1960	Sidney Walzer, PE	1986	Jerome T. Norris, PE
1961	Sidney Gayle	1987	Abe Rubenstein, PE
1962	William Kane	1988	Michael O'Rouke
1963	Louis Bloom	1989	Mel Deimel
1964	Milton Maxwell	1990	Robert Rabell
1965	Will Reichenback	1991	Gerald Berman
1966	Joseph Minton, PE	1992	Donald Stahl
1967	Irwin Miller	1993	Ronald Kilcarr
1968	Walter Gilroy	1994	Jerald Griliches
1969	Charles Henry	1995	Walter Stark
1970	William Wright	1996	Joe Marino
1971	Louis Lenz	1997	Norm Maxwell, PE
1972	Ronald Levine	1998	Alan Goerke, PE
1973	Henry Schulman	1999	Frank Morgigno
1974	Myron Goldberg	2000	Michael Gerazounis, PE, LEED AP
1975	John N. Haarhaus	2001	Ray Schmitt
1976	Richard K. Ennis	2002	Steven M. Stein, PE
1977	Kenneth A. Graff	2003	Andrew Braum, PE
1978	Evans Lizardos, PE	2004	Claudio Darras, P.E.
1979	Albert Edelstein	2005	Craig D. Marshall, P.E.
1980	Ralph Butler	2006	John Nally
1981	Robert Rose, PE	2007	Peter Gerazounis, PE, LEED AP
1982	Timothy Murphy, PE	2008	Steven Friedman, PE, HFDP, LEED AP
1983	Leon Taub, PE		

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