PRESIDENT’S OUTGOING MESSAGE

It has been my pleasure to serve as your S.W. Florida A.S.H.R.A.E. president this last year. I am encouraged by the progress that our chapter has made in bringing in new members and volunteers over the last year and I look forward to continuing to help develop the future of this chapter. If I can be of any help to any of our newer member trying to get involved in the chapter, and understanding the operations of the chapter, please feel free to call me at any time. Also, I was very excited about the diverse, new and exciting programs that we sponsored this year including the C.H. motorcars tour, joint meeting with A.I.A., and our two distinguished lecturers Mr. Gil Avery and Mr. Dan Int-Hout that we were able to have down to speak to us. As we are always looking for new program ideas, I would ask anyone who had any interesting ideas or speakers for future chapter meetings to give me a call.

Once again, I wish everyone a happy and safe summer vacation away from ASHRAE and hope to see you all again next year.

Best Regards,

Mark Brant, P.E.
939-9098
(c) 770-5680
brantpe@aol.com

P.S. Everyone is invited to the president’s party at my house in early June. Look for the announcement coming at the end of May for details.

IT IS BACK!!!!!!

Business Card Advertising is coming back to our newsletter! For $100.00, your business card will run for a whole season, starting in September. Please contact Lily Salkoff for details.
Carrier Corporation to Acquire Automated Logic Corporation, Technology Leader in Commercial Controls

Apr. 23, 2004

FARMINGTON, Conn. - Carrier Corporation, a subsidiary of United Technologies Corporation (NYSE:UTX), has reached a definitive agreement to acquire Automated Logic Corporation, a technology leader in building automation systems. Terms of the deal were not disclosed. The transaction is subject to regulatory approvals.

Carrier, a world leader in commercial and residential heating, ventilation and air conditioning, will significantly broaden its commercial controls offering with the acquisition of Automated Logic.

Founded in 1977, Automated Logic designs and manufactures innovative building automation and control systems primarily for heating, ventilation, air conditioning and energy management applications. Automated Logic distributes and installs commercial systems through a network of independent dealers.

"Automated Logic's leading controls technology enhances Carrier's current electronics controls business, said Ken Fox, vice president and general manager of Carrier Electronics.

"With the continued growth and acceptance of open standards, commercial customers are asking for connectivity within and among different building systems, enabling centralized monitoring, lower operating costs and vendor flexibility," Fox continued.

"Carrier and Automated Logic are a good match, with shared commitments to innovation, quality, and customer care," said Gerry Hull, chief executive officer of Automated Logic. "Automated Logic provides Carrier state-of-the-art technology, a strong management team and a platform for growth in the building controls industry."

Automated Logic and its subsidiaries will continue operating under their current names, and its headquarters will remain in Kennesaw, Georgia. Carrier and Automated Logic brands will be positioned for growth through the combined and coordinated activities of the two companies' expanded network across North America and around the world. Carrier Corporation, a subsidiary of United Technologies Corporation (NYSE:UTX), has reached a definitive agreement to acquire Automated Logic Corporation, a technology leader in building automation systems. Terms of the deal were not disclosed. The transaction is subject to regulatory approvals.
States Face Deadline on Standard 90.1

May 5, 2004

ATLANTA - States have less than three months remaining to certify to the United States Department of Energy (DOE) that their building codes meet the requirements in ASHRAE's 1999 energy conservation standard.


The Act requires all states to certify that they have state energy codes in place that are at least as stringent as 90.1-1999, or justify why they cannot comply with this. The certification to the DOE, or a request for an extension, is due July 15, 2004.

"States should implement up-to-date nationally recognized consensus energy standards for new buildings because they benefit the public, help to mitigate energy and capacity shortages and outages, and are economically justified," ASHRAE President Richard Rooley, FREng, said. "Congress and the Department of Energy have determined that Standard 90.1-1999 sets the standard of care and the minimum efficiency requirements that states should adopt."

According to the DOE, as of April 8, only one state, New York, has acknowledged certification. Two others, the District of Columbia and Virginia, have requested extensions.

The DOE determined that Standard 90.1-1999 saves more energy than Standard 90.1-1989, which was the previously referenced standard in the Act.

"Our quantitative analysis shows, nationally, new building efficiency should improve by about six percent, looking at source energy, and by about four percent, when considering site energy," according to the ruling published in The Federal Register. The DOE also found that the expansion of the standard to cover alterations and renovations increased total energy savings by as much as 50 percent.

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 now influences building designs worldwide. It has become the basis for building codes, and the standard for building design and construction throughout the United States.

REQUEST FROM THE BOARD

We are looking for volunteers for next year for the following positions:

- **Fishing Tournament:** Someone to plan next year's fishing tournament
- **Golf Tournament:** Volunteers to assist with the Golf Tournament Next Year
- **Web Master:** Someone who can help us design and maintain our website
- **Membership Committee:** Anyone who is interested in assisting with membership.

Please contact Guy VanMeulenbrouck or Lily Salkoff if you need more information or are interested. Thank you.
VARIABLE PRIMARY FLOW CHILLED WATER SYSTEMS: POTENTIAL BENEFITS AND APPLICATION ISSUES

William P. Bahnfleth, Ph.D., P.E. and Eric Peyer
The Pennsylvania State University
Indoor Environment Center
Department of Architectural Engineering

EXECUTIVE SUMMARY

The use of variable primary flow pumping (variable flow through chiller evaporators) in chilled water systems is increasing due to its perceived potential to reduce energy consumption and initial cost relative to more conventional pumping arrangements. Neither the conditions under which significant energy savings are realized nor the likely magnitude of savings are well documented.

To characterize current thinking on the use of variable primary flow chilled water systems, literature review; surveys of designers, owners, and chiller manufacturers; and additional correspondence were synthesized into a composite portrait of prevailing practices and attitudes.

To quantify the energy use and economic benefits of variable primary flow, an extensive parametric simulation study was conducted that compared variable primary flow system energy use with that of other common system types. System types included in the study were constant flow/primary-only, constant primary flow/variable secondary flow, and primary/secondary with a check valve installed in the decoupler. Parameters varied included load type, number of chillers in the central plant, temperature difference vs. part load characteristics, and climate.

State of the Art Review Findings

There is growing support for variable primary flow among chiller manufacturers and system designers, owners, and operators. Modern chiller controls are capable of practical variable primary flow operation. Advances in capacity controls, freeze protection, and flow detection have increased chiller stability—a particular concern in variable primary flow applications because evaporator flow rates can change abruptly during chiller staging. Manufacturers are providing more detailed variable flow application guidance than in the recent past, including recommended chilled water tube velocity ranges and maximum rates of flow variation for most chiller models.

Variable primary flow systems are perceived to be more complicated than comparable primary/secondary systems. This is partly because chiller staging requires more care in order to achieve stable operation and realize anticipated energy savings. Chiller isolation valves should open and close at a rate that is consistent with the response time of the chiller's capacity control. The low flow bypass control required in most variable primary flow systems adds further complexity. The bypass and valve should be sized for the minimum required flow rate of the largest chiller and should be located close to the plant. Flow measurement devices must have sufficient turndown to measure flow throughout the anticipated range.

Over half of the survey respondents had designed or operated variable primary flow systems. Those who had no variable primary flow experience identified lack of guidance as a key reason why they had not. Owners cited reduced operating costs, lower first cost, smaller space requirement due to fewer plant components, and ability to improve chiller loading in systems experiencing low chilled water ΔT as advantages of variable primary flow systems over primary/secondary systems. While most claims of variable primary flow superiority over other system alternatives revolve around energy and first cost savings, there is little quantitative evidence in the open literature. Most arguments in favor of variable primary flow are anecdotal. Designers and system owners with variable primary flow experience generally are willing to consider the use of variable primary flow for future projects.
Parametric Study Findings

Variable flow, primary-only systems reduced total annual plant energy by 3 to 8-percent, first cost by 4 to 8-percent, and life cycle cost by 3 to 5-percent relative to conventional constant primary flow/variable secondary flow systems. Several parameters significantly influenced energy savings and economic benefits of the variable primary flow system relative to other system alternatives. These included the number of chillers, climate, and chilled water temperature differential. The following factors tended to maximize variable primary flow energy savings relative to other system alternatives:

- Chilled water plants with fewer chillers
- Longer, hotter cooling season
- Less than design chilled water temperature differential

Load type had little impact on variable primary flow energy savings. The magnitude of savings was much larger for greater cooling loads, but when savings were standardized on a per design ton basis the differences were relatively small.

Chilled water pumps and chiller auxiliaries accounted for essentially all savings. Differences in chiller energy use were not significant from system type to system type. Variable flow, primary-only systems chilled water pump energy use was 25 to 50 percent lower than that of primary/secondary chilled water systems. In systems with two or more chillers configured in parallel, chiller auxiliary energy savings were 13 percent or more relative to primary/secondary.

The addition of a bypass check valve to the constant flow primary/variable flow secondary system resulted in total plant energy savings of up to 4 percent and a life cycle cost savings of up to 2 percent. Savings occurred only when chilled water ΔT’s were less than the design value. Chilled water pump savings were 5 percent or less and chiller auxiliary savings were 13 percent or less.

Conclusion

In view of both the state-of-the-art review and parametric study results obtained in this project, it can be concluded that variable primary flow is a feasible and potentially beneficial approach to chilled water pumping system design. However, the magnitude of energy and economic benefits varies considerably with the application and is obtained at the cost of more complex and possibly less stable system control. The literature on effective application of variable primary flow is growing and should promote its appropriate and effective use in the future.
Member Benefits

A WORLD OF KNOWLEDGE AND OPPORTUNITY

Membership in ASHRAE is open to any person associated with heating, ventilation, air conditioning or refrigeration including, consulting engineers, design engineers, architects, contractors, code officials and government representatives, facility engineers and managers, project and application engineers, technicians, industrial and manufacturing engineers and managers, public utility engineers, professors, researchers, sales engineers, distributors.

Education and Professional Development

ASHRAE is a great place to learn about the latest technology. Educational programs are held at the local chapter meetings, at Society meetings and through technical publications and educational courses. ASHRAE sponsors seminars on more than 40 technical topics that are available in a variety of formats.

Leadership Opportunities

Your participation through chapters and membership on Society committees, such as standards projects committees is the key to being a vital part of the force that drives the direction of the HVAC&R industry. Over 2000 member volunteers make a difference through their work on the development of standards and technology. They advise the Society on research needs, emerging technologies, and technical matters.

Resources

Technical education and information is the greatest benefit of ASHRAE membership. ASHRAE Handbooks, a 4-volume set consisting of HVAC Applications, Fundamentals, HVAC Systems and Equipment and Refrigeration, are the most widely cited reference source for HVAC&R technology in the world. Every year, ASHRAE members receive the newest ASHRAE Handbook at no charge.

ASHRAE Journal, the monthly magazine, reviews current HVAC&R technology of broad interest through publication of application-oriented articles.

ASHRAE Insights, members-only monthly newspaper, providing news about ASHRAE at the chapter, region and Society levels.

Society Connections- The electronic newsletter that links the communities of ASHRAE and provides a simple way for members to communicate with each other and the Society. Society Connections is published twice monthly and distributed only to ASHRAE members.

The HVAC&R Industry-- weekly e-newsletter for HVAC&R professionals. The HVAC&R Industry provides relevant, timely information about industry and technology for people who create healthy, comfortable indoor environments.

Member Discounts

- ASHRAE publications -- some 300 current titles -- which members are able to purchase at a discount.
- ASHRAE educational products -- ranging from the Society's semi-annual conferences to home study courses -- feature discounted registration prices for ASHRAE members.
- Society meetings, conferences and expositions—Professionals exchange information and discuss industry advances through technical programs and committee involvement.
- Group Insurance—group rate premiums on term life, high-limit accident, disability income; major medical expense, excess major medical, in-hospital expenses and Medicare supplement.

Network with Industry Professionals

Participation in the local chapter permits members an opportunity to exchange ideas, hear expert speakers and develop professional relationships in their locale. Members develop global friendships and business prospects. Take part in online forums to talk with industry professionals around the world.

ASHRAE is a great place for an individual to grow personally and professionally through a world of knowledge and opportunity.

For additional information on ASHRAE membership contact our Membership Development Section.

ASHRAE®•1791 Tullie Circle, NE•Atlanta, GA 30329•Phone: 404/636-8400•Fax: 404/321-5478•www.ashrae.org
ASHRAE Southwest Florida Chapter's 4th Annual

8-Ball Pool Tournament
to benefit ASHRAE's Local Student Scholarship Fund

1st, 2nd and 3rd place purse
Single Elimination, single or double game depending on playing filed

Friday, May 21, 2004
Tournament Start 5:30 p.m.
At the

Miscue Lounge, 2011 Carrell Road, Ft. Myers
(corner of Cleveland Avenue and Carrell Road
across from the Ft. Myers Country Club Golf Course)

Entry Fee $20.00
Table Sponsorship $100.00

Name: ____________________________________________
Company: ____________________________________________
Phone: ___________________ Fax: ___________________

Please check one which best describes your pool shooting ability:

_____ Which end of the stick do I hold?

_____ Occasional player at Friday Happy Hour

_____ Played my way through college but haven't picked up a stick in 20 years.

_____ Funding my retirement through my pool winnings

_____ Table Sponsorship @ 100.00

Fax registration form to 239-461-0768

Please contact Lisa at 239-425-5038 if you have any questions
Past Presidents of
#139 Southwest Florida Chapter

1984 - 1985    Dennis Holland           1995 - 1996    Jason Grabowski
1992 - 1993    Gary H. Griffin

ASHRAE 2003-04 Chapter Meeting Dates

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<td>Meeting Date</td>
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<td>Sept. 10, 2003</td>
<td>Bio-Terrorism Preparedness</td>
<td>Rebecca Malphus</td>
<td>Bogert’s Chop House</td>
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<td>Nov. 12, 2003</td>
<td>Designing for Occupant Acceptance</td>
<td>Dan Int-Hout III</td>
<td>Bogert’s Chop House</td>
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<td>Jan. 14, 2004</td>
<td>IAQ from an Owner’s Prospective</td>
<td>Skip Camp</td>
<td>Bogert’s Chop House</td>
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<td>Jan. 24, 2004</td>
<td>Building Envelope Seminar</td>
<td>Dr. Joseph Lstiburek</td>
<td>Holiday Inn, Bell Tower</td>
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<td>Feb. 11, 2004</td>
<td>Atria &amp; Large Volume Smoke Exhaust Systems</td>
<td>Andrew Valente</td>
<td>Bogert’s Chop House</td>
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<tr>
<td>March 10, 2004</td>
<td>Control Considerations for the 21st Century</td>
<td>Gil Avery</td>
<td>Bogert’s Chop House</td>
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<tr>
<td>March 10, 2004</td>
<td>Seminar @ Trane Conference Room</td>
<td>Gil Avery</td>
<td>Bogert’s Chop House</td>
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<tr>
<td>April 14, 2004</td>
<td>Ice Storage System, Internet DDC &amp; Historic Car Tour</td>
<td>Scott George &amp; Brett McKinstry</td>
<td>C.H. Motorcar Tour Frascoti’s Italian Restaurant</td>
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<td>April 17, 2004</td>
<td>Cape Coral Yacht Club-POSTPONED</td>
<td>Don Pine</td>
<td>7th Annual Backwater Fishing Tournament</td>
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<td>May 12, 2004</td>
<td>Pumping Seminar</td>
<td>Mark Smith &amp; Dan Parker</td>
<td>Shellpoint Village – Armstrong Pumps Dinner at Shellpoint Village</td>
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<td>May 21, 2004</td>
<td>Miscue Lounge</td>
<td>Lisa Duritsch</td>
<td>4th Annual 8-Ball Pool Tournament</td>
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<td>June 11, 2004</td>
<td>TBA</td>
<td>Mark Brant</td>
<td>President’s Party</td>
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Statements made in this publication are not an expression of the Society.

Have a Great Summer!