

Calloway

QUARTERLY

5-Star Luxury Means Hot Water **ON DEMAND** at the *Mansion On Peachtree*

When the *Mansion On Peachtree* opens for business in May 2008, guests can rest comfortably beneath their luxurious bed linens, knowing that an instantly hot shower awaits them in the morning—or *whenever*. There was no skimping in the plumbing design for the 42-story property, located in the upscale Buckhead district of Atlanta. Throughout the hotel portion of the building, Raychem HWAT hot water temperature maintenance cable will maintain the blended temperature set points. This includes guestrooms, restaurants, banquet areas, and laundry.

According to Dan Dahl, P.E. and Principal of HESM&A, Inc. the mechanical engineer for the *Mansion*, a 5-Star hotel such as this demands substantial reliability from the hot water system. Other

forms of temperature maintenance, such as a recirculation, simply aren't dependable enough to satisfy the owner or the guests.

"There are different operating temperatures throughout the hotel," explained Dahl. "In order to limit required storage volume, we are generating the hot water at an elevated temperature of 160°F, and

blending it through mixing valves, and then distributing it at reduced operating temperatures."

Raychem HWAT uses self-regulating heating cables and an electronic controller to maintain precise set point control. The cable adjusts its power output to compensate for variations in water temperature and ambient temperatures. The heating cable replaces supply-pipe heat losses at the exact point where heat



loss occurs, thereby providing continuous, energy-efficient, hot water temperature maintenance and eliminating the need for a recirculation system.

HWAT is used throughout the base (hotel) portion of the property. Localized hot water generation is used in the 45 permanent condominium residences that make up levels 15 thru 43.

Heat-Timer Expands EMS Interface Capabilities with BACnet Option

Today, BACnet is *the* standard data communication protocol for building automation and control networks. Overall acceptance of the protocol among manufacturers is helping to pave the way for seamless communications for facilities all over the world. Not one to stand in the way of progress—especially if it improves boiler system performance—Heat-Timer now offers a BACnet option with each of its commercial boiler controls, including the popular Multi-MOD modulating boiler controls and HWR hot water reset controls.

What This Means to You

Offering clients boiler controls with BACnet compatibility allows

them to utilize the existing front end work (visuals, reset calculations, etc.) of their existing EMS without a lot of extra work. Heat-Timer provides all the hardware and software to accept the Ethernet connection. The software contains the BACnet protocol for the individual Heat-Timer control so two-way communication between the control and the EMS is instant.

All this said, BACnet is not the only option for those desiring EMS interface with their Heat-Timer controls. In some cases, the standard capability of the control may be all that's needed. For instance, if the operator only needs to be able to enable or dis-

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AERCO Establishes New Testing Methodology with Underwriter Laboratories (UL)

AERCO has developed a new, comprehensive methodology for testing boiler efficiency. The tests, witnessed and reviewed by Underwriters Laboratories (UL), differ from the existing ANSI Z21.13 and BTS-2000 standards in 3 main areas: water temperature, fire rates, and test methodology.

A Better Measure of Efficiency

Neither ANSI Z21.13 nor BTS-2000 tests accurately reflect a typical temperature rise found in a space heating application. AERCO's new tests, however, use more conventional inlet/outlet water temperatures of both 20°ÄT and 40°ÄT, over a wide range of inlet and outlet temperatures. The chart below outlines the eight separate system designs evaluated:

These test conditions are more likely to match the operating conditions of a typical design, therefore are a better reflection of how equipment will perform in a real installation.

20° ÄT System

Inlet	Outlet
60°	80°
80°	100°
100°	120°
120°	140°
140°	160°
160°	180°

40° ÄT System

120°	160°
140°	180°

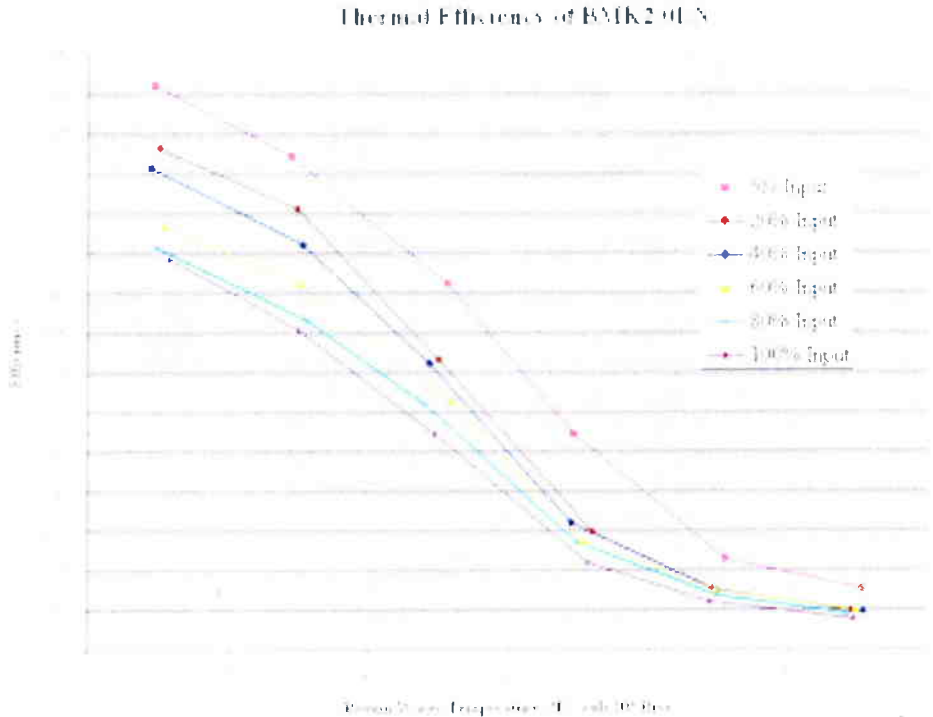
AERCO testing procedures

also differ significantly in firing rates. One of the more frustrating aspects of standard boiler testing is the fact that most tests are based on full-fire conditions, when in reality this condition is much more the exception than the rule. So, AERCO tested its Benchmark Low NOx 2.0 boiler at *six different fire rates* within a normal range of op-

Heat-Timer Expands EMS Interface, *continued*

able the control from the EMS, this is already a standard feature of both the Mini-MOD and Multi-MOD control. Another standard feature of the Multi-MOD control is the capability for an EMS company to remotely change the system set point via a 4-20mA input signal. An optional 4-20mA input module is available if this capability is required with the Mini-MOD.

There are two options for clients who de-



erations – from 5% input to 100% input. The chart above demonstrates the increase in efficiency under part-load conditions. The data included in this test allows engineers to make more accurate determinations of how any modulating boiler will perform as loads and system conditions change.

Under the witness of UL, AERCO has made every effort to refine testing methodology so as to eliminate areas that might yield misleading results. One such area is combustion efficiency versus thermal efficiency. Both ANSI Z21.12 and BTS-2000 tests allow for manufacturers to choose either of these two efficiency ratings. This can be misleading since boiler manufactur-

ers invariably select the efficiency rating that reflects most favorably on their particular design. AERCO's approach however requires that a separate test be conducted for *both* thermal efficiency and combustion efficiency, and that the results fall within the accepted margin of error defined for each test. This not only strengthens the overall reliability of the data, it forces testers to find and remove all sources of variation they may not have encountered under less stringent conditions.

AERCO hopes that their own proactive approach to testing will set precedence for more boiler manufacturers to open their doors to independent, third-party scrutiny.

sire full blown access to the control via the EMS (i.e. just as if they were standing at the control panel itself). The first is an optional EMS/XML protocol. In this case, Heat-Timer provides hardware to accept a RS 485 connection as well as the XML Protocol so the EMS can directly access the control. A disk is provided containing all the pertinent codes. Finally, there is the BACnet option itself. Ultimately, it depends on the level of control a client wants to have via the EMS. Regardless, Heat-Timer has

worked hard to provide whatever communication solution your client needs or desires.

For more information about Heat-Timer BACnet capability, contact Caroline Calloway.

Note: For smaller projects that might not have the budget for a full-blown energy management system, Heat-Timer also offers a stand-alone communications package. Now information can be retrieved or adjustments made via the Internet.