

## Green means GO

### Water heater technology moves briskly with market trends

BY JOHN VASTYAN,  
contributing writer

Installers of commercial water heaters today are riding the waves of seismic change. Never before have we experienced a time of

approach than assuming an answer.”

Taylor interacts with system installers and design engineers routinely. He now finds himself saying to these professionals that the essence of their question should be, ‘What are you trying to accomplish, based on

continuous supply of hot water?’

#### What’s realistic?

In each scenario, technology is applied. But the building may not have the space, or the funds, to meet an ‘ideal’ specification. So the question becomes: How far can you go to accomplish the goal? What are the limitations? What’s realistic?

“There may be several different ways to get there; to achieving a performance level that meets the need of the building owner, investors and occupants,” added Taylor. As an example of this, Taylor explains, is that a solid, medium-efficiency water heater that may operate only a few hours a day may handily beat the overall operating cost (including product and installation cost) of a more expensive condensing system. While, on the other hand, if it’s determined that the equipment may see long periods of operation, or “uptime,” the higher efficiency condensing system would be a wiser choice by taking advantage of the lower fuel use to maintain the same water temperature in the hot water distribution system.

Taylor explained that if a commercial installation calls for one million

appliances are consuming air within the building. That’s fine in some instances, but not in others. Condensing water heaters are especially prone to risk when fumes from chemicals stored nearby (especially chlorines) may be pulled into the combustion chamber. Direct-vent or power-vented appliances were developed, among other reasons, to avoid the pulling of atmospheric air into water heater appliances.

Taylor points to an advanced system that has been one of the more exciting commercial projects at Bradford White in recent years. The manufacturer’s eF Series water heater was developed, with recent refinements and a broadened line, in response to market demand for ultra-high efficiency operation and installation flexibility. The three-pass flue system, low NO<sub>x</sub> emitting eF water heater offers thermal efficiency up to 99.1%, a 60-gallon tank capacity with 125, 150 and 199 MBH inputs, and 100-gallon tank sizes with 150, 199, 250, 300 and 399 MBH inputs. The system also provides venting flexibility, with power vent (through-the-wall) or power direct-venting options for horizontal, vertical, unbalanced venting with two-pipe or coaxial vent terminations.

Mechanical equipment must stand up to the scrutiny of space-savers. And must also meet the tougher expectations of a new generation of engineers, installers and building owners. The



A Family Plumbing technician completes a Bradford White eF water heater installation at a new hotel in New Jersey.

greater pressures and activity — stratospheric fuel prices, price pressures fixated on ROI, universal insistence for green technology and a smaller carbon footprint — all coming together to force an unprecedented shift in the way products are developed and applied.

“Understanding the market and where it’s going is the key,” said Mark Taylor, director of commercial and technical sales at Ambler, Pa.-based Bradford White Corporation, one of the nation’s leading manufacturers of commercial and residential water heaters.

“I think many professionals in the industry would agree that it’s critically important to be attuned to these changes — especially those that are tied to green initiatives,” added Taylor.

#### What’s the building need?

“If an installer or engineer asks ‘What’s the building want and need?’” said Taylor, “It’s a much better

demand load expectations?’

Tim Rosen, a partner in the Avon, Colo.-based mechanical contracting firm, Concept Mechanical, agrees. “The pace of technology, the influence of change in the market and building owner demands are forcing engineers and installing contractors to stay sharper than ever before. I’ll add another important question: ‘How far can you realistically go?’”

Rosen and Taylor, like many of the professionals facing this question daily, ask about the factors that influence the decision-making process when solving a building’s technology needs:

- Is LEED certification important? To what level can the hot water supply system contribute?
- What are the anticipated use patterns? Will there be varying demand loads?
- Recovery: How quickly should the system be expected to raise the temperature to set point?
- What will be required to assure a



Dave Warzecha, P & D Mechanical project manager, performs a system diagnostics for a multiple Laars Rheos high-efficiency boiler/volume water heater installation at the University of Connecticut.

Btus of peak water heating capacity, five 200 MBH tankless systems, at a higher up-front cost, might be needed to get the flow rates that are required. A simple direct-fired storage unit with less input but with storage energy in the tank may be a better option.

#### Indoor air quality

There may also be IAQ issues. Some

common denominators all point to smarter, greener solutions. ■

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