

Pair of Aces

New York Presbyterian and Houston Shriners Hospitals Win 2007 ENERGY STAR Awards



New York Presbyterian Hospital (NYPH) and Houston Shriners Hospitals for Children need no introduction to the regular readers of this column. Both have been profiled for the tremendous energy savings they have attained over the past two years and for the creative thinking and management practices that brought them there. In a time of rising energy prices, their initiatives have saved millions of dollars that went back into their core business of providing more patient care and medical research. Their work has also profitably reduced greenhouse gas emissions, contributing to the welfare of their communities and indeed the world. We point with pride at these two hospitals again this year and proclaim them both to be our 2007 ENERGY STAR® Partners of the Year for Leadership in Energy Management.

This article highlights the activities and accomplishments of New York Presbyterian and Shriners – Houston over the past year. If you are looking for ideas to save energy or for important components of a good energy management plan, read further. Their stories are among the best in the industry.



New York-Presbyterian
The University Hospital of Columbia and Cornell



**Shriners
Hospitals
for
Children**

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Shriners Hospital - Houston

Shriners Hospitals for Children are a network of 22 pediatric specialty hospitals located throughout the United States, Canada and Mexico. Since 1922, Shriners hospitals have provided free medical care to more than 800,000 children with orthopedic problems, burn or spinal cord injuries. Donations to Shriners can go further if they're not spent on utility costs which are a big motivator to Delbert Reed, director of engineering and maintenance at the 40-bed, nine-story hospital. Reed estimates that the energy savings at his hospital over the past 10 years is about \$1.2 million.

The story of how Reed cut his energy consumption 40% - increasing his hospital's energy performance rating from a 42 to an 88 in less than two years - is illustrated in the Nov/Dec 2003 edition of Inside ASHE (See Profiles in Performance: How Two Hospitals Rose from Mediocrity to Excellence). Hospitals this high up on EPA's rating system have done the major upgrades. The home run projects for big energy savings are gone. What Shriners - Houston is proving however, is that there are dozens of smaller, single-hit opportunities waiting to be found and together they add up. Over the past year, Reed's tenacious pursuit of smaller savings opportunities has enabled him to raise his ENERGY STAR facility rating to a 91. How was it done?

Energy Achievements

The steam table in the laundry room was both an energy problem and a comfort problem for workers. The room used about 2.5 tons of steam an hour and the air conditioner for that area delivered 2.5 tons of maximum cooling an hour. With the steam table neutralizing all the cooling load, room temperatures always hovered around 80 degrees. For years, Reed's engineers tested and retested all the mechanical systems affecting the area, thinking they could improve cooling performance. However, switching their focus to the steam table turned out to be the most elegant solution. Reed installed an electrical-actuated steam valve with a mechanical timer. Laundry staff now turn the mechanical timer on whenever they need to use the table and the timer automatically shuts it off two hours later. Total cost: \$85 / Total Savings in first year: \$8,000 in steam and \$16,000 in chilled water costs. The best measure of success however may not be the savings. The day after the installation—after years of “hot room” complaints—the engineering department received an altogether new grievance. The laundry room was now “too cold”.

The three driers in the laundry room offered Shriners another energy-saving opportunity. Heat was leaking out of the lint traps, making that area of the drier as hot as 140 degrees. Installing 1-inch of air-conditioning duct

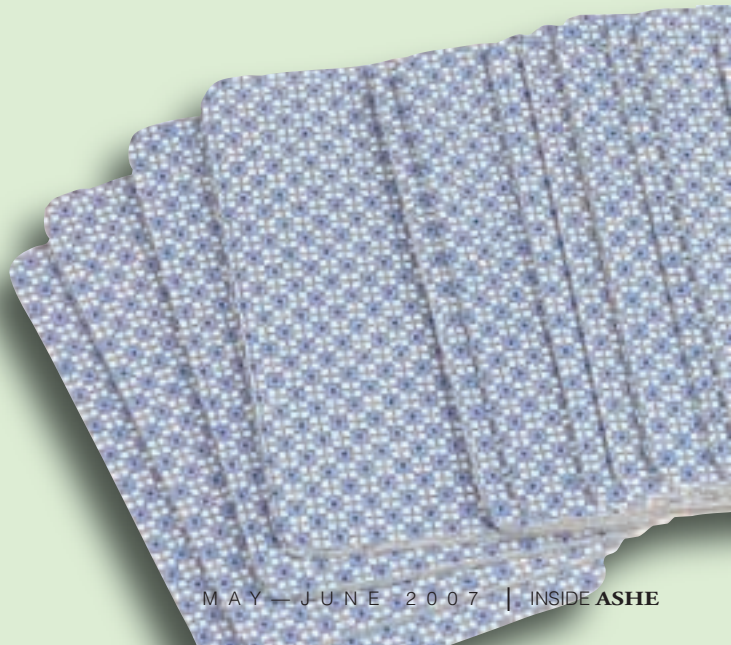
board to the lint door reduced the heat to about 85 degrees and reduced the amount of energy needed to remove the excess heat entering the conditioned space. Insulation was also extended beyond the steam lines to include the valves and steam traps. Removable blankets now surround the OS&Y (outside, yolk and screw) valve, allowing 85-90 percent of the heat to be kept inside the steam line.

Other low-cost energy saving projects implemented by Shriners include:

- Spot replacement of T-12 lamps with T-8 lamps and electronic ballasts
- Installing occupancy sensors in private offices and selected public spaces
- Replacing 130 computers with ENERGY STAR® qualified ones and activating the power-saving sleep mode on 100 LCD monitors
- Monitoring the run times of the air handler units and scheduling them off when floors are not occupied.
- Replacing inefficient motors with high efficiency motors

Communications

Over the past 15 years, ENERGY STAR has found that providing and seeking recognition for energy management achievements is an important step for sustaining momentum and support for an energy management program. Shriners - Houston was the first hospital in the country to receive the ENERGY STAR from the EPA for three consecutive years and is currently one of two hospitals that have earned it at least four times. Delbert Reed has shared his best practices at local and national conferences as well, speaking to 500 healthcare engineers and colleagues last year. Articles communicating the value of energy efficiency to Houston Shriners hospital appeared in seven publications, reaching nearly 100,000 readers.



New York Presbyterian Hospital

New York-Presbyterian Hospital (NYPH), consisting of the university hospitals of Columbia and Cornell, delivers comprehensive medical services to residents of New York City and its surrounding Burroughs. 2007 marks the third consecutive year that NYPH has won ENERGY STAR's Partner of the Year award for Leadership in Energy Management (For those stories, see the May/June 2005 and September/October 2006 editions of Inside ASHE). NYPH becomes the first hospital in the nation to receive the ENERGY STAR award for Sustained Excellence, the highest award for ENERGY STAR Partners.

Energy Achievements

Since joining ENERGY STAR in 2003, New York-Presbyterian Hospital has dedicated \$7.3 million in upgrades specifically targeted to achieve energy savings. These upgrades have saved the hospital more than 11 million kilowatt-hours, valued at \$1.77 million annually. Although patient admission rates climbed more than 5% in 2006, NYPH was still able to reduce energy intensity by 30 kBtus per ft² across the system. The Allen Pavilion earned a second ENERGY STAR Label from the EPA.

Energy Awareness

NYPH dedicated more than \$100,000 in 2006 to complete a variety of studies throughout their portfolio to identify the best opportunities for efficiency and savings. One study recommended seven projects for a hospital campus that could save 10% of electricity and nearly 25% of natural gas. Another investigated the potential economic benefits of various energy conservation measures in central plants and HVAC systems serving individual buildings. The largest study assessed the feasibility for a second combined heat and power plant on the Columbia University Medical Center, estimating


annual savings in excess of \$6 million and the potential for lower emissions.

Metering their Columbia campus in 2006 also played an important role in increasing energy awareness. In the past, utility costs were allocated by square footage. But allocating costs based on actual demand not only increased billing accuracy, it also enabled energy managers to spot where consumption is taking place and evaluate different ways to control it. In addition, energy security is enhanced if a low voltage situation occurs because their system allows personnel to be alerted more quickly to minimize risk and downtime.

Communications

New York Presbyterian Hospital continues to promote its energy management program. Stories on NYPH's energy management initiatives were carried by the Associated Press, a local business journal, local press, and two radio stations. NYPH engineers were also recognized professionally after becoming charter members of ASHE's Energy Efficiency Commitment (E²C) initiative. Four healthcare buildings were recognized for saving 10% or more energy.

NYPH became the first hospital to sign up for ENERGY STAR's Change a Light Campaign, a drive encouraging people to replace one incandescent light at home with a compact fluorescent one. The Facilities Department partnered with the Food and Nutrition and Bike Security teams at the hospital for a "Ride Your Bike to Work Day" that simultaneously promoted energy conservation, employee health, and safety. NYPH's goal of getting 500 employees to change a light was easily exceeded within a few months, especially after participants received free CFLs donated by GE.

The U.S. Environmental Protection Agency congratulates the healthcare engineers of New York-Presbyterian Hospital and the Houston Shriners Hospital for their dedication to energy management and environmental stewardship, and recognizes their leadership by proclaiming them 2007 ENERGY STAR award winners. 

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