

Cooling system changes lead to quick energy payback

As Gundersen Lutheran staff began looking for low-cost or no-cost ways to reduce the health system's energy consumption, one of the areas they considered first was their cooling system. A process called chiller/tower optimization led to quick paybacks for the health system.

During this retrocommissioning effort, staff reprogrammed the electrical system controls that monitor the temperature in the building. By doing so, the fan in the cooling tower interacts with the chiller. The two components run at the setting that is the most efficient based on outside conditions at the time, such as temperature and humidity.

When Gundersen Lutheran reprogrammed the chiller/tower in one building, they immediately saw approximately \$13,500 in annual savings and reduced their energy use by about 225,000 kilowatt (kW) hours. Once Gundersen

Lutheran determined chiller/tower optimization worked, the system was replicated in all Gundersen Lutheran campus buildings with chilled water systems. The change reduced electricity consumption for cooling the campus by about 1.1 million kW hours per year, reducing costs by approximately \$65,000 annually.

Chiller/tower optimization at Gundersen Lutheran is part of the health system's larger retrocommissioning efforts to improve efficiency and reduce energy demand. By the end of 2009, Gundersen Lutheran expects to see a 20 percent decrease or more in energy consumption, leading to more than \$800,000 in annual savings.

Gundersen Lutheran Health System is headquartered in La Crosse, Wis., with hospitals and clinics in Wisconsin, Minnesota and Iowa. For more information on their retrocommissioning efforts and other energy projects, call (608) 775-1400 or go to gundluth.org/green.



Gundersen Lutheran's John Schleifer, supervisor, Facility Operations; Corey Zarecki, efficiency improvement leader; and Jeff Rich, executive director, Efficiency Improvement, review the controls on one of Gundersen Lutheran's centrifugal chillers. As part of Gundersen Lutheran's retrocommissioning process, changes were made to the chiller's system programs to optimize cooling tower fan utilization with the chiller compressor. The adjustments were copied for all Gundersen Lutheran campus buildings with chilled water systems. The change reduced costs by approximately \$65,000 a year and reduced energy consumption by about 1.1 million kilowatt hours annually.