

# ISHE ISSUES

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HEALING AN AILING SYSTEM

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## STEAM GENERATORS HELP HOSPITALS SAVE MONEY, CONSERVE ENERGY

**In 2004, St. John Detroit Riverview Hospital, situated close to Lake St. Clair, which flows into Lake Erie, partnered with Siemens Building Technology to find ways to reduce operating costs. Opened since 1987, this facility, a part of the St. John's Healthcare System, ran on an old gas-fired boiler system that was neither energy efficient, nor cost effective. Siemens experts knew this system needed to be replaced with a system that ran cleaner, simpler and more consistently. They looked to Clayton Industries to replace the old boiler with a vertical steam generator.**



Fast forward four years and about 15 miles north. Mount Clemens Regional Medical Center, also close to Lake St. Clair, was seeking to cut energy costs. It also looked to Siemens for an energy audit. Once again, Siemens representatives advised replacement of the gas-fired boilers with steam generators from Clayton Industries.

Both hospitals heeded Siemens' recommendations and opted for Clayton Industries' high-efficiency steam generators to replace their gas-fired boilers. These units operate on the principle of only heating the water to meet the required steam load, which eliminates the need for a large volume of water. As such, they heat up faster from a cold start, within about 15 minutes as opposed to a conventional boiler that can take up to two and three hours.

They also can be turned on and off when needed without the risk of damage to the system. Because hospitals require back-up steam, a conventional boiler is generally kept in hot mode. So, if need be, it comes on-line quicker. This means they're consuming energy throughout the day in the event they're ever called for to come on-line. Because the steam generator starts so quickly, it's kept off until needed.

In addition, with the fluctuating and seasonal loads experienced by hospitals, a conventional boiler quite often operates in low fire or low load for a considerable time. This is a very inefficient process. Clayton's operating efficiency averages 85 percent, no matter what the load or firing rate. The generator's design creates less radiation and heat loss. What's more, Clayton's steam generators are explosion-proof, providing the highest levels of safety in the boiler industry.

According to Siemens' energy engineering manager Keith Kazan, Mount Clemens Regional Medical Center saw dramatic increases in energy efficiency. Plant efficiency rose from about 47.2 percent with the old boiler system to 84.2 percent with the steam generators for an annual cost savings of more than US\$433,000. Similarly, St. John Detroit Riverview Hospital's overall plant efficiency increased from about 50 percent when the facility was operated with the boiler system to between 75 and 80 percent with the steam generators.

"With the proper applications and requirements, it definitely makes sense to change over from a traditional boiler system to a steam generator," says Kazan said. "I would absolutely make the same recommendations to other facilities, like these two hospitals."

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*Siemens Building Technology, known the world over for its engineering expertise, is a leader in helping companies and organizations retrofit their facilities, so that they're most energy efficient. For Siemens, this is an ever-growing industry, one that requires the company stay ahead of the curve with savvy ideas and up-to-the-minute technology. For more information, visit [www/claytonindustries.com](http://www/claytonindustries.com).*



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