



Sinai Hospital, a LifeBridge Health Center

Comverge's one-stop-shop approach improves energy efficiency and creates new revenue stream for hospital.

Background

Founded in 1866 as the Hebrew Hospital and Asylum, today Sinai Hospital of Baltimore is a Jewish-sponsored, non-profit institution, offering patient care, teaching, and research as components of its comprehensive medical services. Sinai is affiliated with LifeBridge Health, the largest regional health care organization serving northwest Baltimore County.

In 2006, Sinai enlisted Comverge, Inc., as its curtailment service provider (CSP) to enroll the hospital in the PJM (the regional wholesale electric market) demand response (DR) program, a voluntary program in which customers are compensated for reducing their demand during specified times. Comverge and Sinai collaborated to develop a strategy that combined the use of both load shedding and distributed generation techniques, resulting in 2.2 MW of available load to participate in the program. Through May 2009, Sinai has realized a cash flow of \$510,000 through the program.

At Sinai's request, Comverge was asked to review their existing facilities and develop a detailed energy audit to identify additional energy savings and environmental reduction opportunities.

"With the revenue from participating in Comverge's demand response program, we were able to fund the retrofitting of our existing generators so they will burn fuel more cleanly and provide additional backup power for our facility. Seems like a win-win for everyone."

— Lewis Poe, Director of Plant Operations, LifeBridge Health

“Comverge’s team truly enjoys the relationship developed with LifeBridge Health and the win-win partnership that both parties have developed over the years. Together, we have teamed to identify and prioritize novel energy and green solutions.”

– George Hunt, Senior Vice President, Commercial and Industrial Sales, Comverge

Solution

Comverge provided a comprehensive list of energy conservation measures (ECMs) identifying reductions in electricity, water, and natural gas demand and consumption, as well as a detailed analysis of financial and operational savings and quantification of the carbon footprint reduction for each ECM. The report also provided financial options, including a unique approach of using DR program revenues to offset capital costs. That approach reduced the up-front costs to Sinai and made the project cash-flow positive from day one.

Comverge’s proposal identified significant savings associated with retrofitting the hospital’s four existing diesel-run emergency generators (three 1.0 MW and one 1.5 MW) to a bi-fuel configuration incorporating natural gas. The design reduced emissions and ensured continued participation in the PJM program.

Benefits

Sinai Hospital will realize more than three-quarters of a million dollars in revenue stream from the beginning of its relationship with Comverge, as well as improved generating capacity and reduced carbon footprint, all with no out-of-pocket costs.

Strategies

Comverge’s customized and comprehensive approach set it apart from other companies. Through its innovative financial package, Comverge delivered the benefits to Sinai Hospital in a simple “one-stop-shop” approach.

Comverge’s design-build retrofit solution provided increased capacity for Sinai’s distributed generation units, not only augmenting the hospital’s ability to supply power to patient care facilities beyond basic emergency requirements, but also qualifying it for revenue production from all available PJM DR programs.

Results

Comverge executed the project scope, including conversion to bi-fuel technology, extended the hospital’s natural gas mains, and added advanced control and metering technology with no out-of-pocket costs to Sinai. Sinai is expected to receive an additional \$190,000 over three years for adding 4 MW through distributed generation and 1 MW through load shed to PJM’s market. Just as important, the hospital is estimated to reduce carbon dioxide emissions by 478 tons, nitrous oxide by almost two tons, and non-methane hydrocarbon emissions by 165 pounds per year.

Sinai Hospital was able to retrofit their emergency generators with bi-fuel capability while providing additional back-up power support for critical building systems.

The bottom line being, through this project – with no out-of-pocket cost – they helped create a healthier environment for all.

In 2010, LifeBridge received Maryland’s Trailblazer Award for efforts such as these. Proof positive that Sinai and LifeBridge are leading the way as good citizens and solid members of the Baltimore business community.

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