



## Kendal-Crosslands Communities

Comverge, long-time trusted energy solutions advisor, helps not-for-profit achieve energy efficiency goals

### Background

Kendal-Crosslands Communities (KCC) is a not-for-profit corporation that unites four related residential and full service continuing care retirement communities in a serenely wooded setting just outside Philadelphia, PA. They were founded in the early 1960s by the Religious Society of Friends (also known as "Quakers") based on the foresight of a growing demographic trend toward extended life expectancies and an eventual need for proper housing, medical care, and programs and services that would maximize quality of life for an aging population. In 1991, Comverge was called upon by KCC to provide electrical maintenance services. That relationship has grown over the past two decades as the companies have partnered to address many significant energy related challenges. First, in the late 1990s, after several unexpected and prolonged electrical outages, KCC expressed mounting concerns for the safety of its residents. With Y2K warnings creating additional urgency, Comverge was asked to help identify methods of supplementing the local utility's power in the event there was a loss of electric service. Second, when PJM Interconnection, the regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia, introduced demand response programs in 2000, Comverge initiated discussion with KCC regarding

potential revenue generating opportunities leveraging their energy and building infrastructure. The third challenge came in 2008 when KCC asked Comverge to do a comprehensive community-by-community audit to identify possible energy usage inefficiencies, associated costs, and potential solutions.

"The long relationship we have had with Comverge is due to the personal investment made by the Comverge staff in understanding our community, the needs of our residents, and how we conduct our operations in our continuing care retirement community. With that knowledge, they have always been able to provide us with solutions and systems that fit our needs as well as our budget."

— Tom Kopach, Director of Facilities Services,  
Kendal-Crosslands Communities

“From their board of directors to their facilities staff to the residents themselves, everyone has shown keen interest in participating in our collective efforts to improve energy efficiencies throughout the community.”

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

## Solution

Responding to KCC’s desire for increased electric reliability to safeguard against future outages, Comverge explored a variety of options. In 1999, Comverge installed two 1.5 MW generators with automatic paralleling switchgear, sized to cover the entire site load when in operation. In addition to permit negotiations, Comverge’s turnkey services included engineering, design, procurement, project and construction management, startup, commissioning, and maintenance. The following year, Comverge, as KCC’s Curtailment Service Provider (CSP), was able to leverage the generation assets through participation in PJM’s demand response programs. They provided requisite metering, integration, and remote generation operation, while creating a positive revenue stream for reducing electricity consumption. In 2008, as part of an extensive energy audit, Comverge not only worked with company management in a broad focus on energy efficiency (targeting lighting and HVAC systems), but also assisted in the design of future energy-efficient cottage construction and development. They also worked closely with KCC’s Energy Conservation Committee (composed of KCC residents) to identify home energy losses within individual residences throughout the community.

## Benefits

Comverge is KCC’s “energy expert”—a single point of contact for all their energy needs or concerns. By doing the “heavy lifting,” Comverge

assumes accountability, allowing KCC’s leadership group to focus on other areas requiring their attention. Comverge anticipates and prevents the most serious energy risks while producing an ongoing revenue stream that has been reinvested to facilitate service improvements elsewhere in the communities.

## Strategies

When Comverge installed the new generators, they were set in parallel with the local utility service. In the event of any future electrical outages, the backup generators could be switched on with enough energy to power the facility within seconds. The project was completed on time, within budget, and the generators continue to be monitored 24/7 by Comverge’s network operation center (NOC) in nearby Kennett Square, PA. The parallel assembly enabled KCC to take advantage of economic dispatch opportunities available through their electricity supplier. It also enabled participation in PJM’s Real Time Energy Market, Capacity Market, and Synchronized Reserve Market. The energy audit included infrared scanning to highlight areas of heat loss around doors, patios, chimneys, and external lighting fixtures. KCC’s board was able to better understand the cost-benefit details related to energy loss, directing facilities’ staff to address areas in need of insulation to reduce air leaks. In addition to receiving individual thermal imaging studies, residents were also informed of the positive impact they could have on energy reduction.

## Results

Companies and organizations frequently shy away from backup generation. As Tom Kopach, KCC’s Director of Facilities Services, noted, “The expense of installing and maintaining such infrequently used systems can be daunting.” But, he went on: “Comverge provided KCC the opportunity to earn revenue for this capacity by participating in several electric grid managed programs. This enabled KCC to cover the costs associated with the installation, maintenance, and operation of the units. Additionally, the remaining revenue was used to offset some of the costs of utility electrical expenses. By reducing utility expenses, KCC was able to return more funds to resident-related services such as Healthcare and Wellness activities. “In fact, in addition to recovering the capital cost of the units, since June 2005 KCC has received \$522,944 to date from participation in PJM’s demand response programs. Equally important to KCC is the environmental impact of Comverge’s work. KCC reduced their CO2 emissions by 12.56 tons and NO2 emissions by 12.29 tons. Tom Kopach underscored the Quaker principles upon which KCC was founded. “One of our values statements says that we will provide conscientious and environmentally responsible stewardship of our resources.” He concluded, “Our successful partnership with Comverge can be attributed to their respect and the observance that they have for those very same principles.”

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