



Energy Management Center monitors distributed energy assets, provides alarms and reduces costs.



The situations are common: Temperatures rise in a New York hospital's on-site generator. The problem builds because the maintenance operator hasn't yet made his daily round.

At a California manufacturer, genset emissions must remain low round-the-clock, but the company has antiquated, cumbersome methods to regularly monitor emissions. Although standby generators at an Alabama grocery chain need oil changed every 500 hours for optimum performance, the time between oil changes periodically stretches to 600+ hours.

The Energy Management Center offers preventative and predictive maintenance services to companies that own or operate on-site power systems.

Encorp's Energy Management Center, which provides comprehensive monitoring, alarming and reporting for on-site power systems day and night, can serve as a company's watchful eye, ensuring engines, generators and other forms of distributed energy assets run at peak efficiency 24/7. The result? Fewer problems, better maintenance records, more streamlined operations and greater cost savings.

The Energy Management Center, housed at Encorp's headquarter facility in Windsor, Colorado, offers preventative and predictive maintenance services to companies that own or operate on-site power systems. Using various forms of network connectivity, the advanced Energy Management

Center can alert operators if a problem arises in the system, when regular maintenance is scheduled and even create a predictive maintenance schedule to reduce downtimes.

## Technology Neutral Solution

A Southern California plastics manufacturer, wishing to reduce skyrocketing utility bills, installed a 5MW peak-shaving plant next to its key production facility. The peak-shaving plant includes two Jenbacher generators with GE Power Systems switchgear and controls. The plastics manufacturer turned to Encorp's Energy Management Center to provide daily reports on basic genset functions, monitor overall system operations and notify plant operators if a problem arises via a pager alarm.

Because Encorp software and hardware are technology neutral — they easily interface with nearly all brands of powertechnology equipment — Encorp engineers were able to quickly integrate the Energy Management Center with the existing GE controls. Today, company employees on-site and operators at Encorp's Energy Management Center receive daily information on each generator's kilowatt production, voltage/current output, power factor, efficiency and more via the Energy Management Center and more.

In addition, if trouble arises such as rising genset temperatures, low oil pressure or other common problems, the Energy Management Center issues an immediate pager alarm to plant operators.

Regular, detailed monitoring reports from Encorp's Energy Management Center indicate the plastics manufacturer saved on average, nearly \$39,000 each month by using its on-site peak-shaving plant rather than utility power.

## Co-Gen Peak Performance

A California dried-food producer, which generates its own power when electricity prices jump, relies on Encorp's Energy Management Center to monitor the performance of its co-generation application. Located in an agriculture-rich valley of the Sunshine State, the food producer operates an efficient system round the clock, even using excess heat from its power generator to dry food.

The company's on-site power system features a Deutz genset, Encorp digital paralleling switchgear and Encorp Generator Power Controls™ that gathers data on the system operation and instantaneously relays information to Encorp's Energy Management Center in Colorado.

The Energy Management Center collects data from the co-gen application and produces comprehensive reports – available every minute, every 15 minutes or each day and produces weekly comprehensive reports that provide details on thermal-load monitoring, energy inputs, engine temperature, oil pressure, cylinder temperatures and more.

## Meat of the Situation: Encorp Monitors Giant Feedlot

When a 100,000-head cattle feedlot in Colorado began experiencing power outages, company officials stampeded to the local utility looking for a solution. The feedlot needed reliable power to make sure thousands of cattle were fed automatically at precise times; thereby ensuring optimum weight. But the company's aging power equipment wasn't reliable – especially during 200kW – 1,800 kW peak-load periods that regularly occurred when "corn flaker" machines produced the cattle's flake-like feed.

In addition, the feedlot relied on generators running 24x7 to meet the facility's massive power needs.

The local utility couldn't offer a solution, so feedlot officials turned to Encorp. The plan: Update the existing on-site genset system to ensure it instantaneously provides emergency power when needed, connect the feedlot to the utility grid for redundant protection and use Encorp's Energy Management Center to monitor the feedlot's power system round the clock and alert feedlot officials if something is awry.

The advanced Energy Management Center can alert operators if a problem arises in the genset, when regular maintenance is scheduled and even predict when something could go wrong.

Encorp retrofitted four existing Caterpillar 500kW natural gas gensets with Encorp Generator Power Controls™ and the Energy Management Center.

Today, the system is completely automated. Once a day, Energy Management Center computers run an automated "health check" to verify all engines are running smoothly. If a health check report is received, everything is fine. If a health check isn't received, or if an engine doesn't start or stops at the wrong time, Encorp's Energy Management Center receives an immediate alarm. Using the Virtual Maintenance Monitor™ software, computers at the Energy Management Center then communicate with on-site equipment to help in the troubleshooting. A paging alarm is then sent to officials at the feedlot with details on the power system. case study The advanced Energy Management Center can alert operators if a problem arises in the genset, when regular maintenance is scheduled and even predict when something could go wrong.

