



Peaking power

> Case History

Cummins Power Generation Headquarters, USA



**Power
Generation**

Our energy working for you.™

Where:

Cummins Power Generation,
Fridley, Minnesota, USA

What:

Five 1100 kW generator sets with PowerCommand®
digital paralleling controls

Purpose:

Provide standby and interruptible power to qualify
for discounted utility rates and offer 100 percent
standby power capability

Primary choice factors:

Ability to reduce energy costs with interruptible
service, availability for customer demonstrations

Interruptible facility generates peaking power and savings for Cummins Power Generation

FRIDLEY, MINNESOTA, USA — Facility owners and operators looking for opportunities to reduce electrical power cost and improve power system reliability often can install on-site power generation equipment for interruptible and standby duty. Cummins Power Generation Inc., a world leader in the design and manufacture of power generation equipment, power systems and power electronics, has operated an on-site interruptible facility since 1992. This facility serves as a demonstration for savings that can be achieved by using on-site power in parallel with a utility for interruptible service. It also shows the function and capabilities of an isolated power supply for standby service.

Larry Day, plant engineering manager, said, “Even at Cummins Power Generation, financial concerns were an important factor in deciding to add an interruptible power system to the facility.” For anyone considering an interruptible system, Day said, it is critical to involve a utility representative from the start, so there is a clear understanding of what rate options are available from the utility.



In addition to providing interruptible and standby power, the Cummins Power Generation 5.5 MW power system is used for customer demonstrations.

Spotlight on the Cummins Power Generation facility

The Cummins Power Generation interruptible power system serves 650,000 square feet of Cummins Power Generation's manufacturing, engineering and general office areas. The system includes five 1100 kW prime-power-rated generator sets that provide the capability to assume 100 percent of the facility's loads at any time. Four of the generator sets operate at 13,800 volts and are connected directly to the main power distribution system for the plant. The fifth unit operates at 480 volts and serves a separate building but can be base loaded to supply power to the general plant grid. As a result, Cummins Power Generation can show how digital paralleling controls allow complex functions, such as those required for interruptible applications, to be achieved reliably and cost-effectively.

Capabilities mean savings

Cummins Power Generation participates in a contract with the local utility, Xcel Energy. The contract requires that the system be operable for up to 150 hours per year, most often during the months of June, July and August. In exchange, Cummins Power Generation receives a peak-controlled, tier one rate from the utility, which generates a corporate savings of between \$250,000 and \$300,000 per year. In addition, the first year in which Cummins Power Generation signed the



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Xcel contract, there was a one-time rebate of \$100 per installed kW. That meant the 5.5 MW system earned additional first-year savings of \$522,000.

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The plan also works in favor of Cummins Power Generation because, in reality, the utility has not often exercised its interruptible option.

Maintenance and operating costs have been low to date. The longest run requirement since the facility's inception has been 106 hours in one calendar year.

The 100 percent standby power capability will prove essential in the event of a utility power failure. However, more savings have been generated with the consistent usage of utility paralleling. So, while demonstrating capabilities for customers, the interruptible operation has truly generated maximum savings from the investment.

For more information about peaking power systems or other energy solutions, contact your local Cummins Power Generation distributor or visit www.cumminspower.com/energysolutions.

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