



Rental Power

> Case History

FirstEnergy Corporation, USA



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Where:

FirstEnergy Corporation, York, Pennsylvania, USA

What:

Rental peaking power and cost-reducing arrangement

Purpose:

Supply up to 103.75 MW of peaking power and overcome transmission problems

Primary choice factors:

Availability of sufficient number of Rental Power units and willingness of Cummins Power Generation to provide power as an independent power producer

Unique peaking power supply arrangement saves Pennsylvania utility millions of dollars

YORK, PENNSYLVANIA, USA — Cummins Power Generation Inc. and FirstEnergy Corporation developed a unique arrangement to share cost savings on 103.75 MW of diesel peaking power to the benefit of more than 4.3 million FirstEnergy customers.

The project shows how Cummins Power Generation develops total power solutions for customers — in addition to providing cost-effective, reliable power generation systems.

“FirstEnergy has about 13,000 MW of generating capacity. The combined utilities in the region currently have a 21 percent surplus over the region’s projected summer peak demand,” according to Jonathan Day, a project manager with FirstEnergy. While there is sufficient generating capacity, transmission capacity is often limited in certain regions of FirstEnergy’s service area, notably around York, PA. “This complicates the utility’s ability to supply the peak demand in that particular region,” he said.



Rental Power units from Cummins Power Generation, ranging from 750 kW to 2 MW, fit easily in substations.



First Energy Corporation and Cummins Power Generation worked together to use on-site Rental Power units for cost-efficient peaking power.

While upgrading the transmission system may ultimately be necessary, installation of temporary peaking Rental Power units as distributed energy (DE) has allowed the utility to defer this construction expense into the future while providing real energy savings to FirstEnergy in the short term.

Unique cost-sharing arrangement

“The first year we did this project, spot energy prices were high, and we simply rented generators from Cummins Power Generation,” said Day. Ninety diesel generators, ranging in size from 750 kW to 1500 kW, were distributed among ten substations in the region. “We decided to leave the generators in place over the winter in case we wanted to do the program the following summer. Over that winter, power prices on the spot market dropped significantly, and we found it wasn’t going to make economic sense for us to continue a standard equipment rental arrangement.”

Under a subsequent arrangement, the Rental Power units remained in place, and Cummins Power Generation agreed to supply the fuel and generate peaking energy when its cost of production was below the cost of power on the spot energy market. The project changed from equipment rental to supplying kilowatt-hours when economics were right for both parties. The parties share cost savings in a ratio that fairly compensates Cummins Power Generation and reduces energy costs for FirstEnergy.

During the first year of operation under the standard rental agreement, the Rental Power units ran for an average of 142.5 hours over 24 days during the hottest part of the summer. In the second year, under the new shared cost-saving agreement, the units ran an average of 180 hours over 35 days.

Lower costs, high reliability

“There was a week in August, 2001, when the price of energy on the spot market was over \$900 per megawatt-hour,” said John Casey, director of rental operations for Cummins Power Systems, Inc., the local Cummins Power Generation distributor. “Our diesel-generated power was \$150 per megawatt-hour, yielding a net savings to the utility of nearly \$2 million for that week alone.”

“The main value of the project to FirstEnergy is that it has reduced our cost of power and increased the reliability of our rental power,” said Day.

FirstEnergy looked at several rental power companies before choosing Cummins Power Generation. “We narrowed it down to two rental organizations, and Cummins Power Generation came through with the best pricing and delivery. They were very cooperative to work with,” said Day.

For more information about Rental Power or other energy solutions, contact your local Cummins Power Generation distributor or visit www.cumminspower.com/rental.

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