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## Heat and power for school district

Cummins Northeast Inc., the Dedham, Mass., distributor for Cummins Inc., recently completed a cogeneration project in upstate New York that is said to be the first grid-independent, cogeneration performance project of its kind in a New York school system. The installation provides the Fonda-Fultonville school district with all the energy necessary to heat and cool its single-campus institution, thus achieving significant energy efficiency and cost savings, Cummins Northeast said.

"This installation represents a major milestone for the Fonda-Fultonville school district, Cummins Northeast and the state of New York," said Brian Balcom, general manager for Cummins Northeast Energy Systems. "In this age of rising costs associated with energy production, cogeneration is a valued solution to combat high prices while providing reliable, clean energy."

The Fonda-Fultonville school project began in 1999 as a capital project in response to rising utility costs and the school district's desire to build new buildings, renovate old facilities, and upgrade the parking lots and athletic fields. As a single-campus institution, Fonda-Fultonville was financially burdened by the electricity necessary to heat and cool all its buildings.

When the capital project exceeded the budget, the school district turned to Atlantic Energy Services Inc. (ESCO), an energy services company, to design a grid-independent, cogeneration project that would guarantee energy savings. Atlantic Energy Services in turn chose Cummins Northeast to provide a reliable, efficient and cost-effective energy solution.

Cummins Northeast is the distributor for Cummins and Onan in New England and Upstate New York. Headquartered in Dedham, it has locations in Buffalo, Syracuse, Albany and Rochester, N.Y., Springfield, Mass., and Bangor and Scarborough, Maine.

"As a result of the Cummins Northeast off-grid project, we estimate that the Fonda-Fultonville school district will save \$275,000 each calendar year," said Glenn Goodale, superintendent of schools. "Instead of spending money on energy, we could now focus on reducing our budget, introducing new social and instructional programs, enhancing our district staffing, and directly impacting the teaching and learning programs."

The power facility itself generates energy at a lower rate through its four, 334 kW Cummins natural gas-fired generator sets and a 1 MW Cummins standby diesel generator set. All of the generator sets are packaged within sound attenuating enclosures. The operation of the gen-sets is through Cummins PowerCommand controls, and the switchgear was also provided by Cummins Power Generation.

While natural gas is consumed to produce electricity, the heat produced from the generator exhaust is routed through Beaird Maxim heat recovery steam generators to produce heat for the building, thus replacing the heat that would have been required from the facility's boiler system. The plant also features a 250-ton Cention absorption chiller that lowers electricity consumption by converting waste heat into chilled water that can be used for air conditioning.

"This off-grid school facility is the largest of its kind between Rochester and Albany," said Chris Cafer, associate at Energy Concepts Engineering PC, the project's engineering firm "It's a substantial undertaking to go off-the-grid for energy, but this is truly the most effective, efficient cost-savings solution to powering, heating and cooling the Fonda-Fultonville school's facilities. By driving the school district's costs down, the installation of the cogeneration plant allows school officials to more effectively manage internal operations and maintenance issues."

Tim Brock, president of Atlantic Energy, called the Cummins Northeast Fonda-Fultonville project, "a real stepping stone."

"We're beginning to see a huge trend in other school districts turning to off-grid cogeneration plants as a means of achieving significant cost savings and increased energy efficiency."

The project has been online since March and to date has generated more than 800,000 kWh of clean power.

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