

Award-Winning Tecogen Cogeneration Installation Yields \$100,000 Per Year In Energy Savings!

Waverly, New York's Junior-Senior High School is lighted, heated, and cooled by its own Tecogen cogeneration plant.

To the one thousand students and staff who use the Junior-Senior High School each day, it simply means the building is more comfortable because the temperature is more consistent. To the administration who worked hard to bring the cogen system on-line, it means savings of more than \$100,000 per year in energy costs. For the almost ten thousand people in the Waverly School District, the new system means that monies for education are not literally "going up the chimney."

The 200,000 square foot, two-story building was, until August of 1990, operated as a totally electric facility. Lighting, water, and space heating depended upon electrical energy purchased from the power company.

Fran Harper of Hunt Engineers and Architects (Corning, New York 607/962-3137) designed the cogen system. Harper and Waverly School Superintendent Walter Cain first discussed the idea of the school generating its own electricity and using the thermal energy by-product in 1986. When a study confirmed a short payback period on the investment, the State Energy Office awarded an Energy Conservation Measure grant of \$365,000, enabling the school district to go ahead with the cogen project.

Major elements of the system that went on-line in August 1990 are:

1. Five Tecogen cogeneration modules convert natural gas into electrical power and hot water. The Tecogen CM-75 modules

each produce 75 kW of electricity along with 470,000 Btu/hr of hot water.

2. The 375 kW of electricity produced powers lights, computers, motors, and other electrically-powered equipment.
3. Piping loops connect the hot water by-product to domestic hot water, new hydronic heaters in each space, and absorption chillers for air conditioning.
4. Cogeneration modules can also run on LP Gas, ensuring the district an option when buying fuel.



5. The system is monitored and adjusted by a sophisticated energy management system, which directs operation of the system as well as distribution of the electricity and hot water it produces.

Construction began in March 1991 and the project was delivered on schedule thanks to real cooperation between the school, Hunt, and the contractors.

The first 36 months of operation have meant \$309,000 in energy cost savings. The savings have exceeded designer Harper's projections and, according to Building & Grounds Superintendent Walt Robbins, are increasing as the

district refines its programming of the system and the actual energy required to run the new system is reduced.

The result? The Waverly Junior-Senior High School has a more comfortable learning environment from a cogeneration system which does a lot more with a lot less.

On October 22, 1993, the Waverly project won the 1993 Governor's Award for Energy Excellence. This award is given each year by the New York State Energy Office and New York Power Authority. The award given to the Waverly School District recognizes achievement in energy-efficiency, innovation, and education.

Since Tecogen introduced the first CM-60 packaged cogeneration module in 1983, a total of 13,000,000 operating hours have been accumulated on over five hundred units. The modules have been installed in high schools, hospitals, athletic clubs, hotels, motels, laundries, nursing homes, and colleges.

These fully packaged systems are available for quick delivery and the proven standardized design enables faster site engineering, permitting low cost installation and start-up, and efficient maintenance.

For more information on **TECOGEN Cogeneration Systems**, please call:

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