

Today, the West View water treatment plant, with Eaton's AMPGARD SC 9000 adjustable frequency drive solution, is a highly efficient operation.

AMPGARD—the compact solution with maximum performance

Location

West View, PA

Segment

Waste water treatment

Problem

Need to upgrade the facility's traditional motor starters

Solution

Eaton's AMPGARD SC 9000 adjustable frequency drives

Results

Transfer pumps are running at optimal speeds, facility is experiencing monthly energy savings, and key process equipment is being protected.

Background

West View Water Authority, a Pittsburgh area water utility, supplies water to 31 municipalities and over 200,000 people in western Pennsylvania. The facility was using traditional motor starters to control two 2000 hp pumps to transfer water from a reservoir to the treatment facility. With the traditional motor starters, the pumps were continuously operating at full speed, leading to significant mechanical stress, frequent water main breaks and significant maintenance expense. The West View team needed an adjustable frequency drive solution that could quickly upgrade their motor control center and generate considerable energy cost savings, while incurring minimal installation cost in the process.

Challenges

In the world of water utilities, equipment is chosen as part of a comprehensive bid process. The West View team needed a partner that could provide a proposal that would rigidly adhere to the strict proposal guidelines and help ensure that all of West View's needs were being met.

The West View team needed a drive solution that could easily fit in place of the motor starters and seamlessly integrate into the existing AMPGARD® control lineup without major demolition. A compact footprint and integrated design with minimal installation costs were critical to the success of the project.

In addition to a compact and reliable drive solution, one of West View's primary concerns was ensuring their facility had local support service. Given the high-availability needs of West View's water utility, the ability to have service personnel on-site within minutes was critical to West View officials.

Finally, successful operation of the West View facility required constant monitoring of water tanks approaching 10 million gallons in size. This required not only a service team capable of providing around-the-clock monitoring, but backup power capabilities to protect against power outages.



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Solution

The West View team turned to Eaton for their medium voltage drive needs:

- The compact design of the AMPGARD SC 9000™ adjustable frequency drive, designed for use at voltages from 2400V up to 4160V, at up to 5750 hp, delivers maximum performance using the smallest medium voltage drive footprint in the industry. The compact design of the AMPGARD SC 9000 enabled seamless integration of two, 2000 hp adjustable frequency drives within the existing AMPGARD lineup with minimal demolition and installation costs.
- The robust, modular roll-in/roll-out design of the AMPGARD SC 9000 inverter provides time and cost savings due to low mean time to repair (MTTR). A proprietary insulation system also protects the inverter components from harsh conditions typical of water/wastewater utilities while minimizing noise pollution at the facility. The robust and highly serviceable design of the AMPGARD SC 9000 met the high reliability and uptime requirements of the West View facility.
- Eaton Electrical Services & Systems (EESS), with factory-trained drive service professionals located in every major city throughout the U.S., was able to pass West View's service requirements with flying colors. The EESS team not only provided the around-the-clock monitoring service West View required, but also installed a standby generator to supply backup power.
- Eaton's state-of-the-art test facility in Arden, North Carolina, let the West View team see firsthand how the AMPGARD SC 9000 was built and tested—they were not disappointed!

Results

Today, the West View water treatment plant, with Eaton's AMPGARD SC 9000 adjustable frequency drive solution, is a highly efficient operation. With the AMPGARD SC 9000, the transfer pumps are now run continuously at optimal speeds, generating over \$30,000 per month in energy savings for the facility. Furthermore, the adjustable frequency drives are protecting key process equipment by reducing the wear and tear on system pumps and motors that can result from the use of more traditional motor starters. Eaton and the West View team have an ongoing partnership that continues to deliver optimal solutions for the facility while creating value with the AMPGARD SC 9000's adjustable frequency drive technology.

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