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## Case History Success Story

### **Precipitator Controls Upgrade Yields Performance Improvements As Well As Advanced Diagnostics & Troubleshooting**

Cheswick is a single-unit, coal-fired electric generation station for Reliant Energy located on an 82-acre site in Springdale, Pennsylvania, approximately 18 miles northeast of Pittsburgh. Cheswick, which began commercial operation in 1970, operates as a baseload facility and has a net demonstrated capacity of 580 megawatts.

Since the plant's initial commissioning, additional environmental control systems have been installed to comply with more stringent emission requirements. Emission controls include an electrostatic precipitator and flue gas conditioning systems to remove particulate matter, and a low-NO<sub>x</sub> burner system to reduce oxides of nitrogen (NO<sub>x</sub>) emissions.

Over the years, the 24 electrostatic precipitator controls used in the Cheswick facility had become quite mismatched, as a result of different repairs and revisions made over time to the aging controls. The various versions of controls resulted in incompatible wiring and resistors as well as a lack of interchangeability with different circuit boards as needed. "We needed to standardize our controls to improve consistency and overall precipitator performance," said plant engineer Bill McGraw.

According to McGraw, the cost to standardize the various controls to essentially the same version and level of performance was almost as much as upgrading to new, more advanced controls. So the Cheswick team decided to partner with Neundorfer, Inc. to upgrade to the MVC-4 voltage controls and version 7.0 of the Precipitator Optimization System (POS) software, both introduced in 2006. The MVC-4 voltage controls build on the proven performance of earlier platforms, adding the benefits of easier installation and service, enhanced safety and improved performance, reducing the amount of precipitator power required to achieve lower emissions.

The Cheswick facility combined and integrated the MVC-4 voltage controls with the graphically oriented POS 7.0 software control system. The POS 7.0 software offers enhanced

diagnostic and troubleshooting capabilities as well as more user-friendly navigation, enabling the Cheswick plant to achieve not only optimized precipitator and emissions performance but also reduced costs and faster problem-solving.

The upgrade process for all 24 Cheswick controls was essentially seamless, delivering a fully functioning precipitator control system with fewer workarounds and inefficiencies. “The Neundorfer upgrades provide us with better ways to monitor and evaluate precipitator performance,” said McGraw. “The real advantage is that we have more robust tools for diagnostics and troubleshooting so we can address any problems quickly and improve our precipitator performance.”



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