

## Spartanburg SC Water Treatment Plant Provides Clean Water and Hydropower

Since 1926 the Simms Water Treatment Plant in Spartanburg SC has been powered in part by energy generated through the release of water – hydroelectric power. In recent years the hydro generation equipment experienced various maintenance issues and fell out of service. The plant owners made a commitment to reactivate energy recovery through refurbishment and upgrading of the water treatment facility. In 2010 the plant broke ground on a \$30million improvement project and as part of that plan engaged Sorensen Systems for a significant aspect of the project associated with energy recovery.

Sorensen Systems engineered and supplied the complete Unit Control System (UCS) in support of the major hydroelectric overhaul allowing Spartanburg Water to utilize the valuable infrastructure for power generation. The scope of supply included hydraulic power units, hydraulic cylinder actuators for turbine wicket gate control Basler digital excitation and rectifying system, turbine control panel, balance of plant control panel, and system programming with field start-up services.

The Spartanburg improvement project is designed to ensure the sufficient long-term water supply essential to supporting quality of life and the local economy. The facility serves 200,000 people as principal and wholesale water supplier for Spartanburg and surrounding counties. By offsetting costs, hydropower generation complements

Spartanburg Water's mission of providing safe drinking water and environmentally sound wastewater treatment while being a responsible steward of ratepayer assets.

Spartanburg Water System's original water plant, Chinquapin Filter Plant, was established in 1887 at 250 Whitney Road in Spartanburg. Privately owned, it went into receivership in 1898. A year later it was purchased by some businessmen with familiar names in the Spartanburg community: John H. Montgomery, Ralph Carson, D. E. Converse, Jesse Franklin Cleveland, and John Bomar Cleveland. They named the business the Home Water Supply Company. On March 25, 1907, a fire started in a house on Forest Street that quickly spread and destroyed over 70 buildings and homes in the Spartan Mills area.

After this "Big Fire" there was great interest among the citizens within the city of Spartanburg to acquire ownership of the water company. In June 1907, after a local referendum, the city of Spartanburg purchased the company. The first Commissioners of Public Works were elected in the spring of 1908. In 1910, Samuel A. Bush was appointed the first General Manager of Spartanburg Water Works. The facility has undergone previous refurbishment work, the last about 40 years ago. The recent improvements will serve the community for many years to come.



*Sorensen Systems designed and built turbine control panels and balance of plant control panels as part of the Spartanburg Water Treatment improvement project.*



*The Spartanburg Water Treatment plant operates two 500 kW turbine generators providing water treatment and power generation to 200,000 consumers including neighboring counties.*



*The refurbishment included new PLC based unit control systems, one per generator, which were programmed and tested at the Sorensen Systems fabrication facility.*

