

CLIENT: Southern Company



BACKGROUND:

Southern Company provides electrical power across the southeast. Many of these plants are located in rural areas with no public sanitary sewage or potable water utilities, with many installed in the 1960s and 1970s. The majority of the sewage treatment plants (STP) were installed in-ground, making them susceptible to corrosion and deterioration. CWS replaced many of these with aboveground STPs and the old STPs were decommissioned, filled-in, and capped with concrete slabs.



PROJECTS:

CWS has assisted Southern Company with the following design/build water and wastewater projects. Every project was completed with no change-orders, on-time, and within budget:

Plant Bowen (Georgia Power Company) – Cartersville, GA, is a coal fired plant capable of supplying electrical power to more than 1.9 million homes. CWS completed the following upgrades for Plant Bowen:

- In 2006, CWS replaced the existing 15,000 gpd in-ground STP with 30,000 gpd aboveground STP
 - Replaced two outdated feeder lift stations with new wet wells, controls, and duplex grinder pumps
 - Installed new influent lift station in place of the abandoned in-ground STP
- In 2013, CWS installed a specialized lift station to support the Water Research Center
 - Wastewater high in dissolved solids and low in pH
 - Very corrosive to conventional pumping systems



Wallace Dam Hydroelectric Power Plant (Georgia Power Company) – Hancock County, GA, is located on Lake Oconee. In 2007, CWS assisted Wallace Dam with replacing the existing treatment plant that discharged to the Oconee River under an NPDES permit. Due to the small number of employees (15), CWS recommended replacing the treatment plant with a passive septic system.

- CWS installed a septic tank system including 2,000-gallon septic tank, dosing system, and Infiltrator® chamber drain field
- Installed new lift station from Administration Building
- Used existing force main as gravity sewer saving costs and excavation of roadway
- Replaced three obsolete air-lift ejector pumping stations located within the dam
 - Each ejector station served a single restroom and was susceptible to blowback into restroom
 - Replaced with fiberglass package pumping system with grinder pumps and new controls

Plant Branch (Georgia Power Company) - Milledgeville, GA, was located on Lake Sinclair. The existing, in-ground 13,000 gpd STP was located adjacent to the lake. Due to limited space and difficult working conditions, it was decided to relocate the new STP across the plant site to an abandoned tank farm. In 2008, CWS replaced the existing STP as follows:

- Installed new 14,000 gpd STP in reconditioned existing ICOP tank farm
- Installed new duplex pumplift station adjacent to existing STP at the lake
- Used approximately 1,000 feet of an existing, abandoned force main that ran across the front of the administration building and then to the existing STP
 - Saved costs and disruptions associated with the installation of a new force main across the front of administration building
 - Used jack and bore to install 200 feet of new force main

Plant Wansley (Georgia Power Company) – Carrollton GA, is a fossil-fuel electric power generating plant with three separate STPs, in addition to several lift stations. CWS completed the following upgrades:

- In 2008, CWS replaced the existing in-ground Service Building STP with a new 10,000 gpd aboveground STP. Upgraded existing air-lift station with duplex grinder pumps and control system and took a second lift station out of service
- In 2009, CWS replaced the existing obsolete Dog Shack lift station with a new lift station including a fiberglass wet-well, duplex grinder pumps, and controls
- In 2013, CWS replaced the Fossil Fuels Tractor House STP with a new, aboveground 2,000 gpd STP. A new influent duplex lift station was installed at the head of the new STP
- In 2016 and 2017, CWS replaced the existing 5,000 gpd aboveground STP with a 7,500 gpd aboveground STP.

Plant Franklin (Southern Power Company) – Smiths, AL, is a combined-cycle and combustion-turbine natural gas power plant. The existing water treatment sludge filter press was obsolete and in poor condition. In 2014, CWS replaced this press with a new press and access platform. The press was elevated to accommodate a roll-off box and located under a new shed.

Plant Harris (Southern Power Company) – Prattville, AL, is a combined-cycle and combustion-turbine natural gas power plant. The existing water treatment sludge filter press was obsolete and in poor condition. In 2016, CWS replaced this press with a new press and platform. The press was elevated to accommodate a roll-off box. In addition, a second conditioning tank was installed to allow alternating press runs from each conditioning tank without interruption in press runs.

