



Project Profile: Control System

COMPANY

Big Rivers Electric Corporation
Henderson Kentucky

PROJECT TITLE

R.D. Green Generating Station
Flue Gas Desulphurization
Control System Retrofit

SERVICES PROVIDED

- Electrical Design
- Software Development
- Construction Supervision
- Construction
- Startup

SOFTWARE

- Allen Bradley Control View
- Control View Data Logger
- Control View Report Generator
- Taylor PLC Programming Software

OBJECTIVES

- Remote control of FGD operations
- Simplify FGD operator control
- Provide graphical process layout
- Provide means to gather and store data
- Reduce number of systems to maintain
- Provide centralized trouble annunciation

PROJECT DESCRIPTION

The R.D Green facility had a fully functional FGD (scrubber) control room, with four operators per shift and four swing shifts. This project transferred the control of the FGD operations to the main plant control room. This allowed the Green Station to reduce the effective manpower required to operate its plant.

The task was to incorporate a new control strategy into the existing plant and equipment. The discrete controls and remote controls were removed, and replaced by a PLC I/O. Due to the critical nature of the process, redundant standby processors and a redundant communication network were used.

TECHNICAL DETAILS

The original scrubber control room contained a large control panel, an analog panel, and ash handling panels for each of their two operational scrubber units. Each unit had remote controls at its fly ash silos at their ash collection hoppers. The panels housed all push buttons, read outs, controllers and other miscellaneous devices.

The controls for the scrubber system were changed from discrete controls on a large panel in the scrubber control room, to a graphical based human interface computer in the main control room. An overview graphical screen displays a block diagram of the major sub-systems in the scrubbing process, in relation to the process.

An overview graphical screen displays a block diagram of the major sub-systems in the scrubbing process, in relation to the process. When any of the sub-system blocks are selected, a graphic screen is displayed with detail concerning each control device within that system. When individual control devices are selected, the control features for that element are displayed for unit operations within a window.