

Client: Southern Company
(Southern Nuclear Operating Company)

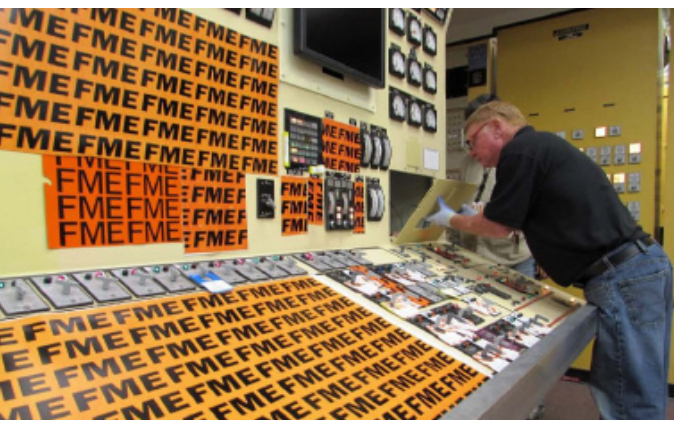
Location: Plant Vogtle - Units 1 & 2

Project Duration: (U1) 4/27/15 - 4/16/17
(U2) 10/1/15 - 11/5/17

Project Value: \$29.3MM

Contract Method: Target Price

Total Man-hours: 453,253



Project Scope

The purpose of the Main Turbine and Feed Pump controls upgrade was to improve equipment reliability associated with the turbine control system due to obsolescence of the existing equipment. Removal of the General Electric (GE) Mark II control system and installation of the new GE Mark VIe digital control system provides all of the existing functionalities and minimizes single point vulnerabilities. Optional scope included in the plan improved the Predictive Maintenance (PdM) program capabilities and increased the reliability of several associated systems.

Project Description

The upgrade in controls for the main turbine and steam generator feed pump turbine was one of the biggest design changes in Southern Company's history. Williams managed the overall project execution of both units, which included:

- 17,900 ft. of conduit run
- 67 miles of cable pulled
- 18,964 terminations, determinations, and spare cables for duration of the project
- 4 new transformers, 2 UPS - 2 battery racks and enclosures for the PEECC building
- 4000 ft. of 3/8" ss tubing with 628 Swagelok joints
- 128 new pressure transmitters installed
- 4 trip manifold assemblies for SGFP's
- 2 trip manifold assembly for main turbine
- New valve positioners for A-B-C-D MSR's
- Main panel and bushing flow stator cooler upgrades
- EHC tubing and pump modifications
- Lube oil control modifications
- Installation of the plant electronic electrical control cabinet in the PEECC building
- TMA platforms
- 606 scaffolds built & removed

Challenges

- Performing work while the units were online.
- Engineering design (by others) was not going to meet the timeline to implement in one outage, which drove implementation over two outages.

Project Highlights

- Creatively managed this project to do as much work online, while understanding key items that needed to occur during first outage which were too risky to do online.
- The project was successfully completed with all cable connections, transmitters and positioners in the right locations and syncing up.
- Completed work during final implementation within schedule and at or below the Target Price.
- Safety performance superior.
- No plant trips or miss positions of components.
- Due to shortages locating qualified craft support, Williams was creative in finding resources from multiple options, which worked out extremely well.