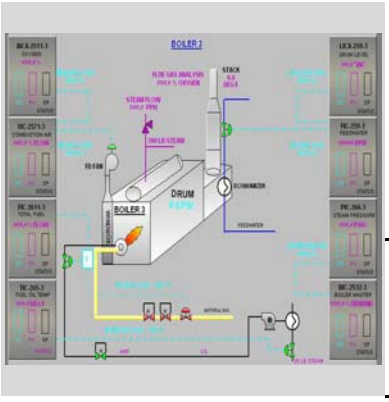
Chemical Manufacturer Upgrades Boiler Control System

MAVERICK provided a turn-key Boiler Control System Upgrade resulting in a reliable control system, improved boiler efficiency and robust equipment operation.



Main Objective

The project objective was to upgrade out-dated Combustion Control and Burner Management System DCS control platforms to a state-of-the-art PLC-based control system to improve reliability, safety and efficiency. The customer required a turn-key solution to minimize downtime and ensure seamless integration of the design, configuration, demolition and installation for four boilers.

Customer Results

The customer gained a robust Combustion Control and BMS system to operate their boilers at the maximum efficiency through a reliable, safe and intuitive control system.

Application Description

- GE Fanuc Rx3i Control System Platform using redundant processors and VersaMax I/O. GE Fanuc Cimplicity was developed for the operator interface.
- MAVERICK performed a site survey at the beginning of the project to clearly understand the existing system, limitations, design requirements and control system expectations.
- Control System Design efforts included full PLC panel design, including detailed documentation on I/O wiring and Loop Sheet development.
- SAMA drawings were developed for the Combustion Control System and Logic Diagrams for the Burner Management System.
- PLC programming was developed based on the SAMA/Logic Diagram engineering utilizing redundant processor configuration and standard industry practices for long term customer maintenance.
- A formal Factory Acceptance Test was held at a MAVERICK facility with extensive customer involvement to demonstrate the control system prior to field activities.
- Control panels were fabricated and installed in existing panel enclosures during boiler shutdowns. Existing control system hardware was demolished and removed to allow continued use of enclosures.
- Thorough loop checks, field wiring and instrumentation functionality was verified during coordinated shutdowns. A detailed Site Acceptance Test was completed for each boiler, demonstrating complete system functionality.
- Extensive efficiency studies were performed on each boiler to develop efficiency curves and determine the operating parameters for maximum efficiency.

The MAVERICK Difference

MAVERICK's depth of highly talented resources was highlighted during this project, demonstrating the turn-key capabilities and value provided by an experienced, established organization.

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