

Precious Metals Recovery Plant Upgrades Cementation Process

A chemical company turned to MAVERICK for control system upgrades for the cementation process of a precious metals recovery plant.

Objective

The cementation project upgrade objective was to provide modular recipe-based control of four reactors and six blend tanks based on ISA88 standards. This facilitated future changes and additions and made all process actions traceable for quality analysis and troubleshooting. The project replaced existing PLC-5s® and Wonderware® HMI with ControlLogix® PLCs, FactoryTalk® Batch software and FactoryTalk View HMI.

Results

Using MAVERICK's Project Complete® methodology, the development of the system proceeded smoothly. All systems were implemented and are currently operating with high functionality and reliability.

Solution

Using the existing piping and instrumentation diagrams (P&ID) and sequence of operations documents, the MAVERICK team developed control narratives and defined batch units, equipment phases and eProcedure® phases.

The project replaced existing PLC-5s and Wonderware HMI with ControlLogix PLCs, FactoryTalk Batch software and FactoryTalk View HMI.

All new PLC code was developed in ControlLogix using modular techniques based on the ISA88 batch standards. Phase Manager™ was utilized to communicate with FactoryTalk Batch.

The PLC-5 I/O was migrated to ControlLogix through a ControlNet interface. The BASIC module was removed and replaced with an Ethernet interface to two floor scales, three portable scales and three high precision scales.

All PLC programming objects are compatible with the global engineering modularity standard (GEMS) from Rockwell Automation® to provide a system control and HMI product consistent with the existing systems.



MAVERICK integrated all new alarms and events into the existing VantagePoint® server.

The existing DeviceNet network was modified to incorporate new valves that were added for process modifications.

MAVERICK performed integrated off-site software testing of the PLC and HMI to ensure smooth commissioning.

Development of the commissioning plan included integration with existing shared resources, minimal downtime and appropriate back-out plans.

Deployment and commissioning efforts were performed by the same MAVERICK resources involved in the design and/or programming and testing of the systems to ensure continuity of effort and knowledge. In addition, MAVERICK provided technicians to assist in loop checks and instrument calibration.

The MAVERICK team provided operator and maintenance personnel training on FactoryTalk Batch and eProcedure.

The MAVERICK Difference

MAVERICK's familiarity with batch processing and the ISA88 standard helped the team achieve all project goals quickly and efficiently. MAVERICK developed the systems following industry and customer standards, providing a system that is both highly reliable and easy for the customer to maintain.



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