

Natural Gas Company Adds Rail Car Loading / Unloading Racks

A large natural gas midstream transportation and processing company turns to MAVERICK for a solution to add rail car loading / unloading racks on a fast-tracked project.

Objective

The natural gas industry is experiencing a renaissance, one that requires quick responses to market conditions. A large midstream company relied on MAVERICK to provide controls system cause and effect diagrams, control panel design validation, system programming, factory testing, commissioning and overall project management of controls-related subcontractors to meet an aggressive project schedule.

Results

MAVERICK served as the main automation contractor (MAC), managing all parties and self-executing the project plan to completion. The project was completed within the required timeframe for orders to be delivered by rail upon completion.

Solution

The rail loading and unloading rack project included generation of system documentation, controls programming (PLC / HMI), hardware demonstration testing, software demonstration testing and commissioning. The system consisted of six rail loading racks and one rail unloading station.

Using the P&ID diagrams and sequence of operations, MAVERICK controls engineers developed a cause and effect matrix.

MAVERICK developed control panel hardware factory acceptance testing (FAT) procedures and executed the FAT as the owner's representative for control panels provided by a third party. The team also completed certified testing of all panels before the release to site.

MAVERICK's development team developed PLC control logic utilizing the customer's standard ControlLogix® add-on instructions (AOI). The logic structure was developed with appropriate infrastructure to account for the plant's overall control system planning which includes provision for a Yokogawa DCS as the overall basic process control system (BPCS).

The system provided PLC integration with TopTech LMS (ticket system).



MAVERICK's development team developed Wonderware HMI displays to integrate into the existing Wonderware system. All tags were configured to interface with existing Wonderware Historian.

MAVERICK performed integrated off-site software testing of the PLC, HMI and future Yokogawa interface 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, 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.

MAVERICK was assigned as the owner's representative and was tasked with overall project management for all control-related aspects of project. This included management and coordination of the owner's previously chosen subcontractors for process design, instrumentation design, panel design and fabrication, installation and commissioning.

The MAVERICK Difference

MAVERICK's ability to provide cutover / commissioning planning as well as overall management of the controls-related subcontractors minimized risks associated with tie-ins to existing running systems. Our Project Complete® methodologies promoted clear and concise communications and documentation transfer throughout the project to maintain the highest quality in a timely manner.



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