

Major Oil Refiner Migrates to a New DCS Platform

A major oil refiner partnered with MAVERICK to support a six-year program to migrate multiple refinery business unit process areas.



Main Objective

The refiner partnered with MAVERICK on a multi-million dollar long-term program to systematically migrate its process areas from the existing Honeywell TDC3000 platform to a Yokogawa Centum VP DCS system.

Customer Results

The MAVERICK team has completed one migration project to date for this program, commissioned during a 3.5-month hot cutover, which minimized disruption to production. The customer has deemed the project a tremendous success from all aspects including safety, schedule, budget and quality. The second and third migration projects are lined up to follow suit.

Application Description

- The program to date includes three area migration projects along with two capital projects for a total of 10,000 I/O points. The turn-key DCS migration projects convert the system from Honeywell TDC3000 to Yokogawa Centum VP, including approximately 1,000 new foundation fieldbus instruments and 500 foundation fieldbus DVC positioners.
- The MAVERICK team begins each effort of the program with a front-end engineering and design (FEED) study to develop a detailed project execution plan, +/-10% estimate and a resource-loaded critical path integrated schedule, which is then utilized by the customer to support funding.
- During the course of the FEED study, MAVERICK works with multiple contractors to develop a baseline scope and cost along with appropriate levels of progress reporting of critical deliverables to support the execution phase of each project. The project estimates are reviewed by Independent Project Analysis (IPA), as well as independent estimate and schedule assurance teams to ensure that stringent customer guidelines are met.
- MAVERICK manages all aspects of the program, including working closely with the customer on safety, contracting strategies, procurement planning, constructability, quality, execution planning, scheduling, contingency and budget. Weekly project meetings held with project stakeholders are critical to keeping the projects on track and within budget.
- MAVERICK works seamlessly as part of the customer's organization, coordinating efforts with other capital projects that have external dependencies on the migration program.
- Our project managers work in alliance with the DCS vendor to provide a state-of-the-art DCS system, working directly with them on scheduling hurdles and changes.
- Each migration project includes reverse-engineering the DCS configuration and the introduction of standards to streamline the applications. The configurations are reviewed, thoroughly tested and simulated prior to commissioning.
- The system engineering also includes migration and configuration of a Triconex Modbus interface, PI interface, DMC interface, Bentley / Analyzer Modbus interface, creation of a Honeywell to Yokogawa OPC interface and an asset management system, along with many other applications.
- The MAVERICK team provides all design for the project, including installation packages, updated P&IDs, instrument location plans, loop sheets, instrument specs, cabinet and rack room layout drawings, architecture drawings, network design and power and heat calculations. Additionally, an operator training system, hot spare system and I&E training system are designed, developed and installed for each project.
- MAVERICK provides a majority of the installation and field commissioning support as a separate contract to each project. The installation includes all tray, tray covers, conduit, cable, duct banks, junction box installation, power, grounding, stanchions and field commissioning of new instrumentation and positioners.
- Contracts with civil engineering, environmental and survey teams are required through the course of the program.

The MAVERICK Difference

Our refining process knowledge, DCS migration expertise and field services capabilities enable us to bring the right solutions to this program to ensure successful project completion.

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