Qatar Petroleum upgrades to Industrial IT Control, Asset Management--with no downtime

In a processing plant, profits depend on both production decisions and asset decisions (maintenance schedules, resource allocations). When Qatar Petroleum upgraded their process control system, they chose ABB’s Operate IT, giving both operators and managers the tools to maximize profits.

Client: Qatar Petroleum
Location: Mesaieed Industrial City, Qatar
Scope of Work: Commissioning and upgrade of NGL 3 plant with Industrial IT technology

“ABB’s Industrial IT technology will allow Qatar Petroleum to develop true Asset Optimization.”

ABB Spokesperson

ABB knows that new technologies affect the entire enterprise, from the control room to management offices. At Qatar, we worked closely with technical staff to ease the change-over to Operate IT. Our training programs gave operations staff confidence in the new control system. Now, we’re helping Qatar’s management exploit the asset management potential of Industrial IT technology.

Qatar Petroleum’s NGL 3 plant feeds many downstream units at Mesaieed Industrial City, an industrial area dedicated to world-scale petrochemical production. When Qatar decided to upgrade the plant’s operator platform to ABB’s Operate IT, they asked ABB to complete the upgrade during a routine shutdown of the NGL 3 plant, performed once every four years. They wanted to prevent any interruption in NGL 3 production that would affect the downstream units.

ABB handled the entire design, engineering and software development off-site. We made sure the operator system was ready for the plant’s scheduled shutdown by performing a 100 percent integrated factory acceptance test before shipment. During the upgrade, about 7000 tags were changed from the existing operator interface system and 400 three-dimensional process graphics were developed, replacing the previous two-dimensional graphics. The network communications modules and tools were also upgraded. ABB installed the Operate IT consoles in a fully operational plant and performed a hot cut-over. The upgrade was completed smoothly, one full month ahead of time and with very little downtime.

Operate IT is ABB’s advanced operator interface in the Industrial IT suite of products, applications and solutions. Based on a Windows platform, Operate IT
combines process control with advanced software functionality. It provides a unified user interface for accessing enterprise-wide data and for launching multiple applications from any connected workstation in the plant or office.

A key feature of Operate IT is Aspect Objects, which shows plant data and plant components as configurable software objects. Each object carries a range of related information that makes the object instantly recognizable to plant-wide information networks. With Aspect Objects, plant information is deployed rapidly and uniformly, so that personnel throughout the enterprise view the business through the same real-time “window.” Information can come from a variety of applications and is made available in real-time to any authorized user, regardless of location.

To help Qatar Petroleum realize the full potential of Operate IT, ABB conducted five weeks of on-site simulator and software training. Both operators and their supervisors (thirty-six staff members) attended the process control and system overview courses. Another twelve technicians and engineers attended courses explaining the engineering tools, system configuration, and installation and maintenance.

Operators were trained on a simulator that showed the exact custom graphics and control logic they would confront in the real control room. They practiced system navigation, calling up trends, and configuring and filtering event pages, among other tasks. The simulator also introduced trainees to the overall client/server networking architecture. As a result, the Qatar Petroleum staff gained confidence in themselves and expertise in the new technology.

According to an ABB spokesperson, “ABB’s Industrial IT technology will allow Qatar Petroleum to develop true Asset Optimization, enabled by ABB’s Aspect Object capabilities. The Operate IT platform will allow Qatar Petroleum to take advantage of all Industrial IT benefits including unmatched fieldbus technology—a true enabling technology for Asset Optimization.”

Asset Optimization includes:
• Higher asset effectiveness and reduced maintenance costs (increase profitability)
• Increased availability, increased output and reduced quality losses (overall equipment effectiveness)
• Improved coordination of asset availability and production strategy
• Reduced conversion costs
• Higher return on investment (ROI)
• Increased return on assets and capital (RONA/ROCE)

All of those benefits are now available to Qatar Petroleum through strategies and technologies that are part of the Industrial IT portfolio.

For more information visit us at: www.abb.com/petroleum

Automation Technologies Division
Petroleum and Chemicals Business Area
Gulf Hub
P O Box 45710
Abu Dhabi
United Arab Emirates
Telephone: 00 971 2 6264062

Printed in the U.S.A. © 2003 by ABB Inc.