

Integrated Oil and Gas Technologies Essential for Maximizing Production

■ Integrated systems and solutions help oil and gas companies extract greater value from their investments.

CONTRIBUTED BY EMERSON AUTOMATION SOLUTIONS

In an ever-changing business environment that's characterized as much by its market volatility as by its high-reward potential, producers now more than ever must find new ways to remain competitive and drive profitability. While indications of increasing capex offer reason for optimism, overall capital investment is still restricted, and cost-containment initiatives remain a priority.

Oil and gas producers continue to feel the brunt of this price downturn. There's no consensus on the future of commodity prices, only that oil prices are expected to be lower for longer. Compounding the problem, existing wells are producing less oil, and many operations are largely inefficient. For producers looking to overcome these challenges and remain financially viable, maximizing project investments as well as production from existing assets is critical.

These aren't small tasks, but they are possible with a strategy that boosts operational performance through improvements in reliability, production, safety and energy, effectively enabling producers to do more with less. Those improvements can translate into significant business gains. For example, producers who rank in the top 25% of their peer companies when compared to the industry average experience two weeks of extra production each year because of increased availability and reliability of their assets, 20% lower operating costs and three times fewer safety incidents. For a "normalized" \$1 billion hydrocarbon project investment, top-quartile producers completed their projects in half the time and half the cost of their bottom-quartile peers.

Reaching those levels in the oil and gas industry requires a fully integrated systems and solutions approach that ultimately reduces barrel of oil equivalent costs through increasing availability of assets, increasing barrels produced by existing assets and increasing proven reserves through better reservoir insight and management.

Given the challenges faced by today's producers, such an approach should include technologies that extend well life, offer effective flow control, provide real-time accurate subsea downhole measurements and enable more effective management of wells with minimal manpower and improved safety. Specifically, gas-lift optimization software, integrated well-testing solutions and



Emerson's automation upgrade enhances the reliability at the Malampaya natural gas production and processing facilities run by Shell Philippines Exploration B.V. (Photo courtesy of Emerson Automation Solutions)

remote monitoring technologies are enabling oil and gas companies to maximize production operations.

Gas-lift optimization software provides increased control over gas injection and is becoming increasingly critical to ensure that a field or platform is producing the most oil and gas possible under given constraints. Producers can over-inject by as much as 20% and incur significant costs because they lack confidence in the reliability of their systems. This is largely because of a lack of accurate and timely production data from well tests.

Despite the need to produce more hydrocarbons from existing reserves, today's well- and production-testing technologies suffer a range of limitations, but integrated well-testing solutions are providing operators with a more effective means of production management. With the ability to effectively automate every aspect of testing, these integrated solutions provide increased insight into a reservoir for better production decisions. They generate and deliver accurate data faster than manual approaches and utilize specific field variables not ac-

counted for by traditional testing technologies, which are often deployed on an ad hoc basis.

For companies adapting to reduced workforces and needing to ensure essential skills and knowledge are not lost, remote monitoring technologies and services are helping them manage fewer and less-experienced personnel by retaining knowledge through the movement of data, not people. These technologies ensure effective monitoring of essential equipment, reduce the risk and cost of transporting workers to remote environments, reduce the number of personnel in high-risk and high-cost environments, and ensure a workforce is focused only on the wells and facilities that need attention.

By adopting an integrated systems and solutions approach that leverages the industry expertise, consulting services, comprehensive automation technologies portfolio and new Industrial Internet of Things solutions offered by providers such as Emerson, oil and gas companies can extract greater value from their investments and drive profitability in any business environment. ■

KOC Seeks Partners in Search for Offshore Resources

■ New initiative includes formation of an offshore drilling committee to evaluate potential joint ventures.

CONTRIBUTED BY KUWAIT OIL CO.

Kuwait Oil Co. (KOC) has been a pioneer in new and advanced technologies throughout its areas of operation. However, this work has been limited to onshore activities with very little practical development of offshore activity throughout the company's history.

This might soon change, as KOC recently decided to move forward with plans to develop the prospect of offshore oil production. In this regard, the KOC Offshore Drilling Committee was formed with the responsibility to conduct necessary studies, develop plans, schedule meetings with specialists and conduct field visits to learn more about the latest in offshore drilling technologies, processes and trends. Company officials hope this new initiative will allow KOC to

safely explore for oil offshore, which is a significant component of the company's 2030 strategy.

KOC is dedicating its resources to determine what best practices exist for marine exploration activities. Part of this search requires KOC to look into how companies from around the world with years of offshore oil exploration experience conduct their respective businesses. In addition, the committee is also interested in how energy companies with offshore oil exploration contracts govern their relationships with third-party contractors or governmental bodies that hold jurisdiction over offshore areas.

While KOC realizes there is a long road ahead in terms of moving from the planning stage to actual production, several accomplishments have been registered by the company in terms of its offshore production initiative. For one, the newly established Offshore Drilling

Committee is working tirelessly to determine what, exactly, will be required for the company to take its first steps into the production phase. In addition, KOC has also recently initiated a 3-D seismic survey of Kuwait Bay, where future offshore production is expected to take place.

Research and preparation is a necessary component of the process that will ensure KOC is provided with the best information before fully committing to offshore oil exploration activities. In this regard, close attention must be paid to contractual considerations, and learning how other companies have moved forward with these types of contracts will provide invaluable information to the company. KOC is actively seeking partners from the oil and gas industry to join the company in its historic bid to develop its offshore assets. ■