Expro Excellence

Early Production Facility (EPF) with zero flaring for Remote Wells in North Africa

Well Flow Management | Well Testing

Objectives and background

- An operator in North Africa was facing significant challenges in monetizing remote oil wells production due to a lack of pipeline infrastructure for export
- These wells presented logistical difficulties in deploying personnel, maintaining process control, and ensuring continuous production monitoring
- The operator required a fast-tracked production solution capable of handling 50,000 barrels of oil per day (bbld) and 60 million standard cubic feet of gas per day (MMscfd) while minimizing the need for on-site personnel
- Expro was commissioned to design, plan, and deliver a dual-train EPF system, implemented in phases to expedite production and address the operator's unique challenges

Expro Excellence

- **Phase 1:** The first oil was achieved via the deployment of the first production train using Expro's fleet equipment. This first train not only allowed the operator to gain early production and cash flow but it was implemented with the ability to increase the production site capacity without production shutdown
- **Phase 2:** The second train, equipped with gas export compressors was integrated with the first train without any production interruption. The combined trains allowed additional wells to be connected to the production facility whilst eliminating associated gas flaring through the export gas compressors
- Expro enhanced the EPF's operational control through a Programmable Logic Controller (PLC) system and EdgeX Data Acquisition, providing centralized data management, remote monitoring, and real- time control capabilities. The integration of satellite communications and automation technologies ensured continuous oversight with minimal on-site presence

Value to the client

- Rapid deployment of fast- tracked EPF increased oil production by 50,000 bbld from remote, previously inaccessible wells, delivering immediate cash flow.
- Gas compression of 60MMscfd of produced gas eliminated unnecessary flaring, providing a sustainable production of hydrocarbon resources
- Efficiency and cost reduction: Automation through PLCs cut labor costs by 20% and process efficiency improvements led to a 30% reduction in energy consumption. This combined benefit of reduced costs and eliminating flaring contributed to the project's sustainability
- Real-time monitoring: EdgeX system enabled quick anomaly detection, troubleshooting issues and data-driven decisions. This was crucial for maintaining operational efficiency and reducing downtime
- Improved safety: The implementation of PLC-based control systems improved safety through the execution of complex safety logic and interlocks designed to prevent accidents and unplanned shutdowns. The system enabled remote diagnostics and monitoring, simplifying maintenance and troubleshooting to optimize facility uptime

Operational efficiency

Decreased costs

Lower carbon footprint