

# Production Life Cycle Management Service Averts Multiple Workovers and Saves USD 13 Million, Offshore Cameroon

24/7/365 remote surveillance and control with emergency shutdown capability enable ESP and PCP optimization at distant wellsites

**In a mature oil field offshore Cameroon, there are several platforms where gas lift is the primary artificial lift method; however, increasing water cut prompted installation of ESPs and PCPs. By implementing the Lift IQ\* production life cycle management service, the operator averted 13 pump failures over 4 years, saving USD 13 million in workover costs.**

### Operator's concerns

After installing ESP and PCP equipment, flowline issues, power shortages, and hardware malfunctions at the remote wellsites caused significant downtime. In addition, high temperature, high vibration, and high electrical loads placed considerable stress on pump components, reducing run life and causing failures. Rapid intervention was therefore necessary to take corrective action and protect the pumping system, including temporarily shutting it down if necessary. However, mobilizing the required expert to the remote sites was expensive and time-consuming and raised security concerns.

In addition, the existing SCADA system transmitted only tubinghead pressure and temperature data and had no historian to enable postprocessing data and capturing lessons learned. To overcome these challenges and reduce or eliminate delays, the operator required a robust 24/7/365 real-time solution that could be integrated into the existing infrastructure.

### What Schlumberger recommended

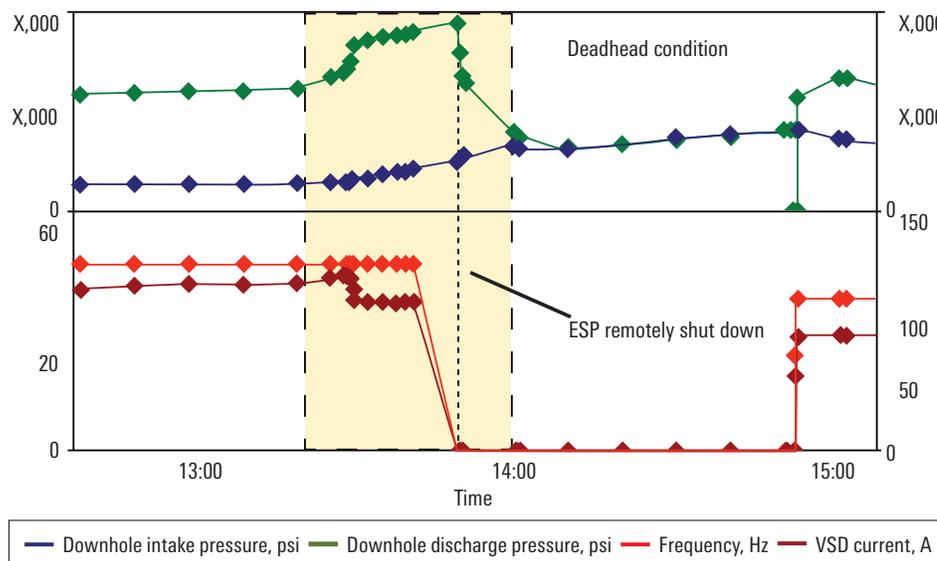
Lift IQ production life cycle management service enables real-time monitoring and surveillance of artificial lift equipment for quick remediation during adverse events. One of the objectives of real-time monitoring and surveillance is to prevent ESP shutdowns. The physical trips set on operating parameters at the wellsite controller are relaxed, which allows enough time for the surveillance engineers to observe, notify, and intervene on an undesirable event. If the event can't be rectified, the ESP can then be remotely shut down.

Experienced engineers at the Schlumberger Artificial Lift Surveillance Center (ALSC) in Inverurie, Scotland, monitored and analyzed data simultaneously from all the wells. The service includes a historian, so the engineers also had access to historical records to further improve diagnoses.

Recommendations to optimize performance, resolve issues, and avoid downtime were relayed directly to field personnel, and as agreed with the operator, the ESP was shut down in cases where ESP or PCP failure was imminent.

### What the operator achieved

Over a 4-year period, the Lift IQ service prevented 13 ESP and PCP failures, saving the operator USD 13 million in workover costs. Remote interventions have also lowered HSE risk by reducing mobilization to offshore platforms.



*On one occasion, the discharge and intake pressures on several wells started increasing at 13:20. The ALSC called the control room at 13:35 and was advised of a shutdown at the process plant, which was stopping incoming flow from upstream satellite platforms. By 13:45 most wells had returned to normal, but the pressures on the well shown here continued to increase. The operator advised the ALSC that the platform had shut down and the ESP was pumping against a closed valve. Because the platform was unstaffed, the ESP was shut down remotely at 13:49, averting ESP failure due to deadheading until a crew could remedy the situation.*

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