ESP system for high-temperature applications

Built on the Schlumberger REDA Hotline550 electrical submersible pump (ESP) system, the REDA HotlineSA3 high-temperature ESP system incorporates a newly integrated design that effectively extends the ESP operating envelope and run life. The system can produce from wells with bottomhole temperatures up to 250°C (482°F), thus enabling the installation of the ESP at the early stages of development.

Reduction of sub-cool and steam oil ratio (SOR) is achieved with integrated surveillance and control through fluid pressure, temperature, and internal motor measurements. The new ESP system enables operators working in high-temperature applications – steam-assisted gravity drainage (SAGD), steam floods, in situ combustion, and geothermal – to improve economics through increased recovery and the ability to begin producing earlier, while also reducing downtime and intervention costs.

The REDA HotlineSA3 has passed extensive testing while running at maximum-rated temperatures, including strict third-party qualifications and extensive field testing in SAGD fields throughout Canada and steam flood fields in Oman. According to Schlumberger, the system has logged more than 2,000 combined cumulative running days for eight operators. Individual units have exceeded 250 days at the highest rated temperatures to date. www.slb.com/hotlinesa3.