

Emerson's Smart Wireless Solutions Improve Wellhead Monitoring at BP Wytch Farm

BENEFITS

- Self-organizing wireless network was easy to install and highly reliable in crowded metal wellhead environment of onshore of oil field
- Continuous monitoring eliminates the need for daily visits to the wellhead and enables unusual readings to be identified earlier and action taken



CHALLENGE

As part of a drive to improve operations, BP wanted to increase available information, improve worker efficiency, and remove the need for operator rounds. Manual reading of pressure gauges on the wellhead was identified as one area that could be improved, but wired transmitters were simply too expensive due to the wiring infrastructure needed.

SOLUTION

The Smart Wireless network installed on one of the wellsites at Wytch Farm includes 40 wireless Rosemount® pressure transmitters. Two transmitters are mounted on each wellhead and a single Smart Wireless gateway, mounted outside the process area, connects the transmitters to the control system. Data is collated in a PI historian database with the information used for regular maintenance and safety reports.

RESULTS

Emerson's Smart Wireless transmitters enable continuous monitoring of the wellhead pressure. Unusual readings can be identified earlier and action taken to investigate and rectify faults before they develop into serious problems.

Installation was quick and easy. It took less than eight hours in total (spread over two days) to complete including removal of all the old gauges, replacing them with the Rosemount wireless transmitters and performing a three-point manual calibration check on every device. All devices were on-line within 30 minutes.

The wellhead area was fairly open on one side but had cable trays, dense pipe work, and other metal obstructions on the other side, shielding some of the transmitters from the gateway location. Despite this challenging environment, as each transmitter was powered up, the devices found the gateway and the mesh was established. As new devices were added, they quickly and easily joined the self-organizing network. Signal strength and consistency during the operational period has been excellent.

“Wytch Farm has been a critical pilot project for BP to see if self-organizing wireless mesh technology would be suitable for other similar projects. Following the success of this installation, BP is planning to install Emerson Smart Wireless transmitters in similar applications on offshore platforms.”

Chris Geen
BP Manager