

Black Elk Energy Utilizes OleumTech Wireless Sensor Network System: Enabling Wireless Pressure and Temperature Monitoring at Offshore Production Sites

CHALLENGE

Black Elk Energy needed a new, more cost-effective method for receiving data in real-time from offshore production sites and monitoring production process variables such as flow, temperature, pressure, and valve monitoring.

SOLUTION

Black Elk Energy commissioned the Wireless Sensor Network System by OleumTech

Wellheads:

To monitor both Tubing and Casing pressures, a Wireless Pressure Transmitter with multiple Analog Inputs per Wellhead was installed. To monitor flow line temperatures, two Wireless RTD Temperature Transmitters were also installed. A Wireless Discrete Transmitter was used to monitor the valve position.

3-Phase Separator:

Two Wireless Flow Totalizer Transmitters were installed to totalize the volume of water and the volume of oil from the test separator.

To the PLC:

The Base Unit Wireless Gateway was deployed to receive the signals from the Wireless Pressure, RTD Temperature, Discrete and Flow Totalizer Transmitters. The Base Unit's Serial Communication Port (RS485) was used to connect to the platform PLC.

BENEFITS/ADVANTAGES

- OleumTech Wireless Transmitters are battery-powered (up to 10-year life) and intrinsically safe to use in hazardous locations. Have RF range of up to 7500 ft using 900 MHz transmitting signals to a Wireless Gateway.
- Wireless Pressure Transmitters can read up to four pressures with one transmitter.
- The System helped improve worker safety and minimize the high labor cost of electricians as well as costly conduit and wiring.
- The System monitored process conditions 24/7 therefore reducing the time associated with physically monitoring the wellheads.
- The System drastically reduced labor, installation and maintenance costs especially when deployed in multiple wellhead locations.

RESULTS

The OleumTech Wireless Sensor Network System wirelessly enabled continuous monitoring of pressures, temperatures and flow rates. Therefore, it eliminated the need for daily visits to the wellhead to manually record data readings. This continuous monitoring enables wellhead processes to relay data back to the operator consoles in the control room. This allows unusual readings to be identified early and actions to be taken before an event develops into serious problems. Following the successful installation of the OleumTech System, Black Elk Energy is planning to implement the System on additional offshore platforms operating in various locations.



