

Insight from Smart Wireless Solutions Prevents Shutdown at Major Refinery

BENEFITS

- Wireless pressure transmitters provide plugged filter detection on critical coker unit pumps
- Smart Wireless provided a cost effective solution that would improve measurement reliability and maintenance productivity
- Coking operation availability was improved

CHALLENGE

Plugged filter detection is critical to preventing damage to pumps. Previously, the refinery was using older generation pneumatic transmitters which required manual gauge readings to detect loss of suction. These devices were prone to error and required extensive maintenance. The customer wanted a technology to bring reliable and repeatable pressure information into the control room as an early warning system from six locations at the refinery. Wiring the points was not cost-effective and the customer did not want to run new instrument wiring and power lines to these pump filter applications.

SOLUTION

Emerson delivered Rosemount 3051S Wireless Pressure Transmitters and a Smart Wireless Gateway. The pressure transmitters were installed in the Coker Unit, monitoring all of the filter areas. The devices communicated through the Smart Wireless Gateway back to the control room.

RESULTS

After installation of the network, when a filter started to plug, the transmitter information was relayed back to the legacy host which indicated an alarm. The filter unit was shut down prior to the filter completely plugging, which would have caused a process upset, leading to a shutdown. The filter was then cleaned and put back in a matter of hours, resulting in huge cost savings and a significant reduction in downtime, since replacing a filter pump takes three days. Overall, the reduction in labor costs, reduced operating and maintenance costs, and improved throughput rate at each filter added up to a total savings of \$80,540 for the customer.



“[Insight] from predictive wireless filter plugging alerts prevented a shutdown. Operators were able to shut down the pump, clean the filter and get it back on line in a matter of hours. If the alerts were not present, the filter pump would have been damaged and would have needed to be completely replaced.”

Project Manager
Major Refining Company