

Nynas AB Reduces Installation Costs of Storage Tank Monitoring System Using Emerson's Smart Wireless Technology

BENEFITS

- Installation costs € 10,000 (13,500 USD) lower than wired alternative
- Online monitoring identifies blockages earlier

CHALLENGE

Nynas AB produces premium naphthenic specialty oils and quality bitumen. At its Nynäshamn refinery in Sweden, underground storage tanks containing crude oil are monitored for unequal vapour pressures, which can indicate potential blockages in the pipes that connect the tanks together. The existing ageing analogue pressure switches, which only indicated when set levels had been exceeded, were due to be replaced. When a signal cable on one of the switches failed, Nynas decided to upgrade to an online solution that would bring storage tank measurement data directly into the plant's control system and help identify blockages much earlier. The tanks are located a considerable distance from the control room and new cabling would have been required to connect to the remote devices. Furthermore, Nynas wanted to replace two existing mechanical servo gauges. The cost of this was prohibitive so Nynas looked at the benefits of using wireless.

SOLUTION

With no line of sight between the location of the pressure transmitters and the ideal position for the gateway, Emerson's Smart Wireless self-organizing technology was selected to connect the devices. Three Rosemount® wireless pressure transmitters provide measurements from the storage tanks to identify unequal vapour pressures in the different sections. Data is transmitted every 60 seconds to a Smart Wireless Gateway located 650 metres from the pressure transmitters. The gateway is connected to Emerson's DeltaV™ digital automation system using Modbus communications. A further two wireless transmitters act as repeaters providing additional routes for the data and ensuring reliability of connection. In addition, Rosemount Rex radar level gauges, equipped with Smart Wireless THUM™ Adapters were installed to replace two existing mechanical servo gauges, thereby avoiding the need for expensive cable installation.



“Using Emerson’s wireless solution we have been able to significantly reduce the cost of upgrading the pressure measurement to an online system. Installing new cabling would have cost € 10,000 more than the wireless solution.”

Morten Hansen
Instrument Manager, Nynas AB



Rosemount® wireless pressure transmitters provide measurements from the underground storage rooms.

RESULTS

Nynas was able to significantly reduce installation costs, with the wireless installation costing €10,000 (13,500USD) less than a wired solution. Installing the Emerson devices onsite was easy and it took less than a day to complete the configuration and start-up procedure. The move to an online monitoring system is enabling Nynas to identify any blockages to pipes connecting the storage tanks much earlier than before.

“Installing the Emerson devices onsite was relatively easy and it took less than a day to complete the configuration and start-up procedure.”

Morten Hansen
Instrument Manager, Nynas AB

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