

Petrochemical Manufacturer Improves Virgin Nafta Production with Guided Wave Radar Interface Measurement

RESULTS

- Reduced maintenance costs
- Reduced unscheduled downtime
- Increased the safety of plant personnel



APPLICATION

Virgin Nafta Separator Tank Interface Level

CUSTOMER

A large Petrochemical Manufacturer in Europe

CHALLENGE

This Petrochemical Manufacturer had challenges maintaining productive separation of Nafta from water in the horizontal separator tank. Nafta is a feedstock used to produce polymers.

Unreliable measurement of the interface between water and Virgin Nafta was causing insufficient separation. There was risk of draining Virgin Nafta instead of water. Measurement was done using a displacer. Nafta would coat the displacer float resulting in unreliable interface measurement. Nafta could also contaminate the mechanism between the displacer and the head resulting in the need to replace the complete transmitter head as an assembly. Preventative maintenance of the displacer was not done due to time and expense.

Maintenance costs were high due to maintenance labor and parts replacement on the displacer. Variable product quality was experienced due to unreliable measurement. Throughput was also reduced due to downtime for displacer maintenance. Risk of product loss was experienced due to possible draining of Nafta from the tank. Finally, maintenance worker safety was at risk due to the need to work in the Zone 1 area.

SOLUTION

The displacer level transmitter was replaced with a Rosemount 3301 Guided Wave Radar Transmitter. The 3301 was mounted on the same flange that was used by the displacer, resulting in a fast and easy installation. The 3301 has no moving parts resulting in no failures due to coating and reduced maintenance. Finally, the 3301 accurately and reliably measured the interface between Nafta and water allowing an effective separation with no Nafta loss.

The Rosemount 3301 Guided Wave Radar Level Transmitter allowed the customer to reduce maintenance cost and process downtime.



Figure 1: Rosemount 3301

There were a number of business impacts including reduced frequency of maintenance, as well as lower maintenance labor and material costs. Higher and more consistent product quality was also achieved. Production throughput was increased. Downtime was reduced resulting in higher plant availability and more production hours. Finally, the risk to worker safety was reduced due to less time spent in the Zone 1 area.

RESOURCES

Emerson Process Management Chemical Industry

<http://www2.emersonprocess.com/en-US/industries/Chemical/Pages/index.aspx>

Rosemount 3300 Series

<http://www2.emersonprocess.com/en-US/brands/rosemount/Level/Guided-Wave-Radar/3300-Series/Pages/index.aspx>

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Emerson Process Management

Rosemount Division
8200 Market Boulevard
Chanhassen, MN 55317 USA
T (U.S.) 1-800-999-9307
T (International) (952) 906-8888
F (952) 906-8889
www.rosemount.com

Emerson Process Management

Blegistrasse 23
P.O. Box 1046
CH 6341 Baar
Switzerland
Tel +41 (0) 41 768 6111
Fax +41 (0) 41 768 6300

Emerson FZE

P.O. Box 17033
Jebel Ali Free Zone
Dubai UAE
Tel +971 4 811 8100
Fax +971 4 886 5465

Emerson Process Management

Emerson Process Management Asia Pacific
Private Limited
1 Pandan Crescent
Singapore 128461
T (65) 6777 8211
F (65) 6777 0947
Enquiries@AP.EmersonProcess.com



For more information:
www.rosemount.com

