Refinery Solves Future Sulfur Transfer Line Shutdown Risk

Results

- Improved process efficiency by increasing process insight
- $100,000 saving in installation cost for 16 new temperature points
- Avoid future shutdown and repair estimated at $40,000 per event

Avoid a $140,000 shut down cost – reduce your risk with Rosemount X-well Technology

Application

A sulfur recovery unit where a critical molten sulfur transfer line is heated to ensure the proper flow of molten sulfur.

Customer

A North Asian refinery

Challenge

The molten sulfur transfer line out of the sulfur recovery unit needs to be maintained at a consistent 145 °C to ensure the proper flow of molten sulfur out of the unit. If the temperature of the transfer line is allowed to drop below 145 °C the sulfur can begin to solidify and reduce throughput. If the temperature is allowed to increase too far the sulfur in the line will begin to polymerize and solidify in the line. In both situations shutdown is required for a team to clean out the solidified sulfur to address the problem, costing an estimated $40,000 in lost production. In one such shutdown the electric heat tracing used to maintain the temperature of the pipeline failed allowing the sulfur to cool and solidify in the pipe before the problem was identified. With the existing temperature solution there was only a single monitoring point at the start of the pipeline which left a large portion of this line unmonitored. Installation of additional thermowells was considered but ultimately ruled out due to the high cost of installation, piping modification, and prolonged process shutdown.

Solution

Emerson recommended Rosemount™ X-well™ Technology with the Rosemount 648 wireless temperature transmitter to monitor temperature points along 16 locations on the pipeline. These new temperature points provided accurate process temperature monitoring points and increased process insight that allows operators to detect any pipeline temperature issues early, and react to them before they cause issues.

Rosemount X-well Technology with 648 wireless

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Additionally, the new temperature points eliminated reoccurring maintenance issues due to frequent plugging and ultimately increased the throughput of the molten sulfur transfer line.

X-well technology is available in wired and wireless models with transmitter finishes in durable enamel or stainless steel.

Resources

Emerson Automation Solutions Industries
Emerson.com/Refining

Rosemount X-well Technology
Emerson.com/Rosemount-Xwell

White Paper
Get a copy of our White Paper at http://emr.sn/NM27

Flyer
Temperature Measurement Assembly with Rosemount X-well Technology

Videos
Rosemount X-well How it Works
Rosemount X-well Overview
Rosemount X-well Non-intrustise Temperature Measurement

00830-1200-4648 Rev AA

Consider It Solved.

Emerson Automation Solutions supports you with innovative technologies and expertise to address your toughest challenges.

For more information, visit Emerson.com/Rosemount-Xwell

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