

Silicon Manufacturer Reduces Inventory Costs with 3051S Electronic Remote Sensor System

RESULTS

- Achieved better batch quality and throughput
- Reduced operation costs
- Minimized scrap rates



APPLICATION

Level control in Silicon tank

CUSTOMER

Chemical Manufacturer in United States

CHALLENGE

Process engineers at a chemical manufacturing plant were having difficulties monitoring the inventory of a Silicon polymer-gel in their holding tanks. The gel was used in several products. When the control system indicated that holding tanks were full, engineers would proceed with the batch process. Due to measurement error, the amount of silicon gel was frequently not what was expected.

The problem stemmed from the inability to accurately monitor the level in the silicon holding tank. Instrumentation engineers had previously been using a DP level system with remote seals. Due to the long length of capillaries, seasonal temperature variations could cause measurement errors of up to 5% of span.

The unreliable level measurement resulted in process downtime due to material shortages. The unreliable measurement also caused difficulty scheduling material purchases. Operations suffered from variable throughput due to material shortages. Additionally, the inconsistency of the process was increasing operations costs and scrap rates.

The Rosemount 3051S Electronic Remote Sensor system allowed plant personnel to eliminate material shortages in holding tanks.



Rosemount 3051S ERS™ System

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SOLUTION

Instrumentation engineers at the chemical manufacturer updated the installation with a Rosemount 3051S Electronic Remote Sensor system. The 3051S ERS system consisted of two pressure sensors linked together digitally. Differential Pressure was computed in one of the two sensors and sent back to the DCS via a 2-wire, 4-20 mA HART signal. The long lengths of capillary with the older installation were completely eliminated with the digital architecture of the ERS system. This eliminated the error caused by seasonal temperature variations.

This solution led to several positive business results. Process engineers were able to produce more consistent batches, improving quality and eliminating scrap. This led to lower operations cost. In addition, throughput was improved by eliminating unscheduled shutdowns due to material shortages.

RESOURCES**Emerson Process Management - Chemical Industry**

<http://www.emersonprocess.com/solutions/chemical/>

Rosemount 3051S Series

<http://www.emersonprocess.com/rosemount/products/pressure/m3051s.html>

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