

Wastewater Treatment Plant Improves Efficiency and Reduces Operating Cost with SMART™ Meter Verification

RESULTS

- Improved Reservoir and Production Management
- Reduced Health Safety and Environmental Risk
- Reduced Operations Cost



APPLICATION

Waste activated sludge flow from the wastewater treatment area to the sludge treatment area and return activated sludge flow back to the wastewater treatment area.

SMART Meter Verification reduces chemical cost and increases efficiency.

CUSTOMER

Wastewater Treatment Plant in Western US

CHALLENGE

A biologically active material in activated sludge is used to break down waste in the wastewater. This wastewater treatment facility needed accurate sludge flow measurement to maintain optimum viability of the biologically active materials in the sludge. If the reading was inaccurate they needed to manually check the material balance and adjust plant records. In addition, if the readings are not accurate and biological activity is reduced, additional chemical treatment of the wastewater may be required.

Previously, this wastewater treatment facility used Magnetic Flowmeters from a different manufacturer. The installed meters needed to be physically removed from the flow line for calibration. Removing the meters from the flow line would expose workers to process materials. To avoid exposure, calibrations were not performed. The net result was the plant didn't have valid sludge flow readings.

There were several negative business consequences of inaccurate sludge flow measurement. Chemical costs were increased to compensate for reduced biological activity. Operations costs increased due to the need to manually check material balances and adjust plant records. Personnel safety was at risk due to potential exposure to process materials. Finally, throughput was at risk due to lower biological activity in the sludge.



Rosemount 8750W Magnetic flowmeter with SMART Meter Verification.

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SOLUTION

A Rosemount 8750W Magnetic flowmeter with SMART Meter Verification was installed. With this diagnostic capability, the wastewater treatment facility personnel were able to verify meter calibration without the need to remove the meter from the line. Initially, meter verification was scheduled every three months. After 9 months to a year, personnel would evaluate reducing evaluation frequency to every 6 to 12 months. The 8750W Magnetic flowmeter has been stable allowing less frequent meter verification.

The wastewater treatment facility experienced several positive business results by using the Rosemount 8750W Magnetic flowmeter with SMART Meter Verification. Biological activity of the sludge was maintained at the desired level increasing the efficiency of the treatment process. This reduced the need for chemical usage leading to lower chemical costs. Manual checks of material balance and manual adjustments to plant records was reduced leading to lower operating costs. In addition, there is no need to remove the flowmeter from the line for maintenance, reducing the safety risk to plant personnel. Finally, with more consistent biological activity in the sludge the risk of lowered plant throughput was eliminated.

RESOURCES

Emerson Process Management Water/Wastewater Industries

<http://www2.emersonprocess.com/en-us/divisions/power-water/Pages/powerwater.aspx>

Rosemount E-Series Magnetic Flowmeter Transmitters

<http://www2.emersonprocess.com/en-US/brands/rosemount/Flow/Magnetic-Flowmeters/E-Series-Transmitters/Pages/index.aspx>

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