

Paper Mill Utilizes DP Flowmeter Technologies for Greenhouse Gas Compliance and Verifying the Gas Company's Meters

RESULTS

- Improved accuracy of internal check meters
- Added ability to verify natural gas company's measurement and billing
- Reported more accurate data to the EPA



APPLICATION

Check meter in a natural gas line

APPLICATION CHARACTERISTICS

4" natural gas line

CUSTOMER

Coated paper manufacturer in the U. S.

CHALLENGE

A coated paper manufacturer, needed accurate and reliable flowmeters for their natural gas lines feeding their boilers. These meters were needed for EPA 40CFR98 Greenhouse gas monitoring and were replacing less accurate orifice plates to be able to question the natural gas company meter.

To meet the EPA 40CFR98 Greenhouse Gas Regulation, the mill quickly had installed orifice plates to meet a short deadline. Once they were installed, they found that a measurement did not match the measurement from the natural gas company. The difference in measurement meant that they were either overpaying for their natural gas or their Greenhouse Gas Compliance meters were inaccurate.

SOLUTION

The paper manufacturer installed a Rosemount 3051SFC Compact Annubar Flowmeter to measure one of the natural gas lines between two raised face flanges and two Rosemount 1595 Conditioning Orifice Plates to retrofit the existing orifice plate installations. The Compact Annubar flowmeter provided accurate measurement with the required turndown and the Conditioning Orifice easily retrofitted the existing orifice plate installations to provide accurate measurement.

A more accurate billing was achieved using the Rosemount 3051SFC Compact Annubar Flowmeter.



Figure 1: Rosemount 3051SFC Compact Annubar flowmeter installation between two raised face flanges.

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As a result of the accurate measurements, the paper manufacturer was able to question their gas company's 12" rotary meter. Figure 2 was provided by the utilities manager and depicts the improved accuracies achieved by replacing the boiler and utility meters. The x axis lists days and the y axis compares the flowrate measurements of the boiler and the gas company's utility meters. Near the end of November 2011 the 10" Rotary meter (gas company's utility meter) was installed and resulted in more precise measurements. In February of 2012, the Compact Annubar Flowmeter (boiler meter) was installed. Right away, the two meters were reading within 1.00 to 1.50% of each other.

As a result of the improved measurement accuracy of their internal check meters, the engineer was able to verify the natural gas company's measurement and billing. In the process, they negotiated with the gas company to change their billing meter to one that was better sized for their current usage of natural gas. They were also able to report more accurate data to the EPA.



Figure 3: The Rosemount 3051SFC Compact Annubar Flowmeter.

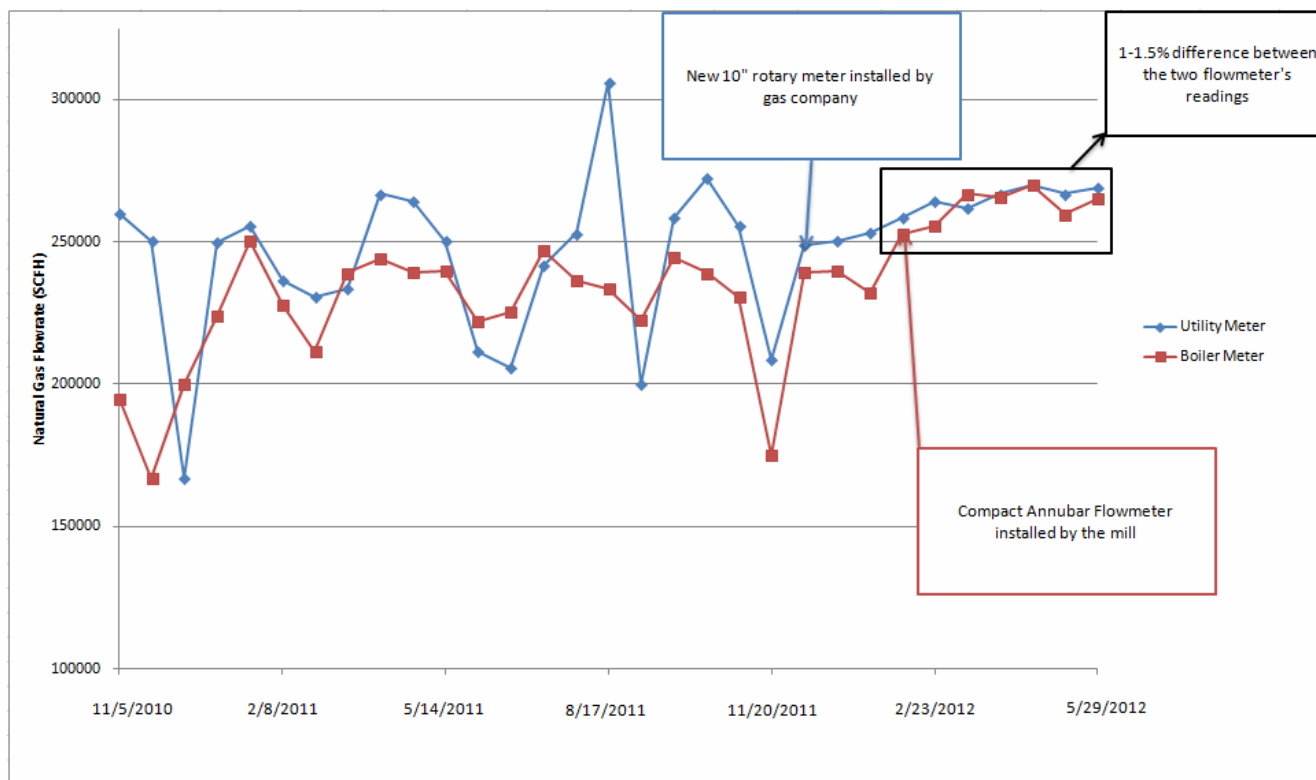


Figure 2: Chart comparing the gas company's meter and the mill's boiler meter. After both meters were replaced they were reading within 1-1.5% of one another resulting in more accurate natural gas billing.

RESOURCES

Emerson Process Management Pulp & Paper Industry

<http://www2.emersonprocess.com/en-US/plantweb/customerproven/Pages/PulpPaper.aspx>

Rosemount Annubar® Flowmeter Series

<http://www2.emersonprocess.com/en-US/brands/rosemount/Flow/DP-Flow-Products/Annubar-Flowmeters/Pages/index.aspx>

Rosemount 3051S® Transmitter Series

<http://www2.emersonprocess.com/en-US/brands/rosemount/Pressure/Pressure-Transmitters/MultiVariable-Transmitters/3051S-MultiVariable/Pages/index.aspx>

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