CASE STUDY • POWER

WE ENERGIES REDUCES COSTS, IMPROVES PERFORMANCE AND RELIABILITY ON SATURATED STEAM

Customer

WE Energies is a power and natural gas supplier for approximately 1 million customers in Wisconsin and the upper peninsula of Michigan. We Energies also has five hundred steam customers in downtown Milwaukee.

Application

Saturated Steam Billing Meter

Application Characteristics

Saturated steam at 150 psig in a 2" line

Challenge

In order to maintain saturated steam operational availability for their customers, We Energies needed a flow meter that could easily verify the electronics, did not require a process shutdown for sensor verification or replacement, and did not require recalibration. An interruption in steam service can shut down the entire process plant, or leave a building without heat. During cold months, many customers will not accept an interruption in their steam service for flow meter maintenance until outside temperatures are above 50 °F.

Since unplanned shutdowns of a customer's steam service is unacceptable, We Energies must use historical billing data to estimate steam usage until a mutually agreed upon shutdown can be initiated. To maintain the best possible service to their customers, We Energies must estimate steam usage conservatively in order to prevent over billing. This is a difficult task for new customers where a historical usage history is not available.

Results

- Reduced maintenance costs
- Saved $1,200 in labor/ installation costs
- Eliminated unnecessary shutdowns

WE Energies' Rosemount 8800 MultiVariable steam installation

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Solution

We Energies installed the Rosemount™ MultiVariable™ (MV) Vortex Flow Meter, which includes an integral temperature sensor, for this installation in order to obtain a compensated mass flow. Since Rosemount Vortex Meters do not require annual calibration, We Energies reduced maintenance costs.

By using an easy-to-install in-line measurement device with the ability to measure compensated mass flow, We Energies saved $1,200 in labor costs by not having to install multiple devices or run impulse lines in a cramped crawlspace. The integral temperature sensor in the Rosemount MV Vortex Flow Meter ensured that the meter provided an accurate mass flow measurement as fluctuations in the density of the steam occurred.

We Energies also improved the availability of the measurement point because the Rosemount MV Vortex Flow Meter temperature sensor and flow sensor are isolated from the process, providing a means for repair and replacement if necessary without shutting down the steam line. By having the ability to replace the sensors online, historical billing data would not need to be used for an extended period of time in the event of a sensor failure. Since the Rosemount MV Vortex Flow Meter is used for billing purposes, the built in signal generator provided We Energies a means to easily prove their steam usage was being accurately measured.

> *"We prefer the Rosemount 8800 Vortex meter and try to use it whenever we can. It provides the performance we require and has been more reliable than other meters we have used in the past."*

Jack Powers
I & E Lead Technician

> *"In order to replace the sensors in other vortex meters you have to remove it to fix it. Isolated sensors make the Rosemount 8800 Vortex a more effective meter."*

Jack Powers
I & E Lead Technician

For more information, visit
Emerson.com/power
Emerson.com/vortex

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