

Micro Motion® Enables \$1M Cost Reduction in Utility Water Monitoring Over One-Year Period

RESULTS

- Reduced sewage costs more than \$400,000 over three-month period
- Reduced water costs by \$16,000 over three-month period
- Projected savings in water treatment chemicals



APPLICATION

The customer manufactures dish soap and detergent, and uses city water as an ingredient and as boiler feed water. In both cases, the water needs treatment at the facility to meet quality guidelines.

Water and sewage bills are calculated by the municipality: a 6" turbine meter on the main water line into the plant provides water usage data, and the sewage bill is determined by subtracting the amount of water used in the product from the water meter readings.

CHALLENGE

The customer's business has been down and cost reduction options were being explored. During discussion, it became apparent that the customer had no way to verify the water and sewage bills. Turbine meters require routine calibration and cannot handle solids. They also require temperature correction on liquids.

During this same time period, the municipality announced its intention to raise water rates due to perceived underbilling.

SOLUTION

The plant installed two 3" ELITE® meters inside the plant on the two main water lines and four 2" meters around the cooling towers, for determination of evaporation using the mass balance method.

The two main line meters immediately showed a 40% discrepancy with the city's water meter. After further investigation, a piece of

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rubber seal was found in the city's meter, causing increased water velocity through the turbine and resulting in overbilling. In the next three months, water costs were down by \$16,000.

Based on data from the meters installed around the cooling towers, the plant discovered that the evaporation rate was much higher than previously thought, therefore the correction factor used in calculating the sewage bill had been low. Additionally, evaporation rates varied significantly according to the time of year. When the sewage bill was calculated using the new water usage data plus the actual evaporation data, sewage costs were reduced by more than \$400,000 in the first three months of the new operation.

Estimated reduction in water and sewage costs combined is more than \$1 million per year. Furthermore, because water use is better managed, the company expects additional savings through reduced requirements for water treatment chemicals.

