

Micro Motion® Coriolis Flowmeter Improves Flow and Percent Solids Measurement of Paraxylene

RESULTS

- Improved quality of paraxylene, resulting in greater throughput and sales of \$50,000
- Reduced operations and maintenance costs by \$10,000
- Increased safety by providing remote access



APPLICATION

British Petroleum (BP) produces paraxylene at a large plant in Alabama. Paraxylene is a highly explosive chemical, produced by adding chemicals to benzene in large centrifuges, and precipitating out the paraxylene. BP sells paraxylene into a variety of industries.

CHALLENGE

Paraxylene is a difficult chemical to measure. The material is very volatile and has a tendency to build up, or “ice,” at bends in pipes or on valves. There is a deicing system on the pipes to prevent this build-up; however, occasionally icing will occur and chunks of the solid icy material break off and pass down the line, resulting in plugging problems.

BP needs to be able to control the percent solids with a high degree of precision, and also needs to know the flow rate and total. BP had not been able to meter this material successfully and had to rely on the electrical current (amp) reading of the centrifuge motors to estimate the solids content.

SOLUTION

BP installed a Micro Motion® straight-tube sensor with a single tube. Because this sensor has no obstruction to which icy material can cling, no icing or plugging occurred in the sensor. This eliminated the plugging problem BP had experienced with other meters.

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BP also installed a Micro Motion transmitter with enhanced density capability to measure the flow and percent solids. Micro Motion worked closely with BP to develop a density curve that is customized for the temperature and density relationships of paraxylene, and reports percent solids. BP could then configure the transmitter to report percent solids over one 4-20 mA output, and flow rate over a second 4-20 mA output. These readings greatly enhanced process control, for improved product quality control and resulting in increased sales of \$50,000.

In addition, BP installed AMS software, which has enabled the maintenance personnel to access the flowmeter from a PC in the maintenance shop. They can make changes or troubleshoot a meter from the shop. This a great asset because the flowmeter is located in a hazardous area which requires a hot work permit, and during hot weather conditions these permits may not be available for weeks at a time. The remote accessibility has increased safety and reduced maintenance costs by \$10,000.

