ABSTRACT for the 2012 ISA WWAC Symposium

# Flowmeter Challenges in a Multi-Pass Reverse Osmosis System

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**ABSTRACT**

The City of Cape Coral water production staff discovered that a typical mag-meter could not provide a stable measurement in a process stream of clean demineralized water consisting of two blended streams which possessed differing conductivity. This process application was used in a PID control loop which controlled process recovery of demineralized water. Without accurate, stable measurement, the system would not function as designed. Despite the fact that the overall conductivity of the process stream was well above the manufacturers minimum requirements, at the point of flow measurement the conductivity was not homogenous. This resulted in the inability of the magnetic flow meter to be able to provide constant and stable return of the pulsed field signal to the transmitter.

We needed to look at viable alternatives which would be suitable in the existing footprint and provide a usable process control. With the City having success using a large install base of clamp-on ultrasonic transit time flow meters for several years, an action plan was implemented to pilot test this technology.

After successful results due to the ability of the transit time meter to provide a stable process control signal independent of the fluid characteristics, units were specified and installed for the permanent application and are providing the required output for stable process control.

**About the Authors:**

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