



Application Note



Product 1100 Series Magnetic Level Indicator
Application Condensate Collection Tank for Pulp & Paper Plant
Industry Power/Pulp & Paper

Challenge AWC, a Sales Representative for SOR, was asked to make recommendations for level control on a combined condensate collection tank located in a large pulp & paper mill in Louisiana. A new tank was being rushed in due to concerns with aggressive corrosion of the original vessel. AWC reviewed the process information with the customer and took measurements of the process connections where instrumentation could be mounted.

The old condensate tank had a simple sight glass for local visual indication, but for continuous analog level measurement back to the remote DCS operator station, an outdated pneumatic differential pressure transmitter was used. The differential pressure transmitter measured back pressure on an air “bubble” line that was run from a top vessel penetration into the fluid near the bottom floor. Pneumatic pressure switches were also installed in the bubble line for inferred discrete high and low condensate level alarms and to provide contact closure for relay – based control of dual/parallel pumps moving the condensate from the tank to other collection systems. It was very common to use bubble lines and pressure switches for discrete level control of clean fluids in years past, but newer instrumentation solutions such as those from SOR, Inc., make this cumbersome and instrument air consuming method no longer necessary.

Solution After AWC conferred with the mill process control department, the decision was made to see if a magnetic level indicator could be supplied within the compressed lead time requirement of two weeks. The use of an 1100 Series Magnetic Level Indicator (MLI) in this application would provide upgraded visual indication, even in the compact and dimly lit area where this tank was to be installed, and would also provide for external adjustment of level switches for alarm and pump control via the DCS – something the customer found very appealing.

Though this particular mill had used ABB/K-Tek for most MLI applications in the past, AWC emphasized the advantages of the SOR solution. SOR also provided very fast quote response and committed to the delivery schedule the customer mandated even as competitor suppliers could not.

A standard electronic differential pressure transmitter was used for continuous level indication on the replacement tank, but the discrete pump control utilized the level switches supplied with the SOR Series 1100 Series MLI. AWC took field measurements of the side process connections on the new tank and SOR custom matched the MLI to those specifications. SOR also suggested that a custom insulation blanket be supplied with the 1100 Series and this was also delivered ahead of the plant shutdown.

On the day of installation, the electrical contractor had questions about wiring of the level switches on the MLI. AWC reviewed the specifications and wiring instructions in the SOR supplied literature and was able to advise the contractor on the proper wiring orientation to make the pump control and DCS alarm indication work flawlessly.

The customer was very pleased with the installation and performance, commenting that future Magnetic Level Indication applications would go to SOR and AWC.