Titanium Valve Body Reduces Process Variability and Optimizes Chemical Usage in Pulp Mill Operations

PULP & PAPER

Challenge

A local paper mill utilized Fisher® RSS Teflon lined globe control valves for chlorine dioxide bleaching control. The RSS valve experienced reliability issues since the lined globe design was more prone to material wear, resulting in corrosion issues. Rebuilds were expensive and time consuming, which meant lengthy periods of time without a control valve in place. During this time, only manual control was available, so there was a high level of process variability.

Before: *Fisher Teflon lined RSS globe valve*

Solution

Control Southern worked with the mill to come up with a more reliable solution that would have control capabilities comparable to that of a globe valve style. The solution was a Fisher V150 control valve made of titanium. The control valves were supplied with spring and diaphragm actuators and DVC6200 Series digital positioners for excellent controllability. The Vee-Ball construction is very familiar to the mill technicians, and provides a high level of long-term reliable operation.

Results

Three of the mill's valves have been switched over to the Titanium V150, with a resulting average Coefficient of Variability (COV) reduction of 40%. This reduction in average COV is based on when the control valve was in manual or the RSS valves were in poor condition, which occurred approximately 30% of the time. A savings in chlorine dioxide can be attributed to a lower COV because the process can be run closer to set point without over-dosing to make up for variability.

After: *Fisher V150 titanium control valve*

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