

Valve Diagnostics Exposes A Hidden Threat During Planned Shutdown

Control valve health monitoring eliminates safety risk and avoids unplanned downtime at pulp and paper mill.



Diagnostics Scan Detects Unexpected Problem During Scheduled Outage



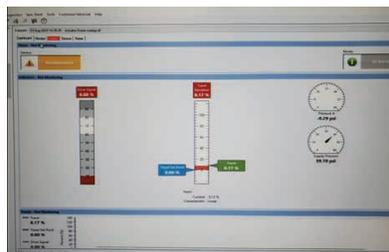
Valve Repaired and Returned to Service Before Serious Incident Could Occur

CHALLENGE

A large, recycled pulp and paper mill customer has hundreds of control valves with advanced diagnostics digital valve controllers and Rosemount transmitters, and leverages several Emerson solutions, including:

- **DeltaV™ Distributed Control System (DCS)**, connects people, processes, and production in a single-environment configuration for alarms, batch, advanced control, safety, and historians.
- **AMS Device Manager**, provides predictive diagnostics, simplifies field device configuration and calibration, and automatically documents assets.
- **AMS Machinery Manager**, integrates data from route-based prediction, online prediction, and wireless prediction solutions as well as third-party oil and infrared analysis data to provide a complete picture of machinery health.
- **Fisher™ FIELDVUE™ ValveLink™** software, monitors control valve health and performance online to improve reliability by spotting problems before affecting processes.

During the paper mill plant's scheduled outage, Novaspect's Valve Reliability team used the Fisher FIELDVUE ValveLink software to run diagnostics. The status monitor indicated that



a 4" V150/1051/DVC on the Primary Screen Reject Tank had an 8% travel deviation. The plant's operations department showed the valve was in service, but it had not already been identified as problematic prior to the outage. Novaspect

located the valve for visual inspection and found the lower actuator diaphragm plate had separated from the spring barrel, which was identified as an immediate safety issue, and the area was red taped off to protect plant personnel.

SOLUTION

Novaspect removed the damaged actuator and replaced it with a spare valve stored in the paper mill's warehouse.

From there, Novaspect calibrated the assembly and returned the valve to safe and reliable service within approximately 8 hours and followed up to replace the spare actuator taken from the paper mill's warehouse. Novaspect continued diagnostics monitoring across the mill to ensure the health and reliability of the plant's control valves.

OUTCOME

By identifying and rectifying the valve issue early, the paper mill averted a potential catastrophe. Had Novaspect not intervened, the valve would have eventually broken apart, causing the pulp to become like a plug, backing up the water system, and making the tank overflow.

The papers mill's proactive approach to reliability and continuity for its most critical industrial processes, helped to safeguard plant personnel and spared it from one or more days of unplanned downtime.



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