

TURNING ANNUAL REBUILDS INTO PREDICTIVE RELIABILITY

At a fully integrated kraft paper mill producing up to 1,200 tons of fluff pulp per day, critical digester control valves had become a recurring maintenance challenge. Annual valve rebuilds required lockout procedures, crane rentals, significant labor, and costs approaching 70% of replacement value. Just as importantly, inconsistent valve performance was limiting process control on several key digester applications.

FINDING THE REAL PROBLEM

The mill partnered with R.E. Mason to perform an Advanced Process Control study using the EnTech Toolkit. Working alongside operations and process personnel, the team evaluated critical loops on two digesters and identified four valve applications where existing full-port ball valves were underperforming:

- Extraction Flow
- Digester Level
- Digester Pressure
- Makeup White Liquor Flow



The analysis confirmed that the valves were not providing the level of control required for optimal process performance.

ENGINEERING A BETTER SOLUTION

R.E. Mason analyzed actual operating conditions and recommended **Emerson Fisher™ CV500** control valves for flow and level applications and a **Fisher V300™** for pressure control, all equipped with **FIELDVUE™ DVC6200** digital valve controllers.

The CV500's V-notch eccentric plug design delivers superior control in fibrous pulp applications, providing smoother operation and improved control accuracy while standing up to demanding process conditions.

RESULTS THAT CONTINUE TO DELIVER

The installation transformed both reliability and maintenance practices. Instead of automatically removing and rebuilding valves during every outage, the mill now uses **ValveLink™ diagnostics** to assess valve health and make maintenance decisions based on actual condition.

Results achieved:

- **\$120,000 annual maintenance savings**
- **Zero full valve rebuilds required on eight installed Fisher valves**
- **Elimination of routine valve removal, reinstallation, and crane expenses**
- **Improved flow, level, and pressure control on critical digesters**

The combination of application-focused valve technology and predictive diagnostics has allowed the mill to reduce maintenance costs, improve reliability, and gain tighter control of a process critical to production success.

FROM SCHEDULED REPAIRS TO SMARTER RELIABILITY

By partnering with R.E. Mason, the mill moved away from costly, schedule-based maintenance and toward a data-driven reliability strategy that continues to deliver measurable value year after year.