Hydro’s remote condition monitoring system supports critical descaling operation at steel mill.

Hydro recently supported a steel manufacturer by providing remote condition monitoring for their critical descale service water pumps. The pumps had a history of premature failure and a low mean time between failure (MTBF). As the pumps provide water used in the descaling process, downtime can be costly and impact overall revenue.

Hydro provided wireless sensors to collect real-time vibration and temperature levels on the pump and drive train. With these sensors, Hydro provided the following support:

- Worked hand-in-hand with reliability team to assess asset condition
- Provided monitoring and analysis support
- Captured events and alarms before escalation
- Automated alarm condition e-mail notifications
- Assisted plant in maintenance decision-making using asset condition

Alarm thresholds were chosen based on historical amplitudes captured via route-based data collection. Hydro’s monitoring software was programmed to automatically report on any alarm or emergent issue to Hydro’s engineering team, in addition to the steel manufacturer’s reliability engineers. The graph below shows an event which triggered an increase in the overall vibration over the course of several days.

Using Hydro’s intelligent monitoring program and test lab capabilities, the system can help optimize operations and identify problems before equipment failure.
Ultimately, the steel manufacturer’s engineers determined that the pump should be removed for repair and that a standby pump be used in the interim. **By avoiding an unforeseen consumption of energy and by planning maintenance according to the condition of their assets, the most economical decision was made without causing unplanned downtime or emergency work.**

Throughout this process, the decisions made by the steel manufacturer’s reliability engineers, plant operators, and Hydro’s engineers were continually informed by the data collected by the wireless accelerometers.

When compared to traditional route-based data collection, wireless remote monitoring allows operators and engineers to see real-time data and to make educated decisions regarding asset maintenance. Wireless data collection assists users to identify issues before they escalate.

In contrast, a route-based data acquisition strategy may miss these events depending on the frequency of the route. By collecting data remotely, reduced downtime, planned outages, and predetermined maintenance timing can extend the life of remotely monitored equipment while optimizing the use of resources.

Hydro’s wireless sensors are based on high strength magnetism which offers the versatility required for servicing multiple plants and facilities.

Hydro’s sensors can be easily attached to various locations on the pump and in multiples as well.