Improved conveyor uptime prevents lost production

"Approximately 10% of production time is lost by unplanned maintenance."
– B.S. Dhillon: Mining Equipment Reliability, Maintainability, and Safety

What if...

- you could know what is wrong with your equipment before it fails?
- you could minimize the financial impact of unplanned outages?
- you could avoid putting personnel in harm's way?

Bulk conveyors are the lifeblood of your stockpile and process throughput in the mine. Yet their criticality and expanse is what also adds risk to meeting your production goals. Conveyors have many potential failure points. And any disruption in service can bring production screeching to a halt. Overland conveying and/or "truckless mining" systems are especially critical these days as typical backup solutions to unplanned conveyor downtime are costly, inefficient or non-existent.

Performing periodic data collection on conveyor components frequently places workers in harm's way – capturing data that may or may not expose emerging machinery faults. And when conveyors break, obtaining replacement parts can take days. All the while, you're losing productivity and profitability – simply because your staff wasn't equipped with the necessary tools to pinpoint, assess and correct a mechanical issue prior to breakdown.

BLINDSIDED BY CONVEYOR PROBLEMS

Component failures and unplanned conveyor downtime result from a lack of insight, not from a lack of effort. Your staff routinely inspects and performs periodic preventive maintenance, doing all they can to keep the equipment running. But are they able to stop it from failing?

While manual data collection on conveyor drives, gears, and pulleys can identify some problems, the periodic nature of these readings can miss the telltale signs of degrading equipment health. Once the conveyor fails, all other tasks will be put on hold to react to the problem.

COSTLY UNEXPECTED MAINTENANCE

You invest to keep conveyors online. You probably maintain an inventory of spare belting, belt fasteners, and idlers. You may even outsource some maintenance work for routine cleanings and periodic data collection. You've planned for these expenses.

When conveyor components fail unexpectedly, costs skyrocket. Do you have the expertise onsite to diagnose the problem or will you enlist an outside resource, adding both time and money for the repair? What's more, obtaining replacement parts can take days in a remote location.

SAFETY RISKS INCREASE AROUND CONVEYORS

According to the U.S. Mine Safety and Health Administration, each year most fatal and non-fatal accidents are associated with conveyors. Manual data collection for condition monitoring presents a challenge. To acquire the necessary data, your staff needs to be in close proximity to the moving conveyors. At various points along the conveyor expanse, they need to mount sensors to critical components and record data from a nearby location. It's a task that places them in harm's way for an extended period of time.

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SEE CONVEYOR FAULTS LONG BEFORE THEY BECOME A PROBLEM

For bulk conveyors, vibration monitoring is effective at detecting problems. But what you need is a way to get this vibration data without periodically sending technicians out into the mine. The CSI 6500 Machinery Health Monitor offers miners the earliest detection of conveyor faults. It monitors critical components continuously – supplying real-time machinery health information back to the control room or maintenance shop. In addition, PeakVue technology measures high frequency stress waves to detect rolling element bearing and gearbox issues earlier than traditional vibration analysis. You can also correlate vibration data with tribology reports and thermal signatures for a comprehensive view of equipment health.

MINIMIZE NEGATIVE FINANCIAL IMPACT

In order to minimize maintenance costs, you need to see faults early, understand their severity, and plan accordingly. The CSI 6500 delivers the earliest detection of conveyor faults so you can assess problem severity and take appropriate action. With timely information, before the issue causes an upset, you can effectively make the decision to take the system offline immediately for repair or allow it to run to the next planned downtime for maintenance. The ability to plan, rather than react to a crisis, saves money.

ELIMINATE NEEDLESS SAFETY RISKS

You can reduce maintenance risk with online, continuous vibration monitoring and wireless vibration transmitters. For your critical conveyor components, the CSI 6500 collects and processes machinery data continuously and feeds actionable information back to both operations and maintenance staff. For periodic readings on less critical components, CSI 9420 Wireless Vibration Transmitters are ideal for accomplishing the same safety goal – vibration monitoring without exposing staff to machinery hazards.

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