Written by Andy Winzenz, Lord Corp.
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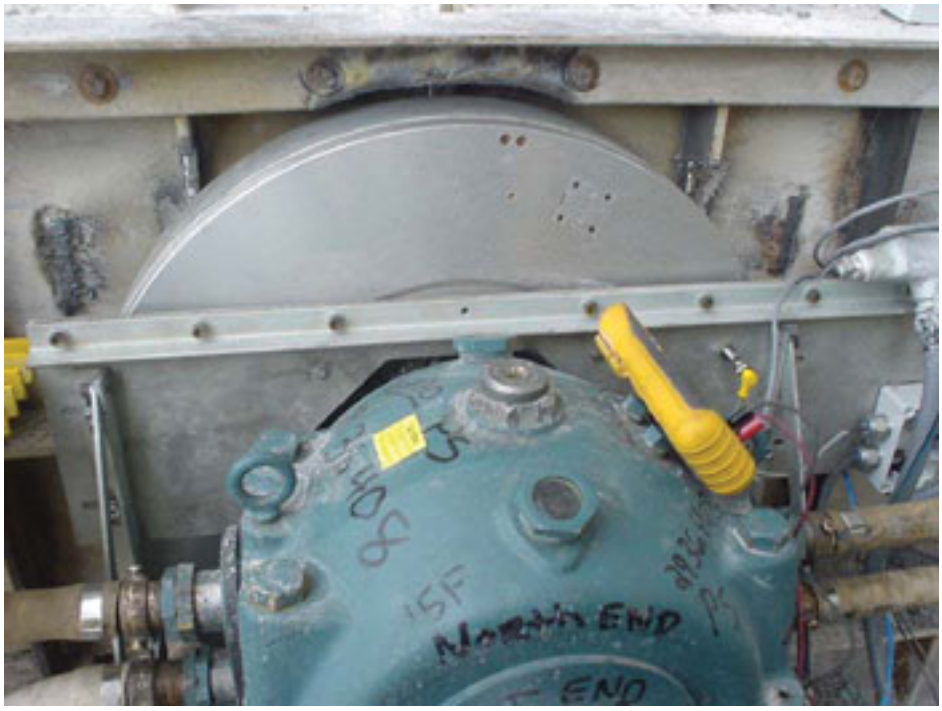
As a major manufacturer and distributor of uncoated free sheet papers, containerboard and corrugated containers, newsprint, and market pulp, Boise Paper Solutions, Boise, ID, markets itself as a company that provides consistent and efficient products. That is why having to go off-line for unscheduled lime kiln shutdowns at a cost of about $87,000 a year in lost production, makeup lime, and maintenance costs is disastrous.



Installation of the permanently mounted fan balancing system (center) that continuously monitors fan vibration levels has enabled Boise to run the lime kiln with fewer production interruptions. Previously, massive build-up of calcium carbonate on the induction fan used for the kiln would throw the fan out of balance. The high level of vibration resulted in an average of 2.5 unscheduled shutdowns per year at a cost of $33,000-$35,000 each in lost production, makeup lime, and maintenance costs. Enter Ron Blood, predictive maintenance and reliability supervisor for Boise's 500-person Wallula, WA, plant. Shortly after joining Boise in 2001, Blood became aware of a continual build-up problem with calcium carbonate on one of its large induction (ID) fans for a lime kiln. According to Blood, particulate had a tendency to stick to the fan rotor, and this continuous, nonuniform build-up would throw the fan out of balance. This high level of vibration resulted in an average of 2.5 unscheduled shutdowns per year at a cost of $33,000-$35,000 each in lost production, makeup lime, and maintenance costs.

"When the fan started to vibrate, my coffee would actually shake in my cup as it sat on my desktop," Blood said. "Shutting down is a serious process that typically takes 3 hours to allow

the kiln to cool off, and another 3 hours to conduct the cleaning process. By the time we would get the kiln back in service, at least 10 hours of production were lost."

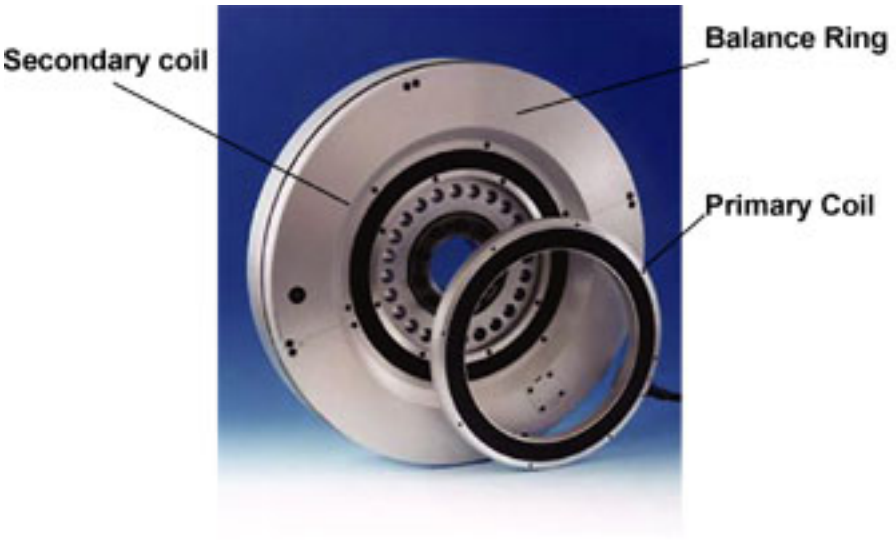
In addition to lost time and production, frequent episodes of high vibration also were causing accelerated wear on the fan bearing, and the staff was often taken away from regular duties to troubleshoot vibration problems.

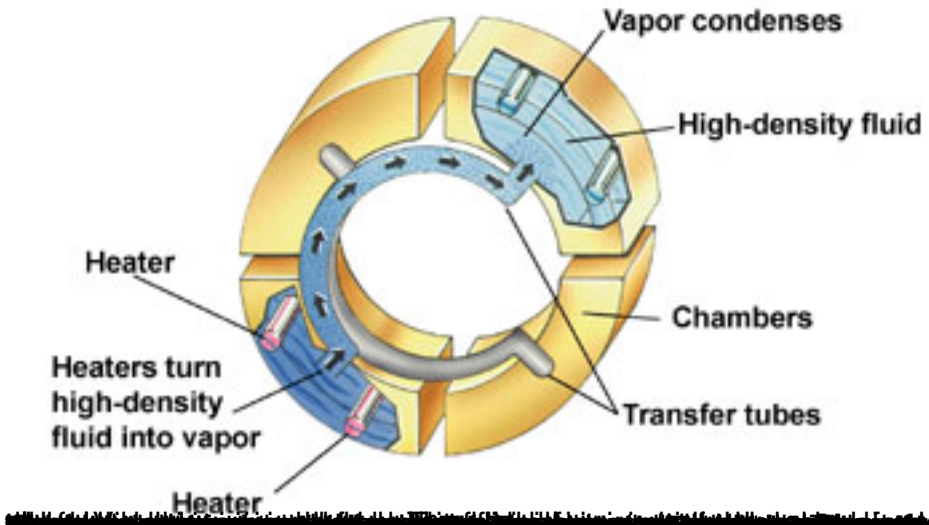
Searching for an answer

When faced with finding a solution to this situation, Blood remembered reading an article about a technology that might help solve his problem. After an Internet search, he located Lord Corp., Cary, NC, and called for more information. Andy Winzenz, sales manager for Lord, visited the plant and helped confirm the diagnosis.

"Bosie's manufacturing process is dependent on the performance of the fans and their ability to maintain process air flow," Winzenz said. "As such, when the fan was thrown out of balance because of build-up, the result was untimely and expensive shutdowns."

After analyzing the problem, Winzenz recommended the company's RealTime balancing technology—a permanently mounted fan balancing system that continuously monitors fan vibration levels. He recommended this balancing system because of its ability to make rapid balance corrections and to withstand the harsh environment surrounding the lime kiln ID fan.





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