

**POWER
OPTIMIZATION
CENTER**



Luminant

**ANOTHER SUCCESS STORY
GENERATOR EXCITER BEARING HIGH VIBRATION**

24/7 Real-Time Operational Support With *Actionable Intelligence*

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SOLUTIONS & SAVINGS

“Immediate action by the Power Optimization Center saved this generation facility \$1,781,975 in total cost avoidance.”

OUR MISSION:

The Power Optimization Center is dedicated to providing unsurpassed, advanced monitoring and diagnostics services to generation and production facilities. Industry-seasoned engineers and experienced process control operators excel in identifying incipient and long-term equipment issues around the clock, providing actionable intelligence directly to those responsible for real-time operations. With no ties to parts or maintenance organizations, the success of the Power Optimization Center is driven by the competitive market advantage its clients achieve through realizing maximum asset performance.



GENERATOR EXCITER BEARING HIGH VIBRATION

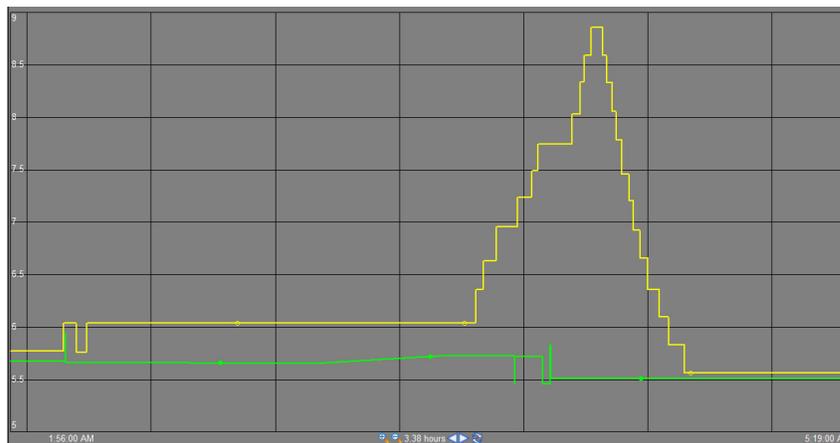
The Luminant Power Optimization Center identifies, forecasts and advises plant personnel of emergent issues impacting production through the integration of remote monitoring, modeling and diagnostics.

In the current market environment of low natural gas and wholesale power prices, and tightening emissions standards, generators need to produce megawatts as profitably as possible. The Power Optimization Center can help reach that goal.

Power Optimization Center personnel discovered rapidly rising bearing vibration on a turbine exciter bearing. **Immediate action by the Power Optimization Center saved this generation facility \$1,781,975 in total cost avoidance.**

The Problem

Things aren't always what they seem. Vibration propagation can deceive even the best instrumentation, but experience is hard to mislead, especially when the cause does not produce the expected effect.



One morning, the Power Optimization Center was actively monitoring a plant startup from hot standby. After the required soak time, the plant began to raise turbine rpm to full speed. Bearing vibration was expected to increase as speed increased, especially as turbine speed enters the critical range where natural harmonics are experienced. After turbine speed passes through this critical range, bearing vibration should return to normal. In this case, generator bearing vibration continued to rise.

The Solution

The Power Optimization Center contacted the control room and apprised plant operations of the rapidly rising bearing vibration. Turbine speed was lowered to the previous soak speed. Originally, plant personnel believed the problem bearing to be the indicated bearing based solely on overall vibration readings.

Power Optimization Center engineers, through intense scrutiny and evaluation, found the problem bearing to be the coupler-opposite bearing. They determined that a bearing rub, which affected the coupler-opposite bearing significantly more than the indicated bearing, was the culprit. Armed with new information, the plant was able to closely monitor the correct bearing.

The turbine ultimately returned to full speed, but only after the offending bearing indicated that the rub was no longer present. Without Power Optimization Center assistance, the plant would have based its corrective actions on the wrong bearing, which would have led to additional delays and possible bearing damage.

The Savings

The Power Optimization Center determines cost avoidance by applying proprietary calculations. This generating facility avoided \$1,759,015 in lost revenue and \$22,960 in additional maintenance costs, including parts and labor, totaling \$1,781,975 in total cost avoidance.

Utilizing over a dozen separate software systems that monitor and diagnose just about any issue that may affect plant operations, the Power Optimization Center has a proven history of helping manufacturing and generating facilities realize maximum asset performance.

With power markets nationwide under low price pressures, generators more than ever need a way to analyze unit performance in real time to enhance efficiency, prevent shutdowns and save dollars. Whether your equipment resides in the utility industry, manufacturing or any other type of facility, the Power Optimization Center is ready to help your company achieve the highest levels of safety and reliability.

Call us today to see how we can bring value to your company and visit www.pocdiagnostics.net to learn more.

**POWER
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CONTACT US TODAY TO SEE HOW WE CAN HELP YOU

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