Enel S.p.A. Successfully Introduces Predictive Maintenance with CSI 2130 Machinery Health® Analyzer

RESULTS

- $366,000 savings by predicting a Ljungstrom drive system damage
- $44,000 savings by predicting an exhauster failure
- Heavy impact on decreasing unplanned plant shutdowns
- Reduced incidents, up to 90% in some applications

"The CSI 2130 saves us money and time, and also improves plant safety."

Emanuele Conte,
Vibration Expert

APPLICATION

Enel operates a wide range of hydroelectric, thermoelectric, nuclear, geothermal, wind-power, and photovoltaic power stations.

CUSTOMER

Enel S.p.A. Centrale Federico II, Brindisi, Italy

CHALLENGE

Enel is Italy's largest power company, and Europe's third-largest listed utility company by market capitalization. Listed on the Milan and New York stock exchanges since 1999, Enel has the largest number of shareholders of any European company, at some 2.3 million. It produces and sells electricity mostly in Europe, North and Latin America. In the power business, Enel has 50,776 Megawatt of generating capacity and 32 million electricity customers.

Enel was looking to improve reliability in its plants. With the Specialists Assistance of Turin, Enel has implemented CSI 2130 Machinery Health Analyzer and an optimized predictive maintenance strategy in several plants. It has realized great results in the thermoelectric plant of Brindisi, a 2.6 GW power plant, and has become a predictive forerunner in the Italian power market.

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www.assetweb.com

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SOLUTION

During the early applications, the maintenance personnel at the Brindisi power plant found several issues with their machines. The vibration measurements from the CSI 2130 helped to uncover issues in the hydraulic joints in the drive systems on both Ljungstrom gas to air heat exchangers, avoiding an unplanned shutdown that would have cost $366,000.

Enel technicians also used the CSI 2130 to find where welding points were cracked on the basement of an exhauster. The defect, if undetected, could have caused $44,000 in damage to the machine and affected plant availability.

Predictive maintenance has been extended to 450 critical machines. Vincenzo Putignano, chief of the Brindisi Power Plant, said “Thanks to the CSI 2130, we have avoided unplanned shutdowns, improved our availability, and reduced the incidents in some applications by more than 90%.” Massimo Moriconi, Brindisi’s Coordinator, added, “Emerson has provided a great tool and good support that allowed us to implement an efficient predictive strategy.”

Enel has successfully implemented route analysis through optimized maintenance strategies and the CSI 2130 capabilities. “We are happy working with Emerson,” said Piero Barbalà, Brindisi’s Controller, “because we are continously providing results to our company.”

The CSI 2130 has also been used where online protection systems are installed, allowing Enel to save significant time during the data collection. They’ve implemented a more consistent predictive strategy that will help to avoid shutdowns and lead to significant savings.

“We perform every day a lot of data collection and analysis. The CSI 2130 is very helpful in this work and reduces our time spent and our stress in recognizing defects.”

Giuseppe Rinelli,
Vibration Expert

RESOURCES

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