Solar Thermal Plant Takes Unique Approach To PdM Implementation

Jim Smith, ISEGS

Azima DLI

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Azima DLI, provider of predictive maintenance (PdM) analytical services, has been chosen to reduce risk, increase production and optimize efficiency within Ivanpah Solar Electric Generating Station (ISEGS), the world's largest solar thermal power plant. The ISEGS, operated and owned by NRG Energy, Google and BrightSource Energy, will be implementing Azima DLI's WATCHMAN Analysis Program[™] to ensure reliability of more than 700 pieces of rotating equipment at Ivanpah's massive 3,500-acre facility in California's Mojave Desert. Azima DLI's WATCHMAN Reliability Services[™] will utilize flexible deployment models, proven diagnostic software and unmatched analytical expertise to deliver sustainable, scalable and cost-effective condition-based maintenance programs to the facility.

Ivanpah will be running a 392-megawatt solar power facility, using mirrors (heliostats), to focus sunlight on solar receivers atop power towers. Solar generated power from all three plants will produce clean, reliable energy to more than 140,000 California homes when the plant is up and running later this year. Using electricity generated at Ivanpah means displacing more than 400,000 tons of carbon dioxide each year and decreasing water use by 95 percent when compared with wet-cooled solar plants. The \$2.2 billion project represents a durable model for farreaching employment and economic benefit both locally and nationally.

The Azima DLI WATCHMAN Analysis Program will be fully integrated as soon as the plant reaches commercial operation. Ivanpah is currently utilizing Azima DLI technology in acceptance testing and benchmarking of rotating equipment during the project's commissioning phase. Predictive monitoring to eliminate unplanned outages will begin upon final commissioning.

Ivanpah currently has an internal maintenance team augmented with the WATCHMAN Analysis Program. This team has been trained on using Azima DLI's TRIO[™] family of data collectors and in 2013 will be utilizing Azima DLI's eLearning modules to ensure understanding and interpretation of vibration analysis and the actionable information provided. Azima DLI analysts will make quarterly visits to assess more than 700 machines being monitored within the WATCHMAN Analysis Program.

"Our management team understands the value of predictive maintenance technologies and vibration analysis," said Jim Smith, engineering manager of the Ivanpah Solar Electric Generating Station. "For this plant to run optimally with as few outages as possible, it is imperative to invest in new technologies from the beginning to help us accomplish this goal." Azima DLI has guaranteed exceptional responsiveness, flexible solutions and a strong commitment to Ivanpah's employee training. Azima DLI provides Ivanpah with advanced predictive reporting that reflects overall equipment health, valuable return on investment information, increased productivity, reduced downtime and actionable recommendations for machines that require attention before unplanned downtime.

"We are enthusiastic about the implementation of Azima DLI's WATCHMAN Analysis Program with Ivanpah Solar Electric Generating System. They have taken an exceptional approach in developing and implementing their PdM program from the beginning," said Azima DLI CEO Burt Hurlock. "It is essential to take these predictive measures before a failure occurs, and in this situation the WATCHMAN Analysis Program will be able to properly assess their equipment's condition to provide timely, accurate recommendations before unexpected downtime occurs."

Azima DLI is a leader and premier provider of predictive maintenance analytical services and products that align with customers' high standards for reliability, availability and uptime. Azima DLI's WATCHMAN Reliability Services utilize flexible deployment models, proven diagnostic software and unmatched analytical expertise to deliver sustainable, scalable and cost-effective condition-based maintenance programs. The company delivers machine health reliability solutions with global reach that reduce risk, improve safety, increase production and optimize efficiency. Azima DLI is headquartered in Woburn, Mass., with offices across the United States and international representation in Asia-Pacific, Central America, Europe and South America.

For more information, visit www.Azimadli.com or call (800) 482-2290.