LG&E and KU Energy, LLC

LG&E and KU Energy is a regulated utility that serves more than 1.3 million electricity and gas customers with a capacity of approximately 8,000 megawatts.

LG&E and KU Energy's Generation Services group implemented a data-technology platform to automate data collection and help the maintenance team shift focus to analyzing data and finding problems before those problems threaten plant availability.

Shift Focus from Data Collection to Data Analysis

The typical plant operator has optimized their maintenance strategy around decades-old technology. While critical assets have protection systems and the bulk of supporting assets get a manual check with a handheld once a month, remaining assets function on a reactive maintenance program. This strategy involves diligent plant personnel and equipment engineers spending most of their time focusing on keeping equipment running and coming home safely. However, this approach is not easily scaled or adjusted, making it difficult for plants to deal with changing markets, governmental regulations, recent workforce trends, and the quest to positively impact the corporate balance sheet.

Get Insight Faster with Internet of Things Technologies

LG&E and KU Energy connects asset health data from their fleet to a corporate-controlled network. Their team of subject matter experts can access this data from anywhere in the world to deal with equipment maintenance issues. With full data access, the maintenance team spends less time traveling to plants for on-site analysis, and the plant operations team gets faster support. Waiting four to five hours to bring a generating unit online is costly. Faster analysis can save tens of thousands of dollars per hour based on generator size and electricity market price.

Integrate Existing Tools with Open Platforms

LG&E and KU Energy connected maintenance data to their preferred historian database using an off-the shelf add-on for NI InsightCM™. Because this historian database already was connected to their contracted monitoring center, all new data from InsightCM was immediately available for processing and alarming using existing policies. Open platforms help integrate data into existing workflows, minimizing change requirements for IT and data stakeholders.

Automate Manual Data Collection with Wireless

LG&E and KU Energy is automating some manual data routes using wireless sensor technology. NI wireless technologies provide the measurement quality needed for asset health diagnostics while simplifying installation costs so that teams can connect a whole plant within days. Automating data collection reserves plant personnel time for operational activities and helps maintenance teams catch more events with more frequent datasets.

Wireless vibration sensors install like a standard accelerometer and report significantly more often than manual routes.

"I used to spend about 50-70% of my time traveling to analyze issues, and now, with InsightCM, that's down to about 20%. It's also valuable to us and our customers to not have to wait four to five hours to start a 500 MW unit. Everybody wins."

Chuck Requet
LG&E and KU Energy
Generation Services Group Leader

Discover the Possibilities with NI

For condition-based monitoring and predictive-maintenance applications, NI serves as a trusted advisor for digitizing and managing machine health diagnostic data. Offering more than 40 years of working with digitized data, nearly 20 years of taking machine vibration measurements, an open platform that adapts to the needs of reliability teams, and our ecosystem of partners with experience in product data management solution delivery, NI is an ideal vendor.

With an open, connected platform for asset health data, LG&E and KU Energy maintenance engineers get more of the data they need, faster, to make plant reliability decisions. Additionally, by connecting data to their existing tools—OSIsoft's PI System and third-party contractor monitoring—LG&E and KU Energy integrated the new data with minimal change to existing workflow using these NI products.

NI Products

InsightCM

Wireless Vibration Measurement Devices

Wireless Vibration Sensors

Continuous Monitoring Devices

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