

USING DATA AND ANALYTICS TO DRIVE DOWN COSTS AND IMPROVE PRODUCTIVITY

Background

Every power plant requires data to make informed decisions and to satisfy their numerous reporting requirements. Fortunately, there is a tremendous amount of data available, but unfortunately organizing this data and transforming it into actionable information can be difficult and time consuming. Further complicating the reporting process, are the varied metrics, output formats, and time periods required to satisfy key stakeholders. The person responsible for producing reports typically has a primary responsibility to support plant operations, but also needs to provide reports on a regular basis. It is important that they have timely access to the data in an easy to use format to quickly generate the required reports.



The Situation

Lonestar Generation had specific requirements centered on the standardization of data collection and reporting across their three (3) plants. Prior to the implementation of this system, the work of collecting, analyzing, and reporting data was a "second job requirement" for plant personnel operating and maintaining the plant. Each plant had different processes and personnel for performing this work and it took approximately a person-week to gather and document the required information for internal and external reporting, which was provided on a weekly basis.



Therefore, it was nearly a full-time job for one person at each plant to meet their reporting requirements and the results were often questioned by corporate personnel.

In addition to the reports that were required internally, each site had to submit performance data to the North American Electric Reliability Corporation's (NERC) GADS system. This process required additional staff resources, and could take days to complete in the required format, particularly for the peaking plant reporting numerous reserve events.

Collecting the required data was an issue, but Lonestar also needed to be able to transform the data points into information that they could use to make business decisions. Standardization in the reporting process was difficult to enforce and corporate users did not have confidence that the data that was being reported in a consistent and objective manner.

Management had access to all of the data from the three Lonestar sites, but they had no industry data to benchmark themselves against.

Collecting and Reporting data on your fleet is great, but if you don't have any peer benchmarks to compare yourself to, how are you supposed to get better?





Case Study Lonestar Generation: Plant Optimization through Automation

The Solution

Lonestar chose to implement SPS' ORAP Asset Insight[®] service. This service utilizes Lonestar's existing OSIsoft PI System Infrastructure combined with SPS' ORAP data transformation and analytical capabilities, to measure and optimize their plant operations.

The data captured from the PI System is securely passed to the ORAP database, run through a data validation process and then transformation algorithms to convert the data into asset information. The data capture process produces daily asset operating data with little to no human effort, resulting in a huge productivity benefit for plant personnel. Additionally, the data is collected and processed by standard algorithms, significantly



improving the fidelity of the data and, in the case of Lonestar, eliminated the questioning of the data source and reporting methodology.

The Asset information can be processed through several functions within the ORAP system to develop actionable intelligence. Lonestar uses these functions to measure operational readiness & thermal performance, perform compliance reporting, and maintain a current parts life & repair capability for their capital inventory. Lonestar also uses the GADS function and service in ORAP Asset Insight to automatically capture the required data, including reserve shutdown events, and then submit the files to NERC GADS.

Management, at all levels of the business and across various departments, use the output of this system to address business questions and to satisfy both internal and external reporting requirements.

Business Benefit

Productivity through Automation, Scalability, Credibility, Standardization, Visibility, and Benchmarking, to name a few.

Lonestar has created an effective infrastructure that is based on collecting data in an optimized way and providing meaningful, factbased analytics for decision-making to all areas of the business. The PI System ties the Lonestar sites into an Enterprise Infrastructure. They are able to respond to requests for data in minutes from any site or the corporate office using the same system. Questions on the validity and quality of the results have virtually disappeared due to standardization of the analytics and elimination of human errors from the data collection process. Data is collected from all of the operating assets in the same way, according to industry standard methodology and reported back through a state-of-the art analytics portal.

Similarly, as Lonestar looks toward the future growth of their portfolio, they have a strong and reliable information architecture that is scalable and transferable.





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