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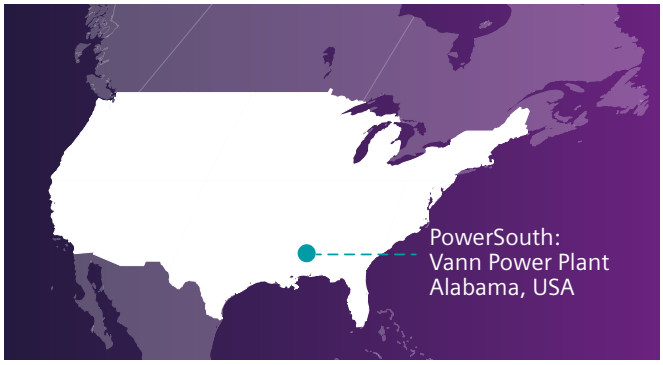


Vann Power Station, PowerSouth, USA

Better equipment maintenance and operational decisions with Continuous Performance Optimization

The Plant

The Vann Plant serves as baseload generation for PowerSouth and its distribution members. It boasts a winter capacity of over 570 megawatts and a summer capacity of over 500 megawatts. It was designed to incorporate the most environmentally friendly equipment available to generate affordable electricity, and it is PowerSouth's cleanest and most efficient fossil-fired generating facility to date, generating enough electricity to power approximately 539,000 homes.



Digital Thermal twin helps to increase **plant transparency**

The Task

The objective of Vann Power Station is to monitor any potential performance deviations of the gas turbines over the past months between site data and the expected values produced by a thermal model of the plant to increase performance and improve competitiveness.

The Solution

The data from the gas turbines in Vann power station is pulled to a cloud where it gets sorted, checked for errors and run through the Siemens Energy proprietary diagnostic system. The data is used to calculate the performance indicators and compare them to the ideal state calculated by the digital thermal twin. As the data goes through the process stages, at all points there are alerts that notify the Siemens Energy engineers about anomalies or large deviations from previous state, or twin results. In case of anomaly alerts our Siemens Energy engineers work together with the customer to analyze the plant data and advise on recommended actions for performance recovery. At Vann Power Station the Siemens Energy thermal performance program was used to monitor the Combustion Turbines.



The calculations were performed under steady state conditions using parameters such as IGV position, power, speed, and temperature. Contained herein is the Continuous Performance Optimization (CPO) Monthly Report for the power station. With the Siemens Energy solution PowerSouth is able to observe the post maintenance performance improvements and also to minimize degradation between outages.

The Result

- **Improved maintenance planning**
- **Increased transparency for better operational decisions**
- **Recommendations for quantifiable performance recovery**

“The Continuous Performance Optimization (CPO) service helps us make better equipment maintenance and operational decisions. They have ready access to our data and go beyond what we can do for ourselves. They have the analytical tools and help us work toward a deeper understanding of the data. We are working with Siemens Energy to put the information in a format that we can apply. They are helpful in our efforts to observe the post maintenance performance improvements and also understand degradation between outages.”

Scott Wright, Technical Superintendent
PowerSouth Energy Cooperative

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