



The Power of We™

Challenges

- To prevent equipment failure include steam turbine, power generator, condenser, boiler feed pumps, boiler feed booster pumps, condensate pumps, circulating water pumps, feed water heaters, air heaters, primary air fans, forced draft fans, induced draft fans and coal mills

- Predictive analytics application models were to be customized as per the plant design and use the historian data to generate early warning advisories. These advisories would notify teams through a workflow for corrective and preventive action

- Reduce maintenance costs through fewer trips and equipment degradation

Benefits

- Through innovative technological systems under its IT project, company has improved its productivity and efficiency. The solution helps company in making informed maintenance decisions using operating data and converts maintenance activities from a reactive mode to proactive mode

Turnaround via Data Science

Apps Intellect takes data science to a new level, through early warnings for all critical failures.

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Preventing equipment failure using analytics

There are various IT constituents involved in the project. The most important one is a Condition Monitoring and Diagnostic System, which is a predictive analytics application that uses operating data to make informed maintenance decisions. The predictive analytics generated by the system provides early warnings and prescriptive advisories on equipment condition for better operational insights.

Moreover, the company deployed a Distributed Control System (DCS) which had advanced diagnostic capabilities to improve control reliability and performance. Distributed Control System (DCS) uses controllers, which are connected to plant equipment sensors and actuators to capture the equipment parameter values. Another solution known as the Historian Application is deployed for taking the data of the identified critical parameters from Distributed Control System through OPC connectivity and storing it in a time series database.

Power generation company avoids equipment failure using predictive analytics.

Company uses predictive analytics for condition monitoring in order to identify and prevent critical equipment failures. For a power generation company, equipment failure can be very disruptive. For a unit having a typical 300MW coal-based plant, the cost of each unit tripping due to equipment failure can run into millions, in addition to other costs related to regeneration, maintenance, unit synchronization and unscheduled interchange (UI). It can also harm a company's reputation if such problems compromise the operating results. To preempt such a disruption, company deployed various IT solutions; the most significant segment which is a predictive diagnostic software solution for condition monitoring used to identify and prevent critical equipment failures and thus extends error detection to diagnostic management for the company.

Reinventing the Solution

The solution's actionable information and alerts, delivered at the very outset of developing issues, provides the company foresight and advance notice to perform necessary maintenance before these problems can compromise operating results.

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