

# Innovative approach to reducing start-up times

## Snapshot

### Client

Coal-fired plant, Europe

### Challenge

To reduce start-up times enabling the plant to compete effectively in the market.

### Solution

We reviewed start-up procedures, analyzed operational and design data, carried out advance modeling and supported a series of trials to assess the impact of phased start-up time reductions on the steam generator and turbine.

### Benefits

Start-up times reduced by up to 50%. Part of package of measures delivering the competitive benefits of flexible operation.

Reducing start-up times enables coal-fired plants to respond to the challenges of flexible operation and compete more effectively in today's electricity market. Backed by our long experience as an owner operator, we took an innovative approach to reducing our client's plant start-ups whilst mitigating any risks.

### Flexible operation program

As part of a program of measures to further expand flexible operation at our client's coal-fired power plant, we proposed a move away from the conventional start-up procedures recommended by the Original Equipment Manufacturer.

### Effective new procedure

Working closely with the plant's operations and engineering teams, we reviewed start-up procedures, and analyzed plant operational and design data including stress analysis.

Our ability to match the optimization of the steam generator and steam turbines, coupled with consideration of whole plant issues, supported development of the new procedures through a series of trials. The result was a significant reduction in start-up times.

Our knowledge of the plant was key to interpreting data from the trials. We gave an understanding of, for example, the effects of thermal stress on the steam turbine, and the impact of temperature differentials on the integrity of boiler pressure parts and structure. We reviewed risks and put forward mitigating measures, such as the need for more enhanced monitoring of particular components.

# up to 50%

Expected reduction in start-up time

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