



Preventing wet steam erosion at a Chinese power plant

The challenge

When the third phase of the SDIC Qinzhou Electric Power Plant was commissioned in Guangxi, China, the operator was keen to avoid the steam erosion problems that it had experienced in its turbine bypass valves operating in its Phase 1 and Phase 2 plants. This had resulted in trim erosion, higher maintenance costs and more frequent shutdowns – all adding to the customer's operating costs. The client was keen to avoid a repetition of these problems in Phase 3, for which it is commissioning two 660MW ultra supercritical units, designed to generate over 13 billion kWh of electricity each year. The client turned to IMI Critical Engineering for a solution



The solution

An IMI Critical Engineering team analysed the valve operating IMI Critical Engineering sent a team of expert engineers to understand the client's pain points and analyse the operating conditions, including temperature and pressure levels and the layout of the pipes and drains in the turbine bypass system.

The team designed a bespoke solution that combines the best of IMI Critical's renowned turbine bypass valves with its most advanced trim solution, EroSolve Wet Steam trim. EroSolve Wet Steam is a proprietary valve trim that was developed specifically by IMI Critical to delay erosion and extend valve life in wet steam operating conditions.

The IMI Critical team presented its recommendations at a number of seminars with the client, answering questions about EroSolve and providing case references of other successful installations which have extended valve life, enhanced efficiency and saved costs.

The client subsequently ordered two high-pressure steam turbine bypass valves and four low-pressure steam turbine bypass valves, all with EroSolve Wet Steam trim.



For more information on how our team can help you, contact your local IMI Critical Engineering sales team.