

CASE STUDY

Bend Removal : Rotor Repair

INTRODUCTION

The customer is a leading **sugar manufacturer** in **India** and has a large fleet of turbines. They had a stoppage in power generation due to **break down** of their **30 MW** turbine at their unit. The first information recorded was that the 30 MW was on full power and due to grid fluctuation, high vibration occurred and the turbine tripped. The turbine was over **30 years** old and the customer had no past data on the turbine. The customer put his faith in us to put the turbine back on power.

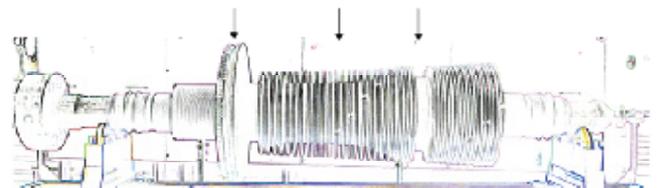
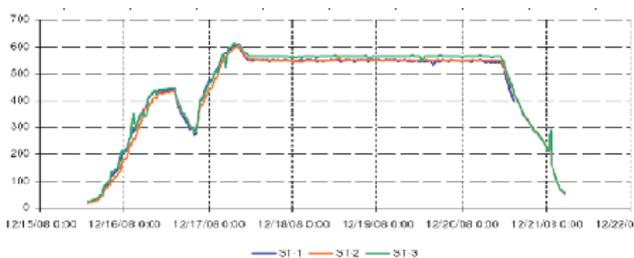
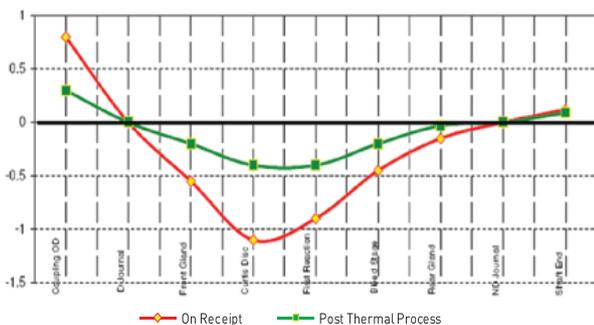
CHALLENGE

On receipt of the turbine and inspection of run out we found that the turbine had been subjected to a **complex bend** of **1.8 mm** across the length of the shaft and the challenge was to use the same shaft as per instructions of the customer.

SOLUTION

On review of the possible solutions the best way forward to remove the complex bend was to de-blade the rotor and subject it to a **thermal cycle** to remove all the stresses and enable us to bring the rotor within the desired levels of tolerances of straightness. The thermal cycle is shown below and we achieved the desired results.

We were required to manufacture new blades and found that the old design of root was no longer usable. A decision was taken after consulting the customer to replace them with our **new design**. The rotor was rebuilt and assembled in the turbine. The turbine is on full power for over 2 years with no issues since.



CUSTOMER SPEAK

"Triveni Turbines has displayed a lot of engineering skills in being able to bring our turbine into operation.

We had complete confidence in Triveni Turbines and hence on the forced stoppage we put our faith in Triveni Turbines to complete the job for us and they have reposed the faith."

SCAN FOR
ENQUIRY



VISIT
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