

POWER GENERATION



THE PROBLEM

A Power Station in North America had two large radial tipped (RT), induced draft (ID) fans. Clarage was asked to conduct a study and make recommendations to improve the efficiency of the fan system and to improve the fan performance in order to increase the installed capacity of this unit of the Power Station with increased air volume. The customer needed a net increase in the MW output of the plant.

THE SOLUTION

Clarage conducted tests on the ID fans to benchmark the existing fan performance and to determine the fan system requirements. During the study, Clarage discovered a severely distorted inlet flow profile in the range of 15-20% for both the transverse and axial directions, and a flow imbalance between the two inlets of the double width fan of approximately 11%. Fan system performance improvements were achieved through custom-engineered solutions to the ductwork and fan. Through the airflow analysis and model fan testing, Clarage was able to propose a ductwork modification that eliminated the airflow imbalance and distortion. To increase the airflow further, a custom-engineered airfoil wheel was retrofit into the existing housing to increase the efficiency of the fan. This helped increase the installed capacity of the Power Station unit from 295 MW to 315 MW.



TYPICAL APPLICATIONS

- > Combustion Air
- > Flue Gas Recirculation
- > Forced Draft & Induced Draft
- > Over-Grate Air
- > Overfire Air
- > Primary Air Fans
- > Seal Air Fans

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