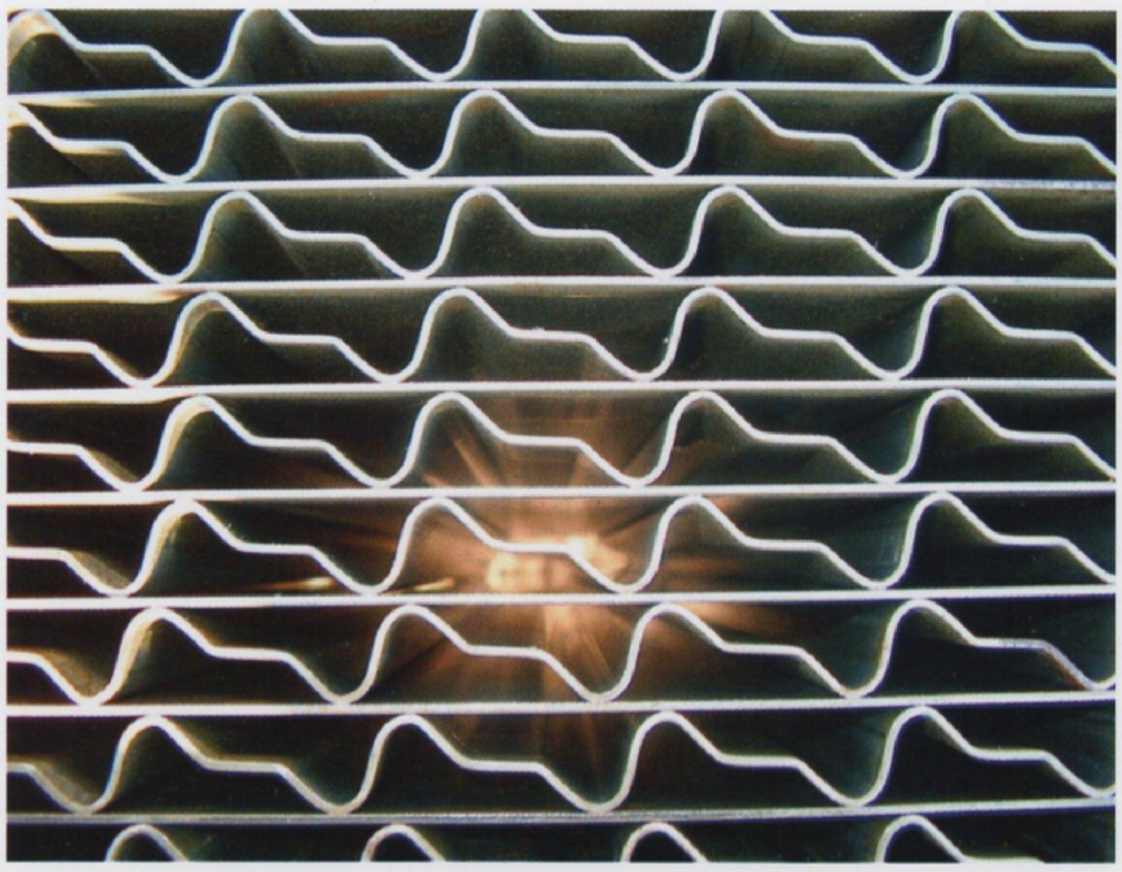
GEECO

Work on Air Preheaters at Tuticorin Thermal Power Station in India to increase the boiler efficiency

Case Study



TNEB –Tuticorin Thermal Power station is located in South India. It consists of 05 nos. of 210 MW Coal fired boilers. This case study is for Unit #5. The air preheaters are of size: 2 x 27 VIMT 2000, which was commissioned in 1992. During these years the condition of the sealing system and the condition of the baskets has deteriorated; thereby increasing the fuel consumption and the fan loading. GEECO was awarded for the spares supply and service supervision.

GEECO has supplied the following items:

- Full set of Hot end, Hot Intermediate and Cold End baskets for one air preheater with 'Basket Bypass Seal'
- Rotor Seals
- Static Seals

If the gap between the basket and the diaphragm plates/ Shell plates are more and are not closed, will result in bypassing of the gas; thereby not contributing to the heat transfer process. Closing this gap will result in more heat recovery, which will increase the boiler efficiency. GEECO supplied a specially designed 'Basket Bypass Seal' to arrest this gap. The dimension of the basket was done such that it will closely fit into the compartments. The GEECO's special design of baskets will not allow the slip-out of the element sheets; thus avoiding interference during installation.

Further to the supply, GEECO was awarded with the contract for the Service supervision. Investigation by GEECO engineers could pin point the problematic areas and rectify during overhauling. The installation, the repair work and Seal setting was done under GEECO engineer's supervision.

Operation experience since the overhauling is very good. And there is significant reduction in fan loading, fuel consumption and increase in unit generation.

Parameters	Before O/H	After O/H
Generation	201 MW	214 MW
Fuel Consumption	154 T/hr	134 T/hr
Total Fan Loading	691 Amps	569 Amps

GEECO Enercon Pvt. Limited
D/C 6, SIDCO Industrial Estate,
TIRUCHIRAPALLI – 620 015. India.
Tel: +91 431 2501239 *Fax*: +91 431 2500705
e-mail: geecoenercon@satyam.net.in
geeco@geeco.in
www.geeco.in

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