



Energy Audit: Thermal Power, Combined Cycle, and Cogeneration Plants

By Y P Abbi

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The availability of fossil fuels required for power plants is reducing and their costs increasing rapidly. This gives rise to increase in the cost of generation of electricity. But electricity regulators have to control the price of electricity so that consumers are not stressed with high costs. In addition, environmental considerations are forcing power plants to reduce CO₂ emissions. Under these circumstances, power plants are constantly under pressure to improve the efficiency of operating plants, and to reduce fuel consumption. In order to progress in this direction, it is important that power plants regularly audit their energy use in terms of the operating plant heat rate and auxiliary power consumption.

Energy Audit of Thermal Power, Combined Cycle, and Cogeneration Plants attempts to refresh the fundamentals of the science and engineering of thermal power plants, and establishes its link with the real power plant performance data through case studies, and further developing techno-economics of the energy efficiency improvement measures. This book will rekindle interest in energy audits and analysis of the data for designing and implementation of energy conservation measures on a continuous basis.

Key features:

- Extensive coverage of basic design concepts and equipment details
- Specific details on methodology for energy audit data collection for different equipment/subsystems
- Analysis of data with the basic objective of energy efficiency improvement of different equipment/subsystems of a power plant
- Techno-economics of each energy efficiency/energy conservation measure, to enable management to take right investment decisions
- Insightful discussions on advanced technologies like supercritical and IGCC power generation systems

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