





There are so many systems and equipment which fail to perform at the optimal level mainly due to aging factor and/or due to accelerated degradation owing to improper operations and maintenance practices.

These 'Profit Eaters' cause huge loss to the plant owner in terms of performance, reliability, part load operation and lead to financial loss.

India Boiler dot Com offers gap analysis of major components of Power, Utility and Process industries for identification of Performance and Reliability improvement opportunities.

We are also offering consultancy services for various troubleshooting in your boiler and utilities system.



Our services include: Gap Analysis & Identification of profit eaters in:

Boiler Systems:

Identification of probable causes behind issues like:

- I. High flue gas exit temperature
- II. High un-burnt in fly ash and bottom ash
- III. High excess air
- IV. Improper coal fines
- V. Improper PA to coal ratio
- VI. High SH/RH spray
- VII. High SH/RH metal temperature
- VIII. Low SH/RH temperature
- IX. Increased slagging and fouling
- X. Frequent water wall blowing and LRSB operation
- XI. High NOx emission
- XII. Limitation on load due to ID saturation
- XIII. Performance degradation of ID/ FD and PA /fans
- XIV. High bed temperature in FBC
- XV. Frequent refractory failures in FBC
- XVI. Frequent tube failures

We conduct complete combustion tuning exercises including furnace and convection pass blue printing for guaranteed fuel saving opportunities.

The above services are offered for Pulverized Coal Fired Thermal Power Plant Boilers, AFBC/CFBC Utility Boilers, Oil/Gas fired Utility and Process Boilers.

Steam Turbine, Condenser & Heaters:

- I. Identification of probable causes for reduction in HPT/ IPT and LPT cylinder efficiency and suggesting remedial measures
- II. Identification of probable causes for reduction in condenser performance and suggesting remedial measures
- III. Performance assessment of heaters and identification of causes for issues like decreased feed water outlet temperature, increased drip temperature.

Gas Turbine and HRSG:





- I. Identification of Gas Turbine issues like:
- Capacity degradation
- Increase in specific heat rate
- Compressor fouling
- Sudden increase in vibration
- Accelerated degradation of gas turbines hot gas path critical components
- Maintenance induced problems

Suggesting corrective measures

- II. Detailed inspection of HRSG components, analysis of heat transfer across each section and identification of causes behind:
- Decrease in steam flow
- Degradation of steam parameters
- Tube damages & failures

Suggesting corrective measures







Air Compressed System:

- Performance assessment of air compressors i.e. power consumption vs flow delivered, compressor efficiency etc.
- II. Review of present compressed air distribution system along with determination / detection of leakage.
- III. Exploring energy conservation opportunities in compressed air system which includes pressure setting, inter cooler & after cooler performance, air dryer etc.

Pump & Pumping System

- Performance assessment of all major pumps i.e. power consumption vs. flow delivered, pump efficiency etc.
- II. Exploring the Energy Conservation Options (ENCON) in Pumping System which includes valve throttling, best efficiency point operation, Net Positive Suction Head Available etc.

HVAC System

- Performance assessment of chillers (VCR/VAM), Central Plant / D X Plant, Package Units, Air Handling Units / Fan Coil Units and cold insulation.
- II. Analysis of Energy Performance Indicators like EER (Energy Efficiency Ratio), kW/TR, specific energy consumption of chiller plantetc.
- III. Performance assessment of Fans & Blowers.
- IV. Exploring energy conservation opportunities in present system.

Cooling Water System

- I. Assessment of cooling tower capacity, effectiveness and L/G ratio.
- II. Evaluation of circulating water pump flow rate, head developed, and pressure of pumping system and power consumption.



Activities & Deliverable:

Gap Analysis exercise would be carried out on site and it covers the following stages:

- Kick off meeting with O&M team.
- Collection & measurement of data and detailed study of the system parameters.
- Analysis and assessment of the system condition along with improvements opportunities.
- Conducting trial for combustion tuning
- Sign off presentation to team
- Submission of detailed report with recommendation and cost benefit analysis



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