THERMAL POWER PLANT
MARAL OVERSEAS LTD.
Goyal Nagar, Distt. Indore (Madhya Pradesh)

Unit Profile

MARAL OVERSEAS LIMITED (MOL) is a group Company of renowned LNJ Bhilwara group. The LNJ Bhilwara group(Graphite, Textiles and Power Generation) founded by Shri Laxmi Niwas Jhunjhunwala has a global presence. MOL plant was set up in the year 1989 as 100% Export oriented, vertically integrated Textile manufacturing Unit (An ISO 9001, 14001 & 18001 accredited Co.).

The Thermal Power Plant of 8.5 MW was set up in the year of November 2007 for to cater its captive power and process steam requirement both.

The Thermal Power Plant has been set up with latest state of the art technology with complete automation incorporating DCS system of ABB. The plant was set up on EPC basis by reputed manufacturer Thermax. The plant has all environmental protection system like three field ESP back filter on all junction point of coal conveying system. The Thermal Power Plant is comparable with any of the world

class plants in respect of house keeping, efficiency, standard operating practices and green environment.

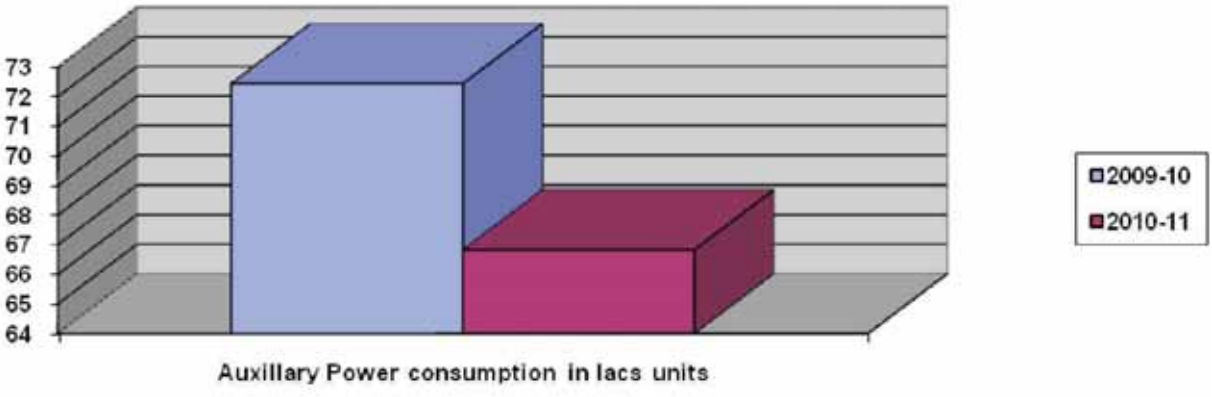
TPP has atmospheric fluidized bed combustion (AFBC) steam Boiler – capacity 50 TPH and is designed to fire F – grade coal 100%.

Energy Consumption and Plant Performance

The TPP since its commissioning has improved performance in energy consumption and Plant operating parameters year on year basis. A dedicated team of qualified engineers have been involved in optimizing plant performance by monitoring its parameters (Condenser vacuum, O2 level, Boiler exhaust gas temperature and Boiler efficiency) and consumption (Auxiliary power consumption, Specific coal consumption, Specific heat rate and Plant load factor etc.). The efficiency of boiler has been constantly maintained its design efficiency of 82 +/-2%. The efficiency levels achieved for the past two year have been 82.5% and 83%.

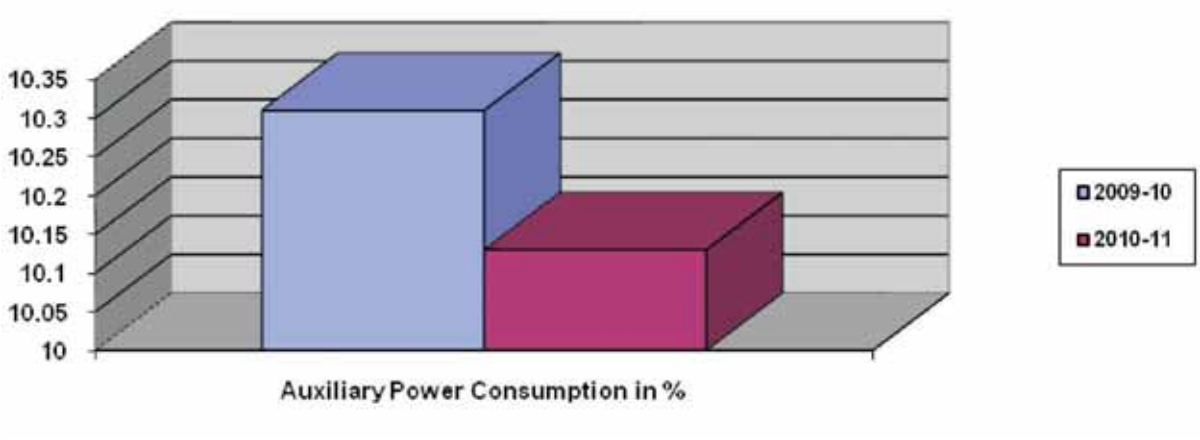
Sl. No.	Operating Parameters	UOM	Year	
			2009-10	2010-11
1	Actual Generation	M U	70.24	65.97
2	Plant Load Factor	%	80.2	88.6
3	Deemed PLF	%	99	98
4	Auxiliary Consumption	%	10.31	10.13
5	Sp. Coal Consumption	Kg/kWh	0.955	0.89
6	Heat Rate	Kcal/kWh	3441	3205
7	Thermal Efficiency	%	26.4	27.2

Auxiliary Power Consumption in Lacs Units



Auxillary Power consumption in lacs units

Auxiliary Power Consumption in %



Energy Conservation Measure implemented in 2010-11

1. Stopping of Side Selection Filter (SSF) Pump

Technology : Optimizing equipment use
Description of the energy conservation measure:

As per plant design SSF Pump is used for filtration / circulation of water of cooling tower. By modification in cooling water line the same flow in SSF achieved. By this modification from cooling water pump line header, SSF pump (30 KW) has been isolated & stopped.

Agency that executed the project	:	In house
Energy saving Yearly	:	183823kWh
Energy tariff per KWh	:	Rs. 4.25
Total Investment	:	NIL
Yearly cost savings	:	Rs. 781248
Pay Back Period	:	Immediate

2. Modification in stage casing of Boiler feed water Pump 2

Technology : Modification

Description of the energy conservation measure:

Replaced the entire stage casing in Boiler feed water Pump by modified casing & complete overhauling and alignment.

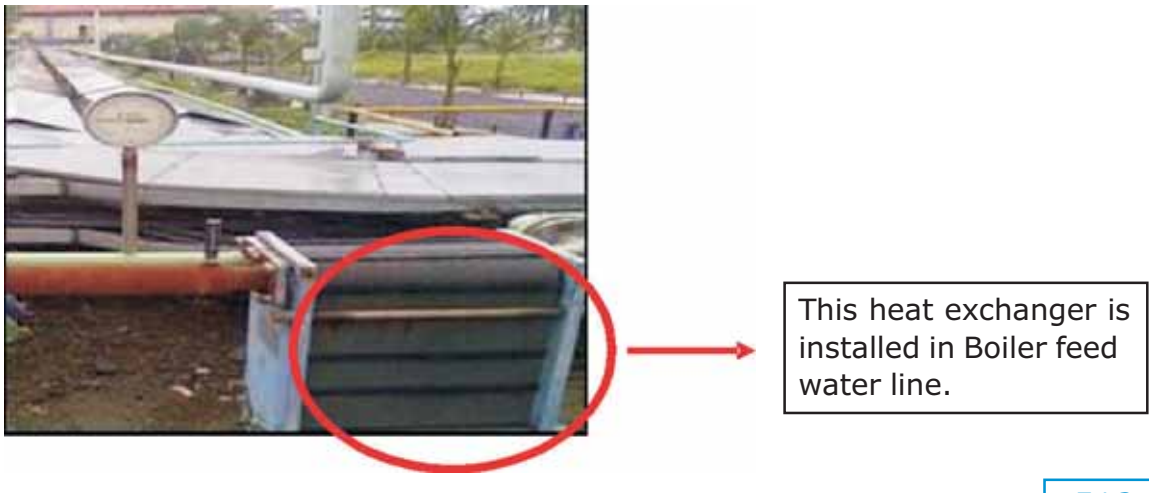
Agency that executed the project	:	In house
Energy saving Yearly	:	255024kWh
Energy tariff per KWh	:	Rs. 4.25
Total Investment	:	Rs. 1100000
Yearly cost savings	:	Rs. 1083852
Pay Back Period	:	12 Months

3. Waste heat recovery from hot water

Technology : Waste heat recovery

Description of the energy conservation measure:

Installation of heat exchanger in DM feed water line to recover heat of waste hot water from process.



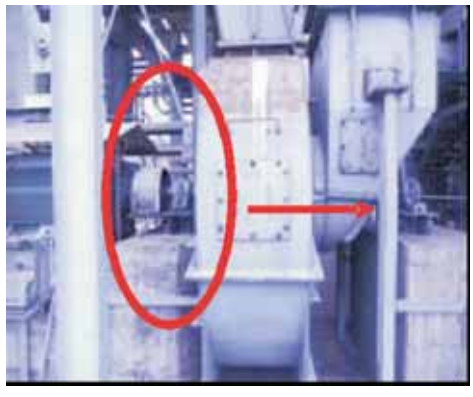
Agency that executed the project	:	In house
Energy saving Yearly	:	91 Ton
Coal Rate per Ton	:	Rs. 3800
Total Investment	:	Rs. 150000
Yearly cost savings	:	Rs. 345800
Pay Back Period	:	5 Months

4. Automation of FD FAN operation

Technology	:	Automation

Description of the energy conservation measure:

FD Fan was Running in Manual Mode. By Engineering Changes in DCS Logic it is Running in Auto Mode Now.



FD Fan Running in Auto mode now

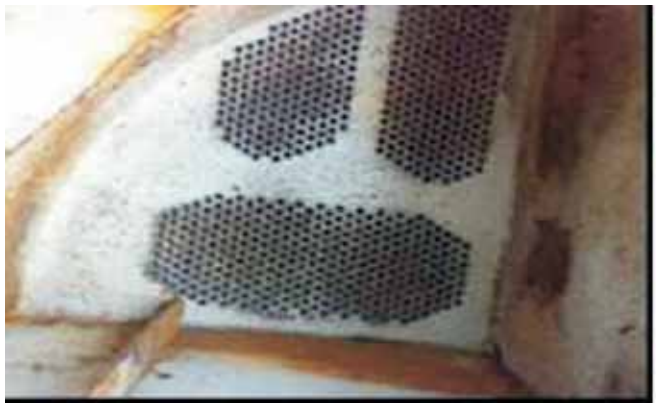
Agency that executed the project	:	In house
Energy saving Yearly	:	1980 Ton
Coal Rate per Ton	:	Rs. 3800
Total Investment	:	Nil
Yearly cost savings	:	Rs. 7524000
Pay Back Period	:	Immediate

5. Condenser Cleaning by bullets

Technology	:	Preventive maintenance

Description of the energy conservation measure:

Bullets cleaning of condenser were performed to clear the minor scaling in condenser tubes.



Agency that executed the project	:	In house
Energy saving Yearly	:	949 Ton
Coal Rate per Ton	:	Rs. 3800
Total Investment	:	Rs. 80000
Yearly cost savings	:	Rs. 3606200
Pay Back Period	:	Immediate

6. Cleaning of APH & Economizer

Technology	:	Preventive maintenance

Description of the energy conservation measure:

During annual shutdown the economizer & APH tubes were thoroughly cleaned.

Agency that executed the project	:	In house
Energy saving Yearly	:	1810 Ton
Coal Rate per Ton	:	Rs. 3800
Total Investment	:	Rs.120000
Yearly cost savings	:	Rs. 6878000
Pay Back Period	:	Immediate