Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Blinding of one stage in the feed pump to optimize the flow & pressure**	**Thermal Power Stations**
Year to be filled by BEE		Technology: Optimization

Description of the energy conservation measure: In our 600 MW Thermal Power Plant (6x50MW +3x100MWUnit) the feed pump is a major energy consumer (Motor output-2000KW). The Feed Pumps are 10 Stage pumps and the Pump parameters are: Flow – 270 M^3/Hr, Pressure-158Kg/Sq.met. Our requirement at 100 % MCR of the unit is nearly Flow-220 M^3/Hr, Pressure-145Kg/Sq.met. Hence in consultation with Original Equipment Manufacturer, it is decided to blind the 6^{th} Stage to optimize the flow and pressure to 225 M^3/hr and 147 Kg/Sq.met respectively and the same is carried out in one feed pump. The power consumed before modification at 48 MW Unit load is 1363 kW and the power consumed after modification at 48 MW Unit load is 1207 kW.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 0.1 Lakhs**	**Aug -2006**

First year energy cost savings, Rs.: **Rs. 17.21 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before	**8,596,714**				
Energy consumption after	**7,612,790**				
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**1.7487 /kWh****			** selling prize Rs.1.7487/kWh	

Company complete address:
600 MW THERMAL POWER STATION -I,
NEYVELI LIGNITE CORPORATION LIMITED,
NEYVELI, CUDDALORE DISTRICT, TAMIL NADU,
PIN CODE - 607 807
TeleFax:04142 -254773
Contact person who could be contacted for more information:
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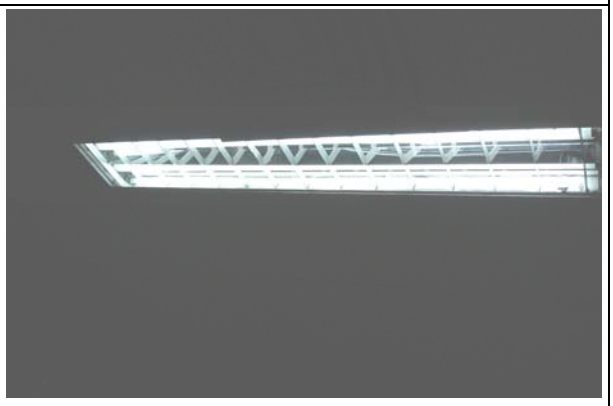
-sd-
General Manager,
Thermal Power Station-I
Date:30.10.2007

Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Replacement of conventional tube light with energy efficient tube lights**	**Thermal Power Stations**
Year to be filled by BEE		Technology:

Description of the energy conservation measure: 190 Nos. of conventional tube lights are replaced by Energy Efficient tube lights (Asian E+). The Power consumption of Conventional tube light is 54 Watts, whereas the power consumption of energy efficient tube light is 28 Watts. The Power saving per tube light is 25 Watts (average).

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 1.32 Lakhs**	**Aug -2006**

First year energy cost savings, Rs.: **Rs. 0.36 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before	**44939**				
Energy consumption after	**24134**				
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**1.7487 /kWh****			** selling prize Rs.1.7487/kWh	

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Replacement of damaged Insulation**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: Insulation audit was conducted and it was found that the heat losses occurred at main steam line, Emergency Stop Valve, High Pressure Heaters and turbine side Valves due to Insulation damage. The damaged insulation were removed and re-insulated during Annual Maintenance.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 12.0 Lakhs**	**2006-07**

First year energy cost savings, Rs.: **Rs. 186 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before					Total fuel saved 27424 Tonnes.
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 678 /Tonne**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Reduction of Excess Air**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: Oxygen in Flue gas is the indication of excess air. Normally for lignite the Oxygen % in the flue gas shall be 5 to 5.5 % in the case of optimum excess air quantity in our boiler. In the energy audit it was found that the oxygen quantity in the flue gas was around 6.2 %. The operation air regime is adjusted such that the oxygen quantity in the flue gas is only 5.5 %.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 0.0Lakhs**	**2006-07**

First year energy cost savings, Rs.: **Rs. 13.1 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before					Total fuel saved 1932Tonnes.
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 678 /Tonne**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Reducing the flue gas loss**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: The flue gas temperature at the exit is an indication of heat transfer in the furnace. In the energy audit it was found that the flue gas temperature at exit level was 176 Deg.C. By increasing the frequency of soot blowing, the heat transfer in the water wall is increased and the flue gas temperature is reduced from 176 to 170 Deg.C.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 0.0Lakhs**	**2006-07**

First year energy cost savings, Rs.: **Rs. 12.61 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before					Total fuel saved 1860Tonnes.
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 678 /Tonne**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Reducing air ingress in Boiler**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: The air ingress in boiler increase the quantity of air handled by the ID fan which in turn rise the power consumption of the ID fan. In the energy audit it was found that the air ingress in a boiler is 46 % and the quantity of air leakage that can be reduced is estimated as 31%. The measures were taken to attend the air leakage during AM.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 10.0Lakhs**	**2006-07**
First year energy cost savings, Rs.: **Rs. 26.23 Lakhs**	
First year other savings, Rs.:	

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before					Total energy saving is 15lakhs units
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 1.7487/ KWHr**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Replacement of old Air Handling Unit**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: Heat transfer in 2 Air Handling Units were poor due to damage of fins for which airflow was restricted. The Air Handling Units are replaced with new Air Handling Units.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 5.0Lakhs**	**2006-07**
First year energy cost savings, Rs.: **Rs. 6.68 Lakhs**	
First year other savings, Rs.:	

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before					Total energy saving is 3.82lakhs units
Energy consumption after					
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 1.7487/ KWHr**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Passing in the re-circulation valve of Main condensate pump**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: The power consumption of Main condensate pump in unit-2 (50 MW) our Thermal Power Station was found more during normal operation. This increase in power consumption was due to passing in the re-circulation valve. It was attended.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 0.0Lakhs**	**2006-07**

First year energy cost savings, Rs.: **Rs. 1.8 Lakhs**

First year other savings, Rs.:

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before	**891634**				
Energy consumption after	**788753**				
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 1.7487/ KWHr**				

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Energy Conservation Measure implemented in 2006-2007

ID to be filled by BEE	**Reduce Idle running hours in conveyor system**	**Thermal Power Stations**
Year to be filled by BEE		Technology: O&M Practices

Description of the energy conservation measure: In the energy audit it was found that there was 4 to 5 hours idle running of conveyors in the external lignite transfer system. The Idle running hours is reduced by 2 Hours by proper co-ordination with mine personnel.

Picture/ sketch/ drawing before modification (if available)	**Picture/ sketch/ drawing after modification**
XXXXX	**XXXXX**

Agency that executed the project (with complete address and email): **Neyveli Lignite Corporation Limited, Neyveli**

Total investment: **Rs. 0.0Lakhs**	**2006-07**
First year energy cost savings, Rs.: **Rs. 3.64 Lakhs**	
First year other savings, Rs.:	

On annual basis	kWh 000'	Coal (Tons)	Gas Nm^3	Oil (kL)	Other
Energy consumption before due to 2 hours idle running	**208050**				
Energy consumption after	**0**				
Energy tariff, Rs/ kWh/ Ton/ Nm^3/ kL …	**Rs. 1.7487/ KWHr**				

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