Annex – 4
(Immediate measures with financial implication)

Measures Implemented

Sl. No	Name of CPRI Recommendation	Location	Benefits
1	Special compactors can be used for compacting coal to avoid spontaneous combustion.	Coal Handling Plant.	Dynapac Make Compactor has been procured. The compactor is functioning on normal & vibrating mode. In vibrating mode, air pockets are eliminated. This has resulted in elimination of spontaneous coal burning and hence coal loss reduction.
2	As turbine is the single largest reason for heat rate deviation, conduct and benchmarking of steam path audit of the steam turbine internals after every capital overhaul of the turbine.(u2)	Unit 2 (210 MW) HPT, IPT & LPT turbines	During the unit 2 COH in Aug-Oct 2011, steam path audit was carried out by M/s Energo (P) Ltd, New Delhi & necessary corrections have been done. Improvement of 10kcal/KWh is envisaged at station level for the operating period of the year.
3	The software resources for online tendering and paperless process need to be upgraded.	CPS / Technical Section	E-Tendering and E-enquiry are implemented and it is a continuous practice adopted by BTPS
4	Relaying of refractory of bottom ash hopper.	Boiler Basement U2	Bottom ash hopper refractory has been completely replaced during the COH of unit 2 in Oct 2011 . Due to this the availability of clinker grinder is improved
5	Replacement by smart pneumatic positioners	Turbine Basement, Firing floor, Boiler basement, fan area, drum level, FST level, HPH/LPH, condenser level etc.	Old pneumatic positioners replaced by smart positioners during COH which was covered in DCS of unit 2 in Oct 2011. Response time is fast & operation activities are going smoothly.
6	Video conference facilities of MSPGCL to be put to effective usage for HO-station and Station to station meetings/discussions.	New Generation Control Room BTPS at Service Building	This scheme is implemented in July 2008 & modified as per the current requirement & recent development in the power sector i.e. MOD module, ABT module and PPC module added. Also, IP phones added into the scheme. MORM, SAP, Accounts & important meetings are conducted online ***saving the organization's time and resources.***

7	FSSS interlock system	unit 2 PCR	Implemented during COH of unit 2in Oct 2011. Hardwire logic replaced by DCS. So, no spurious outages have taken place till date. This system is more user friendly than the older one.
8	Automated Paperless Attendance system and dispensing of papered attendance registers and records. Complete utilization of existing automated punching system for attendance data base of all employees.	Time Office & Administrative Building- Shaktigad	This was implemented in Aug 2011. This system helps to minimize paper utilization. The attendance data of all employees is centrally stored. So within few clicks, we can get the attendance of any employee irrespective of section, thus helps to get quick information of employee attendance. It helps for report preparation and statistics can be easily drawn.
9	Additional lube oil cooler	U3 Turbine Basement- Minus level	Implemented during AOH of unit 3 in Aug -Sept 2010. Before installing of additional lub oil cooler, lub oil temp. was maintaining on higher side, which is now being maintained as per design.
10	Coal flow balance between pipes in an elevation to within ±10 % of the mean value through a variable air jet pressure of 110-120 kPa and at an angle of 45º across the pulverized coal flow pipe passage. (U2)	Firing Floor	Implemented in COH of Unit 2 in Oct 2011, all coal burners i.e. 24 Nos replaced with ASTM -A536 grade material & worn out orifices replaced. Therefore balanced coal flow within coal pipe is achieved.
11	Coal pipe materials at direction changing sections and flow curvature zones to be replaced by higher grade material like high chrome alloy steel.(u2)	Coal mill area pulverized coal pipes	Ceramic lined coal pipes are already replaced in AOH of U3 in Sept 09 & in COH of U2 in Sept-Oct 2011. Coal leakages are reduced.
12	Cleaning of lube oil coolers of all HT equipment	U2 Turbine Basement- Minus level	During COH of U2 in Oct 2011, BFP 2A working and lub oil cooler replaced by modified cooler. Hence heat transfer efficiency improved. BFP trippings on "working oil temp. high" are eliminated.

13	GT secondary energy meter (from GCR) may also be incorporated in auxiliary power computation.	New Generation Control Room BTPS at Service Building	Incorporated. Computation done & being sent to HO GCR. More accuracy of calculations of aux. Power.