Annex – 5
(Medium Term Measures)

Table 1: KTPS status of CPRI recommendation medium term measure.

STATION / UNIT	**CPRI Recommendations**	**Date / Month of Imple-mentation**	STATUS AS ON 31-12-2011	**Effects / Results / Improvement seen**
UNIT 5	Furnace Exit gas temp monitoring with HVT	Mar-09	Furnace temp mapping is done with pyrometer	Better monitoring & mapping of furnace temperature can be done
UNIT 6	Furnace Exit gas temp monitoring with HVT	Mar-09	Furnace temp mapping is done with pyrometer	Better monitoring & mapping of furnace temperature can be done
UNIT 7	Furnace Exit gas temp monitoring with HVT	Mar-09	Furnace temp mapping is done with pyrometer	Better monitoring & mapping of furnace temperature can be done
UNIT 5	Monitoring of noise level inside the mill	N/A	Abnormality in the mill is indicated in respective PCR on the basis of parameters & local operator hence not required	
UNIT 6	Monitoring of noise level inside the mill	N/A	Abnormality in the mill is indicated in respective PCR on the basis of parameters & local operator hence not required	
UNIT 7	Monitoring of noise level inside the mill	N/A	Abnormality in the mill is indicated in respective PCR on the basis of parameters & local operator hence not required	----
UNIT 5	Replacement of existing BFP Lub and working oil coolers by Plate type heat exchangers	N/A	The existing system is satisfactory no any problems have been noticed.	For better lub oil cooling

UNIT 6	Replacement of existing BFP Lub and working oil coolers by Plate type heat exchangers	N/A	The existing system is satisfactory no any problems have been noticed.	--,,--
UNIT 7	Replacement of existing BFP Lub and working oil coolers by Plate type heat exchangers	N/A	The existing system is satisfactory no any problems have been noticed.	--,,--
UNIT 5	Timely replacement of Oxygen & CO sensors	Jan-13	O2 analyzers are in service & the sensors are replaced as & when required. CO analyzers are not working. Being an extractive type analyzer, very frequent problem of probe filter chock-up is observed. The analyzer does not work due to the moisture & dust particles. New system will be proposed.	Continuous availability of oxygen & co measurement
UNIT 6	Timely replacement of Oxygen & CO sensors	Jan-13	**--,,--**	**--,,--**
UNIT 7	Timely replacement of Oxygen & CO sensors	Jan-13	**--,,--**	**--,,--**
STAGE-II	Provide the roller screens for stage I and stage II CHP and replacing the damaged granulators of stage I crushers.	Apr-10	New TM-13 Vibrating screens are already installed on The Crushers Nos. 1, 3 & 4.	Better control of coal feeding
STAGE-II	Troughs for holding coal as it falls off the conveyors.	Found not feasible.	Installation of troughs is not feasible as there is no extra space. Also load of the troughs with coal may increase.	----
STAGE-II	Installation of bucket elevator to lift fallen coal at both Stage I and II to directly move it into one of the bunkers.	N/A	Due to space constraints at bunker level it is not feasible An agency was requested to submit budgetary offer for supply & installation of bucket elevator but not found feasible due to space constraints at bunker level	---
UNIT 5	Blow down (CBD & IBD) may be automated and optimized.	N/A	Motorized EBD is available. The existing system is satisfactory hence not required	----
UNIT 6	Up gradation of APH heat exchanger matrix	Dec-13	Covered in Boiler-reengineering UNIT 6 R&M	Reduction in APH flue gas outlet temp.

UNIT 6	Blow down (CBD & IBD) may be automated and optimized.	N/A	Motorized EBD is available. The existing system is satisfactory hence not required	
UNIT 7	Up gradation of APH heat exchanger matrix	Dec-14	Covered in unit 7 EER&M	Reduction in APH flue gas outlet temp.
UNIT 7	Blow down (CBD & IBD) may be automated and optimized.	N/A	Motorized EBD is available. The existing system is satisfactory hence not found necessary	
UNIT 5	Boiler flame monitoring using CCTV	Aug-12	DPR prepared & sent to HO.	Better flame analysis & control
UNIT 6	Boiler flame monitoring using CCTV	Aug-12	is included in R & M scope	Better flame analysis & control
UNIT 7	Modernization of instrumentation & control	Dec-12	This will require comprehensive DCS system. Unit 5 has already DCS system. DCS for unit 6 is covered in R&M. Unit 7 DCS is covered in DPR	Better accuracy, reliability flexibility & control
UNIT 7	Boiler flame monitoring using CCTV	Aug-12	DPR prepared & sent to HO.	Better flame analysis & control
STAGE-II	Design profiles may be drawn on the MMI screens and displayed at the time of start-up and shut down operation. The parameter profiles during actual start-up and shut downs may be compared on-line with design profiles of the unit	Mar-13	This will require comprehensive DCS system. Unit 5 has already DCS system. DCS for unit 6 & UNIT 7 is covered in R&M.	Time minimization in start up & withdrawal of unit
UNIT 5	Long retractable soot blowers may be re-commissioned.	Dec-12	2nos of Sonic soot blowers are procured same will be installed on trial basis for Reheater zone. Same will be installed in unit-6 OH in Jul-12. After observing the performance procurement will be initiated for other units.	

UNIT 5	Increase of the length of the APH baskets by 10 %	FY 13-14	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 5	Up gradation of APH heat exchanger matrix	FY 13-14	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 5	Regenerative dynamic sealing of APH	FY 13-14	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 5	Smart soot blower system.	Apr-13	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 5	Replacement of APH baskets and seals.	May-13	At U5 baskets replaced in AOH in Jul-10 Partial replacement is carried out in Jul 10	Performance Improvement
UNIT 6	Long retractory soot blowers may be re-commissioned.	Dec-12	2nos of Sonic soot blowers are procured will be installed on trial basis for Reheater zone. Same will be installed in unit-6 OH in Jul-12. After observing the performance procurement will be initiated for other units.	Heat gain expected
UNIT 6	Regenerative dynamic sealing of APH	Apr-13	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 6	*Smart soot blower system*.	FY 13-14	Covered in Extensive R&M	Reduction in APH flue gas outlet temp.
UNIT 6	Replacement of APH baskets and seals.	Jan-11	At U6- replaced in Jan-11. Partial replacement carried out in Jan-11	Performance Improvement
UNIT 7	Replacement of APH baskets and seals.	Nov-11	At U7 replaced in AOH in Nov 2011	Performance Improvement
UNIT 7	Long retractory soot blowers may be re-commissioned.	Dec-12	2nos of Sonic soot blowers are procured will be installed on trial basis for Reheater zone. Same will be installed in unit-6 OH in Jul-12. After observing the performance procurement will be initiated for other units.	Heat gain expected

UNIT 7	Regenerative dynamic sealing of APH	Apr-14	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 7	Smart soot blower system.	Apr-14	Proposed through R&M	Reduction in APH flue gas outlet temp.
UNIT 5 &7	Capital overhaul, restoration of the steam paths in steam turbine UNI	Aug-12	Work will carried out during COH of Unit 5 , in Aug 2012.	Improvement in heat rate & Turbine efficiency.
UNIT 6	Capital overhaul, restoration of the steam paths in steam turbine	Feb-11	COH carried out in FEB-11 Before O/H turbine heat rate was 2221 Kcal/KWH & after O/H 2124 Cal / kWh and efficiency of turbine improved from 38.72 to 40.48..	Improvement in heat rate & Turbine efficiency.
UNIT 5	Installation of intelligent motor controller for low loaded LT motors.	FY 2012-13	Intelligent motor controller will be installed at One no of Service air compressor & after observing performance same will be implemented	----
UNIT 6	Installation of intelligent motor controller for low loaded LT motors.	FY 2012-13	Intelligent motor controller will be installed at One no of Service air compressor & after observing performance same will be implemented	----
UNIT 7	Installation of intelligent motor controller for low loaded LT motors.	FY 2012-13	Intelligent motor controller will be installed at One no of Service air compressor & after observing performance same will be implemented	----
STAGE-II	Installation of Intelligent motor controller or VFD for low loaded motors such as conveyer motors and air compressor at booster pumps.	Aug-12	VFD at Conv-101 installed. Due to low benefit the scheme for other conveyor has been deleted. At booster pump house VFD installed to both compressors. Out of 8 Booster pumps 1 no. i.e. Pump no `D' VFD installed. For other 2 no's Tender order is in process. For balance pumps work is proposed through capital budget of 12-13	Saving in auxiliary consumption