Annex – 3
(Immediate measures without financial implication)

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
1	Generation of process steam of PRDS grade for augmenting the auxiliary steam of units and thereby saving on the live steam which is used for auxiliary applications could be considered via atmospheric fluidized bed boiler technology using reject coal.	Vol-1, Page-11, Sr.No.11	Pilot Project for Washery under consideration at CSTPS. Will be implemented.
2	Invention award: An invention award for recognition of outstanding inventions which have added value to the TPS through bi-annual operation of inviting proposals.	Vol-1, Page-18, Sr.No-117	Scheme is already implemented is in operation
3	Gradually, in small steps converting time based compensation (overtime allowance) to performance based compensation	Vol-1, Page-18, Sr. No.119	The overtime has been reduced to 75 hrs per quarter. There is constant demand for increasing this but company has disagreed. Incentive scheme is considered in CHP area.
4	Revamp of the promotional procedures and policies.	Vol-1, Page-18, Sr. No.120	The selection process is revamped. Process of direct selection is being adopted. Implemented.
5	The outsourcing of recruitments, promotions to competent outside agencies like IIM, IIT, etc. may be considered.	Vol-1, Page-18, Sr. No.121	The process of Selection is outsourced to external agencies like IBP & APTECH .Implemented.
6	Financial incentives in areas like wagon tippling. Etc., where the productivity results in financial gains to MSPGCL.	Vol-1, Page-18, Sr. No.122	The process of implementation already started
7	Simplification and expediting of process for deputing engineer and technicians for training.	Vol-1, Page-19, Sr. No.126	Already implemented the Sub centre for training at each TPS is formed to speed up the process of training

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
8	Quality training through MBA, M.Tech., BE.etc.	Vol-1, Page-19, Sr. No.127	Incentives are being given to employees obtaining higher education & large no. of employees are taking higher qualification. Provision of additional increment is done for M.Tech/MBA/ICWA courses.
9	Future managers at the CGM and GM levels must be of a younger age group for which revising the promotional policy to career based schemes as the prime criterion.	Vol-1, Page-19, Sr. No.128	The process already implemented as Direct Recruitment (25%) up to CE level. Suggestion of Caliber based promotion under consideration
10	Performance based job delivery system are in place at all levels at the section level. These must be focused at the individual engineer level. Job functions must be linked to performance.	Vol-1, Page-19, Sr. No.129	CRs are modified w.e.f 2011, Efforts are being made to educate all on modified CRs. These CR forms designed so that target & achievement can be recorded in individual level. Job specification as per plane requirement would ensure job delivery.
11	Delegation to Trade Fairs / Conferences /Workshops	Vol-1, Page-19, Sr. No.131	Already Implemented
12	Software for online coal energy management	Vol-1,Page-07, Sr.No.03	System Integrated in ERP-SAP .Implemented
13	Aligning of timing of General Services Depts. with O&M General Shift timing	Vol-1,Page-15, Sr.No.79	There is only 1-2 hrs time lags.
14	Employee Lien program: for every 5 years of continuous service 1 year of lien could be provided while retaining person's seniority and salary scale protection.	Vol-1,Page-19, Sr.No.132	Policy constraints for implementation
15	Mid career management education interventions for MBA.	Vol-1,Page-19, Sr.No.133	Under consideration

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
16	Re-designation of engineering cadre by extending managerial designation below GM level and bring in managerial role & responsibility for transformation.	Vol-1,Page-19, Sr.No.134	Re designation was started from Top Posts in Engineering cadre , however it was reverted on demand of Engineer's union.
17	Station Head to facilitate exposure of latest technologies and best practices to its maintenance engineers and propagate learning at station level through talk presentatition by the deputed engineers.	Vol-1,Page-19, Sr.No.130	Already exists. Implemented
18	Rail tracking system through GPS or alternative technologies	Vol-1,Page-07,Sr.No.04	Railways FOIS detail via coal manager system .Implemented.
19	A critical review of decision making hierarchies and resetting the processes at appropriate levels.	Vol-1, Page-18, Sr.No.114	Decision Making of petty issues held up to centralized (telescopic) decision making which will be reviewed.
20	Rail signature system at the sending and arrival point to ensure that the rails have arrived at their intended destination.	Vol-1,Page-07.Sr.No.04	Implemented.
21	There must be place for decision making in the annual performance assessment.	Vol-1,Page-18.Sr.No.115	CR forms already restructured. Regarding Decision making To be incorporated in Annual appraisal report.
22	A transparent, uniform, system dependent and person independent placement and transfer policy for officers, technicians and non technical personnel.	Vol-1,Page-18.Sr.No.116	Present policy is transparent, system dependent and person independent depending on state/station level seniority. These policies are circulated to all TPS and available on website. Placement and transfers are done as per the requirement of system. Implemented.
23	A dedicated washery of 30 kilo tonnes/day either own or through a business propos ion could be given consideration.	Vol-1,Page-11.Sr.No.10	Project proposed at CSTPS. Under implementation.

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
24	The principle of loading loss of coal into the heat rate of units results in errors in system. Heat rate should strictly indicate heat consumption by the units and coal losses (if any) should be separately accounted as a weight loss. Coal losses before bunker.	Vol-1,Page-11.Sr.No.04	Implemented.
25	Knowledge management portal.	Vol-1,Page-20.Sr.No.04	Covered in SAP. Implemented.
26	The risk f the transit loss can be made to be included in the scope of the Liaison agent and this can be included in the tender document for appointing of Liaison agent in future.	Vol-1,Page-11.Sr.No.03	The suggestion already incorporated in CHP tenders. Liasoning agent scope for getting good quality coal will be increased.
27	Enterprise resource management for O&M of the power plant.	Vol-1, Page-20, Sr.No.03	Covered in SAP. Implemented.
28	ICT facilities must be got audited from a reputed & recognized IT audit firm for ensuring high degree of security, reliability and data mining tools.	Vol-1, Page-12, Sr.No.23	Computer Hardware & software audit will be conducted immediately within month..
29	KAIZEN is recommended for identifying wastes and long term sustainability of the organization.	Vol-1, Page-15, Sr.No.74	ISO is implemented at all TPS. Internal procedures are developed to minimize the losses and to maximize the output with minimum cost. Implemented.
30	Water ,monitoring software package	Vol-1, Page-08, Sr.No.15	Covered in SAP. Implemented.
31	Fuel oil monitoring software package uniform software for MAHAGENCO.	Vol-1, Page-09, Sr.No.24	Covered in SAP. Implemented.

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
32	The monthly data submitted to HO and to Regulatory Commission must also give the unit test heat rate and station test heat rate obtained by testing the unit on average coal and obtained through online heat rate monitoring software.	Vol-1, Page-18, Sr.No.112	Implemented.
33	MSPGCL to be a part of the National Perspective Plan of Ministry of Power, Govt. of India (operated by CPRI) for achieving sustainable improvement in heat rate and seeking solutions to associated technical problems.	Vol-1, Page-17, Sr.No.110	Implemented.
34	Web based monitoring and diagnostic online conditioning platform for total plant equipment could be thought of for systematic condition monitoring of an entire unit.	Vol-1, Page-09, Sr.No.30	CSTP proposed DPR for unit# 3&4. Under process.
35	Station must be empowered for procurement involving foreign exchange.	Vol-1, Page-14, Sr.No.57	Approval for expenditure in Forex needs approval from State Govt. Authority. Hence being processed through Corporate office.
36	Direct procurements through organizations approved by State Govt. and Central Govt.		MSPGCL is following such type of procurements in case of emergencies as per DOP.
37	The e-tendering process needs strengthening	Vol-1, Page-14, Sr.No.60	E-tendering system is already working for CPA. While e-tendering system has been recently implemented for all Power Stations. Every Power Station has started floating tenders on-line. Implemented.
38	Inventory control software	Vol-1, Page -08, Sr.No.-20	Covered in SAP. Implemented.

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
39	Previous/historic efficacy of funding vis-a-vis performance may be compared for present year's allotment rather than on purely historic trends	Vol-1, Page-15, Sr.No.76	Implemented.
40	Capital budget should be linked to business strategy.	Vol-1, Page-15, Sr.No.75	Agreed. Implemented.
41	The software resources for online tendering and paperless process need to be upgraded	Vol-1, Page-08, Sr.No.21	Covered in SAP. Implemented.
42	Purchases must be made considering the TPS as the structural and functional unit of the MSPGCL. Processes involving HO approvals must be critically reviewed and delegated to the Station Head.	Vol-1, Page-14, Sr.No.52	Will be reviewed. Ongoing process.
43	Concept of accumulation of item requirements for all stations for centralized purchase through HO must be critically reviewed as the volume benefits seem to be over-run by time delay	Vol-1, Page-14, Sr.No.53	Already in practice. Implemented.
44	Station must be empowered for procurement through proprietary certification	Vol-1, Page-14, Sr.No.55	Presently ED appraisal System is in practice shall be reviewed.
45	Station must be empowered for procurement involving advance payments	Vol-1, Page-14, Sr.No.56	For BHEL proposed
46	For essential OEM maintenance spares of a critical nature, 5 years rolling plan may be made and put up for approval in one go. The process may be simplified.	Vol-1, Page-15, Sr.No.65	5 Years rolling plan already prepared & being implemented.
47	Technical experts group must be formed by identifying experts from among various MSPGCL power stations, such as BTL Task Force Committee.	Vol-1, Page-17, Sr.No.97	Already in practice.BTL committee ,EST group formed. Implemented.

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
48	The planning function must be incorporated with long term planning for refurbishment and renovation unit wise and equipment wise.	Vol-1, Page-17, Sr.No.107	Agreed. Implemented.
49	Detailed drill down analysis for AOH, COH, etc., must be undertaken through software resources for optimization of the processes.	Vol-1, Page-14, Sr.No.48	Covered in SAP. Implemented.
50	Annual overhauls need to be carried out every year and should not be deferred by over 2 months under any circumstance.	Vol-1, Page-13, Sr.No.39	Agreed, subject to stable grid conditions. MSPGCL trying to ensure AOH on time.
51	Mini overhauls of 10 days intervals can be considered instead of an AOH if there is no single activity exceeding 10 days. However these should not be delayed by over a month from the schedule.	Vol-1, Page-13, Sr.No.41	Suggestion under consideration of TOP management
52	Capital overhauls may be taken up in 5 years intervals without fail and should not be delayed by over 3 months under any circumstances	Vol-1, Page-13, Sr.No.42	Agreed.MSPGCL trying to ensure COH on time.
53	The number of groups which certify the payments must be restricted to one.	Vol-1, Page-14, Sr.No.58	Agreed. Will be reviewed.
54	Multiple tier decisions resulting in frequent changing of the R&M plans must be avoided.	Vol-1, Page-17, Sr.No.104	Agreed
55	In view of the wide geographic spread of MSPGCL stations across hilly and plain terrain, helicopter facilities for rapid shipping of major critical equipment like generator rotor, turbine rotor etc., may be established through linkage with commercial cargo air liners.	Vol-1, Page-17, Sr.No.111	MSPGCL used such transport system in some cases. In future also MSPGCL will use services like commercial cargo etc. for rapid shipping.

Sr. No.	CPRI Recommendations	Reference	HO Comments/ Decision
56	Decision making: Station centric decision making is called for in the following areas. Overhauls (COH & AOH) with only co-ordination from HO for queuing or lining up of the present station along with others. Procurement decisions station load management through optimal loading on good units and backing down of poor sets. Also decisions on withdrawal of poorly operating sets in lieu of reduction of overall station load. Training decisions air travel decisions.	Vol-1, Page-18, Sr.No.113	Already in practice. Implemented.
57	MSPGCL must critically review its maintenance processes and its maintenance organization structure and make necessary provisions for two groups viz. Technical & planning and Execution. Work and time studies of maintenance processes is a worthy exercise.	Vol-1, Page-13, Sr.No.30	Implemented.
58	5 years rolling plan for maintenance should be got approved in one go rather in yearly installments.	Vol-1, Page-13, Sr.No.34	Accepted
59	MSPGCL must have back to back MoU understanding with neighboring utilities for sharing of hardware, technical expertise and knowledge. Periodic interactions are essential for confidence building.	Vol-1, Page-17, Sr.No.108	Accepted. Steps are already initiated.
60	IT based- Plant Maintenance Management System to be implemented with facilities for drill down analysis of events like R&M, COH, AOH, FO etc.	Vol-1, Page-08, Sr.No.22	Covered in SAP. Implemented.

Sr. No.	CPRI Recommendations	Reference	Remark for Corporate reference	HO Comments/ Decision
1	The Railway receipt (RR) may be digitized and communicated to the TPS well before the consignment actually reaches the coal yard so that time delay is minimized	Vol-1, Page-11, Sr.No.01	Ø Requires co-ordination with Railway authority Ø Requires necessary amendments in liaisoning agent contracts Ø Applicable to All power stations	Implemented.
2	A ready reckoner data base on the hourly generating costs of each set as also the sensitivity of generating cost to heat rte is essential for decisions on merit order loading of sets	Vol-1, Page-16, Sr.No.84	Ø To be integrated in GCR at Unit level and HO level requires development of software / system Applicable to All power stations.	Covered in SAP. Implemented.
3	Capex budget scheme may be utilized better from renovation and modernization of old equipment, components, sub-systems and systems	Vol-1, Page-17, Sr.No.106	Utilization of CAPEX budget for R&M at the individual equipment level, component level or at the sub-system level are applicable to all power stations.	Capex Budget utilization will be reviewed.
4	Inventory analysis on the basis of cost criticality availability (MUSIC 3D approach)	Vol-1, Page-13, Sr.No.38	Requires development of software/ system to be incorporated in proposed ERP system. Applicable to all power stations	Covered in SAP. Implemented.

Sr. No.	CPRI Recommendations	Reference	Remark for Corporate reference	HO Comments/ Decision
5	Maintenance performance must be mapped through effectiveness, outage and rework indices	Vol-1, Page-12, Sr.No.32	Requires development of software/ system to be incorporated in proposed ERP system. Applicable to all power stations	Covered in SAP. Implemented.
6	Reliability and risk indices of equipment must be worked out in formulating maintenance strategy	Vol-1, Page-12, Sr.No.33	Requires development of software/ system to be incorporated in proposed ERP system. Applicable to all power stations	Covered in SAP.
7	Strategic planning for integrated management (all MSPGCL) of cold stand high capacity and high power by equipment like ID fans, motors, generator rotors, etc. can bring down costs as well as provide operational flexibility. The maintaining of their inventory levels and their procurement with an integrated system approach can result in increased productivity. MSPGCL is having 17 sets of LMZ design turbines of 210 MW which have served for over 20 years. For optimal and consistent performance, strategic planning at a central level is the need of the hour. Massive program for retrofitting of these sets. Critical equipment like BFPs, ID fans, PA fans, CWPs, CEPs and their motors as also GTs UATs, STs; turbine and generator rotors) need to be considered under retrofits. MSPGCL should plan for retrofitting of minimum 1 unit/station per year	Vol-1, Page-15, Sr.No.80	Presently one HPT module & two GTRs for 500 MW units are made available as spare. Also common pool spares for LMZ 210 MW units are maintained Further implementation of recommendation Applicable to all power stations requires co-ordination & corporate decision	Implemented.

Sr. No.	CPRI Recommendations	Reference	Remark for Corporate reference	HO Comments/ Decision
8	On line software to track end to end maintenance processes	Vol-1, Page-14, Sr.No.49	Requires development of software/ system to be incorporated in proposed ERP system. Applicable to all power stations	Covered in SAP. Implemented.
9	Analysis of F/Os and equipment failures, development of a knowledge base of these and conversion of the knowledge base into a learning experience with horizontal and vertical penetration	Vol-1, Page-17, Sr.No.98	To share analysis of force outage and experiences between MSPGCL stations requires corporate initiative. Applicable to all power stations.	Covered in SAP. Implemented.
10	As is followed in stations In USA and Europe, the previous years data on the same day may be used as in input for load prediction ABT	Vol-1, Page-17, Sr.No.100	To be used at corporate level under ABT regime Requires development of software system Application to all power stations	Covered in GCR. Implemented.
11	In the event of coal shortages, for better heat economy, one unit of 210 MW may be withdrawn (backing out) instead of operating all units in backed down mode.	Vol-1, Page-16, Sr.No.89	In the event of coal shortage one unit of 210 MW is possible to withdrawn however its implementation requires uniform organizational policy Application to all power stations	Accepted . Implemented.

Sr. No.	CPRI Recommendations	Reference	Remark for Corporate reference	HO Comments/ Decision
12	On-Job rotation policy should ensure job rotation after 30-36 months period for younger engineers and 24-30 months for senior engineers. Top management should ensure that Job rotation shall be identified in KRA (Key Result areas) of individual and his superior)	Vol-1, Page-19, Sr.No.135	On Job rotation policy is in place up to EE level at CSTPS To absorb job rotation policy in performance appraisal system (i.e. KRA) requires uniform implementation across MSPGCL	The entry level staff to be kept in rotation to all section which agreed
13	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	Vol-1, Page-12, Sr.No.24	Requires development of software/ system to be incorporated in proposed ERP system. Application to all power stations	Covered in SAP. Implemented.
14	Dynamic optimization of stock levels provides opportunities for cost reduction by maintaining optimal safe stock which is lower than the present levels.	Vol-1, Page-15, Sr.No.78	Requires development of software/ system to be incorporated in proposed ERP system. Application to all power stations	Covered in SAP. Implemented.
15	Equipment/ System centre costing system may be given consideration in preference to the traditional Section basis	Vol-1, Page-15 Sr.No.77	Requires development of software/ system to be incorporated in proposed ERP system. Application to all power stations	Covered in SAP. Implemented.