975/2019/Comm-CERC

MPL
MAITHON POWER LIMITED

MPL/CERC/051/FY17-18
Date: 30th December, 2017

To
The Secretary,
Central Electricity Regulatory Commission (*"CERC"*),
Chanderlok Building,
3rd & 4th Floor, Janpath
New Delhi - 110001.

Sub: Submission of Data/Information of Maithon Power Limited in compliance with the Order of the Hon'ble Commission dated 10.11.2017.

Dear Sir,

This is in reference of the above Order passed by the Hon'ble commission on 10.11.2017 wherein the Hon'ble commission has sought data/information for Operational Performance and O&M Expenses from the Generating Companies & Transmission Licensees for FY 2012-13 to FY 2016-17 whose Tariff is being regulated by the Hon'ble commission.

The Generation Tariff of Maithon Power Limited is regulated by Hon'ble Commission. Accordingly, in compliance with the Directive of the Hon'ble Commission in the above Order, we are hereby submitting the data/information on Operational Performance and O&M Expenses for above period alongwith required notes/write-ups for 2x525 MW Generating Units of Maithon Right Bank Thermal Power Project of Maithon Power Limited in the format prescribed by the Hon'ble Commission except for the information required in Annexure VID pertaining to Capital Spares and Annexure XIX relating to data requirement for time series analysis. Since, data requirement in these Annexure is voluminous, we most humbly request the Hon'ble Commission to permit us filing these information by 15.01.2018.

Further, we humbly request the Hon'ble Commission to accept the submission of Maithon Power Limited and consider the same while finalizing the Tariff Regulations for the Tariff Period starting from 01.04.2019 onwards.

Yours Sincerely

Satish Kumar
Chief Financial Officer- MPL

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MAITHON POWER LIMITED
(A Joint Venture Company of Tata Power & DVC)
Registered Office: Corporate Center, 34 Sant Tukaram Road, Carnac Bunder, Mumbai 400 009. Tel: 91 22 67171232
Works: Village Dambhui, P.O. Barbindia, P.S. Nirsa, District Dhanbad 828 205, Jharkhand Tel: +91 6540 278001/27 Fax: +91 6540 278040/ +91 8660075658
Corporate Identity Number (CIN): U74899MH2000PLC267297, Website Address: www.tatapower.com/mpl

Submission of Information in Compliance with Hon'ble Commission Order dated 10.11.2017

BACKGROUND:

1. The Hon'ble Commission has on 10.11.2017 passed an Order seeking detailed actual data/information of Operational Performance and O&M Expenses for the financial years 2012-13 to 2016-17 from Central Generating Companies, Joint Ventures Companies, Independent Power Producers and Central/Inter-State Transmission Companies whose tariff is being regulated by the Hon'ble Commission for finalizing the Terms and Conditions of tariff for the tariff period starting from 1.4.2019. Maithon RBTPP, being an Inter-State Generating Station whose tariff is being regulated by the Hon'ble Commission, therefore, hereby submits the actual data/information of Operational Performance and O&M Expenses for above period in the prescribed format enclosed in **Annexure.**

BRIEF DESCRIPTION ON MPL:

2. Maithon Power Limited ("MPL"), a Generating Company within the meaning of Section 2(28) of the Electricity Act, 2003 ("Act"), has set up Maithon Right Bank Thermal Power Plant ("Maithon RBTPP") having an Installed Capacity of 1050 MW (2x525 MW) situated in Dhanbad District of the State of Jharkhand. Unit 1 of the Project achieved COD on 01.09.2011 and Unit 2 on 24.07.2012.
3. Out of the Installed Capacity, currently, 150 MW is contracted with Damodar Valley Corporation ("DVC"), 600 MW is contracted with Tata Power Trading Company Limited ("TPTCL") for onward sale to West Bengal State Electricity Distribution Company Limited ("WBSEDCL") and Tata Power Delhi Distribution Limited ("TPDDL") on long-term basis and 300 MW is contracted with Kerala State Electricity Board ("KSEB"). This Hon'ble Commission has through the Order dated 26.11.2017 passed the True-up Order for period FY 2011-12 to FY 13-14 and determined the Tariff for the period FY 2014-15 to FY 2018-19 for sale of power.

OPERATIONAL PERFORMANCE AND O&M EXPENSES:

3. It is pertinent to mention here that Unit 2 achieved COD on 24.07.2012. Hence, information for FY 2012-13 contains full year information for Unit 1 and post COD information for Unit 2. On account of this, the performance and Operational Performance in most of the categories and the O&M Expenses may reflect an apparent deviation of more than 10%. In our humble opinion, such variation on account of operation during the Stabilization Period after the COD of the Units do not project a true picture of the actual Operational Performance of the Units. Such variance may, therefore, be exempted from any further explanation and considered 'as is' basis.

4. MPL through the instant submission is providing the details of the following in the supporting Annexure as directed by the Hon'ble CERC through the Order dated 10.11.2017:

Annexure - I

a) **Generation Details** – Actual & Schedule Generation, DC, Aux Consumption
b) **Primary Fuel Details** – FSA, Procurement, Consumption, GCV, Price, Stock, Transit Loss
c) **Secondary Fuel Details** - Procurement, Consumption, GCV, Price, Stock
d) **Outage Details** – Forced Outage, Planned Outage, Start-ups
e) **Emission Details** – Actual Emission, Design Emission
f) **Ash Utilization Details** - Conversion of value added product, Land Filling etc.
g) **Spares Details** – Cost, Average Stock
h) **Employee Details** - Number, Distribution, Man-MW Ratio
i) **List of Beneficiaries and allocated Capacity** - "Provided as ***Annexure B***"
j) **Brief Write-up** on Operational Methodology followed at MPL - "***Annexure C***"
k) **Note** on Coal Receipt and Stacking Process - "***Annexure D***"

Annexure - VI (A)

l) **O&M Expense Details** – Employees Cost, Repairs & Maintenance Expenses and Admin & General Expenses with Break-up of Staff Welfare Expenses

Annexure - VI (C)

m) **Water Expense Details -** Contracted Quantum, Consumption, rate, tax, Water Charges

Annexure - V(C)

n) **Additional Capital Expenditure -** Add Cap Allowed, Actual Capitalization

Annexure –I

Pro-forma for furnishing Actual annual performance/operational data for the Coal/Lignite based Thermal Generating Stations for the 5-year period from 2012-13 to 2016-17

	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Remarks
1	**Name of Company**		MAITHON POWER LIMITED					
2	**Name of Station/Pit Head or Non- Pit Head**							
3	**Installed Capacity and Configuration**	MW	1050 (2*525 MW) (COD - Unit 1: 01.09.2011; Unit 2: 24.07.2012)					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		1571TPH,537DegC MS and HRH Steam Temperature @ TGMCR and Boiler is Tangential Firing with Total Capacity of 1700TPH					
5	Type of BFP		Steam Driven - 2, Motor Driven - 1					
6	Circulating water system		Closed Cycle					
7	Any other Site specific feature		Induced Draft Cooling Tower System					
8	**Fuels :**							
8.1	**Primary Fuel :**		Coal					
8.1.1	Annual Allocation or/and Requirement	MT	3834000	3634000	3634000	3634000	3634000	This represents the firm quantum, any additional requirement has been met through eAuction/imported coal.
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal	MT	BCCL: 16.59 lakh MT; CCL: 19.75 lakh MT; West Bokaro: 2 lakh MT	BCCL-G5 to G8, WIII, WIV & Power Washed Coal (Bharat Coking Coal Ltd) & CCL-G7 to G10 & WIV (Central Coalfields Ltd)	BCCL-G5 to G8, WIII, WIV & Power Washed Coal (Bharat Coking Coal Ltd) & CCL-G7 to G10 & WIV (Central Coalfields Ltd)	BCCL-G5 to G8, WIII, WIV & Power Washed Coal (Bharat Coking Coal Ltd) & CCL-G7 to G10 & WIV (Central Coalfields Ltd)	BCCL-G5 to G8, WIII, WIV & Power Washed Coal (Bharat Coking Coal Ltd) & CCL-G7 to G10 & WIV (Central Coalfields Ltd)	
8.1.2.1	Quantity received against FSA	MT	3216595	4314679	3648661	3936755	3658134	
8.1.2.2	Imported	MT	69843	153040	6272	-	-	
8.1.2.3	Spot Market/e-auction	MT		-	-	132873.09	722671	
8.1.3	Transportation Distance of the Station from the sources of supply	Km	25 – 80	30 to 250	30 to 250	30 to 250	30 to 250	
8.1.4	Mode of Transport		Rail/Road					
8.1.5	Maximum Station capability to stock primary fuel	MT	900000	900000	900000	900000	900000	
8.1.6	Maximum Stock Maintained for primary fuel	MT	708,000	705,307	605,043	447,991	349,246	
8.1.7	Minimum Stock Maintained for primary fuel	MT	288,000	286,980	319,344	272,414	165,187	
8.1.8	Average Stock Maintained for primary fuel	MT	315,000	440,570	431,495	348,678	278,975	
8.2	**Secondary Fuel :**	LDO/FO	LDO/FO					
8.2.1 (a)	Annual Allocation/ Requirement/procurment	Kilt./MT	LDO: 1497.55 KL FO: 10027.1 MT	LDO: 356.08 KL FO: 347.84 MT	LDO: 380.13 KL FO: 1265.06 MT	LDO: 637 KL FO: 1232 MT	LDO: 549 KL FO: 800 MT	
8.2.1 (b)	Contract with the sources	Kilt./MT	2000 KL LDO (BPCL)/ 10000 MT FO (HPCL)	No firm Contract, Procurement is made on fortnightly basis	No firm Contract, Procurement is made on fortnightly basis	No firm Contract, Procurement is made on fortnightly basis	No firm Contract, Procurement is made on fortnightly basis	
8.2.2	Sources of supply		HPCL/BPCL	IOCL/BPCL	IOCL/BPCL	IOCL/BPCL	IOCL/BPCL	
8.2.3	Transportation Distance of the station from the sources of supply	Km	303 to 405	300-410	300-410	300-410	300-410	
8.2.4	Mode of Transport		Road					
8.2.5	Maximum Station capability to stock secondary fuels	Kilt.	6286 (LDO-606 & FO-5680)	6286 (LDO-606 & FO-5680)	11966 (LDO-606 & FO-2*5680)	11966 (LDO-606 & FO-2*5680)	11966 (LDO-606 & FO-2*5680)	
8.2.6	Maximum Stock of Secondary Oil actually Maintained	Kilt.	3400	3102	1441	1157	1172	
8.2.7	Minimum Stock of Secondary Oil actually Maintained	Kilt.	2700	1220	697	737	642	
8.2.8	Average Stock of Secondary Oil actually Maintained	Kilt.	3100	2059	1045	1013	892	
9	**Cost of Spares :**							
9.1	Cost of Spares capitalized in the books of accounts	(Rs. Lakh)	2484.68	3749.08	475.61	1260.71	46.00	
9.2	Cost of spares included in capital cost for the purpose of tariff	(Rs. Lakh)	2484.68	3749.08	475.61	1260.71	46.00	
10	**Generation:**							
10.1	-Actual Gross Generation at Generator Terminals	MU	4587.37	6328.41	6684.06	7171.54	7356.62	
10.2	-Actual Net Generation Ex-bus	MU	4316.74	5965.59	6312.11	6779.93	6956.99	
10.3	-Scheduled Generation Ex-bus	MU	4314.58	5986.50	6295.00	6749.92	6938.38	
11	Average Declared Capacity (DC)	MW	480.04	730.51	730.74	785.04	886.82	DC is only pertaining to Long Term Beneficiaries and do not include DC on account of Short term sale, Bilateral sale or exchange sale.
12	Actual Auxiliary Energy Consumption excluding Colony Consumption	MU	270.63	362.82	371.95	391.61	399.63	
13	Actual Energy supplied to Colony from the Station	MU	-	-		-	-	

14	**Primary Fuel:**								
14.1	**Consumption:**			2883911	4032486	3989477	4119563	4310878	
14.1.1	Domestic Coal	From linked mines	MT	2814068	3879446	3983205	4119563	4310878	
		Non-linked mines	MT						
14.1.2	Imported coal*		MT	69843	153040	6272			
14.1.3	Spot market/e-auction coal*		MT						
14.2	Gross Calorific Value (GCV) :								This data is not available source wise
14.2.1	Domestic Coal	(As Billed)	kCal/kg						
		(As Received)	kCal/kg						
		(As Fired)	kCal/kg						
14.2.2	Imported Coal	(As Billed)	kCal/kg						
		(As Received)	kCal/kg						
14.2.3	Spot market/e-auction Coal	(As Billed)	kCal/kg						
		(As Received)	kCal/kg						
14.2.4	Weighted Average Gross Calorific value (As Billed)		kCal/kg						
14.2.5	Weighted Average Gross Calorific value (As Received)		kCal/kg			3990.23	4102.51	4067.16	As received has been determined based on sample collected from crusher outlet.
14.2.6	Weighted Average Gross Calorific value (As fired)		kCal/kg	3851.22	3745.20				
14.3	**Price of Coal:**								This data is not available source wise
14.3.1	Weighted Average Landed price of Domestic coal		Rs/MT						
14.3.2	Weighted Average Landed Price of Imported coal		Rs/MT						
14.3.3	Weighted Average Landed Price of Spot market/e-auction Coal		Rs/MT						
14.3.4	Weighted Average Landed Price of all the Coals		Rs/MT	3178	3276	2942	3119	3139	
14.4	**Blending :**		% and MT (of the total coal consumed)						
14.4.1	Blending ratio of Imported Coal with Domestic Coal		Equivalent to Domestic Coal	1:4 (20%Maximum)	1:4 (20%Maximum)	1:4 (20%Maximum)			This is the proportion of GCV between imported and domestic to achieve the nearer quality of designed coal
14.4.2	Proportion of e-auction coal in the blending								
14.5	Actual Average Coal stock maintained		MT	315000	440,570	431,495	348,678	278,975	
14.5	Actual Average Coal stock maintained		Days	40	40	40	31	24	
14.5	**Actual Transit & Handling Losses for Coal/Lignite (%)**								
14.5.1	**Pit- Head Station**								
14.5.1.1	Transit loss from linked mines		%						
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.		%						
14.5.1.3	Transit loss of imported coal		%						
14.5.2	**Non-Pit Head station**								
14.5.2.1	Transit loss from linked mines		%	0.10%	0.004%	0.112%	0.092%	0.081%	
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.		%	-	-	-	-	0.122%	
14.5.2.3	Transit loss of imported coal		%	0.08%	0.06%	0.000%	-	-	

15	**Secondary Fuel Oil: (If more than one fuel used then give details of all the fuels separately)**								
15.1	Consumption	FO	(MT)	5584	2092	1490	1207	1091	
		LDO	(KL)	891	634	389	642	540	
15.2	Weighted Average Gross Calorific value (As received)	FO	(kCal/Lit.)	9100	9100	9100	10020	10020	Chemical Lab at MPL has been accredited by NABL on June 15. Post this , MPL started measurement of GCV. Hence, from FY 2015-16 onwards GCV has been considered as 10000KCal/Kg with a density of 0.998Kg/m3.
		LDO	(kCal/Lit.)	9100	9100	9100	10020	10020	
15.3	Weighted Average Price	FO	(Rs/MT)	47532	47300	46862	35457	27151	The decrease in Price in FY 15-16 and FY 2016-17 is due to rampant fall in market price.
		LDO	(Rs/KL)	60663	62832	61642	44724	39039	
15.4	Actual Average stock maintained	FO	(MT)	1954	1778	857	787	705	
		LDO	KL	566	281	188	227	187	
16	**Weighted average duration of outages (unit-wise details):**								
16.1	Planned Outages	Unit 1	(Days)	52			31		
		Unit 2	(Days)	22		30		30	
16.2	Forced Outages	Unit 1	(Days)	19	78	52	16	13	
		Unit 2	(Days)	16	15	12	20	6	
16.3	Number of tripping	Unit 1	No.	15	8	4	4	2	
		Unit 2	No.	7	7	4	3	1	
16.4	**Number of start-ups:**	Unit 1	No.	23	11	10	11	7	
		Unit 2	No.	15	12	10	9	4	
16.4.1	Cold Start-up	Unit 1	No.	7	1		1		
		Unit 2	No.	6		1		1	
16.4.2	Warm Start-up	Unit 1	No.	4	2	6	6	5	
		Unit 2	No.	2	3	5	6	2	
16.4.3	Hot Start-up	Unit 1	No.	12	8	4	4	2	
		Unit 2	No.	8	7	4	3	1	
17	**NOx, SOx and other particulate emission in:**								
17.1	Design value of emission control equipment		ppm or mg/Nm3	PM: 50 SO2: NOx:	PM: 50 SO2: NOx:	PM: 50 SO2: NOx:	PM: 50 SO2: NOx:	PM: 50 SO2: NOx:	
17.2	Actual emission (SPM) - Unit - 1/Unit -2		ppm	44.19/45.07	43.5/41.40	39 / 29	23 / 24	30.3 / 25.90	
	Actual emission (SO2) - Unit -1/Unit -2		mg/Nm3	295.8/229	264 / 200	345 / 333	515/ 536	540 / 513	
	Actual emission (NOx)-Unit -1/Unit -2		mg/Nm3	354/286	359 / 288	339/331	480 / 504	284/250	
19	**Detail of Ash utilization % of fly ash produced**		Ton	374700	1973760	2654840	2092718	2310536	
19.1	Conversion of value added product		(%)	0.39%	0.38%	0.72%	1.77%	4.37%	
19.2	For making roads & embarkment		(%)	0.0%	0.0%	0.003%	2.75%	4.88%	
19.3	Land filling		(%)	0.0%	0.0%	0.0%	0.0%	0.0%	
19.4	Used in plant site in one or other form or used in some other site		(%)	0.0%	0.0%	0.0%	0.0%	0.0%	
19.5	Any other use: Abandon Mine Filling		(%)	99.61%	99.62%	99.28%	95.48%	90.75%	
20	**Cost of spares actually consumed**		(Rs. Lakh)	378.84	835.36	1110.42	1851.41	1728.31	Actual consumption of spares is lower in FY 2012-13 because the Units are relatively new.
21	**Average stock of spares**		(Rs. Lakhs)	31.57	69.61	92.53	154.28	144.03	
22	**Number of employees deployed in O&M**		No.	1451	2054	2655	2643	2630	
22.1	- Executives		No.	248	255	264	256	255	
22.2	- Non Executives		No.						
22.3	- Corporate office		No.						
22.4	- No of Contract Manpower in O&M			1203	1799	2391	2387	2375	
23	Man-MW ratio		Man/MW	1.38	1.96	2.53	2.52	2.50	

Notes:	
1. List of beneficiaries/customers along with allocation by GoI including variable (allocation of unallocated share) / capacity as contracted shall also be furnished separately.	Provided in Annexure B
2. In case of two or more secondary fuels, information should be furnished for each of the secondary fuel.	
3. In case of two or more stages or two or more unit sizes, information should be furnished separately to the extent possible	
4. A brief write-up on the methodology to arrive at the above performance & operation parameters should also be furnished.	Provided in Annexure C
5. Any relevant point or a specific fact having bearing on performance or operating parameters may also be highlighted or brought to the notice of the Commission.	
6. A note on stock of primary fuel giving details of stacking etc. should be furnished.	Provided in Annexure D
7. Details of the instances where the generating stations has invoked the 2014 Tariff Regulations blending with imported or open market coal (within the 30% limit of ECR) with/without consent of beneficiaries.	No such instances has been observed.
8. The declared capacity for peak and off peak period should be given separately as per respective RLDC.	

Annexure –VIA

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

(To be filled for each of the Thermal/Hydro Generating Station)

	Name of Company	Maithon Power Limited					Remarks
	Name of the Power Station	Maithon Right Bank Thermal Power Plant					
						(Rs. In Lakh)	
Sl. No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17	
1	2	3	4	5	6	7	
(A)	**Breakup of O&M expenses :**						
1	Consumption of Stores and Spares	720.55	1267.12	1605.64	2439.16	2063.19	
2	Repair and Maintenance	7240.10	8804.69	7951.90	9300.74	10507.42	
3	Insurance	773.38	1190.91	1232.72	866.31	813.85	
4	Security(normal)	209.14	502.45	558.77	783.68	649.16	
4.1	Additional Security if any on the advise of Govt. Agency/Statutory Authority						
5	Water Charges						Water charges has been provided separately in Annexure VI C
6	**Administrative Expenses :**						
6.1	- Rent	102.69	52.63	68.50	57.75	95.07	
6.2	- Electricity Charges	9.17	29.28	73.18	79.25	43.60	
6.3	- Traveling and conveyance	272.53	342.29	319.03	300.66	270.52	
6.4	- Communication expenses	45.18	76.61	57.46	51.39	47.90	
6.5	- Advertising						
6.6	- Foundation laying and inauguration						
6.7	- Donations						
6.8	- Entertainment						
6.9	-Filing Fees	68.70	61.20	29.38	123.31	74.39	
6.10	- Miscellaneous Expenses	298.34	965.31	532.49	675.18	556.17	
	Sub-Total (Administrative Expenses)	**796.61**	**1527.33**	**1080.04**	**1287.54**	**1087.65**	
7	**Employee Cost**				-	-	
7.1	-Salaries, wages and allowances	1194.05	2794.36	3081.15	3255.27	3740.29	
7.2	-Staff welfare expenses	382.73	404.49	447.48	304.68	274.01	The Break-up of Staff Welfare expenses has been provided seprately.
7.3	-Productivity linked incentive						
7.4	- Expenditure on VRS						
7.5	-Ex-gratia						
7.6	-Performance related pay (PRP)						
	Sub-Total (Employee Cost)	**1576.79**	**3198.85**	**3528.63**	**3559.95**	**4014.30**	
8	Loss of store				-	-	
9	Provisions				-	-	
10	Prior Period Adjustment , if any				-	-	
11	Corporate office expenses allocation	-	-	-	-	-	

	Others (Specify Items)						
12.1	- Corporate Social Responsibility	119.16	82.36	172.04	186.98	406.38	
12.2	- Ash Disposal Expenses	999.76	4326.13	6098.44	3791.36	3647.73	
12.3	- Other General Expenses	32.77	38.34	46.22	53.63	40.73	
	Sub-Total (Others)	**1151.69**	**4446.84**	**6316.70**	**4031.97**	**4094.84**	
13	**Total (1 to 12)**	**12468.26**	**20938.19**	**22274.40**	**22269.35**	**23230.41**	
14	Revenue/Recoveries, if any	-	-	-	-	-	
15	Net Expenses	12,468.26	20,938.19	22,274.40	22,269.35	23,230.41	
15.1	Capital spares consumed not included in (A) (1) above and not claimed /allowed by Commission for capitalization " ix"	-	-	-	-	-	
16	Actual O&M Expenses as per audited accounts	19158	25802	29745	29004	24974	
17	Deviations from O&M Expenses stated in row 13	6689	4864	7471	6735	1744	The variations is on account of exclusion of some of the expenses viz, Transmission Charges, Trading Margin on Power Sale, FERV Loss, Provision for Contigencies, any current asset written off etc which are not directly attributing to O&M Expenses. It also includes Raw Water Expense which has been shown in Annexyre VIC

Notes:

I. The details of Corporate Expenses and the methodology of allocation of corporate expenses to various functional activities and allocation of Corporate expenses pertaining to power generation/transmission system to each operating stations/ transmission region/system and stations/transmission region/system under construction should be clearly specified in ANNEXURE-VIII as provided here separately.

II. An annual increase in O&M expenses under a given head in excess of 10% percent should be explained.

III. The data should be based on audited balance sheets, duly reconciled and certified

IV. Employee cost should be excluding arrears paid for pay hike/prior period adjustment /payment

IV. Details of arrears, if any, pertaining to period prior to the year 2008-09 should be mentioned separately.

V. No. of employees opting for VRS during each year should be indicated.

VI. Details of abnormal expenses, if any, shall be furnished separately.

VII. Break-up of staff welfare expenses should be furnished

VIII. Details of Consumptive Water requirement, contracted quantum and actual water consumed with source , rate etc. should be furnished year-wise for Thermal Power Stations

IX. Details of capital spares consumed each year which were not claimed/Allowed in the Tariff should be furnished giving item wise unit price and quantity consumed.

X. Salaries and staff welfare expenses shall be provided into different heads such as pension, gratuity, provident fund, leave encashment. Also provides provision for revision in wage allowance. gratuity, provident fund, leave encashment. Also provides provision for revision in wage allowance.

Annexure –VIA

BREAK-UP OF STAFF WELFARE EXPENSES

	Name of Company	**Maithon Power Limited**				
	Name of the Power Station or Transmission Region	**Maithon Right Bank Thermal Power Plant**				
						(Rs. In Lakh)
Sl. No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6	7
(A)	**Breakup of Staff Welfare expenses :**					
1	Employees Deposit Linked Insurance Scheme	0.49	0.96	1.73	2.32	2.28
2	Self Education	0.67	0.00	0.44	-	-
3	Leave Travel Assistance	2.59	4.73	7.27	6.69	5.67
4	Food & Conveyance					
5	Staff Welfare Expenses (Group)	3.82	20.07	-7.30	19.67	4.53
6	Staff Expenses A/c					
7	Medical Expenses	61.37	83.88	91.52	93.44	112.11
8	Medical Centre Expenses					
9	Medical Reimbursement					
10	Mediclaim Premium					
11	Rental Of Building - Staff					
12	Rental Of Leased Flats					
13	Sports Club Expenses					
14	Sundry Welfare Expenses	18.66	9.57	13.93	7.27	18.61
15	Safety Apparels/Uniforms & Washing Allowance	0.94	2.83	76.46	0.10	0.04
16	Training - Educational Institutions					
17	HRD Training Expenses					
18	Training - In House					
19	Canteen Expenses -Employees	84.31	128.26	120.29	64.24	40.35
20	Rental of Leased Assets	164.58	140.39	131.14	90.88	74.73
21	Inspection Fees Re: Provident Fund	4.91	10.76	11.97		
22	Inspection Charges Re: EDLI	0.01	0.02	0.03		
23	Canteen Exp-Service	40.38	3.04	0.00	20.07	15.69
	Total (1 to 23)	**382.73**	**404.49**	**447.48**	**304.68**	**274.01**

DETAILS OF WATER EXPENSES **Annexure –VIC**

Name of Company		Maithon Power Limited					
Name of the Power Station		Maithon Right Bank Thermal Power Plant					
Sl. No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17	**Remarks**
1	2	3	4	5	6	7	
(A)	**Plant**						
1	Type of Plant	Thermal Power Generating Plant with Sub critical technology	Thermal Power Generating Plant with Sub critical technology	Thermal Power Generating Plant with Sub critical technology	Thermal Power Generating Plant with Sub critical technology	Thermal Power Generating Plant with Sub critical technology	
2	Type of Cooling Tower	IDCT	IDCT	IDCT	IDCT	IDCT	
3	Type of Cooling Water System	Raw Water	Raw Water	Raw Water	Raw Water	Raw Water	
4	Any Special Features which may increase/reduce water consumption				RO Plant	RO Plant	
(B)	**Quantum of Water : (Cubic Meter)**						
5	Contracted Quantum(Cusec)	55.00	55.00	55.00	55.00	55.00	
6	Allocation of Water						
7	Actual Water Consumption (M3)	14250975	16505123	16091515	16940181	16892984	Water consumption for FY 12-13 has been lower for the station as Unit 2 achieved COD on 24.07.2012
8	Rate of Water Charges	3.68	5.70	5.70	5.70	5.70	The rate has been revised to Rs 5.7/KL by DVC with effect from 01.10.2012
9	Other charges/Fees, if paid as part of water charges	23.72	29.71	37.19	38.18	30.39	
	Total Water Charges Paid	547.90	970.90	954.41	1003.77	993.29	

Note:

Any abnormal increase in Water Consumption or Water Charges on any year shall be explained separately

Annexure –V©

1	Name of Company			MAITHON POWER LIMITED						
2	COD of the Units/Station		MW	1050 (2*525 MW) (COD - Unit 1: 01.09.2011; Unit 2: 24.07.2012)						
										Rs Lakhs
3	Details of expenditure incurred from Compensation Allowance and Special Allowance during Tariff Period 2009-14									
FY	Add-Cap allowed by the Commission under the provision of Regulation 9(2)	Compensatory allowance allowed by the Commission, if any	Special Allowance allowed by the Commission, if any.	Details of Asset/Work Wise Capitalisation based on the Expenditure allowed by the Commission in the tariff period 2009-14			Capitalisation done which has not been claimed/allowed in the tariff	Total Addition during the year	Total Addition during the year as per duly audited schedule of Fixed Asset	Variation, if any to be reconciled/Justified
				Capitalisation out of add cap allowed under Regulation 9(2)	Capitalisation on out of Compensation allowance in the stations wherever applicable	Capitalisation out of Special allowance allowed in the stations where applicable				
2012-13 (Allowed)	17934	-	-	17934.00	-	-	-	17,934.00	6768.62	Variations is on account of the Liabilities of Rs 111.67 Crores discharged during FY 12-13
2013-14 (Allowed)	31919.84	-	-	31919.84	-	-	-	31,919.84	12144.12	Variations is on account of the Liabilities of Rs 197.16 crores discharged during FY 13-14
2014-15 (Allowed)	25958	-	-	30938	-	-	3,215.16	34,153.16	34679.92	The difference is due to discharge of Liabilities of Rs 49.80 Crores and capitalisation of Capex of Rs 55.07 Crores which has been claimed as a cash capitalization in FY 12-13
2015-16 (Allowed)	9116	-	-	9116	-	-	5,876.73	14,992.73	14992.73	
2016-17 (Allowed)	0	-	-	-	-	-	1,087.48	1,087.48	1087.48	

For FY 14-15, Capitalisation out of add cap allowed under Regulation 9(2) is inclusive of the liabilities discharged of Rs 49.80 Crores which is not reflecting in Audited Schedule of Fixed Asset.

ANNEXURE B:
BENEFICIARIES ALONGWITH CONTRACTED CAPACITY – MAITHON POWER LIMITED

1. BRIEF DESCRIPTION:

The total Installed Capacity of Maithon Power Limited is 1050 MW having 2 Units of 525 MW each. Out of the Installed Capacity, currently, 150 MW is contracted with Damodar Valley Corporation ("DVC"), 600 MW is contracted with Tata Power Trading Company Limited ("TPTCL") for onward sale to West Bengal State Electricity Distribution Company Limited ("WBSEDCL") and Tata Power Delhi Distribution Limited ("TPDDL") on long-term basis and 300 MW is contracted with Kerala State Electricity Board ("KSEB").

The capacity contracted with various beneficiaries during FY 2012-13 to FY 2016-17 has been provided below for Kind perusal of the Hon'ble Commission.

List of Beneficiaries alongwith allocation from FY 2012-13 to FY 2016-17					
FY	**Period**	**Station Capacity**	**Regulated Capacity**	**Beneficiaries**	**Contracted Capacity**
FY 11-12	1st September 2011 to 31st March 2012	525	150	DVC	150
FY 12-13	1st April 2012 to 23rd July 2012	525	375	DVC	150
				TPDDL	150
				WBSEDCL	75
	24th July 2012 to 31st March 2013	1050	750	DVC	300
				TPDDL	300
				WBSEDCL	150
FY 13-14	1st April 2013 to 31st March 2014	1050	900	DVC	300
				TPDDL	300
				WBSEDCL	300
FY 14-15	1st April 2014 to 31st March 2015	1050	900	DVC	300
				TPDDL	300
				WBSEDCL	300
FY 15-16	1st April 2015 to 16th of December 2015	1050	900	DVC	300
				TPDDL	300
				WBSEDCL	300

	17th of December 2015 to 31st of December 2016	1050	1050	DVC	300
				TPDDL	300
				WBSEDCL	300
				KSEBL	150
FY 16-17	1st April 2016 to 31st May 2016	1050	1050	DVC	300
				TPDDL	300
				WBSEDCL	300
				KSEBL	150
	1st June 2016 to 31st August 2016	1050	1050	DVC	170
				TPDDL	300
				WBSEDCL	300
				KSEBL	150
				KSEBL	130
	1st Sept 2016 to 31st March 2017	1050	1030	DVC	150
				TPDDL	300
				WBSEDCL	300
				KSEBL	150
				KSEBL	130

APPENDIX C:
METHODOLOGY OF THERMAL POWER PLANT OPERATION – MAITHON POWER LIMITED

1. DESIGN OF THE UNITS:

The total Installed Capacity of Maithon Power Limited is 1050 MW having 2 Units of 525 MW each. The Steam Generators ("**SG**") are designed for Pulverized Coal (Sub-bituminous Coal) firing with Natural/Assisted Circulation and Drum type arrangement. The SG has two passes with Radiant, Single Reheat, Balanced Draft, Semi-outdoor type arrangement and rated to deliver 1700 Tons/hr of Superheated Steam at 178 kg/cm2 Pressure and 540°C Temperature. Each SG is provided with Coal Mills along with individual raw Coal Gravimetric Feeders and Coal Bunkers. The SG is designed to handle and burn Heavy Fuel Oil (HFO) as secondary fuel up to 22.5% MCR Capacity for Start-up and for flame stabilisation during low-load operation. For Unit light up and warm up purposes Light Diesel Oil (LDO) is fired.

The Steam Turbine is a Tandem-compounded Condensing Turbine with separate High Pressure ("**HP**"), Intermediate Pressure ("**IP**") and Low Pressure ("**LP**") modules with Single Reheat & Steam Extractions, driving a Turbo-Generator at 3000 rpm to produce 525 MW output at the Generator Terminals, with throttle Steam Conditions at 177 Bar Pressure and 540°C Temperature. The HP and IP modules of the Steam Turbine are single flow cylinders while the LP module is a double flow cylinder. A small percentage of make-up water is required to compensate the losses in the process. To convert Turbine Exhaust Steam into condensate (water) in the Condenser, circulating water system is provided.

The primary fuel is Coal which is supplied from the mines of Bharat Coking Coal Limited ("**BCCL**"), Central Coalfields Limited ("**CCL**") and the West Bokaro Collieries of Tata Steel. The secondary fuels used in the Plant are Heavy Furnace Oil (HFO) and Light Diesel Oil (LDO) which are sourced from IOCL or HPCL or BPCL. Coal is received from supplier through dumpers and is dozed through dozers in track hoppers and through conveyors to crushers to obtain a size of less than 25 mm. This Coal is either directly fed to the bunkers of Coal Mills or stored for reclamation. The Coal from bunker is led to the Coal Mills for pulverization and then Coal-Primary Air mixture is pneumatically fed into Boiler Furnace through Coal Burners. The Coal Feeders located between Bunkers and Mills measure the Coal flow and help in regulating to suit the requirements of steam generation.

2. PROCESS OF PLANT OPERATION:

The Plant Operations is monitored and controlled from the Unit Control Room which is executed by the group of Engineers headed by the Shift-in-Charge. The Shift-in-Charge reports

to the Head of Operations. The salient activities carried out for the smooth operation of the Plant is summarized as follows:

1. The Day-Ahead Generation schedule is sent to Eastern Region Load Dispatch Centre ("**ERLDC**") keeping in view the availability of Plant and fuel and the same is also informed to beneficiaries, ALDC and SLDC's. Based on the confirmation received, we schedule our generation for the day and any subsequent changes in schedule are taken care as per Grid Code Regulations.

2. Considering the Units in service, Generation as per approved schedule is maintained with Coal and Fuel Oil availability. Parallel with this process, Coal availability is checked from CHP and instruction is given to them for feeding Coal in Bunkers. Coal Bunker levels are being monitored in the CHP Control Room to ensure availability of Coal.

3. When the running Unit develops any problem for which Shutdown is required, Information is first given to ERLDC and concerned Load Dispatch Centre for the Unit Outage. Unit is taken under shutdown safely as per Emergency Work Instructions. Concerned Maintenance Departments are informed to attend the defects on top priority after necessary arrangement of resources is done through SAP. The Operation Department ensures attendance to the critical problem of the Units and takes the equipment in service as early as possible after maintenance clearance.

4. Units, after any outage, are started keeping in view specific work instructions as per Cold, Warm and Hot Start up times. These times are classified as per HP Casing Temperature and Steam and Shaft (metal) Temperature. Operations Department monitors these temperatures during outage to categorize the start-up time.

5. Once the Unit gets started, right from light up of the boiler, Coal Mills availability is ensured. Operation Department continuously monitors for any major/minor defects in the system along with Operational parameters so that the Generation does not get restricted for any reason which can affect the approved schedule. If for any reason, Generation gets affected, information is conveyed to the ERLDC and steps are followed as in point 3 above.

6. Considering the Units running with all parameters in optimum level, Heat Rate analysis and Auxiliary Power Consumption optimization is done to increase the efficiency of the plant without violating Safety & Environmental norms. All the processes are carried out as per the Operational Standard Operating Procedures ("**SOP**") of the equipments. In this process, Chemical analysis is also done and normal defects get attended.

7. If the system demands outage of any Mill, it is closed down and intermittently load is reduced which again is informed to LDC till normalization. The Shift/Daily/Monthly reports and Heat Rate/MIS reports are generated to comply to Quality Management System requirements. These reports aim at tracking forced outages, trippings and start up times of the units.

8. Fly ash to Bottom ash ratio is 80:20 as in other thermal power plants. Fly ash in terms of wet disposal is done in Ash Ponds 1 & 2. Mainly the ash generated is sent to abandoned mines from ash pond, silo & hydrobins with some portion being utilized in construction of roads and manufacture of Ash bricks.

9. Emission related parameters are monitored by Environment Department on monthly basis with respect to SOx, NOX, CO2 intensity etc. and reports are submitted to statutory body as per the requirement.

10. The process of defect management is done through noting defects in SAP and the defects are attended by the Maintenance Departments as per priority. Spares Management is being done by concerned Maintenance Departments and tracking of Spares Cost is done by the Materials and Accounts team. Having two units of identical specification gives MPL an opportunity to optimize spare cost.

11. MPL has a motivated and committed staff of 256 officers and the non-core activities of the division have been strategically outsourced to optimize the O&M Expenses.

ANNEXURE D:
PROCEDURE OF COAL STOCK MANAGEMENT - MAITHON POWER LIMITED

MPL conducts Monthly Physical Stock Assessment ("**PSA**") by Third Parties to ensure the parity in the Book Stock and Physical Stock of Coal. The summary of the procedure of the Physical Stock Assessment is explained as follows:

1. The Physical Verification of Coal in the Coal Yard & Stacker-Reclaimer Area is being done on monthly basis in the 4th week of every month by a competent Third Party Surveyor under the supervision of a Cross Functional Team comprising of MPL Officials from Performance & Efficiency, Accounts, Coal Handling Plant, Coal Logistics, Coal Yard Management Departments.
2. Before starting of the PSA, an initial coordination meeting is arranged between the CFT members where the concerns, if any, regarding the process and also the outcome of the previous PSA is discussed.
3. After the meeting, the Surveyor carries out the PSA in the Coal Stock Beds, the Track Hopper & in the Stacker Area. The Surveyor, using a dedicated standard instrument, measures the actual volumes of coal present by fixing up different coordinates through digital measuring. The Bulk Density of Coal in each Stock is measured by using Bulk Density Box taking samples from various locations of the Stock Pile. The total quantity of Coal present in each Bed & the Stacker Area is measured in the above process by converting the volumes into mass with the measured Bulk Densities at each Bed.
4. The Carpet Stock Volume of each Bed is measured by digging holes at various places of the Bed and measuring the depth of Coal Bed Stock. The Bulk Density of the Carpet Stock is also measured in the process mentioned above and the final quantity of coal as Carpet Stock is being found out.
5. The quantity of coal present in the Coal Bunkers are also measured by measuring the Stock empty levels after calibrating the empty bunker volume and after emptying all the Coal in the conveyor belts.
6. The Stock of Stones/Boulders segregated from the Coal Beds /Grizzly/Conveyor Belts at the Stone Piles in the yard is also measured.
7. A Final Report of the PSA for the total coal stocking in the Coal Yard Beds, Stacker/Reclaimer area and the Coal Bunkers is being made by the Surveyor and is passed on as per Schedule of Authority through the Head of Coal Yard Management Department.