

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Annexure VI

Name of the Company:

NTPC Ltd.

Name of the Power Station:

VSTPS

(Rs. In Lakhs)

Sl. No.	Items	2008-09	2009-10	2010-11	2011-12	2012-13
1	Consumption of stores & spares	7780.34	7298.96	8985.30	9782.62	11664.94
2	Repair & Maintenance	4492.03	5747.13	5900.07	7201.44	8923.22
3	Insurance	546.82	913.24	1044.15	984.58	1038.33
4	Security	1082.21	1264.55	1481.33	1839.20	2064.68
5	Water Charges	1114.73	2893.62	9199.28	6708.89	13693.30
6	Administrative Expenses					
6.1	Rent	0.00	0.00	0.67	0.30	0.00
6.2	Electricity charges	447.41	431.70	440.91	480.04	481.29
6.3	Travelling & Conveyance	429.01	645.91	718.85	790.13	847.36
6.4	Communication Expenses	100.11	99.48	103.34	125.69	136.94
6.5	Advertising	2.08	3.48	1.08	7.54	19.52
6.6	Foundation Laying & Inauguration	0.00	0.00	0.00	0.00	0.00
6.7	Donation	0.00	0.00	0.00	0.00	0.00
6.8	Entertainment	228.76	54.86	63.06	73.30	71.46
6.9	Filing fee	0.00	65.20	65.20	65.20	137.03
	Subtotal (Administrative Expenses)	1207.37	1300.63	1393.11	1542.20	1693.61
7	Employee Cost					
7.1	- Salaries,Wages & Allowances	13312.46	9640.66	16317.38	14146.50	17831.92
7.2	- Staff Welfare expenses	1600.85	3140.28	1097.82	1091.64	1627.02
7.3	- Incentive	727.72	678.41	729.44	711.69	722.40
7.4	- Expenditure on VRS	0.00	0.00	0.00	0.00	0.00
7.5	- Ex-gratia	0.00	369.17	408.18	410.89	407.75
7.6	- Performance Related Pay(PRP)	649.79	931.50	938.21	1425.41	1317.21
	Sub Total (Employee Cost)	16290.82	14760.01	19491.03	17786.12	21906.29
8	Loss of Store	0.00	1.24	0.00	0.38	3.23
9	Provisions	528.65	19.61	256.28	69.96	48.16
10	Prior Period Expenses	0.00	0.00	0.00	0.00	0.00
11	Corporate Office expenses allocation	8131.90	7381.59	9089.19	8571.86	8417.39
12	Others					
12.1	Rates & Taxes	112.63	105.05	128.72	126.39	651.16
12.2	Water cess	114.58	108.48	122.61	109.99	115.54
12.3	Training & recruitment expenses	71.00	63.58	159.26	104.40	107.31
12.4	Tender Expenses	264.15	205.34	242.45	202.85	219.14
12.5	Guest house expenses	49.88	40.45	71.38	66.17	100.46
12.6	Education expenses	54.28	37.68	40.38	27.74	33.39
12.7	Community Development Expenses	156.74	151.04	152.76	152.50	139.02
12.8	Ash utilisation expenses	0.24	3.65	12.20	18.62	35.92
12.9	Books & Periodicals	12.43	2.93	2.55	3.62	4.67
12.1	Professional Charges	26.42	25.85	15.04	23.63	38.53
12.11	Legal expenses	18.86	18.45	23.93	16.99	21.70
12.12	EDP Hire & other charges	36.11	50.45	42.63	41.82	30.21
12.13	Printing & Stationery	37.19	40.93	60.19	45.00	67.60
12.14	Misc and other Expenses	742.83	762.41	1409.65	1228.54	919.77
	Sub Total (Others)	1697.34	1616.29	2483.75	2168.26	2484.41
13	(Total 1 to 12)	42872.21	43196.87	59323.49	56655.50	71937.57
14	Revenue / Recoveries	120.99	79.78	115.09	96.04	108.97
15	Net Expenses	42751.22	43117.09	59208.40	56559.46	71828.60
16	Capital spares consumed	489.64	688.26	722.86	974.87	883.92
	Total O&M Cost	43240.86	43805.35	59931.26	57534.33	72712.52
17	Expenditure of Capital nature as per accounting practice not claimed/ disallowed in capital cost	0.00	907.45	21.42	22.54	
	Total O&M Cost including SI No. 17 above	43240.86	44712.80	59952.68	57556.87	72712.52
	No. of Employee opting for VRS	0.00	0.00	0.00	0.00	0.00

Note:

- 1) Prior period expenses have been inculed in their natural head
- 2) Ex gratia has been included in PRP for the year 2008-09
- 3) Employee cost includes arrears
- 4) For 2012-13, data in respect of SI No.17 shall be submitted later

ANNEXURE-I

Pro-forma furnishing Actual annual performance/operational data for the coal /lignite based thermal generating stations for the 5 year period from 2008-09 to 2012-2013

	Particulars	Units	2008-09	2009-10	2010-11	2011-12	2012-13	Basis of information/ methodology
1	Name of Company		NTPC LTD					
2	Name of Station		Vindhyachal Super Thermal Power Station(VSTPS)					
3	Installed Capacity and Configuration	MW	6X210+2X500+2X500+2X500=4260					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		1. Stage-I MS Tmp. / Pr.- 5350C / 129 KSC ;Turbine-LMZ; Boiler- KRASNY KOTELSHCHIK 2. Stage-II MS Tmp. / Pr.- 5370C / 169 KSC ;Turbine-KWU; Boiler- BHEL 3. Stage-III MS Tmp. / Pr.- 5370C / 169 KSC ;Turbine-KWU; Boiler- BHEL 4. Stage-IV MS Tmp. / Pr.- 5370C / 169 KSC ;Turbine-KWU; Boiler- BHEL					
5	Type of BFP		Electrical Driven (Stage-1) and Steam Driven (Stage-2, 3 & 4)					
6	Circulating Water System		Closed cycle (Stage-1, 2, 3 & 4)					
7	Any other Site specific feature		Ball & tube mills in Stage-II (2X500MW) consuming more APC					
8	Fuels:							
8.1	Main Fuel:		Coal					
8.1.1	Annual Allocation or/ and Requirement	MT	Annual allocation through FSA =17.20MMT(3260 MW) , LOA- 3.19 MMT (1000 MW) Annual requirement =21.81 MMT (4260 MW)					Requirement has been worked out for 90% PLF
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		FSA signed with Northern Coal fields Limited(NCL) Annual contracted quantity of 17.20 MMT (3260 MW). Grade of coal as per FSA is C- E					
8.1.2.1	FSA	MT	17.60	18.17	17.43	17.40	18.99	
8.1.2.2	Imported	MT	0.41	0.40	0.81	0.78	0.10	
8.1.2.3	Spot Market/e auction	MT	0.00	0.00	0.00	0.00	0.00	
8.1.3	Transportation Distance of the station from the sources of supply	km	10					
8.1.4	Mode of Transport		MGR					
8.1.5	Maximum Station capability to stock main fuel	Days & MT	18 days & 12.2 Lac MT					
8.2	Secondary Fuel:							
8.2.1	Annual Requirement	klitre	FROM FY 08-09 TO FY 11-12- 25701.8 KL & FOR FY12-13-26036.6 KL.					
8.2.2	Sources of supply		IOCL,HPCL					
8.2.3	Transportation Distance of the station from the sources of supply	Km	1000 KM					
8.2.4	Mode of Transport		Rail (HFO) / Road (LDO)					
8.2.5	Maximum Station capability to stock secondary fuels	klitre	1. HFO-8000 KL & 2. LDO -1438 KL					
9	Cost of Spares:							
9.1	Cost of Spares capitalized in the books of accounts (St-I)	(Rs. Lakh)	84.8	471.4	718.8	373.0		2012-13 data to be submitted later
	Cost of Spares capitalized in the books of accounts (St-II)	(Rs. Lakh)	0.0	98.2	50.9	285.6		
	Cost of Spares capitalized in the books of accounts (St-III)	(Rs. Lakh)	5891.6	1799.1	358.1	177.3		
9.2	Cost of spares included in capital cost for the purpose of tariff (St-I)	(Rs. Lakh)	0	0	0	0		
	Cost of spares included in capital cost for the purpose of tariff (St-II)	(Rs. Lakh)	0	0	0	0		

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	Cost of spares included in capital cost for the purpose of tariff (St-III)	(Rs. Lakh)	5891.6	810.17	0	0		
10	Generation							
10.1	Actual Gross Generation at generator terminals (Commercial Satge wise)							
10.1.1	Stage-1	MU	10206.30	10660.71	10392.71	10016.66	10001.03	
10.1.2	Stage-2	MU	8146.91	8382.58	8232.22	7706.35	7855.07	
10.1.3	Stage-3	MU	8248.13	8542.44	8385.73	8162.56	8148.94	
10.1.4	Stage-4	MU					93.51	
10.2	Actual Net Generation Ex-bus	MU						
10.2.1	Stage-1	MU	9326.84	9720.19	9461.52	9075.26	9082.01	
10.2.2	Stage-2	MU	7733.71	7976.11	7825.02	7279.06	7400.63	
10.2.3	Stage-3	MU	7893.10	8196.21	8050.21	7854.45	7783.57	
10.2.4	Stage-4	MU	---	---	---	---	79.32	
10.3	Scheduled Generation Ex-bus							Based on REA
10.3.1	Stage-1	MU	9273.09	9665.78	9368.43	9004.68	9054.53	
10.3.2	Stage-2	MU	7698.90	7933.84	7775.68	7236.53	7402.72	
10.3.3	Stage-3	MU	7854.11	8154.03	8008.86	7800.52	7789.47	
10.3.4	Stage-4	MU	---	---	---	---	84.86	
11	Average Declared Capacity (DC)							Based on REA
11.1	Stage-1	MW	1058.63	1106.24	1103.25	1049.41	1077.51	
11.2	Stage-2	MW	878.87	907.47	907.38	840.51	880.52	
11.3	Stage-3	MW	896.62	932.25	929.28	911.25	925.33	
11.4	Stage-4	MW	---	---	---	---	9.69	
12	Actual Auxiliary Energy Consumption including colony consumption							
12.1	Stage-1	MU	767.30	805.68	802.87	773.51	783.83	
12.2	Stage-2	MU	466.12	478.19	482.31	457.06	468.44	
12.3	Stage-3	MU	403.77	398.05	373.84	372.53	401.61	
12.4	Stage-4	MU					10.39	
13	Actual Energy supplied to Colony from the station	MU	22.70	21.29	21.27	20.66	21.22	
14	Main Fuel:							
14.1	Consumption :							
14.1.1	Domestic Coal (Linked miine/ Other mines/e-auction/spot)	MT	17675011	18057964	17437427	17116960	18812515	
14.1.2	Imported Coal	MT	369815	423343	814190	770658	107249	
14.2	Gross Calorific Value (GCV):							
14.2.1	Domestic Coal (As received)	kCal/kg						
	(As fired)	kCal/kg						
14.2.2	Imported Coal (As received)	kCal/kg	6220	6240	6207	6222	6202	
14.2.3	Spot market/e-auction coal (As received)	kCal/kg						
14.2.4	Weighted Average Gross Calorific value (As received)	kCal/kg						
14.2.5	Weighted Average Gross Calorific value (As fired)	kCal/kg	3499	3538	3508	3427	3268	
14.3	Price of Coal:							
14.3.1	Weighted Average price of Domestic coal	(Rs/MT)	1329.5	1466.2	1592.3	1757.7	1563.6	

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14.3.2	Weighted Average price of imported coal	(Rs/MT)	7784.7	6967.8	9072.4	9092.6	7800.3	
14.3.3	Weighted Average price of spot market/ e-auction coal	(Rs/MT)						
14.3.4	Weighted Average price of all the Coals (as received)	(Rs/MT)						
	Weighted Average price of all the Coals		1474.7	1582.5	1926.0	2075.0	1599.4	
14.4	Blending:	% and MT						
14.4.1	Blending ratio of imported coal with domestic coal	%	2.05%	2.29%	4.46%	4.31%	0.57%	Imported/ Total Coal Consumption
14.4.2	Proportion of e-Auction coal in the blending							
14.4.3	Actual Average stock maintained	MT	234203	643573	266561	414874	393408	Average of monthly closing stock
14.5	Actual Transit & Handling Losses for coal/Lignite							
14.5.1	Pit- Head Station	MT						
14.5.1.1	Transit loss from linked mines	MT	0.23%	0.19%	0.19%	0.17%	0.19%	
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.	MT						
14.5.1.3	Transit loss of imported coal	MT	0.03%	0.17%	0.19%	0.19%	0.18%	
14.5.2	Non-Pit Head station							
14.5.2.1	Transit loss from linked mines							
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.							
14.5.2.3	Transit loss of imported coal							
15	Secondary Fuel Oil :							
15.1	Consumption	klitre	5317.1	4999.2	3287.2	5542.9	5484.6	
15.2	Weighted Average Gross Calorific value (As received)	kCal/kg(litre)	9745	9728	9728	9765	9725	
15.3	Weighted Average Price	Rs/ KL	37332	29289	31288	37409	48760	
15.4	Actual Average stock maintained	klitre	4643.13	4834.10	5300.17	6123.07	7385.23	Average of monthly closing stock
16	Weighted average duration of outages							
16.1	Scheduled Outages	MU	1599.39	1239.53	1176.09	1050.26	1298.31	
16.2	Forced Outages	MU	634.55	836.34	403.29	1249.22	589.26	
16.3	Number of trippings	No	83	70	59	75	67	
16.4	Number of start-ups :	No	83	70	59	75	67	
16.4.1	Cold Start-up	No	8	7	9	19	11	
16.4.2	Warm Start-up	No	43	40	30	34	34	
16.4.3	Hot start-up	No	32	23	20	22	22	
17	NOx , SOx ,and other particulate emission in :							
17.1	Design value of emission- NOx	mg/Nm ³			NA			No norm; not considered in design
	Design value of emission- SOx	mg/Nm ³			NA			No norm; not considered in design
	Design value of emission- SPM (St-I)	mg/Nm ³			345			
	Design value of emission- SPM (St-II)	mg/Nm ³			50			
	Design value of emission- SPM (St-III)	mg/Nm ³			50			
17.2	Actual emission (SPM)- St-I	mg/Nm ³	132-146	132-148	123-145	124-144	92-148	
17.3	Actual emission (SOx)	mg/Nm ³	989-1156	998-1208	735-1166	812-1037	786-1066	
17.4	Actual emission (NOx)	mg/Nm ³	691-823	683-890	561-816	532-837	572-832	

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17.2	Actual emission (SPM)- St-II	mg/Nm ³	90-94	83-94	82-96	78-93	78-97	
17.3	Actual emission (SOx)	mg/Nm ³	948-998	736-1032	675-995	784-996	809-978	
17.4	Actual emission (NOx)	mg/Nm ³	702-784	596-993	431-741	583-768	588-751	
17.2	Actual emission (SPM)- St-III	mg/Nm ³	84-90	70-91	76-91	68-94	68-93	
17.3	Actual emission (SOx)	mg/Nm ³	702-784	623-976	642-1000	424-989	542-910	
17.4	Actual emission (NOx)	mg/Nm ³	589-672	406-781	409-783	403-764	403-846	
19	Detail of Ash utilization % of fly ash produced	Quantity Produced (Lakh MT)	51.58	50.17	50.74	62.47	69.35	
19.1	Conversion of value added product(Issue to Cement, RMC & Brick /block industries)	%	15.65	27.30	22.97	12.60	20.99	
19.2	For making roads & embarkment	%	0.00	0.00	0.00	0.00	0.00	
19.3	Land filling	%	22.24	17.94	11.63	6.56	14.49	
19.4	Used in plant site in one or other form or used in some other site (Mine filling & Ash dyke raising)	%	5.82	5.18	7.88	7.11	11.03	
19.5	Any other use , Please specify (Agriculture, Bottom ash cover etc.)	Qty. (Lakh M T) and usage	11.44	12.01	10.54	12.54	13.87	
20	Cost of spares actually consumed	Rs Lakh	7590.4	7153.3	8841.4	9588.1	11413.4	
21	Average stock of spares	Rs Lakh	14613.9	15133.3	14947.9	15804.2	17867.6	
22	Number of employees deployed in O&M							
22.1	Executives		589	601	607	607	696	
22.2	Non Executives		968	937	891	898	867	
22.3	Corporate office		3205	3272	3298	3354	3170	Total Corporate Man Power
23	Man-MW ratio		0.48	0.47	0.46	0.46	0.37	Excluding Corporate Man Power

Note:

From Oct/ Nov 2012 onwards payment to coal companies is being made on the basis of GCV as received at plant boundary. As per FSA, payment is to be made as per the quality assessed at mine end . Accordingly substantial amount billed by Coal companies are yet to be paid. Prices indicated above reflect the payment being made to Coal Companies.

GCV of Domestic Coal as received is being measured only from Oct/Nov 2012