

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**

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology
1	Name of Company		NTPC Ltd.					
2	Name of Station/ Pit head or Non- Pit head		Badarpur Thermal Power Station / Non Pit Head					
3	Installed Capacity and Configuration	MW	3X95 MW+ 2X210 MW=705 MW					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		Stage-1(95 MW) Boiler - Steam Pressure at Drum outlet 109 Kg/Sqcm, Steam Temperature at Final SH 540 deg +/- 5 deg celcius.					
			Stage-2 (210 MW) Boiler- Steam Temp 540 deg celcius and Pressure 130 kg/sqcm before ESV					
5	Type of BFP		Electrical Driven					
6	Circulating water system		Open Cycle					
7	Any other Site specific feature		STP-RO system with DM Plant, # 3 Ball Mills in Each 95 MW units & 6 Bowl mills in Each 210 MW units, Additional systems like desalination plant					
8	Fuels :							
8.1	Primary Fuel :		Coal					
8.1.1	Annual Allocation or/and Requirement		Annual allocation through modified FSA dated 09.09.2016 with CCL - 1.72 MMT Allocation through MOU dated 08.07.2015 with NCL - 3.0 MMT Annual Requirement : 4.56 MMT (705 MW)					Annual Requirement based on 90% PLF
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		CCL, ECL, NCL					
			4.20	4.20	4.20	4.20	1.72	
			CCL: G4-G10, W-IV/Beneficiated coal ECL: G13 and above					
8.1.2.1	FSA	LOA	3.93	3.75	2.72	1.41	1.18	Received during respective years
		MoU	0.00	0.00	0.11	0.07	0.00	
8.1.2.2	Imported	MMT	0.00	0.004	0.00	0.00	0.00	
8.1.2.3	Spot Market/e-auction	MMT	0.000	0.00	0.00	0.00	0.00	
8.1.3	Transportation Distance of the station from the sources of supply	KM	ECL: Min. 1265 Km (Bonjemehary Colly Sdng), Max. 1309 Km (Pandabeswar) CCL: Min. 1185 Km (Dakra Manual Sdng), Max. 1256 Km (North Ramgarh Colly Sdng, Chainpur)					
8.1.4	Mode of Transport		Indian Railways only					
8.1.5	Maximum Station capability to stock primary fuel	Days & MT	45 days / 0.58 MMT					
8.1.6	Maximum stock maintained for primary fuel	MT	161000	414611	486456	625686	216000	
8.1.7	Minimum Stock maintained for primary fuel	MT	17779	0	0	160000	92000	

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology
8.1.8	Average stock maintained for primary fuel	MT	77673	196961	191254	477733	141762	
8.2	Secondary Fuel :		LDO & HSD					
8.2.1	Annual Allocation/ Requirement	KL	2280					
8.2.2	Sources of supply		HPCL,IOCL,BPCL					
8.2.3	Transportation Distance of the station from the sources of supply	KM	LDO from BPCL (Raipur) & HSD from IOC Panipat					
8.2.4	Mode of Transport		LDO by Rail & HSD by road					
8.2.5	Maximum Station capability to stock secondary fuels	KL	225 (HSD) + 6000 (LDO)					
8.2.6	Maximum Stock of secondary oil actually maintained	LDO	4916	4813	4551	3594	2269	
		HSD	135	122	124	119	117	
8.2.7	Minimum Stock of secondary oil actually maintained	LDO	1736	1894	1767	2269	1752	
		HSD	85	93	105	94	100	
8.2.8	Average Stock of secondary oil actually maintained	LDO	3088	3772	3376	2762	1893	
		HSD	105	106	114	111	109	
9	Cost of Spares :							
9.1	Cost of Spares capitalized in the books of accounts	Rs. Lakhs	1593.49	1584.91	1568.16	2195.14	1133.84	
9.2	Cost of spares included in capital cost for the purpose of tariff	Rs. Lakhs	0.00	0.00	0.00	0.00	0.00	
10	Generation :							
10.1	-Actual Gross Generation at generator terminals	MU	4555.64	4146.57	3281.20	2241.43	1704.85	
10.2	-Actual Net Generation Ex-bus	MU	4181.14	3772.77	2932.73	2013.12	1511.37	
10.3	-Scheduled Generation Ex-bus	MU	4229.79	3808.10	2966.43	2084.34	1591.86	
11	Average Declared Capacity (DC)	MW	575.71	586.31	551.22	603.39	604.58	
12	Actual Auxiliary Energy Consumption excluding colony	MU	390.11	380.00	336.50	221.64	187.61	
13	Actual Energy supplied to Colony from the station	MU	8.27	8.41	8.30	6.55	6.37	
14	Primary Fuel :							
14.1	Consumption :	MT	4006209	3545675	2705858	1706809	1214964	
14.1.1	Domestic coal	From linked mines	MT	4006209	3541697	2705858	1706809	1214964
		Non-linked mines	MT	Nil	Nil	Nil	Nil	Nil
14.1.2	Imported coal	MT	Nil	3978	Nil	Nil	Nil	
14.1.3	Spot market/e-auction coal	MT	Nil	Nil	Nil	Nil	Nil	
14.2	Gross Calorific Value (GCV) :							
14.2.1	Domestic Coal	(As Billed) (Eq. Basis)	kCal/kg	5298	5067	5391	5362	5404
		(As Received) (TM Basis)	kCal/kg	-	-	3252	3973	3993
		(As Fired) (TM Basis)	kCal/kg	-	-	-	-	-

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology	
14.2.2	Imported Coal	(As Billed) (AD Basis)	kCal/kg	NIL	NIL	NIL	NIL	NIL	
		(As Received) (AD Basis)	kCal/kg	NIL	5384	NIL	NIL	NIL	
14.2.3	Spot market/e-auction coal	(As Billed)	kCal/kg	NIL	NIL	NIL	NIL	NIL	
		(As Received)	kCal/kg	NIL	NIL	NIL	NIL	NIL	
14.2.4	Weighted Average Gross Calorific value (As Billed)	kCal/kg	5298	5067	5391	5362	5404		
14.2.5	Weighted Average Gross Calorific value (As Received)	kCal/kg	-	-	4211	3973	3993		
14.2.6	Weighted Average Gross Calorific value (As Fired)	kCal/kg	3116	3197	-	-	-		
14.3	Price of coal :								
14.3.1	Weighted Average Landed price of Domestic coal	Rs/MT	4070.55	4320.61	4864.17	4879.08	4641.54		
14.3.2	Weighted Average Landed Price of Imported coal	Rs/MT	NA	7818.00	NA	NA	NA		
14.3.3	Weighted Average Landed Price of Spot market/e-auction coal	Rs/MT	NA	NA	NA	NA	NA		
14.3.4	Weighted Average Landed Price of all the Coals	Rs/MT	4070.55	4324.30	4864.17	4879.08	4641.54		
14.4	Blending :	% and MT (of the total coal consumed)	NIL	0.11%	NIL	NIL	NIL		
14.4.1	Blending ratio of imported coal with domestic coal	Equivalent to domestic coal							
14.4.2	Proportion of e-auction coal in the blending		NIL	NIL	NIL	NIL	NIL		
14.5	Actual Average Coal stock maintained	MT	77673	196961	191254	477733	141762	No. of days computed at normative operating levels.	
		Days	7.01	17.79	17.27	43.14	12.80		
14.5	Actual Transit & Handling Losses for coal/Lignite								
14.5.1	Pit- Head Station								
14.5.1.1	Transit loss from linked mines		NA	NA	NA	NA	NA		
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.		NA	NA	NA	NA	NA		
14.5.1.3	Transit loss of imported coal		NA	NA	NA	NA	NA		
14.5.2	Non-Pit Head station								
14.5.2.1	Transit loss from linked mines	MT	32759	30237	22625	11946	8634		
		%	0.796	0.786	0.797	0.796	0.732		
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.		NIL	NIL	NIL	NIL	NIL		
14.5.2.3	Transit loss of imported coal		NIL	NIL	NIL	NIL	NIL		
15	Secondary Fuel Oil : (If more than one fuel used then give details of all the fuels								
15.1	Consumption	LDO	KL	6760	4600	2877	1325	795	
		HSD	KL	136	101	94	82	57	

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology	
15.2	Weighted Average Gross Calorific value (As received)	Kcal/l	9504	9537	9577	9562	9555		
15.3	Weighted Average Price	LDO	Rs/KL	65239	68800	64369	NA		NA
		HSD	Rs/KL	40095	54773	50900	41594		47101
15.4	Actual Average stock maintained	LDO	KL	3088	3771.86	3375.76	2762.1		1892.93
		HSD	KL	104.5	106	114.3	111		108.6
16	Weighted average duration of outages(unit-wise details):								
16.1	Planned Outages	Nos	98	97	101	65	58		
16.2	Forced Outages	Nos	48	38	46	22	18		
16.3	Number of tripping	Nos	63	48	29	15	13		
16.4	Number of start-ups:	Nos	113	51	60	32	20		
16.4.1	Cold Start-up	Nos	18	11	15	9	3		
16.4.2	Warm Start-up	Nos	22	16	16	7	4		
16.4.3	Hot start-up	Nos	73	23	29	16	13		
17	NOx , SOx ,and other particulate matter emission in :								
17.1	Design value of emission control equipment	mg/Nm3						No design value for SOX and NOX	
17.2	Actual emission	SPM	mg/Nm3	103	107	98	74		36
		SOX	mg/Nm3	771	771	766	615		581
		NOX	mg/Nm3	327	342	339	277	272	
19	Detail of Ash utilization % of fly ash produced		%	86.61	75.19	119.84	130.44	157.00	Ash utilization in some years is more than 100% due to utilization of ash from previous years from Ash Mund/ Pond
19.1	Conversion of value added product	%	82.96	59.80	64.16	91.63	100.23		
19.2	For making roads &embarkment	%	2.50	13.16	33.32	38.81	56.77		
19.3	Land filling	%	1.16	0.36	0.18	0.00	0.00		
19.4	Used in plant site in one or other form or used in some other site	%	0.00	1.88	22.17	0.00	0.00		
19.5	Any other use , Please specify	%	0.00	0.00	0.00	0.00	0.00		
20	Cost of spares actually consumed	Rs. Lakhs	4167.78	5085.56	4133.81	2209.17	1465.85		
21	Average stock of spares	Rs. Lakhs	5363.37	5402.97	5206.76	5546.89	5885.88		
22	Numbe of employees deployed in O&M							As on last day of FY	
22.1	- Executives		342	329	298	259	208		
22.2	- Non Executives		565	461	338	272	198		
22.3	- Corporate office		3170	3051	2916	2973	2787		
23	Man-MW ratio		1.29	1.12	0.90	0.75	0.58		

Note: Allocation of stations attached at Appendix-I
Man-MW ratio computed excluding Corporate Employees
Average Coal stock computed based on monthly closing stock

Annexure-VI (A)

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company: NTPC Ltd.
Name of the Power Station: Badarpur TPS (705 MW)

Rs. Lakhs

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
1	Consumption of stores & spares	4167.78	5085.56	4133.81	2209.17	1465.85
2	Repair & Maintenance	2504.81	2600.72	3134.44	3661.33	2964.72
3	Insurance	209.29	229.42	245.83	207.78	217.17
4	Security	1563.12	1880.78	2081.65	2242.94	2481.76
5	Water Charges	580.60	1080.28	532.16	961.32	1291.90
6	Administrative Expenses					
6.1	Rent	0.00	0.00	0.00	0.00	0.00
6.2	Electricity charges	309.25	346.61	368.95	280.13	237.47
6.3	Travelling & Conveyance	381.90	386.41	377.42	299.83	230.44
6.4	Communication Expenses	79.26	74.75	76.76	96.11	93.56
6.5	Advertising	0.00	0.47	3.60	0.64	9.83
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	19.31	8.67	24.79	24.74	20.79
6.9	Filing fee	28.20	31.02	31.02	31.02	31.02
	Subtotal (Administrative Expenses)	817.92	847.93	882.54	732.48	623.10
7.0	Employee Cost					
7.1.1	Salaries,Wages & Allowances	11244.84	9741.57	8762.40	8046.15	6189.85
7.1.2	Pension	45.68	2948.46	715.36	652.79	503.53
7.1.3	Gratuity	515.02	168.26	-54.11	-19.59	1240.35
7.1.4	Provident Fund	816.27	816.52	720.85	646.43	530.94
7.1.5	Leave Encashment	1636.25	1216.56	1153.65	1058.88	1189.17
7.2	Staff welfare expenses					
7.2.1	-Medical expenses on superannuated employees	507.37	674.63	776.36	873.28	0.00
7.2.2	-Medical expenses on regular employees & others	1092.09	985.92	701.36	899.51	886.85
7.2.3	-Uniform/Livries & safety equipment	70.96	185.66	151.93	133.29	121.07
7.2.4	-Canteen expenses	157.26	165.88	211.08	137.37	200.12
7.2.5	-Other staff welware expenses	190.59	164.89	408.29	141.19	183.35
	Subtotal (Staff welfare Expenses)	2018.26	2176.98	2249.02	2184.63	1391.40
7.3	Productivity linked Incentive	493.89	441.63	127.59	107.93	0.10
7.4	Expenditure on VRS	0.00	0.00	59.16	0.00	0.00
7.5	Ex-gratia	895.54	557.51	932.10	800.15	781.56
7.6	Performance Related Pay(PRP)	0.00	0.00	0.00	0.00	0.00
	Sub Total (Employee Cost)	17665.76	18067.49	14666.02	13477.38	11826.89
8	Loss of Store	0.00	0.00	0.00	0.00	0.00
9	Provisions	7.88	30.88	48.20	241.27	841.78
10	Prior Period Expenses	-1.45	7.88	-3.75	0.00	0.00
11	Corporate Office expenses allocation	1812.89	1834.47	1951.78	2006.76	2049.91
12	Others					
12.1	Rates & Taxes	723.92	681.60	681.20	683.79	681.47
12.2	Water cess	140.16	647.88	353.11	91.54	89.61

Annexure-VI (A)

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company: NTPC Ltd.
Name of the Power Station: Badarpur TPS (705 MW)

Rs. Lakhs

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
12.3	Training & recruitment expenses	58.21	40.76	77.39	108.80	92.44
12.4	Tender Expenses	55.47	53.12	138.68	41.52	26.08
12.5	Guest house expenses	39.82	38.60	40.43	47.75	41.15
12.6	Education expenses	27.42	38.25	276.01	55.53	59.71
12.7	Community Development Expenses	208.60	270.32	80.31	602.87	714.21
12.8	Ash utilisation expenses	0.00	-283.43	-154.71	-15.29	-10.87
12.9	Books & Periodicals	4.14	1.13	1.47	2.10	4.15
12.10	Professional Charges	35.67	59.17	32.50	27.79	23.49
12.11	Legal expenses	14.96	12.25	17.14	55.19	39.24
12.12	EDP Hire & other charges	95.22	96.13	131.89	111.75	100.66
12.13	Printing & Stationery	27.20	25.75	19.61	20.82	20.58
12.14	Misc Expenses	217.08	250.68	298.09	298.82	350.43
	Sub Total (Others)	1647.88	1932.22	1993.11	2132.99	2232.37
13	(Total 1 to 12)	30976.47	33597.62	29665.79	27873.44	25995.46
14	Revenue / Recoveries	-184.68	-81.05	-81.30	-83.33	-72.85
15	Net Expenses	30791.80	33516.57	29584.49	27790.11	25922.61
16	Capital spares consumed	116.59	438.65	165.68	318.52	587.27
	Total O&M Cost	30908.39	33955.22	29750.17	28108.62	26509.89
	No. of Emp. Applied for VRS	3	No. VRS scheme was in operation			

Annexure-VI (C)

DETAILS OF WATER CHARGES

Name of the Company: NTPC Ltd.

Name of the Power Station and Stage/Phase: Badarpur Thermal Power Station

(Rs. In Lakhs)

Sl.No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17
1	2	3	4	5	6	7
(A)	Plant					
1	Type of Plant	Thermal : Coal Fired				
2	Type of Cooling Tower	Induced draft				
3	Type of Cooling Water System	Open Cycle				
4	Any Special Features which may increase/reduce water consumption					
(B)	Quantum of Water : (Cubic Meter)					
5	Contracted Quantum					
6	Allocation of Water (cusecs)	59.02	59.02	59.02	59.02	59.02
7	Actual water Consumption	59.02	59.02	59.02	59.02	59.02
8	Rate of Water Charges (lakhs/ cusecs)	6	6	6	6	6
9	Other charges/Fees , if paid as part of Water Charges Rs lakhs	226.48	726.16	84.08	374.28	705.50
	Water Charges paid Rs lakhs	354.12	354.12	586.4	587.04	586.4
	Total water Charges Paid Rs lakhs	580.60	1080.28	670.48	961.32	1291.90

Annexure-VI (D)**Details of Capital Spares****Name of Company NTPC Limited****Name of Power station : Badarpur TPS**

in Rs.

Sl . No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17
(A)	Details of capital spares in Opening stock	71,60,25,701	86,37,15,632	97,83,42,587	1,11,85,90,971	1,30,62,53,702
(B)	Details of capital spares procured during the year	15,93,49,215	15,84,91,473	15,68,16,492	21,95,14,263	11,33,84,105
(C)	Details of capital spares consumed during the year	1,16,59,284	4,38,64,518	1,65,68,109	3,18,51,532	5,87,27,460
(D)	Details of capital spares closing at the end of the year	86,37,15,632	97,83,42,587	1,11,85,90,971	1,30,62,53,702	1,36,09,10,347

Note: Details of spares being provided in soft copy as voluminous

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Badarpur Thermal Power Station														
Station/ Stage/ Unit: 3 x 95 MW (Stage-I) + 2 x 210 MW (Stage-II)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal														
Capacity of Plant (MW): 705 MW														
COD : Date of Takeover - 01.06.2006														
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
25	AFC (Rs. Kwh)(Normative)	NA	NA	0.53	0.53	0.53	0.78	0.78	0.80	0.81	0.82	0.72	0.76	0.79
26	Energy Charge (Rs./Kwh)	NA	NA	2.10	2.18	2.37	2.53	3.02	3.36	4.05	4.19	4.45	4.28	3.69
27	Total tariff (Rs. Kwh)	NA	NA	2.63	2.71	2.91	3.31	3.80	4.16	4.86	5.01	5.17	5.05	4.48
28	Revenue realisation before tax (Rs. Crore)	NA	NA											
29	Revenue realisation after tax (Rs. Crore)	NA	NA											
30	Profit/ loss (Rs. Crore)	NA	NA	146.27	143.63	37.92	93.61	133.30	100.62	145.59	66.84	-16.74	0.38	-48.92
31	DSM Generation (MU)	NA	NA		52.37	64.11	77.37	84.23	63.31	-48.64	-35.33	-33.7	-71.23	-80.16
32	DSM Rate (Ps/Kwh)	NA	NA											
33	Revenue from DSM (Rs. Crore)	NA	NA		-17.98	-24.93	-22.92	-30.59	-29.04	-1.46	3.51	10.59	19.60	18.63

Note:

- 1 \$ "Ex-Bus" word is additionally inserted.
- 2 # "Average" word is additionally inserted.
- 3 \$ "for 2004-09 & pre tax (admitted by CERC) for 2009-17" word is additional inserted
- 4 # Additional Row 24(e) inserted
- 5 DSM Revenue (-)Received / (+) Paid