

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/ Remarks
1	Name of Company		NTPC Ltd.					
2	Name of Station/ Pit head or Non- Pit head		Rihand Super Thermal Power Station Stage-I					
3	Installed Capacity and Configuration	MW	2 X 500 = 1000 MW					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		Turbine : GEC UK, Single flow HP Cylinder, double flow IP cylinder, Two double flow LP Cylinder. Boiler : NEI Ltd, Balance draught, controlled circulation, Tangentially fired. Wet Bottom.					
5	Type of BFP		Electric Driven					
6	Circulating water system		Open Cycle					
7	Any other Site specific feature							
8	Fuels :							
8.1	Primary Fuel :		Coal/ Lignite					For the Station (3000 MW) Requirement has been worked out at 90% PLF
8.1.1	Annual Allocation or/and Requirement		Annual allocation through FSA dated 02.09.2013 with NCL for Rihand-III - 3.365 MMT Annual allocation through modified FSA dated 08.09.2016 with NCL for Rihand- I&II 10.84 MMT Allocation through MOU dated 09.01.2014 with ECL - 5.0 MMT Annual Requirement : 16.85					
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		NCL, ECL					
			10.50	13.87	13.87	13.87	14.21	
			NCL: G7 - G10					
8.1.2.1	FSA	LOA	10.99	12.32	13.14	12.72	14.68	
		MoU	0.00	0.03	0.57	0.72	0.00	
8.1.2.2	Imported	MMT	0.103	0.43	1.17	0.65	0.01	
8.1.2.3	Spot Market/e-auction	MMT	0.000	0.04	0.19	0.00	0.00	
8.1.3	Transportation Distance of the station from the sources of supply	KM	NCL: Min. 54 Km (Jayant/Dudhichua), Max. 96 Km (Sipur siding)					
8.1.4	Mode of Transport		Rail/MGR					
8.1.5	Maximum Station capability to stock primary fuel	Days & MMT	25/0.96					
8.1.6	Maximum stock maintained for primary fuel	MT	696711	485836	570000	949590	1033000	
8.1.7	Minimum Stock maintained for primary fuel	MT	45000	39545	8000	643162	101000	
8.1.8	Average stock maintained for primary fuel	MT	322459	211120	116738	827172	610568	
8.2	Secondary Fuel :							For the Station (3000 MW)
8.2.1	Annual Allocation/ Requirement	KL	11826					
8.2.2	Sources of supply		IOCL					
8.2.3	Transportation Distance of the station from the sources of	KM	700					
8.2.4	Mode of Transport		Rail/Road					

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
8.2.5	Maximum Station capability to stock secondary fuels	KL	22000 (HFO) / 750 (HSD)					MW)	
8.2.6	Maximum Stock of secondary oil actually maintained	KL	9526	8064	7092	7339	7968		
8.2.7	Minimum Stock of secondary oil actually maintained	KL	3813	4730	4069	4464	4683		
8.2.8	Average Stock of secondary oil actually maintained	KL	6653	6329	5743	6133	6008		
9	Cost of Spares :								
9.1	Cost of Spares capitalized in the books of accounts	Rs. Lakhs	3071.36	7291.48	5607.94	8206.40	10996.64	For the Station (3000 MW)	
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	6950.09	7482.69	7021.50	6851.97	6520.28		
10.2	-Actual Net Generation Ex-bus	MU	6381.65	6877.90	6464.68	6295.88	5968.84		
10.3	-Scheduled Generation Ex-bus	MU	6367.67	6910.06	6442.28	6287.96	6003.96		
11	Average Declared Capacity (DC)	MW	750.76	863.60	772.50	788.14	751.14		
12	Actual Auxiliary Energy Consumption excluding colony consumption	MU	514.69	595.24	547.87	554.07	548.35		
13	Actual Energy supplied to Colony from the station	MU	8.30	9.32	11.30	11.62	11.98		
14	Primary Fuel :								
14.1	Consumption :	MT	4675047	5299412	4780197	4465875	4275231		
14.1.1	Domestic coal	From linked mines	MT	4601535	4928018	3806970	3928871		4259418
		Non-linked mines	MT						
14.1.2	Imported coal	MT	73512	357038	906712	537004	15813		
14.1.3	Spot market/e-auction coal	MT	0	14356	66515	0	0		
14.2	Gross Calorific Value (GCV) :								
14.2.1	Domestic Coal	(As Billed) (Eq. Basis)	kCal/kg	4962	4687	4594	4699		4286
		(As Received) (TM Basis)	kCal/kg	NA	NA	NA	3447	3630	
		(As Fired) (TM Basis)	kCal/kg	NA	NA	NA	NA	NA	
14.2.2	Imported Coal	(As Billed) (ADB)	kCal/kg	5997	5914	5401	5517	5544	
		(As Received) (TM Basis)	kCal/kg	NA	NA	NA	4752	4675	

Sl.No.	Particulars			Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
14.2.3	Spot market/e-auction coal			(As Billed)	kCal/kg	0	6272	3838	0	0	
				(As Received)	kCal/kg		NA	NA			
14.2.4	Weighted Average	Gross Calorific value (As Billed)		kCal/kg	4971	4736	4658	4737	4287		
14.2.5	Weighted Average	Gross Calorific value (As Received)		kCal/kg	NA	NA	3467	3604	3628		
14.2.6	Weighted Average	Gross Calorific value (As Fired)		kCal/kg	3486	3342	NA	NA	NA		
14.3	Price of coal :										
14.3.1	Weighted Average Landed price of Domestic coal				1585.61	1604.55	1851.49	2073.46	2233.17		
14.3.2	Weighted Average Landed Price of Imported coal				8025.21	7335.91	6301.98	7218.68	6995.87		
14.3.3	Weighted Average Landed Price of Spot market/e-				0.00	5955.54	5007.92	0.00	0.00		
14.3.4	Weighted Average Landed Price of all the Coals				1645.51	1815.89	2238.97	2311.35	2235.67		
14.4	Blending :			% and MT (of the total coal consumed)	1.57	6.74	18.97	12.02	0.37		
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				0.00	0.81	4.17	0.00	0.00		
14.5	Actual Average Coal stock maintained			MT	322459	211120	116738	827172	610568	For the Station (3000 MW)	
				Days	10.54	5.52	2.54	18.02	13.30		
14.5	Actual Transit & Handling Losses for coal/Lignite										
14.5.1	Pit- Head Station										
14.5.1.1	Transit loss from linked mines			%	0.11	0.10	0.10	0.16	0.17		
14.5.1.2	Transit loss from non-linked mines including e-auction coal				0.11	0.10	0.10	0.16	0.17		
14.5.1.3	Transit loss of imported coal				0.00	0.01	0.00	0.03	0.09		
14.5.2	Non-Pit Head station										
14.5.2.1	Transit loss from linked mines (MGR/ Rail)			MT %							
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 : (If more than one fuel used then give details of all the fuels										
15.1	Consumption			HFO	KL	3887.6	2487.6	3220.3	2672.4	3799.0	
				LDO	KL	0	0	0	0	0	
15.2	Weighted Average Gross Calorific value (As received)			HFO	Kcal/Ltr	9947	10158	10201	10066	9765	
				LDO	Kcal/Ltr						

Sl.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
15.3	Weighted Average Price	HFO	Rs/KL	55019	53488	47247	30509	28749	For the Station (3000 MW)
		LDO	Rs/KL	63962	71582	64656	0	0	
15.4	Actual Average Stock maintained	KL	6653	6317	5743	6133	6008		
16	Weighted average duration of outages(unit-wise								
16.1	Planned Outages	Days	41.52	11.46	20.21	19.55	43.50		
16.2	Forced Outages	Days	12.69	6.69	7.44	7.07	10.26		
16.3	Number of tripping	Nos	18	15	16	15	23		
16.4	Number of start-ups:	Nos	20	15	16	16	26		
16.4.1	Cold Start-up	Nos	7	5	7	6	7		
16.4.2	Warm Start-up	Nos	9	4	4	5	4		
16.4.3	Hot start-up	Nos	4	6	5	5	15		
17	NOx , SOx ,and other particulate matter emission in :								
17.1	Design value of emission control equipment	mg/Nm3	50 (after R&M)						
17.2	Actual emission (Stage-I)	SPM	mg/Nm3	145	144	145	142	97	
		SOX	mg/Nm3	620	651	670	672	550	
		NOX	mg/Nm3	279	249	256	276	290	
19	Detail of Ash utilization % of fly ash produced	%	56.49	42.21	10.20	15.02	15.47		
19.1	Conversion of value added product	%	3.12	2.57	2.33	2.08	2.83		
19.2	For making roads & embarkment	%	0.07	0.00	0.00	0.00	0.00	For the Station (3000 MW)	
19.3	Land filling	%	38.33	6.99	1.08	4.46	7.47		
19.4	Used in plant site in one or other form or used in some	%	14.97	32.65	6.80	8.49	5.17		
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	7688.62	8232.82	9268.40	10328.97	13530.25		For the Station (3000 MW)
21	Average stock of spares	Rs. Lakhs	14486.25	16072.84	17952.02	20519.65	22593.59		
22	Number of employees deployed in O&M								
22.1	- Executives		560	582	576	540	502	Man-power as on last day of FY. Man-MW ration computed for 3000 MW	
22.2	- Non Executives		510	489	429	398	358		
22.3	- Corporate office		3170	3051	2916	2973	2787		
23	Man-MW ratio		0.36	0.36	0.34	0.31	0.29		

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-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**

SI.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks
1	Name of Company		NTPC Ltd.					
2	Name of Station/ Pit head or Non- Pit head		Rihand Super Thermal Power Station Stage-II (pit-head)					
3	Installed Capacity and Configuration	MW	2 X 500 = 1000 MW					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		Turbine : BHEL, Single flow HP Cylinder, double flow IP cylinder & double flow LP Cylinder. Boiler : BHEL Ltd, Balance draught, controlled circulation, Tangentially fired, dry bottom SH Outlet Pr : 176.3 KSE, Temp : 540 Deg C MS Pr : 170 KSE, Temp : 537 Deg C					
5	Type of BFP		Steam Driven					
6	Circulating water system		Open Cycle					
7	Any other Site specific feature							
8	Fuels :							
8.1	Primary Fuel :		Coal/ Lignite					
8.1.1	Annual Allocation or/and Requirement		Annual allocation through FSA dated 02.09.2013 with NCL for Rihand-III - 3.365 MMT Annual allocation through modified FSA dated 08.09.2016 with NCL for Rihand- I&II 10.84 MMT Allocation through MOU dated 09.01.2014 with ECL - 5.0 MMT Annual Requirement : 16.85					
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		NCL, ECL					For the Station (3000 MW) Requirement has been worked out at 90% PLF
			10.50	13.87	13.87	13.87	14.21	
			NCL: G7 - G10					
8.1.2.1	FSA	LOA	10.99	12.32	13.14	12.72	14.68	
		MoU	0.00	0.03	0.57	0.72	0.00	
8.1.2.2	Imported	MMT	0.103	0.43	1.17	0.65	0.01	
8.1.2.3	Spot Market/e-auction	MMT	0.000	0.04	0.19	0.00	0.00	
8.1.3	Transportation Distance of the station from the sources of supply	KM	NCL: Min. 54 Km (Jayant/Dudhichua), Max. 96 Km (Sipur siding)					
8.1.4	Mode of Transport		Rail/MGR					For the Station (3000 MW)
8.1.5	Maximum Station capability to stock primary fuel	Days & MMT	25/0.96					
8.1.6	Maximum stock maintained for primary fuel	MT	696711	485836	570000	949590	1033000	
8.1.7	Minimum Stock maintained for primary fuel	MT	45000	39545	8000	643162	101000	
8.1.8	Average stock maintained for primary fuel	MT	322459	211120	116738	827172	610568	
8.2	Secondary Fuel :							
8.2.1	Annual Allocation/ Requirement	KL	11826					

SI.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
8.2.2	Sources of supply		IOCL					For the Station (3000 MW)	
8.2.3	Transportation Distance of the station from the sources of	KM	700						
8.2.4	Mode of Transport		Rail/Road						
8.2.5	Maximum Station capability to stock secondary fuels	KL	22000 (HFO) / 750 (HSD)						
8.2.6	Maximum Stock of secondary oil actually maintained	KL	9526	8064	7092	7339	7968		
8.2.7	Minimum Stock of secondary oil actually maintained	KL	3813	4730	4069	4464	4683		
8.2.8	Average Stock of secondary oil actually maintained	KL	6653	6329	5743	6133	6008		
9	Cost of Spares :								
9.1	Cost of Spares capitalized in the books of accounts	Rs. Lakhs	3071.36	7291.48	5607.94	8206.40	10996.64	For the Station (3000 MW)	
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	8511.88	7305.51	7454.53	7403.86	7922.82		
10.2	-Actual Net Generation Ex-bus	MU	7981.99	6804.91	6928.46	6904.77	7400.89		
10.3	-Scheduled Generation Ex-bus	MU	7952.01	6803.15	6907.24	6888.57	7418.53		
11	Average Declared Capacity (DC)	MW	945.09	857.37	831.16	873.31	932.80		
12	Actual Auxiliary Energy Consumption excluding colony consumption	MU	498.51	463.67	500.55	477.57	493.50		
13	Actual Energy supplied to Colony from the station	MU	8.25	7.55	11.01	11.95	11.22		
14	Primary Fuel :								
14.1	Consumption :	MT	5914902	5220563	5188853	5050042	5282817		
14.1.1	Domestic coal	From linked mines	MT	5909040	5144439	5006883	5032330	5282817	
		Non-linked mines	MT						
14.1.2	Imported coal	MT	5862	61768	115455	17712	0		
14.1.3	Spot market/e-auction coal	MT	0	14356	66515	0	0		
14.2	Gross Calorific Value (GCV) :								
14.2.1	Domestic Coal	(As Billed) (Eq. Basis)	kCal/kg	4962	4687	4594	4699	4286	
		(As Received) (TM Basis)	kCal/kg	NA	NA	NA	3413	3574	
		(As Fired) (TM Basis)	kCal/kg	NA	NA	NA	NA	NA	

SI.No.	Particulars			Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
14.2.2	Imported Coal			(As Billed) (ADB)	kCal/kg	5997	5914	5401	5517	5544	
				(As Received) (TM Basis)	kCal/kg	NA	NA	NA	4743	Nil	
14.2.3	Spot market/e-auction coal			(As Billed)	kCal/kg	0	6272	3838	0	0	
				(As Received)	kCal/kg	NA	NA	NA	NA	NA	
14.2.4	Weighted Average	Gross Calorific value (As Billed)		kCal/kg	4971	4736	4658	4737	4287		
14.2.5	Weighted Average	Gross Calorific value (As Received)		kCal/kg	NA	NA	3380	3418	3574		
14.2.6	Weighted Average	Gross Calorific value (As Fired)		kCal/kg	3383	3326	NA	NA	NA		
14.3	Price of coal :										
14.3.1	Weighted Average Landed price of Domestic coal				1585.61	1604.55	1851.49	2073.46	2233.17		
14.3.2	Weighted Average Landed Price of Imported coal				8025.21	7335.91	6301.98	7218.68	6995.87		
14.3.3	Weighted Average Landed Price of Spot market/e-auction				0.00	5955.54	5007.92	0.00	0.00		
14.3.4	Weighted Average Landed Price of all the Coals				1645.51	1815.89	2238.97	2311.35	2235.67		
14.4	Blending :			% and MT (of the total coal consumed)	0.10	1.18	2.23	0.35	0.00		
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				0.00	0.81	4.17	0.00	0.00		
14.5	Actual Average Coal stock maintained			MT	322459	211120	116738	827172	610568		
				Days	10.54	5.52	2.54	18.02	13.30		
14.5.1	Pit- Head Station									For the Station (3000 MW)	
14.5.1.1	Transit loss from linked mines			%	0.110	0.100	0.100	0.160	0.170		
14.5.1.2	Transit loss from non-linked mines including e-auction coal				0.110	0.100	0.100	0.160	0.170		
14.5.1.3	Transit loss of imported coal				0.005	0.005	0.003	0.026	0.093		
14.5.2	Non-Pit Head station										
14.5.2.1	Transit loss from linked mines (MGR/ Rail)			MT %							
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.										
14.5.2.3	Transit loss of imported coal										

SI.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks
15	Secondary Fuel Oil : (If more than one fuel used then give details of all the fuels)							
15.1	Consumption	HFO KL	1274.7	2313.2	1580.2	1631.1	936.3	For the Station (3000 MW)
		LDO KL	41	23	23	24	0	
15.2	Weighted Average Gross Calorific value (As received)	HFO Kcal/Ltr	9913	10160	10257	10065	9764	
		LDO Kcal/Ltr	9360	9360	9568	9679	9643	
15.3	Weighted Average Price	HFO Rs/KL	55019	53488	47247	30509	28749	
		LDO Rs/KL	63962	71582	64656	0	0	
15.4	Actual Average Stock maintained	KL	6653	6317	5743	6133	6008	
16	Weighted average duration of outages(unit-wise)							
16.1	Planned Outages	Days	0.00	32.31	7.58	25.28	0.00	
16.2	Forced Outages	Days	4.82	7.02	4.68	3.89	4.65	
16.3	Number of tripping	Nos	16	14	9	10	8	
16.4	Number of start-ups:	Nos	16	16	10	11	8	
16.4.1	Cold Start-up	Nos	3	6	5	3	2	
16.4.2	Warm Start-up	Nos	7	5	1	2	2	
16.4.3	Hot start-up	Nos	6	5	4	6	4	
17	NOx , SOx ,and other particulate matter emission in :							
17.1	Design value of emission control equipment	mg/Nm3						
17.2	Actual emission	SPM mg/Nm3	82	91	88	80	70	
		SOX mg/Nm3	628	656	653	661	565	
		NOX mg/Nm3	272	253	252	275	304	
19	Detail of Ash utilization % of fly ash produced	%	56.49	42.21	10.20	15.02	15.47	For the Station (3000 MW)
19.1	Conversion of value added product	%	3.12	2.57	2.33	2.08	2.83	
19.2	For making roads & embankment	%	0.07	0.00	0.00	0.00	0.00	
19.3	Land filling	%	38.33	6.99	1.08	4.46	7.47	
19.4	Used in plant site in one or other form or used in some	%	14.97	32.65	6.80	8.49	5.17	
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	7688.62	8232.82	9268.40	10328.97	13530.25	For the Station (3000 MW)
21	Average stock of spares	Rs. Lakhs	14486.25	16072.84	17952.02	20519.65	22593.59	
22	Number of employees deployed in O&M							Man-power as on last day of FY. Man-MW ration computed for 3000 MW
22.1	- Executives		560	582	576	540	502	
22.2	- Non Executives		510	489	429	398	358	
22.3	- Corporate office		3170	3051	2916	2973	2787	
23	Man-MW ratio		0.36	0.36	0.34	0.31	0.29	

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

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2	Name of Station/ Pit head or Non- Pit head		Rihand Super Thermal Power Station Stage-III (pit-head)					
3	Installed Capacity and Configuration	MW	2 X 500 = 1000 MW					
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		Turbine : BHEL, Single flow HP Cylinder, double flow IP cylinder & double flow LP Cylinder. Boiler : BHEL Ltd, Balance draught, controlled circulation, Tangentially fired.dry bottom : SH Outlet Pr :176.6 KSE, Temp :540 Deg C : MS Pr : 170 KSE, Temp : 537 Deg C					
5	Type of BFP		Steam Driven					
6	Circulating water system		Open Cycle					
7	Any other Site specific feature							
8	Fuels :							
8.1	Primary Fuel :		Coal/ Lignite					For the Station (3000 MW) Requirement has been worked out at 90% PLF
8.1.1	Annual Allocation or/and Requirement		Annual allocation through FSA dated 02.09.2013 with NCL for Rihand-III - 3.365 MMT Annual allocation through modified FSA dated 08.09.2016 with NCL for Rihand- I&II 10.84 MMT Allocation through MOU dated 09.01.2014 with ECL - 5.0 MMT Annual Requirement : 16.85					
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		NCL, ECL					For the Station (3000 MW)
			10.50	13.87	13.87	13.87	14.21	
			NCL: G7 - G10					
8.1.2.1	FSA	LOA MoU	10.99	12.32	13.14	12.72	14.68	
		MMT	0.00	0.03	0.57	0.72	0.00	
8.1.2.2	Imported	MMT	0.103	0.43	1.17	0.65	0.01	
8.1.2.3	Spot Market/e-auction	MMT	0.000	0.04	0.19	0.00	0.00	
8.1.3	Transportation Distance of the station from the sources of supply	KM	NCL: Min. 54 Km (Jayant/Dudhichua), Max. 96 Km (Sipur siding)					
8.1.4	Mode of Transport		Rail/MGR					
8.1.5	Maximum Station capability to stock primary fuel	Days & MMT	25/0.96					
8.1.6	Maximum stock maintained for primary fuel	MT	696711	485836	570000	949590	1033000	
8.1.7	Minimum Stock maintained for primary fuel	MT	45000	39545	8000	643162	101000	
8.1.8	Average stock maintained for primary fuel	MT	322459	211120	116738	827172	610568	

SI.No.	Particulars		Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks
8.2	Secondary Fuel :								For the Station (3000 MW)
8.2.1	Annual Allocation/ Requirement		KL	11826					
8.2.2	Sources of supply			IOCL					
8.2.3	Transportation Distance of the station from the sources of		KM	700					
8.2.4	Mode of Transport			Rail/Road					
8.2.5	Maximum Station capability to stock secondary fuels		KL	22000 (HFO) / 750 (HSD)					
8.2.6	Maximum Stock of secondary oil actually maintained		KL	9526	8064	7092	7339	7968	
8.2.7	Minimum Stock of secondary oil actually maintained		KL	3813	4730	4069	4464	4683	
8.2.8	Average Stock of secondary oil actually maintained		KL	6653	6329	5743	6133	6008	
9	Cost of Spares :								
9.1	Cost of Spares capitalized in the books of accounts		Rs. Lakhs	3071.36	7291.48	5607.94	8206.40	10996.64	For the Station (3000 MW)
9.2	Cost of spares included in capital cost for the purpose of tariff		Rs. Lakhs	830	1570	2360	4724	3427	
10	Generation :								
10.1	-Actual Gross Generation at generator terminals		MU	965.70	3714.96	6794.64	6798.82	7525.47	
10.2	-Actual Net Generation Ex-bus		MU	889.20	3377.87	6390.62	6427.34	7116.58	
10.3	-Scheduled Generation Ex-bus		MU	895.16	3407.89	6380.73	6421.69	7114.70	
11	Average Declared Capacity (DC)		MW	292.89	428.34	786.19	808.08	887.60	
12	Actual Auxiliary Energy Consumption excluding colony consumption		MU	66.91	213.03	404.02	371.46	417.22	
13	Actual Energy supplied to Colony from the station		MU	0.00	0.00	0.00	0.00	0.00	
14	Primary Fuel :								
14.1	Consumption :		MT	663291	2502930	4726271	4348438	4926665	
14.1.1	Domestic coal	From linked mines	MT	656906	2488574	4536708	4196364	4926665	
		Non-linked mines	MT						
14.1.2	Imported coal		MT	6385	0	123048	152074	0	
14.1.3	Spot market/e-auction coal		MT	0	14356	66515	0	0	
14.2	Gross Calorific Value (GCV) :								
14.2.1	Domestic Coal	(As Billed) (Eq. Basis)	kCal/kg	4962	4687	4594	4699	4286	
		(As Received) (TM Basis)	kCal/kg	NA	NA	NA	3584	3639	
		(As Fired) (TM Basis)	kCal/kg	NA	NA	NA	NA	NA	
14.2.2	Imported Coal	(As Billed) (ADB)	kCal/kg	5997	5914	5401	5517	5544	
		(As Received) (TM Basis)	kCal/kg	NA	NA	NA	4810	Nil	

SI.No.	Particulars		Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks
14.2.3	Spot market/e-auction coal	(As Billed)	kCal/kg	0	6272	3838	0	0	For the Station (3000 MW)
		(As Received)	kCal/kg	NA	NA	NA	NA	NA	
14.2.4	Weighted Average Gross Calorific value (As Billed)	kCal/kg	4971	4736	4658	4737	4287		
14.2.5	Weighted Average Gross Calorific value (As Received)	kCal/kg	NA	NA	3407	3627	3639		
14.2.6	Weighted Average Gross Calorific value (As Fired)	kCal/kg	3475	3400	NA	NA	NA		
14.3	Price of coal :								
14.3.1	Weighted Average Landed price of Domestic coal			1585.61	1604.55	1851.49	2073.46	2233.17	
14.3.2	Weighted Average Landed Price of Imported coal			8025.21	7335.91	6301.98	7218.68	6995.87	
14.3.3	Weighted Average Landed Price of Spot market/e-auction			0.00	5955.54	5007.92	0.00	0.00	
14.3.4	Weighted Average Landed Price of all the Coals			1645.51	1815.89	2238.97	2311.35	2235.67	
14.4	Blending :		% and MT (of the total coal consumed)	0.96	0.00	2.60	3.50	0.00	
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			0.00	0.81	4.17	0.00	0.00	
14.5	Actual Average Coal stock maintained		MT	322459	211120	116738	827172	610568	
			Days	10.54	5.52	2.54	18.02	13.30	
14.5	Actual Transit & Handling Losses for coal/Lignite								
14.5.1	Pit- Head Station								
14.5.1.1	Transit loss from linked mines		%	0.11	0.10	0.10	0.16	0.17	
14.5.1.2	Transit loss from non-linked mines including e-auction coal			0.11	0.10	0.10	0.16	0.17	
14.5.1.3	Transit loss of imported coal			0.00	0.01	0.00	0.03	0.09	
14.5.2	Non-Pit Head station								
14.5.2.1	Transit loss from linked mines (MGR/ Rail)		MT %						
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 : (If more than one fuel used then give details of all the fuels								
15.1	Consumption	HFO	KL	0.0	1010.0	3475.0	1726.9	1952.6	
		LDO	KL	3109	1688	831	51	0	
15.2	Weighted Average Gross Calorific value (As received)	HFO	Kcal/Ltr	9938	10191	10267	10050	9775	
		LDO	Kcal/Ltr	9360	9360	9589	9679	Nil	

SI.No.	Particulars	Units	2012-13	2013-14	2014-15	2015-16	2016-17	Basis of Information/ Methodology/ Remarks	
15.3	Weighted Average Price	HFO	Rs/KL	55019	53488	47247	30509	28749	For the Station (3000 MW)
		LDO	Rs/KL	63962	71582	64656	0	0	
15.4	Actual Average Stock maintained		KL	6653	6317	5743	6133	6008	
16	Weighted average duration of outages(unit-wise)								
16.1	Planned Outages	Days	0.00	7.64	0.00	7.62	14.31		
16.2	Forced Outages	Days	17.28	11.51	28.45	48.80	8.94		
16.3	Number of tripping	Nos	32	23	44	12	14		
16.4	Number of start-ups:	Nos	32	24	44	13	15		
16.4.1	Cold Start-up	Nos	7	9	12	4	4		
16.4.2	Warm Start-up	Nos	4	6	10	4	5		
16.4.3	Hot start-up	Nos	21	9	22	5	6		
17	NOx , SOx ,and other particulate matter emission in :								
17.1	Design value of emission control equipment	mg/Nm3							
17.2	Actual emission	SPM	mg/Nm3			45	42	39	
		SOX	mg/Nm3			663	658	541	
		NOX	mg/Nm3			260	270	342	
19	Detail of Ash utilization % of fly ash produced		%	56.49	42.21	10.20	15.02	15.47	
19.1	Conversion of value added product	%	3.12	2.57	2.33	2.08	2.83		For the Station (3000 MW)
19.2	For making roads & embarkment	%	0.07	0.00	0.00	0.00	0.00		
19.3	Land filling	%	38.33	6.99	1.08	4.46	7.47		
19.4	Used in plant site in one or other form or used in some	%	14.97	32.65	6.80	8.49	5.17		
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	7688.62	8232.82	9268.40	10328.97	13530.25		For the Station (3000 MW)
21	Average stock of spares	Rs. Lakhs	14486.25	16072.84	17952.02	20519.65	22593.59		
22	Number of employees deployed in O&M								
22.1	- Executives		560	582	576	540	502		Man-power as on last day of FY. Man-MW ration computed for 3000 MW
22.2	- Non Executives		510	489	429	398	358		
22.3	- Corporate office		3170	3051	2916	2973	2787		
23	Man-MW ratio		0.36	0.36	0.34	0.31	0.29		

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-IV (A)

DETAILS OF OPERATION AND MAINTENANCE EXPENSES

Name of the Company:

NTPC Ltd.

Name of the Power Station:

Rihand Super Thermal Power Station (3000 MW)

Rs. Lakh

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
1	Consumption of stores & spares	7688.62	8232.82	9268.40	10328.97	13530.25
2	Repair & Maintenance	7935.78	7241.41	6276.05	9315.01	14642.74
3	Insurance	781.64	967.70	1065.69	923.63	849.68
4	Security	1209.15	1434.10	1708.45	1913.96	2174.53
5	Water Charges	835.61	984.72	1271.56	1262.39	1262.11
6	Administrative Expenses					
6.1	Rent	0.00	0.00	0.00	0.00	0.00
6.2	Electricity charges	191.16	279.40	387.39	386.54	369.07
6.3	Travelling & Conveyance	593.27	674.72	757.44	773.03	679.01
6.4	Communication Expenses	114.41	103.32	110.22	141.37	137.84
6.5	Advertising	5.51	0.71	16.06	9.58	9.66
6.6	Foundation Laying & Inaugration	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	38.06	45.03	68.91	92.26	78.68
6.9	Filing fee	93.81	103.48	132.30	132.00	132.00
	Subtotal (Administrative Expenses)	1036.22	1206.66	1472.32	1534.76	1406.26
7.0	Employee Cost					
7.1.1	Salaries,Wages & Allowances	9325.04	9767.63	11706.55	11595.29	13404.36
7.1.2	Pension	66.08	2702.91	1024.46	1048.47	973.08
7.1.3	Gratuity	434.40	172.73	-70.38	-40.29	2214.79
7.1.4	Provident Fund	845.77	965.87	963.94	967.51	967.02
7.1.5	Leave Encashment	1343.79	1128.29	1227.84	1332.04	1809.42
7.2	Staff welfare expenses					
7.2.1	-Medical expenses on superannuated employees	6.10	7.48	19.14	36.66	0.86
7.2.2	-Medical expenses on regular employees & others	872.80	901.24	974.52	1224.29	440.59
7.2.3	-Uniform/Livries & safety equipment	77.13	236.52	210.05	189.78	246.33
7.2.4	-Canteen expenses	147.59	197.48	164.04	254.46	230.25
7.2.5	-Other staff welfare expenses	178.48	207.03	225.09	361.29	332.34
	Subtotal (Staff welfare Expenses)	1282.09	1549.75	1592.84	2066.47	1250.37
7.3	Productivity linked Incentive	620.00	440.61	164.92	101.51	0.01
7.4	Expenditure on VRS	0.00	0.00	49.64	51.49	0.00
7.5	Ex-gratia	304.26	291.92	456.23	262.56	237.16
7.6	Performance Related Pay(PRP)	826.52	449.32	859.88	1020.44	1183.74
	Sub Total (Employee Cost)	15047.96	17469.02	17975.91	18405.49	22039.94
8	Loss of Store	1.25	1.01	0.96	1.70	0.18
9	Provisions	33.23	44.22	59.07	42.61	116.21
10	Prior Period Expenses	-790.59	571.53	4.08	0.00	0.00
11	Corporate Office expenses allocation	5318.15	6498.26	8300.30	8541.33	8732.83
12	Others					
12.1	Rates & Taxes	6.86	49.82	27.92	97.45	38.88
12.2	Water cess	248.45	257.21	241.38	464.14	259.09
12.3	Training & recruitment expenses	89.11	70.90	78.20	102.89	99.09
12.4	Tender Expenses	68.87	167.93	140.09	116.03	106.88
12.5	Guest house expenses	51.57	64.19	60.27	61.93	77.90

Rs. Lakh

Sl. No.	Items	2012-13	2013-14	2014-15	2015-16	2016-17
12.6	Education expenses	114.71	143.98	456.99	76.95	73.20
12.7	Community Development Expenses	355.20	475.69	376.03	1209.17	1301.08
12.8	Ash utilisation expenses	0.74	0.00	-83.09	-6.85	-6.76
12.9	Books & Periodicals	2.73	0.97	2.28	3.85	1.43
12.10	Professional Charges	66.36	54.30	50.17	52.89	59.07
12.11	Legal expenses	10.35	1.04	38.24	25.00	25.97
12.12	EDP Hire & other charges	28.90	45.46	43.60	46.78	38.18
12.13	Printing & Stationery	36.77	47.93	60.99	60.66	72.99
12.14	Misc Expenses	800.34	1770.87	1232.77	2313.68	1179.66
	Sub Total (Others)	1880.97	3150.31	2725.83	4624.58	3326.66
13	(Total 1 to 12)	40977.97	47801.76	50128.61	56894.43	68081.39
14	Revenue / Recoveries	-135.76	-136.83	-118.44	-112.80	-120.25
15	Net Expenses	40842.22	47664.92	50010.17	56781.63	67961.13
16	Capital spares consumed	217.29	818.77	668.18	1047.82	1120.54
	Total O&M Cost	41059.51	48483.69	50678.35	57829.45	69081.68
	No. of Emp. Applied for VRS	4	No. VRS scheme was in operational			

Annexure-VI (C)

DETAILS OF WATER CHARGES

Name of the Company: NTPC Ltd.

Name of the Power Station and Stage/Phase: Rihand Super Thermal Power Station (3000 MW)

(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	Coal Fired Thermal Power Plant				
2	Type of Cooling Tower	Stage 1: Open cycle Stage 2: Induced Draft Stage 3: Induced Draft				
3	Type of Cooling Water System	Open Cycle /Closed system				
4	Any Special Features which may increase/reduce water consumption					
(B)	Quantum of Water : (Cubic Meter)					
5	Contracted Quantum	72483433.7	83264989.2	99612476.8	99612476.8	99612476.8
6	Allocation of Water	72483433.7	83264989.2	99612476.8	99612476.8	99612476.8
7	Actual water Consumption					
8	Rate of Water Charges					
9	Other charges/Fees , if paid as part of Water Charges Rs lakhs					
	Total water Charges Paid Rs lakhs	84084318	98705382	127155756	127476525	127155756

Details of capital Spares

Name of Company NTPC Limited
Name of Power station Rihand STPS (3000 MW)

Rs. Lakhs

SI . No.	ITEM	2012-13	2013-14	2014-15	2015-16	2016-17
(A)	Details of capital spares in Opening stock	14,051.42	16,905.49	23,378.20	28,317.97	35,476.55
(B)	Details of capital spares procured during the year	3,071.36	7,291.48	5,607.94	8,206.40	10,996.64
(C)	Details of capital spares consumed during the year	217.29	818.77	668.18	1,047.82	1,120.54
(D)	Details of capital spares closing at the end of the year	16,905.49	23,378.20	28,317.97	35,476.55	45,352.64

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

Annexure-XIX

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Rihand STPS Stage-I														
Station/ Stage/ Unit: 2 X 500(Stage-I)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal														
Capacity of Plant (MW): 1000 MW														
COD : 01.01.1991														
		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
1	Plant Availability Factor (PAF) (%)	90.55	82.89	88.62	97.13	95.17	100.94	91.05	97.17	82.00	94.38	83.74	85.44	81.42
2	Plant Load Factors (PLF) (%)	91.19	83.51	88.06	96.48	94.47	100.13	88.59	93.82	79.34	85.42	80.15	78.01	74.43
3	Scheduled Energy (MU)	7230.84	6617.77	7061.82	7783.42	7607.19	8052.79	7019.72	7499.13	6367.67	6910.03	6442.19	6287.94	6003.96
4	Scheduled Generation (MU)	7230.84	6617.77	7061.82	7783.42	7607.19	8052.79	7019.72	7499.13	6367.67	6910.03	6442.19	6287.94	6003.96
5	Actual Generation (MU)	7317.23	6699.14	7124.39	7828.72	7656.01	8076.62	7144.09	7585.69	6381.66	6877.90	6464.68	6295.88	5968.84
6	Quantum of coal consumption (MT)	4747997	4582303	4907362.96	5364442	5257131	5621167	4756442	5438559	4675047	5299412	4780197	4465875	4275231
7	Value of coal (Rs. Lakh)					82290	89950	92009	115771	76928	96231	107027	103222	95580
8	Specific Coal Consumption (kg/kwh)	0.59	0.63	0.64	0.63	0.64	0.64	0.61	0.66	0.67	0.71	0.68	0.65	0.66
9	Gross Calorific Value of Coal (Kcal/ Kg)	3994.04	3774.98	3714.91	3737.31	3717.84	3674.56	3785.87	3537.95	3486.24	3342.02	3467.07	3612.99	3603.92
10	Heat Contribution of Coal (Kcal/ kwh)	2373.97	2364.50	2363.15	2365.55	2361.71	2354.91	2320.48	2334.76	2345.06	2366.90	2360.36	2354.82	2363.03
11	Cost Of Specific Coal Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$													
12	Quantum of Oil Consumption (KL)	1364	1472	1461	790	1044	1554	2491	1936	3888	2488	3220	2672	3799
13	Value of Oil (Rs. lakh)													
14	Gross calorific value of oil (kcal/lit)	9650.0	9650.0	9650.0	9650.0	9650.0	9650.0	9650.0	9823.4	9946.7	10157.6	10201.1	10065.5	9787.8
15	Specific Oil Consumption (ml/ kwh)	0.17	0.20	0.19	0.09	0.13	0.18	0.32	0.23	0.56	0.33	0.46	0.39	0.58
16	Cost Of Specific Oil Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$													
17	Heat Contribution of Oil (Kcal/ kwh)	1.8	1.9	1.8	0.9	2.2	1.7	3.1	2.3	5.6	3.4	4.7	3.9	5.7
18	Station Heat Rate (kcal/kwh)	2376	2366	2365	2366	2364	2357	2324	2337	2351	2370	2365	2359	2369
19	Auxiliary Energy Consumption (%)	8.0	7.9	7.5	7.6	7.5	7.6	7.4	7.4	7.4	8.0	7.8	8.1	8.4
20	Debt at the end of the year (Rs. Cr)	8.18	11.57	9.75	27.37	51.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Equity (Rs. Cr - (Average) #	1188.02	1190.75	1191.29	1191.94	1198.44	1195.76	1198.84	1201.93	1201.61	1201.48	1201.56	1201.56	1201.56
22	Working Capital (Rs. Cr) – finally admitted by CERC	243.69	247.64	251.51	256.17	260.94	377.48	380.93	385.02	388.15	393.34	340.58	346.02	343.48
23	Capital cost (Rs. Cr) – finally admitted by CERC (Average) #	2378.37	2387.45	2389.27	2391.42	2413.11	2404.17	2414.43	2424.74	2423.67	2423.21	2423.48	2423.48	2423.48
24	Capacity Charges/ Annual Fixed Cost (AFC) in Rs. Cr	326.40	332.01	336.60	341.99	349.46	525.97	534.09	541.02	549.87	566.01	509.30	556.16	567.95
	(a) Return on equity – post tax (admitted by CERC) for 2004-09 & pre tax (admitted by CERC) for 2009-17 \$													
	Absolute value (in Rs. Cr)	166.32	166.70	166.78	166.87	167.78	280.78	278.25	275.77	275.70	282.12	235.63	236.77	236.77
	Rate (%)	14.00%	14.00%	14.00%	14.00%	14.00%	23.481%	23.21%	22.94%	22.94%	23.48%	19.61%	19.71%	19.71%
	(b) Interest on Loan													
	Absolute value (in Rs Cr)	0.28	0.91	0.98	1.28	1.13	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Rate (%) – Weighted Average Rate	6.7806%	6.766%	6.748%	5.707%	2.871%	2.042%	1.238%	2.343%	3.656%	3.891%	4.365%	5.273%	7.388%
	(c) Depreciation (finally allowed by CERC)													
	Absolute value (in Rs Cr)	40.99	41.72	41.87	42.38	44.20	49.13	50.74	50.21	50.49	50.78	53.75	53.75	13.44
	AAD													
	Rate (%)													
	(d) Interest on working Capital													
	Absolute value (in Rs Cr)	24.98	25.38	25.78	26.26	26.75	46.24	46.66	47.16	47.55	48.18	45.98	46.71	46.37
	Rate (%)	10.25%	10.25%	10.25%	10.25%	10.25%	12.25%	12.25%	12.25%	12.25%	12.25%	13.50%	13.50%	13.50%
	(e) Operation and maintenance cost (finally admitted by CERC)													
	Absolute value (in Rs Cr)	93.60	97.3	101.2	105.2	109.5	130	137.4	145.3	153.6	162.4	160	170.1	180.8
	Water charges (finally admitted by CERC) (in Rs Cr) #	Not Applicable										3.9482	3.9482	3.9482
	Rate (%)	Not Applicable												
	(f) Compensation Allowances (in Rs Cr)	0.00	0.00	0.00	0.00	0.00	3.50	5.00	6.50	6.50	6.50	10.00	5.00	0.00
	(g) Special Allowance (in Rs. Cr)												39.88	84.83
25	AFC (Rs. Kwh)	0.51	0.52	0.52	0.53	0.54	0.75	0.76	0.77	0.78	0.81	0.76	0.83	0.85
26	Energy Charge (Rs./Kwh)	0.75	0.84	0.92	0.97	1.16	1.12	1.27	1.45	1.22	1.41	1.65	1.76	1.60

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Rihand STPS Stage-I														
Station/ Stage/ Unit: 2 X 500(Stage-I)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal														
Capacity of Plant (MW): 1000 MW														
COD : 01.01.1991														
		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
27	Total tariff (Rs. Kwh)	1.26	1.35	1.45	1.51	1.71	1.87	2.03	2.22	2.01	2.21	2.41	2.59	2.45
28	Revenue realisation before tax (Rs. Crore)													
29	Revenue realisation after tax (Rs. Crore)													
30	Profit/ loss (Rs. Crore)	117.72	281.41	459.47	735.34	622.15	767.59	1044.91	895.53	1057.94	885.27	698.23	1079.31	1097.94
31	DSM Generation (MU)	86.39	81.37	62.58	45.29	48.81	23.83	124.37	86.56	13.99	-32.13	22.49	7.94	-35.12
32	DSM Rate (Ps/Kwh)													
33	Revenue from DSM (Rs. Crore)				-16.88	-17.95	-14.00	-32.56	-26.76	-12.06	-9.67	-15.36	-10.32	-0.77

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
- 6 * For the whole station as an when the units were declared COD

Annexure-XIX

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Rihand STPS Stage-II														
Station/ Stage/ Unit: 2 X 500 (Stage-II)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal														
Capacity of Plant (MW): 1000 MW														
COD : 01.04.2006														
		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
1	Plant Availability Factor (PAF) (%)		91.84	97.45	96.06	101.95	91.79	100.45	92.20	100.94	91.70	88.19	92.66	98.97
2	Plant Load Factors (PLF) (%)		90.58	95.73	94.35	99.99	91.01	97.70	90.42	97.17	83.40	85.10	84.29	90.44
3	Scheduled Energy (MU)		2318.82	7853.53	7786.59	8235.40	7493.76	7906.65	7382.58	7952.01	6803.13	6907.26	6888.58	7418.58
4	Scheduled Generation (MU)		2318.82	7853.53	7786.59	8235.40	7493.76	7906.65	7382.58	7952.01	6803.13	6907.26	6888.58	7418.58
5	Actual Generation (MU)		2344.10	7922.55	7829.13	8289.83	7513.38	8043.66	7474.50	7981.99	6804.91	6928.46	6904.77	7400.89
6	Quantum of coal consumption (MT)		1600113	5339545	5326050	5639120	5269189	5639192	5428792	5914902	5220563	5188853	5050042	5282817
7	Value of coal (Rs. Lakh)					88269	84318	109085	115563	97330	94800	116177	116724	118106
8	Specific Coal Consumption (kg/kwh)		0.64	0.64	0.64	0.64	0.66	0.66	0.68	0.69	0.71	0.70	0.68	0.67
9	Gross Calorific Value of Coal (Kcal/ Kg)		3667.34	3690.58	3634.93	3619.50	3531.71	3590.00	3454.04	3382.88	3325.76	3380.35	3454.19	3549.75
10	Heat Contribution of Coal (Kcal/ kwh)		2357.40	2349.91	2335.87	2330.13	2334.26	2365.41	2361.00	2350.76	2376.61	2352.95	2356.04	2366.92
11	Cost Of Specific Coal Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$													
12	Quantum of Oil Consumption (KL)		966.34	1269.06	896.16	826.45	1853.55	855.02	2131.23	1315.52	2336.36	1603.70	1655.20	936.30
13	Value of Oil (Rs. lakh)													
14	Gross calorific value of oil (kcal/lit)		9650.0	9650.0	9650.0	9650.0	9650.0	9650.0	9811.6	9895.6	10151.6	10247.4	10059.1	9761.1
15	Specific Oil Consumption (ml/ kwh)		0.39	0.15	0.11	0.09	0.23	0.10	0.27	0.15	0.32	0.22	0.22	0.12
16	Cost Of Specific Oil Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$													
17	Heat Contribution of Oil (Kcal/ kwh)		3.7	1.5	1.0	0.9	2.2	1.0	2.6	1.5	3.2	2.2	2.2	1.2
18	Station Heat Rate (kcal/kwh)		2361	2351	2337	2331	2337	2366	2364	2352	2380	2355	2358	2368
19	Auxiliary Energy Consumption (%)		5.67	5.52	5.55	5.34	5.46	5.87	5.71	5.95	6.45	6.71	6.45	6.23
20	Debt at the end of the year (Rs. Cr)		1075.11	1781.07	1636.04	1480.92	1298.33	1185.51	1035.32	900.18	757.94	602.76	447.58	292.40
21	Equity (Rs. Cr - (Average) #		468.81	845.59	859.71	871.45	856.80	863.98	871.43	875.38	882.59	886.07	886.07	886.07
22	Working Capital (Rs. Cr) – finally admitted by CERC		155.65	297.27	303.30	306.00	414.31	416.27	419.96	421.20	424.73	359.34	362.21	364.59
23	Capital cost (Rs. Cr) – finally admitted by CERC (Average) #		1562.69	2818.64	2865.71	2904.84	2855.99	2879.95	2904.76	2917.93	2941.95	2953.56	2953.56	2953.56
24	Capacity Charges/ Annual Fixed Cost (AFC) in Rs. Cr		302.6525	541.39	561.85	564.51	652.80	652.00	656.25	654.02	660.22	597.56	595.55	595.70
	(a) Return on equity – post tax (admitted by CERC) for 2004-09 & pre tax (admitted by CERC) for 2009-17 \$													
	Absolute value (in Rs. Cr)		65.63	118.38	120.36	122.00	201.18	200.53	199.94	200.85	207.24	173.76	174.60	174.60
	Rate (%)		14.00%	14.00%	14.00%	14.00%	23.48%	23.21%	22.94%	22.94%	23.48%	19.61%	19.71%	19.71%
	(b) Interest on Loan													
	Absolute value (in Rs Cr)		80.28	138.79	131.02	120.71	104.54	95.45	90.58	78.31	67.62	55.87	42.53	29.66
	Rate (%) – Weighted Average Rate		7.538%	7.465%	7.478%	7.605%	7.616%	7.686%	8.157%	8.092%	8.156%	8.212%	8.099%	8.017%
	(c) Depreciation (finally allowed by CERC)													
	Absolute value (in Rs Cr)		92.13	152.54	174.19	180.93	150.02	151.31	152.62	153.35	154.62	155.18	155.18	155.18
	AAD													
	Rate (%)		3.62	3.61	3.61	3.61	5.25	5.25	5.25	5.26	5.26	5.25	5.25	5.25
	(d) Interest on working Capital		15.95	30.47	31.09	31.37	50.75	50.99	51.44	51.60	52.03	48.51	48.90	49.22
	Absolute value (in Rs Cr)		10.25%	10.25%	10.25%	10.25%	12.25%	12.25%	12.25%	12.25%	12.25%	13.50%	13.50%	13.50%
	Rate (%)													
	(e) Operation and maintenance cost (finally admitted by CERC)													
	Absolute value (in Rs Cr)		48.65	101.20	105.20	109.50	130.00	137.40	145.30	153.60	162.40	160.00	170.10	180.80

Name of the Utility: NTPC Ltd														
Name of the Generating Station: Rihand STPS Stage-II														
Station/ Stage/ Unit: 2 X 500 (Stage-II)														
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal														
Capacity of Plant (MW): 1000 MW														
COD : 01.04.2006														
		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
	Water charges (finally admitted by CERC) (in Rs Cr) #	Not Applicable										4.24	4.24	4.24
	Rate (%)	Not Applicable												
	(f) Compensation Allowances (in Rs Cr)													2
25	AFC (Rs. Kwh)		0.93	0.84	0.87	0.87	0.94	0.94	0.94	0.94	0.95	0.87	0.87	0.87
26	Energy Charge (Rs./Kwh)		0.93	0.93	1.01	1.19	1.17	1.33	1.43	1.25	1.40	1.69	1.67	1.59
27	Total tariff (Rs. Kwh)		1.86	1.76	1.87	2.06	2.11	2.27	2.37	2.19	2.34	2.56	2.53	2.46
28	Revenue realisation before tax (Rs. Crore)													
29	Revenue realisation after tax (Rs. Crore)													
30	Profit/ loss (Rs. Crore)	117.72	281.41	459.47	735.34	622.15	767.59	1044.91	895.53	1057.94	885.27	698.23	1079.31	1097.94
31	DSM Generation (MU)		25.28	69.02	42.54	54.43	19.63	137.01	91.92	29.99	1.78	21.20	16.19	-17.69
32	DSM Rate (Ps/Kwh)													
33	Revenue from DSM (Rs. Crore)				-14.00	-18.66	-13.65	-40.61	-28.07	-20.30	-15.29	-19.36	-21.60	-17.54

Note:

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- 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
- 6 * For the whole station as an when the units were declared COD

Annexure-XIX

Name of the Utility: NTPC Ltd															
Name of the Generating Station: Rihand STPS Stage-III															
Station/ Stage/ Unit: 2 X 500 (Stage-II)															
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal															
Capacity of Plant (MW): 1000 MW															
COD : 27.03.2014															
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13 (19.11.2012 to 31.3.2013)	2013-14 (01.04.2013 to 26.03.2014)	2013-14 (27.03.2014 to 31.03.2014)	2014-15	2015-16	2016-17
1	Plant Availability Factor (PAF) (%)									62.65	90.39		83.42	85.74	94.18
2	Plant Load Factors (PLF) (%)									59.88	81.25		77.56	77.40	85.91
3	Scheduled Energy (MU)									895.16	3407.85		6380.59	6421.71	7114.70
4	Scheduled Generation (MU)									895.16	3407.85		6380.59	6421.71	7114.70
5	Actual Generation (MU)									889.20	3377.87		6390.62	6427.34	7116.58
6	Quantum of coal consumption (MT)									663291	2502930		4726271	4348438	4926665
7	Value of coal (Rs. Lakh)									10915	45450		0	0	0
8	Specific Coal Consumption (kg/kwh)									0.69	0.69		0.696	0.640	0.655
9	Gross Calorific Value of Coal (Kcal/ Kg)									3474.91	3400.12		3407	3677	3609
10	Heat Contribution of Coal (Kcal/ kwh)									2411.71	2359.04		2370	2352	2363
11	Cost Of Specific Coal Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$														
12	Quantum of Oil Consumption (KL)									3108.97	2697.68		4306.50	1778.33	1952.64
13	Value of Oil (Rs. lakh)														
14	Gross calorific value of oil (kcal/lit)									9360.00	9728.6		10188.7	10003.4	9757.4
15	Specific Oil Consumption (ml/ kwh)									3.25	0.75		0.63	0.26	0.26
16	Cost Of Specific Oil Consumption (Rs./Kwh) – Finally admitted by CERC (Ex Bus) \$														
17	Heat Contribution of Oil (Kcal/ kwh)									30.45	7.27		6.46	2.62	2.53
18	Station Heat Rate (kcal/kwh)									2442	2366		2377	2354	2365
19	Auxiliary Energy Consumption (%)									7.00	5.91		5.95	5.46	5.55
20	Debt at the end of the year (Rs. Cr)									1556.97	1858.22	3080.86	2914.13	2830.79	2605.14
21	Equity (Rs. Cr - (Average) #									625.21	780.08	1399.52	1421.76	1483.33	1536.84
22	Working Capital (Rs. Cr) – finally admitted by CERC									233.72	251.58	500.85	399.02	405.10	410.25
23	Capital cost (Rs. Cr) – finally admitted by CERC (Average) #									2084.27	2600.57	4662.01	4739.20	4944.44	5122.80
24	Capacity Charges/ Annual Fixed Cost (AFC) in Rs. Cr									473.77	574.57	1047.20	986.25	1006.25	1023.55
	(a) Return on equity – post tax (admitted by CERC) for 2004-09 & pre tax (admitted by CERC) for 2009-17 \$														
	Absolute value (in Rs. Cr)									143.4645	183.1916	328.4061	278.8214	292.3054	302.8499
	Rate (%)									22.944%	23.481%	23.481%	19.611%	19.706%	19.706%
	(b) Interest on Loan														
	Absolute value (in Rs Cr)									121.75	142.20	255.93	247.53	233.24	220.31
	Rate (%) – Weighted Average Rate									8.4630%	8.3270%	8.3180%	8.2579%	8.1198%	8.1059%
	(c) Depreciation (finally allowed by CERC)														
	Absolute value (in Rs Cr)									111.72	146.20	258.72	263.01	274.40	284.30
	AAD														
	Rate (%)									5.360%	5.622%	5.550%	5.550%	5.550%	5.550%
	(d) Interest on working Capital														
	Absolute value (in Rs Cr)									31.55	33.96	66.11	56.66	57.48	58.17
	Rate (%)									13.50%	13.50%	13.20%	13.50%	13.50%	13.50%
	(e) Operation and maintenance cost (finally admitted by CERC)														
	Absolute value (in Rs Cr)									65.28	69.02	138.04	136.00	144.59	153.68
	Water charges (finally admitted by CERC) (in Rs Cr) #												4.24	4.24	4.24
	Rate (%)														
	(f) Compensation Allowances (in Rs Cr)														
25	AFC (Rs. Kwh)									1.36	1.65	1.50	1.44	1.47	1.49
26	Energy Charge (Rs./Kwh)									1.24	1.38	1.38	1.70	1.62	1.57

Name of the Utility: NTPC Ltd															
Name of the Generating Station: Rihand STPS Stage-III															
Station/ Stage/ Unit: 2 X 500 (Stage-II)															
Fuel Type (Coal/ Lignite/ Gas/ Liquid Fuel/ Nuclear/ Hydro): Coal															
Capacity of Plant (MW): 1000 MW															
COD : 27.03.2014															
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13 (19.11.2012 to 31.3.2013)	2013-14 (01.04.2013 to 26.03.2014)	2013-14 (27.03.2014 to 31.03.2014)	2014-15	2015-16	2016-17
27	Total tariff (Rs. Kwh)									2.60	3.03	2.88	3.14	3.09	3.06
28	Revenue realisation before tax (Rs. Crore)														
29	Revenue realisation after tax (Rs. Crore)														
30	Profit/ loss (Rs. Crore)	117.72	281.41	459.47	735.34	622.15	767.59	1044.91	895.53	1057.94	885.27		698.23	1079.31	1097.94
31	DSM Generation (MU)									-5.96	-29.98		10.03	5.63	1.88
32	DSM Rate (Ps/Kwh)														
33	Revenue from DSM (Rs. Crore)									0.24	-2.01		-6.72	-15.86	-18.18

Note:

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- 4 # Additional Row 24(e) inserted
- 5 DSM Revenue (-)Received / (+) Paid
- 6 * For the whole station as an when the units were declared COD