

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 2017-18 to 2021-22

S.N	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
1	Name of Company		NTPC Ltd. (Erstwhile KBUNL)				
2	Name of Station/ Pit head or Non- Pit head		MTPS Stage-II / Non Pit Head				
	Stage		II				
3	Installed Capacity and Configuration	MW	2 x 195				
3.1	Date of Commercial Operation - Unit Wise		U#1 : 18.03.2017 U#2 : 01.07.2017				
3.2	Effective COD		01.07.2017				
	Make of Turbine		BHEL Make (KWU)				
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		147.10 bar /537 Deg C (3 Cylinder HP/IP/LP reaction) , 582.6 TPH , 540 Deg C , 153.4 Ksc (Natural Circualtion , water tube , Tangential Fire , Radiant Reheat , Single Drum , Top Supported , 2 pass , Fusion welded , Balanced Draft furnace				
5	Type of BFP		Electrical Driven				
	Quantity		2 W + 1S				
6	Circulating water system		Closed Cycle				
7	Any other Site specific feature		NIL				
	Unit heat rate	Kcal/kwh	2393.2				
	Boiler efficiency	%	82.36				
	Turbine cycle heat rate	Kcal/kwh	1971				
8	Fuels :						
8.1	Primary Fuel :		Coal				
8.1.1	Annual Allocation under FSA	MT	2390000				
	Annual Coal Consumption	MT	725676	1539824	1658675	1694165	1855130
	Annual Requirement at NAPAF	MT	3260448	3115853	3306570	3456508	2625965
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal						
8.1.2.1	FSA	LoA	CCL - 2174000 ECL- 600000	CCL - 2174000 ECL- 600000	CCL - 2047000 ECL- 344000	CCL - 2047000 ECL- 344000	CCL - 2047000 ECL- 344000
		MoU					
8.1.2.2	Imported*	MT	NIL	NIL	NIL	NIL	NIL
8.1.2.	Spot Market/e-auction*	MT	NIL	NIL	NIL	NIL	NIL
8.1.3	Transportation Distance of the station from the sources of supply	KM	450				
8.1.4	Mode of Transport		Rail				
8.1.5	Maximum Station capability to stock primary fuel (for days consider availability as NAPAF)	Days	15.45	17.57	16.60	15.84	16.63
8.1.6	Maximum stock maintained for primary fuel	MT	77214	135956	91549	121188	63221
	Date		31.12.2017	31.03.2019	30.06.2019	31.12.2020	31.12.2021
8.1.7	Minimum Stock maintained for primary fuel	MT	18839	25336	60964	76505	19542
	Date		30.09.2017	30.09.2018	30.09.2019	30.06.2020	30.09.2021
8.1.8	Average stock maintained for primary fuel	MT	42177	72581	79808	90692	49252
8.2	Secondary Fuel :						
8.2.1	Annual Allocation/ Requirement	KL					
8.2.2	Sources of supply						
8.2.3	Transportation Distance of the station from the sources of supply	KM					
8.2.4	Mode of Transport						
8.2.5	Maximum Station capability to stock secondary fuels	KL					
8.2.6	Maximum Stock of secondary oil actually maintained	KL					

8.2.7	Minimum Stock of secondary oil actually maintained		KL					
8.2.8	Average Stock of secondary oil actually maintained		KL					
9.	Cost of Spares :							
9.1	Cost of Spares capitalized in the books of accounts		(Rs. Lakh)	968.36	353.03	1942.68	4281.62	1874.20
9.2	Cost of spares included in capital cost for the purpose of tariff		(Rs. Lakh)					
9.3	Initial spares-list, quantity and cost		(Rs. Lakh)	6365.09				
9.4	Maintenance spares - cost		(Rs. Lakh)	645.21	769.75	728.46	1953.45	1812.19
9.5	Other spares procured with high lead procurement time		(Rs. Lakh)					
10	Generation :							
10.1	-Actual Gross Generation at generator terminals		MU	976.67	2305.61	2316.89	2244.68	2602.34
10.2	-Actual Net Generation Ex-bus		MU	853.42	2057.31	2076.92	2009.12	2340.11
10.3	-Scheduled Generation Ex-bus		MU	875.18	2136.50	2117.26	2023.10	2338.85
11	Average Declared Capacity (DC)		MW	138.85	298.05	328.84	328.69	319.40
	DC Peak HD %		%				64.73	100.74
	DC Off Peak HD %		%				64.58	100.76
	DC Peak LD %		%				102.06	87.34
	DC Off Peak LD %		%				102.04	86.24
	Actual Declared Capacity		MU	1216.36	2610.92	2888.57	2879.28	2797.98
	Deemed Declared Capacity							
12	Actual Auxiliary Energy Consumption excluding colony		MU	118.75	244.31	236.85	232.76	259.69
13	Actual Energy supplied to Colony from the station		MU	4.498	3.987	3.118	2.797	2.54
	Actual energy supplied to construction activities		MU	0	0	0	0	0
	Actual energy supplied to long term and medium term beneficiaries		MU	875.18	2129.24	2054.49	1958.07	2258.69
	Actual energy supplied in short term							
	Energy supplied under bilateral arrangements							
	Energy supplied through exchahnges		MU					6.65
	Energy supplied under DSM		MU	-21.76	-79.18	-40.33	-13.98	1.26
	Energy supplied SCED		MU			41.52	44.61	66.03
14	Primary Fuel :							
14.1	Consumption :							
14.1.1	Domestic coal	From Linked Mines	MT	725676	1539824	1658675	1694165	1855130
		From Non-Linkd Mines	MT	NA	NA	NA	NA	NA
		From Integerated Mines	MT	NA	NA	NA	NA	NA
14.1.2	Imported coal		MT	NA	NA	NA	NA	NA
14.1.3	Spot market/e-auction coal		MT	NA	NA	NA	NA	NA
14.2	Gross Calorific Value (GCV) :							
14.2.1	Domestic Coal (for each type)	(As Billed) - EM Basis as per third party	kCal/kg	4428	4615	4538	4045	4275
		(As Received) - TM Basis as per third party	kCal/kg	3613	3927	3722	3467	3696
14.2.2	Imported Coal	(As Billed) - ADB Basis	kCal/kg	NA				
		(As Received) - ADB Basis	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 (Domestic+Imported+Spot/e-auction) (As Billed)	kCal/kg	4428	4615	4538	4045	4275
14.2.5	Weighted Average	Gross Calorific value (Domestic+Imported+Spot/e-auction) (As Received)	kCal/kg	3613	3927	3722	3467	3696
Ash content in coal (%)								
14.3	Price of coal :							
	Billed Cost (including adjustments)							
	Amount Charged by transporting agency upto delivery point							
14.3.1	Weighted Average Landed price of Domestic coal		(Rs/MT)	3,358.09	3,713.61	3,822.79	3,481.84	3,701.93
	Components of landed cost and break up							
	1. Cost of coal,		(Rs/MT)	2,566.78	2,787.95	2,578.05	2,119.80	2,393.20
	2. Transportation		(Rs/MT)	739.62	860.68	1,150.59	1,255.48	1,216.96
	3. Other charges		(Rs/MT)	51.69	64.99	94.16	106.57	91.77
14.3.2	Weighted Average Landed Price of Imported coal		(Rs/MT)					
	Components of landed cost and break up							
14.3.3	Weighted Average Landed Price of Spot market / e-auction coal		(Rs/MT)					
	Components of landed cost and break up							
14.3.4	Weighted Average Landed Price of all the Coals		(Rs/MT)	3,358.09	3,713.61	3,822.79	3,481.84	3,701.93
14.4	Blending :		% and MT (of the total coal consumed)					
	Blending ratio of imported coal with domestic coal		Equivalent to domestic coal	0	0	0	0	0
14.4.2	Proportion of e-auction coal in the blending		% & MT	NA	NA	NA	NA	NA
	Coal stockyard capacity			150000				
14.5	Actual daily Average Coal stock maintained		MT	42177	72581	79808	90692	49252
			Days	4.35	8.50	8.83	9.58	5.46
14.5	Actual Transit & Handling Losses for coal/Lignite							
14.5.1	Pit- Head Station							
14.5.1.1	Transit loss from linked mines		%	N/A	N/A	N/A	N/A	N/A
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.		%	N/A	N/A	N/A	N/A	N/A
14.5.1.3	Transit loss of imported coal		%	N/A	N/A	N/A	N/A	N/A
14.5.2	Non-Pit Head station							
14.5.2.1	Transit loss from linked mines		%	0.76	0.798	0.798	0.78	0.777
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.		%	N/A	N/A	N/A	N/A	N/A
14.5.2.3	Transit loss of imported coal		%	N/A	N/A	N/A	N/A	N/A
15	Secondary Fuel Oil :							
15.1	Consumption		HFO	KL	NA	NA	NA	NA
			LDO	KL	5128.51	2118.12	1624.88	1497.24
15.2	Weighted Average Gross Calorific value (As received)		HFO	(kCal / Lit.)	NA	NA	NA	NA
			LDO	(kCal / Lit.)	9417	9545	9580	9228
15.3	Weighted Average Price		HFO	(Rs / KL)				
			LDO	(Rs / KL)	47,111	56,191	54,366	46,189
15.4	Actual Average stock maintained		HFO	KL	NA	NA	NA	NA
			LDO	KL	1010.01	721.33	816.922	815.927
16	Weighted average duration of outages(unit-wise details):							
16.1	Planned Outages		(Days)	0.00	20.66	33.16	30.99	19.75
16.2	Forced Outages		(Days)	176.01	23.43	9.44	12.15	9.67
	Within control of generator							
	beyond control of generator							
16.3	Number of tripping		Nos.	45	34	23	14	19
16.4	Number of start-ups:		Nos.	45	38	25	17	22
16.4.1	Cold Start-up		Nos.	14	8	5	4	4
16.4.2	Warm Start-up		Nos.	4	8	6	6	11

16.4.3	Hot start-up		Nos.	27	22	14	7	7
17	NOx , SOx ,and other particulate matter emission in : at conditions specified by MoEF&CC							
17.1	Design value of emission control equipment (specify conditions)							
	FGD installation date							
	NOX Control system installation date							
17.2	Actual emission (Stage-I)	SPM	mg/Nm ³					
		NOX	mg/Nm ³					
		SOX	mg/Nm ³					
	Actual emission (Stage-II)	SPM	mg/Nm ³					
		NOX	mg/Nm ³					
		SOX	mg/Nm ³					
	Ash dyke capacity as on 31st March							
	Ash pond capacity as on 31st March							
	Fund available in Ash Fund Account as on 31st March							
	Amount utilized from Ash Fund Account							
	Ash available as on 31st March		LMT	0	8.12	8.25	7.1	7.88
	Ash utilized for construction of ash dyke		LMT	0	0	0	0	0
	Ash utilized within plant premise, other than construction of ash dyke		LMT	0	0	0	0	0
	Ash transported		LMT	0	0	0	1.01	6.82
	Average Distance		Km	0	0	0	150	150
19	Detail of Ash utilization % of fly ash produced		(%)	0.0	40.6	75.8	105.5	167.9
19.1	Conversion of value added product		(%)	0.0	40.6	8.6	18.0	15.9
19.2	For making roads &embarkment		(%)	0.0	0.0	0.0	14.2	86.5
19.3	Land filling		(%)	0.0	0.0	67.2	73.2	65.5
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 , Please specify		(%)	0.0	0.0	0.0	0.0	0.0
20	Cost of spares actually consumed		(Rs. Lakh)	0.0	0.0	400.4	437.4	
21	Average stock of spares		(Rs. Lakhs)	2815.3	3744.9	5761.2	8024.4	9268.4
22	Number of employees deployed in O&M		Nos.					
22.1	- Executives		Nos.	219	217	210	197	180
22.2	- Non Executives		Nos.	7	9	9	7	8
22.3	- Corporate office		Nos.	2568	2241	2016	1815	1728
23	Man-MW ratio		Man/MW	0.58	0.58	0.56	0.52	0.48
	Total billed amount							
	Total received amount within due date							
	Total amount received beyond due date							
	Total amount pending							
	Total amount under dispute							
	Total rebate given							
	Total LPSC recovered							
24	Generation Switchyard Details	MTPS Switchyard has unseparated Stage I & Stage II 220 KV buses From Stage II 220 KV buses 08 no. outgoing Feeders are connected viz. Samastipur New DC, Motipur DC, GopalGanj DC & Kaffen DC. From Stage I 220 KV buses are feeding to 132 KV buses thru 3 no. 220/132 KV IBTs/ICTs and further 132 KV buses are feeding to 07 no. outgoing feeders of erstwhile BSEB viz. Motihari, Muzaffarpur DC, Samastipur DC & SKMCH DC						
	No. of Bays voltagewise	12 no. 132 KV & 21 no. 220 KV						
	ICT - nos and rating	3 no.s 220/132 KV 100 MVA each						
	Dedicated transmission line - voltage and length	SKMCH Double circuit 132KV 20km						

Note: Ash available on 31st March indicated is total ash generated during the FY and distance indicated is weighted average distance of ash transportation.

Annexure-VI (C)

DETAILS OF WATER CHARGES**Name of the Company:**

NTPC Ltd

Name of the Power Station and Stage/Phase:

Muzaffarpur Thermal Power Station - Stage II (2x195 MW)

(Rs. In Lakhs)

Sl.No.	ITEM	2017-18	2018-19	2019-20	2020-21	2021-22
1	2	3	4	5	6	7
(A)	Plant					
1	Type of Plant	Coal Thermal				
2	Type of Cooling Tower	IDCT				
3	Type of Cooling Water System	Pumped				
4	Any Special Features which may increase/reduce water consumption	-	-	-	ZLD	
(B)	Quantum of Water : (Cubic Meter)					
5	Contracted Quantum	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
6	Allocation of Water	26789832	26789832	26863228.8	26789832	26789832
7	Actual water Consumption	No consumption from designated source. Water was made available from seasonal Tirhut canal for which water qty is not available yearwise & stagewise separately.		8583276.3	7273032.2	8337809.9
8.	Rate of Water Charges			3.9595	3.9595	3.9595
9	Other charges/Fees , if paid as part of Water Charges					
10	Total water Charges Paid (Rs)**	378.33		339.85	287.98	330.14

Remarks •Total allocated quantity of 45 cusecs from designated source i.e, Burhi Gandak river (15 cusecs for Stage I and 30 cusecs for Stage II).

Details of Incidental Expenses during Construction (IEDC) with break-up for the Generating stations for which COD is declared after 1.4.2017

						Amount in Lakhs			
Sl. No.	Item-wise details of expenditure with break-up	Expenditure as on SCOD U#1	Expenditure as on SCOD U#2	Expenditure as on 18.03.2017 COD of U#1	Expenditure as on 01.07.2017 COD of Station	Time Overrun (days) U#1	Time Overrun (days) U#2	Time Overrun Allowed (days) U#1	Time Overrun Allowed (days) U#2
1	Employees Benfit Expenses	1653	1986	4845	7044	1618	1631	948	961
2	Finance Costs	0	0	0	0				
3	Water Charges	0	0	0	0				
4	Communication Expenses	39	44	111	155				
5	Power Charges	262	262	1494	3349				
6	Other office and Administrative Expenses	581	679	2321	3350				
7	Others (insurance Exp)	87	90	136	196				
8	Security Expenses	875	1074	2622	3783				
9	Other Pre-operating Expenses			0	0				
	Total Expenses (A)	3497	4135	11529	17877				
	Less: Income from sale of Tenders								
	Less: Income from Guest House/Other Misc receipt	5	7	142	197				
	Less: Income recovered from contractors	205	231	1029	1426				
	Less: Interest on deposits	162	162	99	137				
	Total Deductions (B)	372	400	1270	1760				
	NET EDC (claimed)	3125	3735	10259	16117				

Annexure-XIX

Name of Utility:		NTPC Ltd. (Erstwhile KBUNL)					
Name of Generating Station:		MTPS Stage-II / Non Pit Head					
Station Configuration:		2 x 195					
Capacity (MW):		390					
COD:		01.07.2017					
S.N	Particulars	Unit	2017-18	2018-19	2019-20	2020-21	2021-22
1	Plant Availability Factor (PAF)	%	44.7	83.98	92.65	92.69	90.03
2	Plant Load Factors (PLF)	%	32.66	67.49	67.63	65.7	76.17
2a	Loading Factor	%	73.06	80.36	72.76	70.94	84.63
3	Scheduled Energy	MU	875.183	2136.497	2117.255	2023.102	2338.851
4	Scheduled Generation	MU	875.183	2136.497	2117.255	2023.102	2338.851
5	Actual Generation	MU	976.67	2305.61	2316.892	2244.68	2602.338
	Actual Generation (ex-bus)	MU	853.42	2058.451	2076.928	2009.12	2340.1723
	Actual energy supplied to beneficiaries (Long Term, Medium Term and Short	MU	875.18	2057.31	2076.92	2009.12	2340.11
6	Quantum of coal consumption	MT	725676	1539824	1658675	1694165	1855130
7	Value of coal	Rs. Lakh	55,263	1,00,534	78,332	65,511	75,770
8	Specific Coal Consumption	kg/kWh	0.743	0.668	0.716	0.755	0.713
9	Gross Calorific Value of Coal	(Kcal/ Kg)	3613	3927	3637	3382	3611
10	Heat Contribution of Coal	(Kcal/ kWh)	2684.5	2622.7	2603.7	2552.6	2574.2
11	Cost Of Specific Coal Consumption – Finally admitted by CERC (Ex-Bus)	(Rs./kWh)					
12	Quantum of Oil Consumption	(KL)	5128.51	2118.1	1624.9	1157.6	1497.2
13	Value of Oil	(Rs. lakh)	3430.41	1947.7	1866.7	985.2	1766.6
14	Gross calorific value of oil	(kcal/lit)	9417	9545	9580	9507	9228
15	Specific Oil Consumption	(ml/kWh)	5.25	0.92	0.7	0.52	0.58
16	Cost Of Specific Oil Consumption – Finally admitted by CERC	(Rs./kWh)					
17	Heat Contribution of Oil	(Kcal/ kWh)	49.44	8.78	6.71	4.94	5.35
18	Station Heat Rate	(Kcal/ kWh)	2734	2631	2610	2558	2580
19	Auxiliary Energy Consumption	(%)	12.16	10.6	10.22	10.37	9.98
20	Debt at the end of the year (Average)	(Rs. Crore)	2135.2	2342.7	2066.1	2119.0	2111.8
21	Equity - Average	(Rs. Crore)	906.1	1048.9	1043.3	1138.9	1214.5
22	Working Capital – finally admitted by CERC	(Rs. Crore)	253.5	351.3	309.7	316.6	321.8
23	Capital cost – finally admitted by CERC (Closing)	(Rs. Crore)	3241.3	3986.6	3649.6	3943.1	4153.4
24	Capacity Charges/ Annual Fixed Cost (AFC)		488.0	724.5	735.4	779.1	810.4
	(a) Return on equity – post tax (admitted by CERC upto 2009) and Pre Tax post 2009						
	Absolute value	(Rs. Crore)	105.43	162.58	206.13	225.02	239.95
	Rate	(%)	15.50	15.50	19.76	19.76	19.76
	(b) interest on Loan						
	Absolute value	(Rs. Crore)	154.95	226.4682	185.8992	190.375	189.7271
	Rate – Weighted Average Rate	(%)	9.667	9.6674	8.9977	8.9843	8.9843
	(c) Depreciation (finally allowed by CERC)						
	Absolute value	(Rs. Crore)	111.63	172.16	162.7529	177.6694	189.4599
	AAD						
	Rate	(%)	4.7636	4.7636	4.68	4.68	4.68
	(d) Interest on working Capital						
	Absolute value	(Rs. Crore)	31.94	44.27	37.32	38.15	38.78
	Rate	(%)	12.6	12.6	12.05	12.05	12.05
	(e) Operation and maintenance cost (finally admitted by CERC)						

Name of Generating Station:		MTPS Stage-II / Non Pit Head					
Station Configuration:		2 x 195					
Capacity (MW):		390					
COD:		01.07.2017					
S.N	Particulars	Unit	2017-18	2018-19	2019-20	2020-21	2021-22
	Absolute value	(Rs. Crore)	84.02	118.99	143.3235	147.8475	152.4885
	Rate	(%)					
	(f) Compensation Allowances						
	(g) Special Allowance						
	(h) Supplementary Tariff - Emission						
	Absolute value	(Rs. Crore)					
	Rate	(%)					
	i) Ash Utilisation Expenses	(Rs. Crore)	0	0	0	0	39.58
25	AFC	(Rs./ kWh)	3.277	2.741	2.741	2.741	2.741
26	Energy Charge	(Rs./kWh)	2.45	2.472	2.735	2.663	2.702
26.1	Supplemental Energy Charges - Emission Control	(Rs./kWh)					
27	Total tariff	(Rs. kWh)	5.727	5.21	5.48	5.40	5.44
28	Revenue realisation before tax	(Rs. Crore)					
29	Revenue realisation after tax	(Rs. Crore)					
30	Profit/ loss	(Rs. Crore)	-181.09	98.74	103.97	134.47	131.82
31	DSM Generation	(MU)	-21.8	-79.2	-40.3	-14.0	1.3
32	DSM Rate	(Rs/kWh)					
33	Revenue from DSM	(Rs. Crore)	0	0	0	0	0
34	Compensation received for operation below NAPAF	(Rs Crore)	0	0	0	0	0
35	Part load Compensation received from beneficiariaes	(Rs Crore)	0	0	0	0	0
36	Amount received from SCED	(Rs Crore)	0	0	0	0	0

Note : Tariff order not issued data as per petition filed.

2a Extra Row inserted .

Gross calorific value indicated for 2019-20,2020-21,2021-22 here after adjusting 85 kcal storage loss

DETAILS OF EMISSION CONTROL SYSTEM

Generating company: NTPC
Name of Generating station: Kanti-II
Installed Capacity (MW) :
Type of Emission Control System:
Under Operation/Anticipated Operation Date:

S.No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21
A						
1	Gross Generation	MU				
2	Auxiliary Consumption - emission control	MU	ECS system under installation.			
	Auxiliary Consumption - emission control	%				
3	Auxiliary Consumption (Normative)	%				
4	Hours of Operation	Hrs				
5	O&M Expenses (Actual) with Breakup as per format	Rs. Crore				
6	Other maintenance spares consumed^	Rs. Crore				
7	Initial Spares consumed*	Rs. Crore				

Pls. Note: Where the system is yet not operational guaranteed parameter along with spares cost as per awarded contract to be fulfilled.

* Not part of O&M expenses and Pls specify list of the same

S.No.	Particulars	Units				
			Investment Approval	Approved*	Investment Approval	Approved*
1	Capital Cost of Emission Control System		639.05			
1.1	Hard Cost	Rs. Crore	363.753			
1.1.1	Civil Works	Rs. Crore				
1.1.2	Plant and Machinery and others	Rs. Crore				
1.1.3	Initial Spares procured	Rs. Crore				
1.2	IDC	Rs. Crore	34.12			
1.3	IEDC	Rs. Crore				
1.4	Others. Pls specify	Rs. Crore	80.23			
1.4	Completed Cost	Rs. Crore	477.88			