

## 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	2019-20	2020-21	2021-22
1	Name of Company					
2	Name of Station/ Pit head or Non- Pit head			Lara STPS / Pit head		
	Stage			Stage -1		
3	Installed Capacity and Configuration		MW	1600 MW, 2 X 800 MW		
3.1	Date of Commercial Operation - Unit Wise			Unit 1: 01.10.2019, Unit -2: 07.11.2020		
3.2	Effective COD			07-11-2020		
	Make of Turbine			M/s Hitachi		
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)			MS-256 Ksc / 568 deg C HRH- 52 Ksc / 596 deg C Boiler - Super critical boiler, Front & Rear fired Boiler; Turbine - HP-1, IP-1, LP-2 nos		
5	Type of BFP			Steam driven		
	Quantity			2 nos TDBFP / unit		
6	Circulating water system			Closed Cycle		
7	Any other Site specific feature			Front & Rear fired Boiler requires Oil guns to be taken in service for every mill change over.		
	Unit heat rate (Design)		Kcal /Kwhr	2122		
	Boiler efficiency (Design)		%	86.19%		
	Turbine cycle heat rate (Design)		Kcal /Kwhr	1829		
8	<b>Fuels :</b>					
8.1	<b>Primary Fuel :</b>			Coal		
8.1.1	Annual Allocation under FSA		MMT	2.63 MMT (Swapping MCL coal with NLC), Linked with Talaipalli		
	Annual Consumption		LMT	14.76	37.08	78.80
	Annual Requirement at NAPAF		LMT	17.84	50.12	81.27
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal			Talaipalli, NLC-Talabira, CIL Bridge Linakge (All CIL subsidiaries), SCCL MOU		
8.1.2.1	FSA	LoA	MT	-	-	-
	MCL	MoU	MT	66,332	16,63,426	48,12,163
	CCL	MoU	MT	7,935	3,844	-
	BCCL	MoU	MT	11,106	41,388	1,33,549
	NCL	MoU	MT	94,333	8,128	-
	SCCL	MoU	MT	-	7,658	-
	ECL	MoU	MT	15,798	4,69,923	4,15,909
	SECL	MoU	MT	11,715	3,14,947	2,21,121
	WCL	MoU	MT	3,445	-	2,44,835
		NLC Talabira mines	FSA swapping agreement	MT	-	-
		MoU	MT	-	-	-
	NTPC captive mines	Talaipali	MT	-	8,99,568	4,85,552
		Pakri Barwadih	MT	4,46,526	7,47,914	4,62,201
8.1.2.2	Imported*		MT	-	-	-
8.1.2.	Spot Market/e-auction*		MT			

8.1.3	Transportation Distance of the station from the sources of supply		KM			
8.1.4	Mode of Transport				Rail	
8.1.5	Maximum Station capability to stock primary fuel (for days consider availability as NAPAF)		Days & LMT		26 Days, 5 LMT	
8.1.6	Maximum stock maintained for primary fuel		MT	443559	416000	518722
	Date			Jun-19	Jun-20	Mar-22
8.1.7	Minimum Stock maintained for primary fuel		MT	36939	211848	74875
	Date			Dec-19	Sep-20	Aug-21
8.1.8	Average stock maintained for primary fuel		MT	253000	315000	256000
8.2	<b>Secondary Fuel :</b>				LDO	
8.2.1	Annual Allocation/ Requirement		KL		9000	
8.2.2	Sources of supply				HPCL / BPCL / IOCL refinery	
8.2.3	Transportation Distance of the station from the sources of supply		KM		600-1500 Kms	
8.2.4	Mode of Transport				Road(upto 30.06.2020)/Rail (from 01.07.2020)	
8.2.5	Maximum Station capability to stock secondary fuels		KL		9000	
8.2.6	Maximum Stock of secondary oil actually maintained		KL		6912	
8.2.7	Minimum Stock of secondary oil actually maintained		KL		2667	
8.2.8	Average Stock of secondary oil actually maintained		KL		4721	
9.	Cost of Spares :					
9.1	Cost of Spares capitalized in the books of accounts		(Rs. Lakh)	25,494.70	1,944.01	1,967.97
9.2	Cost of spares included in capital cost for the purpose of tariff		(Rs. Lakh)	25,494.70	1,944.01	1,967.97
9.3	Initial spares-list, quantity and cost		(Rs. Lakh)	25,494.70	1,944.01	1,967.97
9.4	Maintenance spares - cost		(Rs. Lakh)		1,270.89	2,505.22
9.5	Other spares procured with high lead procurement time		(Rs. Lakh)			
10	<b>Generation :</b>					
10.1	-Actual Gross Generation at generator terminals		MU	2,414.92	5,997.10	11,365.80
10.2	-Actual Net Generation Ex-bus		MU	2,272.94	5,637.99	10,711.84
10.3	-Scheduled Generation Ex-bus		MU	2,300.75	5,630.26	10,741.45
11	Average Declared Capacity (DC)		MW	323.79	842.92	1,365.19
		DC Peak HD %	%	-	86.15	87.97
		DC Off Peak HD %	%	-	86.52	88.20
		DC Peak LD %	%	-	79.18	92.72
		DC Off Peak LD %	%	-	78.39	91.82
	Actual Declared Capacity		MU	2,844.21	7,384.02	11,959.10
	Deemed Declared Capacity		MU			
12	Actual Auxiliary Energy Consumption excluding colony		MU	140.76	355.72	650.43
13	Actual Energy supplied to Colony from the station		MU	1.21	3.38	3.53
	Actual energy supplied to construction activities		MU			
	Actual energy supplied to long term and medium term beneficiaries		MU	2,259.16	5,428.04	10,845.01
	Actual energy supplied in short term		MU			
	Energy supplied under bilateral arrangements		MU			
	Energy supplied through exchahnges		MU	0.39	0.77	0.88
	Energy supplied under DSM		MU	(27.81)	7.73	(29.61)
	Energy supplied SCED		MU	19.23	174.14	(23.02)
14	<b>Primary Fuel :</b>					

14.1	Consumption :					
14.1.1	Domestic coal	From Linked Mines	MT	-	-	-
		From Non-Linkd Mines	MT	14,75,945	37,08,020	78,80,472
		From Integerated Mines	MT	-	-	-
14.1.2	Imported coal		MT	NA	NA	NA
14.1.3	Spot market/e-auction coal		MT	NA	NA	NA
<b>14.2</b>	<b>Gross Calorific Value (GCV) :</b>					
14.2.1	Domestic Coal (for each type)	(As Billed) - EM Basis as per third party	kCal/kg	4,432	4,149	3,727
		(As Received) - TM Basis as per third party	kCal/kg	3,605	3,596	3,184
14.2.2	Imported Coal	(As Billed) - ADB Basis	kCal/kg	NA	NA	NA
		(As Received) - ADB Basis	kCal/kg	NA	NA	NA
14.2.3	Spot market/e- auction coal	(As Billed)	kCal/kg	NA	NA	NA
		(As Received)	kCal/kg	NA	NA	NA
14.2.4	Weighted Average Gross Calorific value (Domestic+Imported+Spot/e-auction) (As Billed)		kCal/kg	4,432	4,149	3,727
14.2.5	Weighted Average Gross Calorific value (Domestic+Imported+Spot/e-auction) (As Received)		kCal/kg	3,605	3,596	3,184
14.2.6	<b>Ash content in coal (%)</b>		%	36.55	37.10	41.80
14.3	<b>Price of coal :</b>					
	Billed Cost (including adjustments)					
	Amount Charged by transporting agency upto delivery point					
14.3.1	Weighted Average Landed price of Domestic coal		(Rs/MT)	3,817.21	2,982.27	2,715.49
	Components of landed cost and break up		(Rs/MT)			
		1. Cost of coal,	(Rs/MT)	2,289.31	2,200.71	2,094.32
		2. Transportation	(Rs/MT)	1,478.08	756.54	522.29
		3. Other charges	(Rs/MT)	49.81	25.02	98.89
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)	3,817.21	2,982.27	2,715.49
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
14.4.2	Proportion of e-auction coal in the blending		% & MT	0	0	0
	Coal stockyard capacity		LMT	5 Lakh MT		
14.5	Actual daily Average Coal stock maintained		MT	2,53,000	3,15,000	2,56,000
			Days	10.12	12.60	10.24
14.5	<b>Actual Transit &amp; Handling Losses for coal/Lignite</b>					
14.5.1	<b>Pit- Head Station</b>					
14.5.1.1	Transit loss from linked mines		%	-	-	-
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.		%	0.68	0.75	0.77
14.5.1.3	Transit loss of imported coal		%	-	-	-

14.5.2	<b>Non-Pit Head station</b>					
14.5.2.1	Transit loss from linked mines		%	NA	NA	NA
14.5.2.2	Transit loss from non-linked mines including e-auction coal mines.		%	NA	NA	NA
14.5.2.3	Transit loss of imported coal		%	NA	NA	NA
15	<b>Secondary Fuel Oil :</b>					
15.1	Consumption	HFO	KL	-	-	-
		LDO	KL	1,246.00	7,069.84	7,469.62
15.2	Weighted Average Gross Calorific value (As received)	HFO	(kCal / Lit.)	-	-	-
		LDO	(kCal / Lit.)	10,201.45	9,622.09	9,445.23
15.3	Weighted Average Price	HFO	(Rs / KL)	-	-	-
		HSD	(Rs / KL)	49,573.55	39,185.72	63,625.44
15.4	Actual Average stock maintained	HFO	KL			
		LDO	KL	3,910.00	4,730.00	5,525.00
16	<b>Weighted average duration of outages( unit-wise details):</b>					
16.1	Planned Outages		(Days)	0.33	47.63	15.22
16.2	Forced Outages		(Days)	44.33	27.59	11.88
	Within control of generator			-	-	0.40
	beyond control of generator			44.33	27.59	11.48
16.3	Number of tripping		Nos.	5	4	6
16.4	Number of start-ups:		Nos.	9	25	13
16.4.1	Cold Start-up		Nos.	3	19	7
16.4.2	Warm Start-up		Nos.	1	1	-
16.4.3	Hot start-up		Nos.	5	5	6
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)		mg/Nm3	Norms as per MOEF&CC: SOx: 100; NOx: 100		
	FGD installation date			FGD work is under progress		
	NOX Control system installation date					
17.2	Actual emission (Stage-I)	SPM	mg/Nm3	As per Annexure A		
		NOX	mg/Nm3			
		SOX	mg/Nm3			
	Actual emission (Stage-II)	SPM	mg/Nm3			
		NOX	mg/Nm3			
		SOX	mg/Nm3			
18.0	Ash dyke capacity as on 31st March					
18.1	Ash pond capacity as on 31st March					
	Fund available in Ash Fund Account as on 31st March			As per Annexure B		
	Amount utilized from Ash Fund Account					
19	Detail of Ash utilization % of fly ash produced		%	0.71	74.41	56.42
	Ash available as on 31st March *		LMT	6.93	13.52	32.31
	Ash utilized for construction of ash dyke		LMT	-	1.15	8.24
	Ash utilized within plant premise, other than construction of ash dyke		LMT	-	-	-
	Ash transported		LMT	-	8.28	8.96
	Average Distance **		KM	-	150	150

19.1	Conversion of value added product	(%)	0.71	0.96	0.15
19.2	For making roads &embarkment	(%)	-	61.24	27.73
19.3	Land filling	(%)	-	3.62	0.84
19.4	Used in plant site in one or other form or used in some other site	(%)	-	8.51	25.50
19.5	Any other use , Please specify	Qty. and Usage	-	0.07	2.20
20	Cost of spares actually consumed	( Rs. Lakh)	-	2.08	686.02
21	Average stock of spares	(Rs. Lakhs)		4,083.36	5,926.01
22	Number of employees deployed in O&M	Nos.	302	307	294
22.1	- Executives	Nos.	274	255	239
22.2	- Non Executives	Nos.	28	52	55
22.3	- Corporate office	Nos.	2,016	1,815	1,728
23	Man-MW ratio	Man/MW	0.38	0.19	0.18
	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				
	No. of Bays voltages wise				15 bays 400KV, 4 lines of 400KV Lara Kotra circuit-1 & 2 - 19.9 KM Lara Champa circuit-1 & 2 -113.0 KM
	ICT - nos and rating				No ICTs available
	Dedicated transmission line - voltage and length				Not Applicable

\* Total ash generated during the Financial Year given

\*\* Weighted average distance of Ash Transported given

## DETAILS OF WATER CHARGES

Name of the Company: NTPC Ltd  
Name of the Power Station and Stage/Phase: Lara STPS

(Rs. In Lakhs)

Sl.No.	ITEM	2019-20	2020-21	2021-22
1	2	5	6	7
<b>(A)</b>	<b>Plant</b>			
1	Type of Plant	Thermal Power Plant		
2	Type of Cooling Tower	IDCT□		
3	Type of Cooling Water System	Closed Cycle		
4	Any Special Features which may increase/reduce water consumption			
<b>(B)</b>	<b>Quantum of Water : ( Cubic Meter)</b>			
5	Contracted Quantum (m3)	4,50,00,000	4,50,00,000	4,50,00,000
6	Allocation of Water (m3)	4,50,00,000	4,50,00,000	4,50,00,000
7	Actual water Consumption (m3)	85,79,549	2,09,84,120	3,83,35,292
8.	Rate of Water Charges (Rs/m3)	18.70	7.10	5.86
9	Other charges/Fees , if paid as part of Water Charges			
10	<b>Total water Charges Paid (Rs Lakhs)</b>	1,604.61	1,490.85	2,248.10

**Details of capital Spares****Name of Company : NTPC Limited****Name of Power station :Lara STPS****(Rs. In Lakhs)**

<b>Sl . No.</b>	<b>ITEM</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
(A)	Details of capital spares in Opening stock		25,494.70	27,436.63
(B)	Details of capital spares procured during the year	25,494.70	1,944.01	1,967.97
(C)	Details of capital spares consumed during the year	-	2.08	686.02
(D)	Details of capital spares closing at the end of the year	25,494.70	27,436.63	28,718.58

## Annexure XVI A

Name of the Company: NTPC LTD  
Name of the Power Station : LARA STPS

(in Rs Lakhs)

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

Sl. No.	Item-wise details of expenditure with break-up	Expenditure as on SCOD	Expenditure as on actual COD of unit/station	Time Overrun
1	Employees' Benefits Expenses	17,764.83	42,480.76	37 months (which was beyond the control of generator)
2	Water Charges	-	3,689.45	
3	Communication Expenses	186.57	458.69	
4	Power Charges	5,339.99	26,297.26	
5	Other Office and Administrative Expenses	-	-	
6	(i). Repair & Maintenance	1,206.41	7,727.11	
7	(ii). Rent	135.59	143.03	
8	(iii). Insurance	37.31	229.12	
9	(iv). Travelling Expenses	1,003.73	2,205.79	
10	(v). Tender Expenses	221.77	265.04	
11	(vi). Advertisement & Publicity	85.99	101.81	
12	(vii). Security Expnese	1,357.77	3,624.71	
13	(viii). Entertainment Expenses	192.66	379.70	
14	(ix). Guest House Expenses	51.59	106.90	
15	(x). Legal Expenses	65.11	116.73	
16	(xi). Printing & Stationery Expenses	63.43	121.67	
17	(xii). Vehicle Hiring	890.20	1,685.60	
18	(xiii). Depreciation	10,581.01	16,552.84	
19	(xiv). Bank Charges	70.93	78.64	
20	(xv). Others	5,064.78	7,337.87	
21	(xvi). CC-IEDC	7,997.12	13,868.02	
22	<b>Total Exp</b>	<b>52,316.80</b>	<b>1,27,470.76</b>	
23	Income from sale of tenders	(3.89)	(6.19)	
24	Income from guest house	(1.69)	(2.53)	
25	Income recovered from Contractors	(1,680.48)	(1,935.16)	
26	Interest on Deposits	(815.93)	(1,275.52)	
27	Misc Reciepts	(328.90)	(823.86)	
28	<b>Total Exp</b>	<b>(2,830.89)</b>	<b>(4,043.26)</b>	
	<b>Total IEDC</b>	<b>49,485.91</b>	<b>1,23,427.50</b>	



<b>Name of Utility:</b>	<b>NTPC Ltd</b>
<b>Name of Generating Station:</b>	<b>Lara STPS</b>
<b>Station Configuration:</b>	<b>2 x 800 MW</b>
<b>Capacity (MW):</b>	<b>1600 MW</b>
<b>COD:</b>	<b>07.11.2020</b>

S.N	Particulars	Unit	2019-20***	2020-21***	2021-22***
1	Plant Availability Factor (PAF)	%	86.35	80.44	91.01
2	Plant Load Factors (PLF)	%	68.73	61.24	81.09
2a	Loading Factor ^	%	80.09	92.04	88.49
3	Scheduled Energy	MU	2,300.75	5,630.26	10,741.45
4	Scheduled Generation	MU	2,300.75	5,630.26	10,741.45
5	Actual Generation (Gross)	MU	2,414.92	5,997.10	11,365.80
6	Actual Generation (ex-bus)	MU	2,272.94	5,637.99	10,711.84
7	Actual energy supplied to beneficiaries (Long Term, Medium Term and Short Term)	MU	2,259.16	5,428.04	10,845.01
8	Quantum of coal consumption	MT	14,75,945	37,08,020	78,80,472
9	Value of coal	Rs. Lakh	47,105.80	1,22,832.61	2,18,406.61
10	Specific Coal Consumption	kg/kWh	0.61	0.62	0.69
11	Gross Calorific Value of Coal	(Kcal/ Kg)	3520 **	3511 **	3099 **
12	Heat Contribution of Coal	(Kcal/ kWh)	2,151	2,171	2,149
13	Cost Of Specific Coal Consumption - Finally admitted by CERC (Ex-Bus)	(Rs./kWh)			
14	Quantum of Oil Consumption	(KL)	1,246.00	7,069.84	7,469.62
15	Value of Oil	(Rs. lakh)	4,742.99	4,794.76	5,909.77
16	Gross calorific value of oil	(kcal/lit)	10,201.45	9,622.09	9,445.23
17	Specific Oil Consumption	(ml/kWh)	0.52	1.18	0.66
18	Cost Of Specific Oil Consumption – Finally admitted by CERC	(Rs./kWh)			
19	Heat Contribution of Oil	(Kcal/ kWh)	5.26	11.34	6.21
20	Station Heat Rate	(Kcal/ kWh)	2,157	2,182	2,155
21	Auxiliary Energy Consumption	(%)	5.83	5.93	5.72
22	Debt at the end of the year	(Rs. Crore)	5,674.91	8,570.56	8,044.09
23	Equity - Average	(Rs. Crore)	2,377.41	3,909.24	4,017.33
24	Working Capital – finally admitted by CERC	(Rs. Crore)	583.43	938.75	911.20
25	Capital cost – finally admitted by CERC	(Rs. Crore)	7,924.70	13,030.78	13,391.09
26	Capacity Charges/ Annual Fixed Cost (AFC)	(Rs. Crore)	1,447.12	2,418.54	2,361.81
27	(a) Return on equity – post tax (admitted by CERC upto 2009) and Pre Tax post 2009				
28	Absolute value	(Rs. Crore)	446.53	734.23	754.53
29	Rate	(%)	18.78	18.78	18.78
30	(b) interest on Loan				
31	Absolute value	(Rs. Crore)	337.44	487.06	474.03
32	Rate – Weighted Average Rate	(%)	6.20	5.71	5.71
33	(c) Depreciation (finally allowed by CERC)				
34	Absolute value	(Rs. Crore)	401.78	668.48	686.96
35	AAD				
36	Rate	(%)	5.07	5.13	5.13
37	(d) Interest on working Capital				
38	Absolute value	(Rs. Crore)	70.30	105.61	95.68
39	Rate	(%)	12.05	11.25	10.50
40	(e) Operation and maintenance cost (finally admitted by CERC)				

41	Absolute value	(Rs. Crore)	191.07	315.77	350.60
42	Rate	(%)			
43	(f) Compensation Allowances	(Rs. Crore)	Not Applicable		
44	(g) Special Allowance	(Rs. Crore)			
45	h) Supplementary Tariff - Emission Control				
46	Absolute value	(Rs. Crore)			
47	Rate	(%)			
48	i) Ash Utilisation Expenses	(Rs. Crore)			
49	AFC	(Rs./ kWh)	2.59	2.17	2.11
50	Energy Charge	(Rs./kWh)	2.45	2.04	2.11
51	Supplemental Energy Charges - Emission Control	(Rs./kWh)			
52	Total tariff	(Rs. kWh)	5.04	4.21	4.22
53	Revenue realisation before tax	(Rs. Crore)			
54	Revenue realisation after tax	(Rs. Crore)			
55	Profit/ loss	(Rs. Crore)	125.33	257.78	773.39
56	DSM Generation	(MU)	(27.81)	7.73	(29.61)
57	DSM Rate	(Rs/kWh)			
58	Revenue from DSM	(Rs. Crore)	(19.68)	(52.03)	4.44
59	Compensation received for operation below NAPAF	(Rs. Crore)	-	0.00	-
60	Part load Compensation received from beneficiariaes	(Rs. Crore)	-	0.00	-
61	Amount received from SCED	(Rs Crore)	5.05	3.87	0.85
** GCV of coal as received minus 85 kCal/Kg ^ Additional data related Loading factor (%) submitted DSM Revenue (-)Received / (+) Paid ***Tariff related details for 2019-22 period is based on Tariff Petition filed before Hon'ble Commission					



## DETAILS OF REAGENT USED FOR EMISSION CONTROL

**Generating company: NTPC Ltd**  
**Name of Generating station: Lara STPS**  
**Installed Capacity (MW) : 1600 MW**

**Reagent Type: Limestone**

**Type of Emission Control System: Wet based FGD System**

S.No.	Particulars	Unit	2019-20	2020-21	2021-22
<b>A.</b>					
1	Average Stock of Reagent	MT	WET Based FGD System yet to be operational		
2	Maximum Storage at Site	MT			
3	Maximum Storage at Site	Days			
<b>B.</b>					
1	Opening Stock of Reagent as on 1st April	MT			
2	Purity of Opening Stock (Reagent)	%			
3	Quantity of Reagent Supplied by Supplier	MT			
4	Adjustment (+/-) in Quantity Supplied	MT			
5	Net Quantity of Reagent Received	MT			
6	Total Cost of Reagent Received	Rs. Crore			
7	Cost of Reagent Received	Rs./MT			
8	Qty of Reagent Consumed	MT			
9	Closing Stock of Reagent as on 31st March	MT			
10	Purity of Reagent received	%			
11	Gross Generation	MU	2,414.92	5,997.10	11,365.80
12	Fuel Type (coal/lignite)		Coal		
13	Sulphur content of Fuel	%	0.43	0.52	0.54
14	Gross SHR	kCal/kWh			
15	Design SO <sub>2</sub> removal efficiency (Applicable for Wet FGD)	%			96.55
16	SO <sub>2</sub> removal norm (100/200/600 mg/Nm <sup>3</sup> )	mg/Nm <sup>3</sup>			100
17	Weighted Average Gross GCV of Fuel Received	kCal/kg	As per Annexure-I		