

## 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	2019-20	2020-21	2021-22
1	Name of Company		NTPC Ltd.		
2	Name of Station/ Pit head or Non- Pit head		Darlipali Super Thermal Power Station (Pit-head)		
	Stage		Single Stage		
3	Installed Capacity and Configuration	MW	2 X 800 = 1600 MW		
3.1	Date of Commercial Operation - Unit Wise		U#1- 01.03.2020 U#2 01.09.2021		
3.2	Effective COD		01.09.2021		
	Make of Turbine		M/s Toshiba JSW Turbine and generator Pvt. Ltd.		
4	Rated Steam Parameters (Also state the type of Steam turbine and Boiler)		(i) 247 (kg/Cm2) abs (ii) 2275.054 (tons /hr) <sup>2</sup> (Main Steam flow at Turbine inlet under MCR condition (iii) 565 (oC) Main Steam Temperature at Turbine inlet (iv) 45.9 (kg/Cm2) Reheat Steam Pressure at Turbine inlet (v) 593 (oC) Reheat Steam Temperature at Turbine inlet		
5	Type of BFP		TDBFP/ MDBFP		
	Quantity		For one unit: TDBFP (2 nos), 1 MDBFP (s/b)		
6	Circulating water system		Closed Cycle, IDCT		
7	Any other Site specific feature				
	Design Unit heat rate	Kcal/Kwh	Stage-1: 1816		
	Design Boiler efficiency	%	Stage-1:, 85.01		
	Design Turbine cycle heat rate	Kcal/Kwh	Stage-1: 2136		
8	<b>Fuels :</b>				
8.1	<b>Primary Fuel :</b>		Coal		
8.1.1	Annual Allocation under FSA				
	Annual Consumption	MT	280846	3432238	6368121
	Annual Requirement at NAPAF	MT	376122	4205360	6641992
8.1.2	Sources of supply/ procurement along with contracted quantity and grade of coal		Dulanga linked mine+MOU coal from MCL & NLC		
8.1.2.1	FSA	LoA	MT	Linked mine-7,94,852MT (Road + MGR)	Linked Mine - 5213439 MT (G13)

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	MoU	MT		MOU-319379 MT (G13 gr.)	MCL MOU-583420 MT (G13 gr.) & 26030 (G14) NLC TALABIRA MOU-736600 MT (G13 gr.)
8.1.2.2	Imported*	MT	0	0	0
8.1.2.	Spot Market/e-auction*	MT	0	0	0
8.1.3	Transportation Distance of the station from the sources of supply	KM	Dulanga 39km( road) & 12.5km (MGR), MCL 25.3 Road, 92.6 km NCL		
8.1.4	Mode of Transport		Road & MGR		
8.1.5	Maximum Station capability to stock primary fuel (for days consider availability as NAPAF)	Days & MT	24 Days/ 591000		
8.1.6	Maximum stock maintained for primary fuel	MT	272682	501220	505894
	Date		29.02.2020	22.06.2020	19.02.2022
8.1.7	Minimum Stock maintained for primary fuel	MT	679	105437	60299
	Date		01.10.2019	04.11.2020	01.10.2021
8.1.8	Average stock maintained for primary fuel	MT	381199	302176	482914
8.2	<b>Secondary Fuel :</b>				
8.2.1	Annual Allocation/ Requirement	KL	9095		
8.2.2	Sources of supply		Presently IOCL		
8.2.3	Transportation Distance of the station from the sources of supply	KM	652 (one side)		
8.2.4	Mode of Transport		Road		
8.2.5	Maximum Station capability to stock secondary fuels	KL	5100		
8.2.6	Maximum Stock of secondary oil actually maintained	KL	4486.336	4700.969	4474.592
8.2.7	Minimum Stock of secondary oil actually maintained	KL	4486.336	2213.91	2751.372
8.2.8	Average Stock of secondary oil actually maintained	KL	4486.336	4030.681	3332.739
9.	Cost of Spares :				
9.1	Cost of Spares capitalized in the books of accounts	(Rs. Lakh)	16076.52	3006.01	5349.86
9.2	Cost of spares included in capital cost for the purpose of tariff	(Rs. Lakh)	Tariff order not issued yet.		
9.3	Initial spares-list, quantity and cost.*	(Rs. Lakh)	16076.5	3006.0	5349.9
9.4	Maintenance spares - cost	(Rs. Lakh)	979.2	2586.3	4174.9
9.5	Other spares procured with high lead procurement time	(Rs. Lakh)			
10	Generation :				
10.1	-Actual Gross Generation at generator terminals	MU	372.97	4775.88	8917.64
10.2	-Actual Net Generation Ex-bus	MU	343.25	4458.18	8356.72
10.3	-Scheduled Generation Ex-bus	MU	340.73	4491.21	8365.75
11	Average Declared Capacity (DC)	MW	40.79	526.23	989.08
	DC Peak HD %	%		54.18	83.98

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	DC Off Peak HD %	%		53.76	84.20
	DC Peak LD %	%		75.08	83.27
	DC Off Peak LD %	%		75.79	83.29
	Actual Declared Capacity	MU	358.26	4609.76	8664.30
	Deemed Declared Capacity	MU	358.3	4609.8	8664.3
12	Actual Auxiliary Energy Consumption excluding colony	MU	29.64	314.31	556.53
13	Actual Energy supplied to Colony from the station	MU	0.08	3.39	4.39
	Actual energy supplied to construction activities	MU		NA	
	Actual energy supplied to long term and medium term beneficiaries	MU	336.85	4405.10	8324.58
	Actual energy supplied in short term				
	Energy supplied under bilateral arrangements				
	Energy supplied through exchahnges	MU	0.00	2.28	3.76
	Energy supplied under DSM	MU	2.52	-33.03	-9.03
	Energy supplied SCED	MU	3.50	71.17	38.27
14	<b>Primary Fuel :</b>				
14.1	Consumption :	MT			
14.1.1	Domestic coal				
	From Linked Mines	MT	280846.41	3432238	6368121
	From Non-Linkd Mines	MT			
	From Integerated Mines	MT			
14.1.2	Imported coal	MT	0	0	0
14.1.3	Spot market/e-auction coal	MT			
14.2	Gross Calorific Value (GCV) :				
14.2.1	Domestic Coal (for each type)				
	(As Billed) - EM Basis as per third party	kCal/kg	3500	3419	3298
	(As Received) - TM Basis as per third party	kCal/kg	3102	3070	3033
14.2.2	Imported Coal				
	(As Billed) - ADB Basis	kCal/kg	0	0	0
	(As Received) - ADB Basis	kCal/kg	0	0	0
14.2.3	Spot market/e- auction coal				
	(As Billed)	kCal/kg	0	0	0
	(As Received)	kCal/kg	0	0	0
14.2.4	Weighted Average Gross Calorific value (Domestic+Imported+Spot/e-auction) (As Billed)	kCal/kg	3500	3419	3298
14.2.5	Weighted Average Gross Calorific value (Domestic+Imported+Spot/e-auction) (As Received)	kCal/kg	3102	3070	3033
	Ash content in coal (%)			49.29	49
14.3	<b>Price of coal :</b>				
	Billed Cost (including adjustments)				
	Amount Charged by transporting agency upto delivery point				

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S.N	Particulars	Units	2019-20	2020-21	2021-22
14.3.1	Weighted Average Landed price of Domestic coal	(Rs/MT)	1043.1	1129.6	1290.4
	Components of landed cost and break up				
	1. Cost of coal,	(Rs/MT)	1020.3	1081.4	1200.7
	2. Transportation	(Rs/MT)	0.0	0.0	0.0
	3. Other charges	(Rs/MT)	22.8	48.2	89.7
14.3.2	Weighted Average Landed Price of Imported coal	(Rs/MT)	0.0	0.0	0.0
	Components of landed cost and break up				
14.3.3	Weighted Average Landed Price of Spot market / e-auction coal	(Rs/MT)	0.0	0.0	0.0
	Components of landed cost and break up				
14.3.4	Weighted Average Landed Price of all the Coals	(Rs/MT)	1043.1	1129.6	1290.4
14.4	Blending :	% and MT ( of the total coal consumed )			
	Blending ratio of imported coal with domestic coal	Equivalent to domestic coal	NA	NA	NA
14.4.2	Proportion of e-auction coal in the blending	% & MT			
	Coal stockyard capacity			5.9 LMT	
14.5	Actual daily Average Coal stock maintained	MT	381199	302176	482914
		Days	16	12	20
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	%	0.104	0.177	0.15
14.5.1.2	Transit loss from non-linked mines including e-auction coal mines.	%		0.021	0.039
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	
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	<b>Secondary Fuel Oil :</b>				
15.1	Consumption				
	HFO	KL	0	0	0
	LDO	KL	815.69	7581.69	10609
15.2	Weighted Average Gross Calorific value (As received)	(kCal / Lit.)	0	0	0
	HFO	(kCal / Lit.)	10753	10742	10770
15.3	Weighted Average Price	(Rs / KL)			
	HFO	(Rs / KL)	54206	47060	61662
15.4	Actual Average stock maintained	KL	NA	NA	NA
	LDO	KL	4486.336	4030.681	3332.739
16	Weighted average duration of outages( unit-wise details):				

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S.N	Particulars	Units	2019-20	2020-21	2021-22
16.1	Planned Outages	(Days)	0.0	37.3	24.0
16.2	Forced Outages	(Days)	1.66	58.84	36.59
	Within control of generator	(Days)	0	0	0
	beyond control of generator	(Days)	1.66	58.84	36.59
16.3	Number of tripping	Nos.	0	3	1
16.4	Number of start-ups:	Nos.	0	14	15
16.4.1	Cold Start-up	Nos.	0	11	6
16.4.2	Warm Start-up	Nos.	0	1	8
16.4.3	Hot start-up	Nos.	0	2	1
17	NOx , SOx ,and other particulate matter emission in : at conditions specified by MoEF&CC		ECS system under installation.		
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	Attached as Annexure-A		
		NOX			
		SOX			
	Actual emission (Stage-II)	SPM			
		NOX			
		SOX			
	Ash dyke capacity as on 31st March		-	-	-
	Ash pond capacity as on 31st March				
	Fund available in Ash Fund Account as on 31st March		Attached as Annexure-B		
	Amount utilized from Ash Fund Account				
	Ash available as on 31st March	LMT	1.12	15.48	30.63
	Ash utilized for construction of ash dyke	LMT	0	0	0
	Ash utilized within plant premise, other than construction of ash dyke	LMT	0	0	0
	Ash transported	LMT	0	0	9
	Average Distance	Km	0	150	150
19	Detail of Ash utilization % of fly ash produced	(%)	0	3	58
19.1	Conversion of value added product	(%)	0	0	0
19.2	For making roads &embarkment	(%)	0	2	28
19.3	Land filling	(%)	0	0	0
19.4	Used in plant site in one or other form or used in some other site	(%)	0	1	1
19.5	Any other use , Please specify	(%)	0	0	29
20	Cost of spares actually consumed	( Rs. Lakh)			
21	Average stock of spares	(Rs. Lakhs)	2514	6737	12541

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S.N	Particulars	Units	2019-20	2020-21	2021-22
22	Number of employees deployed in O&M	Nos.			
22.1	- Executives	Nos.	250	251	261
22.2	- Non Executives	Nos.	12	10	11
22.3	- Corporate office	Nos.	2016	1815	1728
23	Man-MW ratio	Man/MW	0.164	0.163	0.170
	Total billed amount				
	Total received amount within due date		Attached as Annexure-C		
	Total amount received beyond due date				
	Total amount pending				
	Total amount under dispute				
	Total rebate given				
	Total LPSC recovered				
24	<b>Generation Switchyard Details</b>	Generation Switchyard Details: 765KV, 3Phase, 50Hz 800MWX2			
	No. of Bays voltageswise	No. of Bays voltageswise: 12 bays in 765KV+12 bays in 132KV			
	ICT - nos and rating	ICT - nos and rating:(85X3 MVA)X2, 765KV.			
	Dedicated transmission line - voltage and length	Dedicated transmission line - voltage and length: 765KV, 20.4 KM DC(Double Circuit)			

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

\* provided seperately as Annexure-1

**DETAILS OF OPERATIONS AND MAINTENANCE EXPENSES**

**Name of the Company: NTPC**

**Name of the Power Station or Transmission Region: Darlipalli STPS (1600 MW)**

(Rs. In Lakhs)

<b>Sl. No.</b>	<b>ITEM</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
1	2	3	4	5	6	7
(A)	Details of Capital Spares in opening Stock					
(B)	Details of Capital Spares procured during the year			16076.52	3006.01	5349.86
(C)	Details of capital spares consumed during the year			0.00	462.41	461.63
(D)	Details of capital spares closing at the end of the					

**Annexure-VI (C)****DETAILS OF WATER CHARGES****Name of the Company:**

NTPC Ltd.

**Name of the Power Station and Stage/Phase:**Darlipali Super Thermal Power Station (Pit-head), Single Stage  
(Rs. In Lakhs)

Sl.No.	ITEM	2019-20	2020-21	2021-22
1	2	5	6	7
<b>(A)</b>	<b>Plant</b>	Darlipali Super Thermal Power Station		
1	Type of Plant	Coal Based 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	4036850	49115010	49115010
6	Allocation of Water	4036850	49115010	49115010
7	<b>Actual water Consumption</b>			
8.	Rate of Water Charges	7.28	7.84	8.4
9	Other charges/Fees , if paid as part of Water Charges			
10	<b>Total water Charges Paid</b>	303.68	3850.62	3786.57

Note: Any abnormal increase in Water consumption & water Charges on any year shall be explained separately



**Annexure-XIX**

	<b>Name of Utility:</b>	<b>NTPC Ltd.</b>			
	<b>Name of Generating Station:</b>	<b>Darlipali Super Thermal Power Station (Pit-head)</b>			
	<b>Station Configuration:</b>	<b>2 X 800 = 1600 MW</b>			
	<b>Capacity (MW):</b>	<b>1600 MW</b>			
	<b>COD:</b>	<b>U#1- 01.03.2020 U#2 01.09.2021</b>			
<b>S.N</b>	<b>Particulars</b>	<b>Unit</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
1	Plant Availability Factor (PAF)	%	64.205	70.164	83.423
2	Plant Load Factors (PLF)	%	62.662	68.149	80.496
2a	Loading factor	%	62.949	92.506	96.524
3	Scheduled Energy	MU	340.73	4491.21	8365.75
4	Scheduled Generation	MU	340.73	4491.21	8365.75
5	Actual Generation	MU	372.97	4775.88	8917.64
	Actual Generation (ex-bus)	MU	343.25	4458.18	8356.72
	Actual energy supplied to beneficiaries	MU	336.85	4405.10	8324.58
6	Quantum of coal consumption	MT	280846	3432238	6368121
7	Value of coal	Rs. Lakh	1283	39768	84474
8	Specific Coal Consumption	kg/kWh	0.753	0.719	0.714
9	Gross Calorific Value of Coal	(Kcal/ Kg)	3017.0	2985.29	2947.66
10	Heat Contribution of Coal	(Kcal/ kWh)	2271.8	2145.4	2104.9
11	Cost Of Specific Coal Consumption – Finally admitted by CERC (Ex-Bus)	(Rs./kWh)			
12	Quantum of Oil Consumption	(KL)	815.69	7581.69	10609
13	Value of Oil	(Rs. lakh)	792.8	7072.9	13566.8
14	Gross calorific value of oil	(kcal/lit)	10753.0	10742.4	10770.4
15	Specific Oil Consumption	(ml/kWh)	2.19	1.59	1.19
16	Cost Of Specific Oil Consumption – Finally admitted by CERC	(Rs./kWh)			
17	Heat Contribution of Oil	(Kcal/ kWh)	23.52	17.05	12.81
18	Station Heat Rate	(Kcal/ kWh)	2295.3	2162.5	2117.7
19	Auxiliary Energy Consumption	(%)	7.95	6.58	6.24
20	Debt at the end of the year	(Rs. Crore)	4836.28	4635.49	7352.74
21	Equity - Average	(Rs. Crore)	2064.20	2113.41	3467.22
22	Working Capital – finally admitted by CERC	(Rs. Crore)	378.08	383.46	699.12
23	Capital cost – finally admitted by CERC	(Rs. Crore)	6880.68	7044.70	11557.40
24	Capacity Charges/ Annual Fixed Cost (AFC)		1265.44	1284.03	2116.95
	(a) Return on equity – post tax (admitted by CERC upto 2009) and Pre Tax post 2009				
	Absolute value	(Rs. Crore)	387.70	396.94	651.21
	Rate	(%)	18.782	18.782	18.782
	(b) interest on Loan				
	Absolute value	(Rs. Crore)	304.73	299.24	466.46
	Rate – Weighted Average Rate	(%)	6.3451%	6.3185%	6.2836%
	(c) Depreciation (finally allowed by CERC)				
	Absolute value	(Rs. Crore)	327.52	335.33	550.13
	AAD				
	Rate	(%)	4.76	4.76	4.76
	(d) Interest on working Capital				
	Absolute value	(Rs. Crore)	45.56	43.14	73.41
	Rate	(%)	12.05%	11.25%	10.50%

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	<b>Name of Utility:</b>	<b>NTPC Ltd.</b>			
	<b>Name of Generating Station:</b>	<b>Darlipali Super Thermal Power Station (Pit-head)</b>			
	<b>Station Configuration:</b>	<b>2 X 800 = 1600 MW</b>			
	<b>Capacity (MW):</b>	<b>1600 MW</b>			
	<b>COD:</b>	<b>U#1- 01.03.2020 U#2 01.09.2021</b>			
<b>S.N</b>	<b>Particulars</b>	<b>Unit</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>
	(e) Operation and maintenance cost (finally admitted by CERC)				
	Absolute value	(Rs. Crore)	199.94	209.39	375.74
	Rate	(%)			
	(f) Compensation Allowances				
	(g) Special Allowance				
	h) Supplementary Tariff - Emission				
	Absolute value	(Rs. Crore)			
	Rate	(%)			
	i) Ash Utilisation Expenses	(Rs. Crore)			80.44
25	AFC	(Rs./ kWh)	2.27	2.30	1.90
26	Energy Charge	(Rs./kWh)	1.01	0.94	1.10
26.1	Supplemental Energy Charges - Emission Control	(Rs./kWh)			
27	Total tariff	(Rs. kWh)	3.28	3.24	2.99
28	Revenue realisation before tax	(Rs. Crore)			
29	Revenue realisation after tax	(Rs. Crore)			
30	Profit/ loss	(Rs. Crore)	11.81	154.42	230.36
31	DSM Generation	(MU)	2.52	-33.03	-9.03
32	DSM Rate	(Rs/kWh)			
33	Revenue from DSM	(Rs. Crore)	-0.19	8.58	4.52
34	Compensation received for operation below NAPAF	(Rs. Crore)	0	0	0
35	Part load Compensation received from beneficiariaes	(Rs. Crore)	0	0	0
36	Amount received from SCED	(Rs Crore)	0.08	0.89	0.28

Note : Tariff order not issued yet. Data as per petition filed as on COD of Unit#1 based on projected figures, subject to change as per order.

2019-20 & 2020-21 for one unit and 2021-22 data for Both units

DSM Revenue (-)Received / (+) Paid

2a Extra Row inserted .

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

**Generating company: NTPC Ltd**  
**Name of Generating station: Darlipali Super Thermal Power Station**  
**(Pit-head) Installed Capacity (MW) : 1600 MW**  
**Type of Emission Control System:** \_\_\_\_\_  
**Under Operation/Anticipated Operation Date:**

S.No.	Particulars	Units	2017-18	2018-19	2019-20	2020-21	2021-22
<b>A</b>			ECS system under installation.				
1	Gross Generation	MU					
2	Auxiliary Consumption - emission control	MU					
	Auxiliary Consumption - emission control (Actual)	%					
3	Auxiliary Consumption (Normative)	%					
4	Hours of Operation	Hrs					
5	O&M Expenses (Actual) with Breakup as per format	Rs. Crore					
6	Other maintenace 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 furnished**

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

S.No.	Particulars	Units	2017-18			
			Investment Approval	Approved*		
1	Capital Cost of Emission Control System					
1.1	Hard Cost	Rs. Crore	556.65			
1.1.1	Civil Works	Rs. Crore	Included in above			
1.1.2	Plant and Machinery and others	Rs. Crore	Included in above			
1.1.3	Initial Spares procured	Rs. Crore	Included in above			
1.2	IDC	Rs. Crore	35.11			
1.3	IEDC	Rs. Crore	16.69			
1.4	Others. Pls specify	Rs. Crore				
1.4	Completed Cost	Rs. Crore	608.47			

\* Wherever cost is yet to be approved by CERC and for which petition has been filed the actual claimed shall be submitted.

\* Where the work is still under execution utility to submit the details of awarded cost