Petition No : .....

एनटीपीसी
NTPC
A Maharatna Company

Feroze Gandhi Unchahar Thermal Power Station, Stage - III

1 X 210 MW

PETITION FOR DETERMINATION OF TARIFF FOR THE PERIOD 01.04.2019 TO 31.03.2024

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station St-III (210 MW) for the period from 01.04.2019 to 31.03.2024

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AND IN THE MATTER OF

Petitioner: : NTPC Ltd.
NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi-110 003.

Respondents

1. Uttar Pradesh Power Corp. Ltd. (UPPCL)
Shakti Bhawan
14, Ashok Marg
Lucknow – 226 001

2. Rajasthan Urja Vikas Nigam Limited (RUVNL)
Vidyut Bhawan, Janpath,
Jaipur – 302 005 (Rajasthan)
(On Behalf of Discoms of Rajasthan)

3. Tata Power Delhi Distribution Ltd.
Grid Substation, Hudson Road
Kingsway Camp, New Delhi- 110009

4. BSES Rajdhani Power Ltd. (BRPL)
   BSES Bhawan, Nehru Place
   New Delhi – 110019

5. BSES Yamuna Power Ltd. (BYPL)
   Shakti Kiran Building
   Karkardooma
   Delhi- 110092

6. Haryana Power Purchase Centre
   Shakti Bhawan, Sector-VI,
   Panchkula, Haryana – 134109

7. Punjab State Power Corporation Ltd. (PSPCL)
   The Mall, Patiala – 147 001

8. Himachal Pradesh State Electricity Board Ltd.
   (HPSEB Ltd.)
   Kumar Housing Complex Building-II
   Vidyut Bhawan, Shimla – 171 004

9. Power Development Department (PDD-J&K)
   Govt. of J&K , Civil Secretariat
   Srinagar

10. Electricity Department (Chandigarh)
    Union Territory of Chandigarh
    Addl. Office Building, Sector-9 D
    Chandigarh

11. Uttarakhand Power Corporation Ltd. (UPCL)
    Urja Bhavan, Kanwali Road
    Dehradun – 248 001

The Petitioner humbly states that:

1) The Petitioner herein NTPC Ltd. (hereinafter referred to as 'Petitioner' or 'NTPC'), is a company incorporated under provisions of the Company Act,

1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.

2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, being a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.

3) The Petitioner is having power stations/ projects at different regions and places in the country. Feroze Gandhi Unchahar Thermal Power Station Stage-III (1 X 210 MW) (hereinafter referred to as Unchahar-III) is one such station located in the State of Uttar Pradesh. The power generated from Unchahar-III is being supplied to the respondents herein above.

4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period from 01.04.2019 to 31.03.2024.

5) Regulation 9(2) of Tariff Regulations 2019 provides as follows:

"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019, based on admitted capital cost including additional capital expenditure

already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2019-24 along with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014."

It is submitted that the date of filing of tariff petitions has subsequently been extended by Hon'ble Commission vide order dated 28.10.2019 in Petition No. 331/MP/2019.

In terms of above, the Petitioner is filing the present petition for determination of tariff for Unchahar-III for the period from 01.04.2019 to 31.03.2024 as per the Tariff Regulations 2019.

6) The tariff of the Unchahar-III for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 19.04.2017 in Petition No. 373/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations, 2014. The petitioner vide affidavit dated 11.11.2019 had filed a separate true up petition for the period 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations, 2014.

7) It is submitted that Hon'ble Commission vide order dated 19.04.2017 in Petition no 373/GT/2014 has allowed a capital cost of Rs 879.1342 Cr. as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 887.0813 Crs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs. 7.9471 Cr from the admitted capital cost as on 31.03.2019 and accordingly the opening capital

cost as on 01.04.2019 has been considered as Rs 887.0813 Cr. in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2019 and determine the tariff in the present petition for the period 2019-24.

8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and projected estimated capital expenditures for the period 2019-24 under Regulation 19 and Regulation 25 and 26 of the Tariff Regulations, 2019.

9) The Petitioner further respectfully submits that as per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2018-19 have been furnished below.

Description	**Remarks**
Type of Plant	Coal
Type of cooling water system	Closed Cycle
Consumption of Water	224885030 Cubic feet
Rate of Water charges	Rs 12.48 per 1000 cubic feet
Rate of Royalty	Rs 6 Lakhs per cusec per year
Total Water Charges	Rs 78.01 Lakhs

Based on the rate of water charges for FY 2018-19 and the estimated water consumption during 2019-24, the petitioner has claimed water charges for the period 2019-24. Accordingly, water charges may be allowed in tariff based on the same for the 2019-24 period. In accordance with provision of the

Regulations, the petitioner shall be furnishing the details of actual water charges for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24

11) The present petition is being filed on the basis of norms specified in the Tariff Regulations 2019. It is submitted that the petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEFCC vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will affect the station APC, Heat Rate, O&M expenses etc. In addition, the availability of the unit/ station would be also effected due to shutdown of the units for installation of ECS. The petitioner would be filing the details of the same in a separate petition in terms of the Regulation 29 of Tariff Regulations 2019. The tariff of the instant petition would undergo changes consequent to the order of the Hon'ble Commission in the said ECS petition.

12) It is submitted that a notification dated 25.01.2016 has been issued by Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) under the statutory provisions of Environment (Protection) Act 1986. The said notification of MOEFCC prescribed bearing the

transportation cost of Fly Ash generated at power stations. In this regard, Petitioner filed a petition, being no. 172/MP/2016, before the Hon'ble Commission seeking reimbursement of the additional expenditure for Fly Ash Transportation directly from the beneficiaries as the same was in the nature of statutory expense. Hon'ble Commission vide order dated 05.11.2018 disposed of the said petition and directed as follows :

"31. Accordingly, we in exercise of the regulatory power hold that the actual additional expenditure incurred by the Petitioner towards transportation of ash in terms of the MOEFCC Notification is admissible under "Change in Law" as additional O&M expenses. However, the admissibility of the claims is subject to prudence check of the following conditions on case to case basis for each station:
a) Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash.
b) Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors.
c) Details of the Revenue generated from sale of fly ash/ fly ash products and the expenditure incurred towards Ash utilisation up to 25.1.2016 and from 25.1.2016 to till date, separately.
d) Revenue generated from fly Ash sales maintained in a separate account as per the MoEF notification.

32. The Petitioner is granted liberty to approach the Commission at the time of revision of tariff of the generating stations based on truing –up exercise for the period 2014-19 in terms of Regulation 8 of the 2014 Tariff Regulations along with all details / information, duly certified by auditor."

Petitioner has claimed the additional expenditure towards ash transportation charges for the period 2018-19 in the true-up petition filed vide affidavit dated 11.11.2019 in respect of the instant station.

The expenditure towards the ash transportation charges are recurring in nature. The Petitioner has been incurring ash transportation expenditure in some of its stations in the current tariff period also. In case the same is permitted to be recovered at the end of the tariff period 2019-24, there will

be additional liability on the beneficiary on account of the interest payment for the period till the time the true-up petitions for the period 2019-24 is decided. To avoid the interest payment liability of the beneficiaries, it is prayed that the petitioner may be allowed to recover/ pass on the ash transportation charges after adjusting the revenue earned from sale of ash at the end of each quarter of financial year subject to true-up at the end of the period.

13) It is submitted that the Petitioner has already paid the requisite filing fee vide UTR No. CMS1106438370 on 22.04.2019 for the year 2019-20 and the details of the same have been duly furnished to the Hon'ble Commission vide letter dtd. 25.04.2019. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 70 (1) of Tariff Regulations 2019 provides that the application fee and publication expenses may be allowed to be recovered directly from the beneficiaries at the discretion of the Hon'ble Commission. Accordingly, it is prayed that Hon'ble Commission may be pleased to allow recover filing fee and publication expenses directly from the beneficiaries.

14) The petitioner has accordingly calculated the tariff for 2019-24 period based on the above and the same is enclosed as **Appendix-I** to this petition.

15) It is submitted the Petitioner has served the copy of the Petition on to the Respondents mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in.

16) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2019 through true-up exercise are pending before the Hon'ble

Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

In the light of the above submissions, the Petitioner, therefore, prays that the Hon'ble Commission may be pleased to:

i) Approve tariff of Feroze Gandhi Unchahar Thermal Power Station St-III for the tariff period 01.04.2019 to 31.03.2024.

ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.

iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis.

iv) Pass any other order as it may deem fit in the circumstances mentioned above.

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BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station St-III (210 MW) for the period from 01.04.2019 to 31.03.2024.

AND

IN THE MATTER OF : NTPC Limited,
NTPC Bhawan, SCOPE Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110 003

..... Petitioner

Versus

1. Uttar Pradesh Power Corporation Limited, (UPPCL) Shakti Bhawan,
14 Ashoka Marg,
Lucknow – 226001

& 10 Others

.....Respondents

NOTARY R.V. SINGH Advocate Regn.No.2282 Commission Expire on 24-10-2022 Area-Delhi GOVT. OF INDIA

10

AFFIDAVIT IN SUPPORT

I, Manoj Kumar Sharma, son of Shri Shivswaroop Sharma, aged about 39 years, working in NTPC Ltd, having office at Core-6, 6th Floor, Scope Complex, Lodhi road, New Delhi-110003 do solemnly affirm and state as follows:

1. I am working as Deputy General Manager (Commercial) in Petitioner Corporation NTPC Ltd., and am well conversant with the facts of the case and am competent to swear the present affidavit.

2. The statements made in the accompanying Petition being filed for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station St-III (210 MW) for the period from 01.04.2019 to 31.03.2024 are based on the official records maintained during the ordinary course of business and believed by the deponent to be true.

(DEPONENT)

VERIFICATION

I, the deponent above named, do hereby verify that the contents of the above affidavit are true to the best of my knowledge, no part of it is false and nothing material has been concealed there from.

(DEPONENT)

NOTARY R.V. SINGH Advocate Regd. No. 2282 Commission Expire on 24-10-2022 Area-Delhi NOTARIAL GOVT. OF INDIA

Solemnly affirmed before me, read over & explained to the deponent.

Notary Public, DELHI

27 JAN 2020

Appendix - I

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Feroze Gandhi Unchahar Thermal Power Station Stage-III

(From 01.04.2019 to 31.03.2024)

PART-I

ANNEXURE-I

Checklist of Main Tariff Forms and other information for tariff filing for Thermal Stations

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM- 4	Details of Foreign loans	NA
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	NA
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	✓
FORM- 12	Statement of Depreciation	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A**	Details of Seconday Fuel for Computation of Energy Charges	✓
FORM- 15B**	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***

Provided yearwise for the period 2019-24

PART-I

List of Supporting Forms / documents for tariff filing for Thermal Stations

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-A	Abstract of Capital Cost Estimates	NA
FORM-B	Break-up of Capital Cost for Coal/Lignite based projects	NA
FORM-C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	NA
FORM-D	Break-up of Construction/Supply/Service packages	NA
FORM-E	Details of variables , parameters , optional package etc. for New Project	NA
FORM-F	Details of cost over run	NA
FORM-G	Details of time over run	NA
FORM –H	Statement of Additional Capitalisation during end of the useful life	NA
FORM –I	Details of Assets De-capitalised during the period	***
FORM –J	Reconciliation of Capitalisation claimed vis-à-vis books of accounts	***
FORM –K	Statement showing details of items/assets/works claimed under Exclusions	***
FORM-L	Statement of Capital cost	✓
FORM-M	Statement of Capital Woks in Progress	✓
FORM-N	Calculation of Interest on Normative Loan	✓
FORM-O	Calculation of Interest on Working Capital	✓
FORM-P	Incidental Expenditure up to SCOD and up to Actual COD	NA
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	NA
FORM-R	Actual cash expenditure	NA
FORM-S	Statement of Liability flow	✓
FORM-T	Summary of issues involved in the petition	✓

**** Additional Forms**

***** Shall be provided at the time of true up**

List of supporting documents for tariff filing for Thermal Stations

S. No.	Information / Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Station setup by a company making tariff application for the first time to CERC)	NA
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years.	***
	B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	
3	Copies of relevant loan Agreements	NA
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	NA
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable.	NA
	List of supporting documents to be submitted:	
	a. Detailed Project Report	
	b. CPM Analysis	
	c. PERT Chart and Bar Chart	
	d. Justification for cost and time Overrun	
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	***
9	Any other relevant information, (Please specify)	NA
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	***
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

***** Shall be provided at the time of true up**

Summary of Tariff

PART-I
FORM- 1

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
Place (Region/District/State):	**Northern Region/ Raebareli/ Uttar Pradesh**

Amount in Rs. Lakhs

S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	4,622.45	1,975.44	1,978.75	1,993.20	2,007.07	2,007.07
1.2	Interest on Loan	Rs Lakh	951.83	663.99	486.81	304.91	117.66	9.01
1.3	Return on Equity	Rs Lakh	5,270.18	4,999.52	5,001.95	5,011.68	5,020.15	5,020.15
1.4	Interest on Working Capital	Rs Lakh	2,710.55	1,853.36	1,866.10	1,878.93	1,892.56	1,906.95
1.5	O&M Expenses	Rs Lakh	9,062.45	7498.54	7793.09	8098.98	8423.04	8759.53
1.6	Special Allowance (If applicable)	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh	42.00					
	Total	Rs Lakh	**22659.45**	**16990.84**	**17126.70**	**17287.70**	**17460.49**	**17702.72**
2.1	Landed Fuel Cost of coal as per FSA	Rs/Ton	4296.44					
	(%) of Fuel Quantity	(%)	100.00					
2.2	Landed Fuel Cost of Imported Coal		N/A					
	(%) of Fuel Quantity		0.00					
2.3	Landed Fuel Cost of coal other than FSA	Rs/Ton	N/A					
	(%) of Fuel Quantity	(%)	0.00					
2.4	Landed Fuel Cost Imported Coal other than FSA.	Rs/Ton	N/A					
	(%) of Fuel Quantity	(%)	0.00					
2.5	Secondary fuel oil cost	Rs/Unit	0.028					
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit	3.012					

(Petitioner)

PART-I
FORM- 1(I)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Amount in Rs. Lakhs

Statement showing claimed capital cost :– (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	88,708.13	88,749.71	88,794.54	89,095.04	89,095.04
2	Add: Addition during the year	41.58	44.83	300.50	-	-
3	Less: De-capitalisation during the year	-	-	-	-	-
4	Less: Reversal during the year	-	-	-	-	-
5	Add: Discharges during the year	-	-	-	-	-
6	Closing Capital Cost	88,749.71	88,794.54	89,095.04	89,095.04	89,095.04
7	**Average Capital Cost**	**88,728.92**	**88,772.13**	**88,944.79**	**89,095.04**	**89,095.04**

Statement showing claimed capital cost eligible for RoE at normal rate (A)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	88708.13	88749.71	88794.54	89095.04	89095.04
2	Add: Addition during the year	41.58	44.83	300.50	0.00	0.00
3	Less: De-capitalisation during the year	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	88749.71	88794.54	89095.04	89095.04	89095.04
7	**Average Capital Cost**	**88728.92**	**88772.13**	**88944.79**	**89095.04**	**89095.04**

PART-I
FORM- 1(I)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Amount in Rs. Lakhs

Statement showing claimed capital cost eligible for RoE at weighted average rate of interest on actual loan portfolio (B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	0.00	0.00	0.00	0.00	0.00
2	Add: Addition during the year	0.00	0.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	0.00	0.00	0.00	0.00	0.00
7	**Average Capital Cost**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

(Petitioner)

Statement showing Return on Equity at Normal Rate

PART-I
FORM- 1(IIA)

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	26,612.44	26,624.91	26,638.36	26,728.51	26728.513
2	Less: Adjustment in Opening Equity	-	-	-	-	
3	Adjustment during the year	-	-	-	-	-
4	Net Opening Equity (Normal)	26,612.44	26,624.91	26,638.36	26,728.51	26,728.51
5	Add: Increase in equity due to addition during the year	12.47	13.45	90.15	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	26,624.91	26,638.36	26,728.51	26,728.51	26,728.51
11	Average Equity (Normal)	26,618.68	26,631.64	26,683.44	26,728.51	26,728.51
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	**4,999.52**	**5,001.95**	**5,011.68**	**5,020.15**	**5,020.15**

(Petitioner)

Statement showing Return on Equity at Weighted Average Rate of Interest

PART-I
FORM- 1(IIB)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)					
1	Gross Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
5	Add: Increase in equity due to addition during the year	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	0.00	0.00	0.00	0.00	0.00
11	Average Equity (Normal)	0.00	0.00	0.00	0.00	0.00
12	Rate of ROE (%)	11.670	11.922	11.985	12.004	11.850
13	Total ROE	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

(Petitioner)

PART-I
FORM-2

Plant Characteristics

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
Unit(s)/Block(s)/Parameters	**Unit-I**
Installed Capacity (MW)	210
Schedule COD as per Investment Approval	NA
Actual COD	01.01.2007
Pit Head or Non Pit Head	Non Pit Head
Name of the Boiler Manufacture	
Name of Turbine Generator Manufacture	
Main Steams Pressure at Turbine inlet (kg/Cm^2) abs	
Main Steam Temperature at Turbine inlet (^0C)	
Reheat Steam Pressure at Turbine inlet ($kg/Cm^{2)}$	
Reheat Steam Temperature at Turbine inlet (^0C)	
Main Steam flow at Turbine inlet under MCR condition (tons /hr)	
Main Steam flow at Turbine inlet under VWO condition (tons /hr)	
Unit Gross electrical output under MCR /Rated condition (MW)	
Unit Gross electrical output under VWO condition (MW)	
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)	
Conditions on which design turbine cycle heat rate guaranteed(kcal/kwhr)	N/A
% MCR	
% Makeup Water Consumption	
Design Capacity of Make up Water System(% of throttle steam flow)	
Design Capacity of Inlet Cooling System	
Design Cooling Water Temperature (^0C)	
Back Pressure(Average condenser pressure in mmHg(A))	
Steam flow at super heater outlet under BMCR condition (tons/hr)	
Steam Pressure at super heater outlet under BMCR condition) (**kg/Cm^2**)	
Steam Temperature at super heater outlet under BMCR condition (^0C)	
Steam Temperature at Reheater outlet at BMCR condition (^0C)	
Design / Guaranteed Boiler Efficiency (%)	
Design Fuel with and without Blending of domestic/imported coal	
(GCV) Domestic Design coal	
Blended Coal (Domestic Design 70%+ Imported 30%)	
Type of Cooling Tower	Induced draught type Cooling tower
Type of cooling system	Closed Cycle
Type of Boiler Feed Pump	MDBFP
Fuel Details	
-Primary Fuel	Coal
-Secondary Fuel	LDO
-Alternate Fuels	-
Special Features/Site Specific Features	
Special Technological Features	
Environmental Regulation related features	1.ESP is provided 2.FGD under implementation
Any other special features	

(PETITIONER)

Normative parameters considered for tariff computations — **PART-I FORM- 3**

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Year Ending March)

Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity $$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization**	%	-	9.630	9.839	9.891	9.906	9.779
Effective Tax Rate	%	21.549	17.472	17.472	17.472	17.472	17.472
Target Availability	%	85.00	85.00				
In High Demand Season	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption	%	9.00	9.00	9.00	9.00	9.00	9.00
Gross Station Heat Rate	kCal/kWh	2450.00	2430.00	2430.00	2430.00	2430.00	2430.00
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC	in Days	60	50	50	50	50	50
Cost of Main Secondary Fuel Oil for WC	in Months	2	2	2	2	2	2
Fuel Cost for WC	in Months						
Liquid Fuel Stock for WC	in Months						
O&M Expenses	Rs lakh/MW	30.51	32.96	34.12	35.31	36.56	37.84
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	60	45	45	45	45	45
Storage capacity of Primary fuel	MT	650000					
SBI 1 Year MCLR plus 350 basis point	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							

** Rate of Return on Add - cap beyond original scope and excluding Change in Law

$$ Additional RoE due to better ramp rate would be claimed at the time of true-up or as per guidelines to be issued

Petitioner

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Amount in Rs. Lakhs

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	7	8
1	**O&M expenses under Reg.35(1)**					
1a	Normative	6921.60	7165.20	7415.10	7677.60	7946.40
2	**O&M expenses under Reg.35(6)**					
2a	Water Charges	62.17	62.17	62.17	62.17	62.17
2b	Security expenses	514.76	565.71	621.70	683.27	750.96
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
3	O&M expenses-Ash Transportation**	0.00	0.00	0.00	0.00	0.00
	Total O&M Expenses	**7498.54**	**7793.09**	**8098.98**	**8423.04**	**8759.53**

** Shall be provided at the time of truing up

Petitioner

PART 1
FORM- 5

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Last date of order of Commission for the project	**Date (DD-MM-YYYY)**	19.04.2017 & Corrigendum dtd 12.05.2017
Reference of petition no. in which the above order was passed	**Petition no.**	373/GT/2014
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:		
Capital cost as on 01.04.2019	**(Rs. in lakh)**	87913.42
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis) 01.04.2014		2841.66
Gross Normative Debt		61539.40
Cumulative Repayment		54689.31
Net Normative Debt		6850.09
Normative Equity		26374.03
Cumulative Depreciation		54786.69
Freehold land		0

(Petitioner)

PART 1
FORM- 5A

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	**NTPC Limited**		
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**		
Reference of Final True-up Tariff Petition		**Affidavit dated**	11.11.2019
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 19.04.2017 in Pet. No. 373/GT/2017		**Rs. Lakhs**	87913.42
Adjustment as per Para 7 of this petition			794.71
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:			
Capital cost as on 01.04.02019		**(Rs. in lakh)**	88708.13
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)			
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis) 01.04.2019			1168.98
Gross Normative Debt as on 01.04.2019			62095.69
Cumulative Repayment as on 01.04.2019			54227.82
Net Normative Debt as on 01.04.2019			7867.86
Normative Equity			26612.44
Cumulative Depreciation			54669.18
Freehold land			0

(Petitioner)

Statement Giving Details of Project Financed through a Combination of loan

Form 8

BP NO 5050000241	TRANCHE NO T00001	DRAWAL NO. D00001

Unsecured Loan From LIC-III		
Source of Loan :	**LIC-III**	
Currency :	INR	
Amount of Loan :	40,000,000,000	
Total Drawn amount :	5,000,000,000	
Date of Drawal	22.03.2004	
Interest Type :	Fixed	
Fixed Interest Rate :	6.571%	
Rate of Interest 01.04.2019	6.571%	
Upfront fees	0.20% excluding service tax	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Half Yearly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	31.12.2003	
Repayment Period (Inc Moratorium) :	14 Years	
Repayment Frequency :	20 Half Yearly	
Repayment Type :	AVG	
First Repayment Date :	31-Dec-07	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	

Project Code	Project Name	Amount
	TALCHER-II	900,000,000.00
	RAMAGUNDAM-III	500,000,000.00
	KOLDAM	1,300,000,000.00
	VINDHYACHAL-III	800,000,000.00
	KAHALGAON-II	850,000,000.00
	SIPAT-II	350,000,000.00
	SIPAT-I	100,000,000.00
	UNCHAHAR-III	150,000,000.00
	RGCCPP	50,000,000.00
Total Allocated Amount		**5,000,000,000.00**

Form 8- Domestic Bonds- Details of Allocation of corporate loans to various projects during the FY 2014-19

Particulars	XXI 7.7125%	XXII 8.1771%	XXIII 8.3796%	XXVII 11.25%
Source of Loan1	BONDS	BONDS	BONDS	BONDS
Currency2	INR	INR	INR	INR
Amount of Loan sanctioned	**100000**	**50000**	**50000**	**35000**
Interest Type6	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	7.7125%	8.1771%	8.3796%	11.250%
Base Rate, if Floating Interest7	N/A	N/A	N/A	N/A
Margin, if Floating Interest8	N/A	N/A	N/A	N/A
Are there any Caps/Floor9	No	No	No	No
If above is yes,specify caps/floor				
Moratorium Period10	4.5 yrs *	4.5 yrs *	4.5 yrs *	11 yrs
Moratorium effective from #	02.02.06	02.01.07	05.02.07	06.11.2008
Repayment Period11	9.5 yrs	9.5 yrs	9.5 yrs	5 yrs
Repayment effective from	02.08.10	02.07.11	05.08.11	06.11.19
Repayment Frequency12	Half Yearly	Half Yearly	Half Yearly	Yearly
Repayment Instalment13,14	5000	2500	2500	7000
Base Exchange Rate16				
Door to Door Maturity	14 yrs	14 yrs	14 yrs	15 yrs

Name of the Projects				
BARH I	3,000	5,000	8,200	-
FARAKKA III	-	700	1,400	-
Kahalgaon II Phase I	18,500	-	1,800	-
KOLDAM	2,000	10,500	1,700	-
KORBA III	-	1,000	1,200	-
NCTPP II	-	500	-	22,500
RAMAGUNDAM III	4,000	-	-	1,500
RIHAND II	25,000	-	-	-
SIPAT I	2,500	23,600	20,900	5,000
SIPAT II	-	4,200	6,800	3,000
TALCHER II	28,000	-	-	1,500
Tapovan Vishnugad	-	2,000	100	-
Unchahar III	4,500	1,000	200	1,500
Vindhyachal III	12,500	1,500	7,700	-
CC				
TOTAL	**100,000**	**50,000**	**50,000**	**35,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00022**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	100,000,000,000	
Total Drawn amount :	4,000,000,000	
Date of Drawl	0	
Interest Type :	Fixed with Reset after every 3 Years	
Rate of Interest as on 01.04.2019	9.2811%	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KAHALGAON II	200,000,000.00
	KOLDAM	100,000,000.00
	FARAKKA III	250,000,000.00
	NCTPP-DADRI-II	100,000,000.00
	SIMHADRI-II	100,000,000.00
	BONGAIGAON	200,000,000.00
	BARH-II	550,000,000.00
	MAUDA	400,000,000.00
	VINDHYACHAL IV	200,000,000.00
	RIHAND-III	350,000,000.00
	TALCHER-II	300,000,000.00
	RIHAND-II	150,000,000.00
	VINDHYACHAL III	500,000,000.00
	UNCHAHAR-III	200,000,000.00
	PAKRI BARWADIH	400,000,000.00
Total Allocated Amount		**4,000,000,000.00**

PART-I
FORM- 9A
Additional Form

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2019-24 (Summary)**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)					Regulation under which claimed	Justification	Admitted Cost by the Commission, if any
		2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**			
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**								
1	Online Coal Analyser	23.00	7.67	0			26 (1) (b)	As per sl no 1 of Form 9 for 2019-20	
2	Replacement of Chlorine System by CLO2	18.58	37.16	300.50			26(1)(b) & 26(1)(d)	As per sl no 2 of Form 9 for 2019-20	
	Total (A)	**41.58**	**44.83**	**300.50**	**-**				
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**								
		-							
	Total (B)	**-**	**-**	**-**	**-**				
Total Add. Cap. Claimed (A+B)		**41.58**	**44.83**	**300.50**	**-**				

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2019-20**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	**2**	**3**	**4**	**5= (3-4)**	**6**	**7**	**8**	**9**
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
1	Online Coal Analyser	23.00	0	23.00		26 (1) (b)	It is submitted that vide OM dated 26.08.2015 (copy attached at **Annexure-A**), MOEFCC had mandated all coal based thermal power plants including capitive power plants of capacity more than 100 MW located at a distance of 500 kms and above from coal source for sampling and analysis of coal and reporting of compliance in respect of use and supply of raw or blended coal with ash content not exceeding 34% as content in coal. It was also directed that real time monitoring using auto mechanical sampling (online) from moving stream of coal to be used for sampling fuels. As the present station is located at a distance of about 600 kms from the linked mine and also source coal from other mines under flexible coal utilization scheme, the petitioner has to necessarily incur the expenditure for installation of online coal analyser to comply with the direction of MOEFCC; GoI. Accordingly Hon'ble Commission may be pleased to allow the same under change in law.	
2	Replacement of Chlorine System by CLO2	18.58	0	18.58		26(1)(b) & 26(1)(d)	It is submitted that chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety, the chlorine dozing system is now being replaced by Chlorine Dixoide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme, ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project, Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has directed NTPC to replace highily hazadorous gas chloriniation system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Darlipalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at **Annexure-B**). In view of the directions of various statutory authorities in different states of the country and for enhancing the safety of O&M personnels, NTPC is replacing the chlorination sytem with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same.	
	Total (A)	**41.58**	**-**	**41.58**	**-**			

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2019-20**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
		-	-	-	-			
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed		**41.58**	-	**41.58**	-			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2020-21**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	**2**	**3**	**4**	**5= (3-4)**	**6**	**7**	**8**	**9**
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
1	Online Coal Analyser	7.67	0	7.67		26 (1) (b)	As per sl no 1 of Form 9 for 2019-20	
2	Replacement of Chlorine System by CLO2	37.16	0	37.16		26(1)(b) & 26(1)(d)	As per sl no 2 of Form 9 for 2019-20	
	Total (A)	**44.83**	**-**	**44.83**	**-**			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)	**-**	**-**	**-**	**-**			
Total Add. Cap. Claimed (A+B)		**44.83**	**-**	**44.83**	**-**			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2021-22**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	**2**	**3**	**4**	**5= (3-4)**	**6**	**7**	**8**	**9**
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
1	Replacement of Chlorine System by CLO2	300.50	0	300.50		26(1)(b) & 26(1)(d)	As per sl no 2 of Form 9 for 2019-20	
	Total (A)	**300.50**	**-**	**300.50**	**-**			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)	**-**	**-**	**-**	**-**			
Total Add. Cap. Claimed (A+B)		**300.50**	**-**	**300.50**	**-**			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2022-23**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
	Total (A)	-	-	-	-			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		-	-	-	-			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
COD	**01-01-2007**
For Financial Year	**2023-24**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A.	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
	Total (A)	-	-	-	-			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		-	-	-	-			

(Petitioner)

Financing of Additional Capitalisation

PART-I
FORM- 10

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**
Date of Commercial Operation	**01-01-2007**

Amount in Rs Lakh

Financial Year (Starting from COD)1	Actual					Admitted				
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
1		3	4	5	6	7	8	9	10	11
Amount capitalised in Work/ Equipment										
Financing Details	**Add cap is proposed to be funded in Debt:Equity ratio of 70:30**									
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan2										
Equity Internal Resources										
Others (Pl. specify)										
Total										

(Petitioner)

Calculation of Depreciation

PART-I
FORM- 11

Name of the Company : **NTPC Limited**

Name of the Power Station : **Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Amount in Rs Lakh)

Sl.No.	Name of the Assets1	Gross Block as on 31.03.2019	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount for year 2019-20
1	**2**	**3**	**4**	**5= Col.3 X Col.4**
1	Freehold Land		0	0.00
2	Leasehold Land		3.34	0.00
3	Roads, bridges, culverts & helipad	395.57	3.34	13.21
4	Main Plant Buildings	8308	3.34	277.49
5	Other Buildings	1542.57	3.34	51.52
6	Temporary erection	40	100	40.00
7	Water supply, drainage & sewerage system	272.32	5.28	14.38
8	Plant and machinery	90235.95	5.28	4764.46
9	Furniture and fixtures	436.2	6.33	27.61
10	Other Office Equipments	819.77	6.33	51.89
11	EDP, WP machines & SATCOM equipment	517.13	15.00	77.57
12	Vehicles including speedboats	13.06	9.50	1.24
13	Construction equipment	113.17	9.50	10.75
14	Electrical installations	52.84	5.28	2.79
15	Communication equipment	156.55	6.33	9.91
16	Hospital equipment	134.8	5.28	7.12
17	Software	57.46	15.00	8.62
	TOTAL	**103095.39**		**5358.56**
	Weighted Average Rate of Depreciation (%)			**5.198**

Petitioner

Statement of Depreciation

PART-I
FORM- 12

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Opening Capital Cost	89116.09	88,708.13	88,749.71	88,794.54	89,095.04	89,095.04
2	Closing Capital Cost	88708.13	88,749.71	88,794.54	89,095.04	89,095.04	89,095.04
3	Average Capital Cost	88912.11	88,728.92	88,772.13	88,944.79	89,095.04	89,095.04
1a	Cost of IT Equipments & Software included in (1) above*		-	-	-	-	-
2a	Cost of IT Equipments & Software included in (2) above*		-	-	-	-	-
3a	Average Cost of IT Equipments & Software*		-	-	-	-	-
4	Freehold land	0.00	-	-	-	-	-
5	Rate of depreciation	5.199	5.198	5.198	5.198	5.198	5.198
6	Depreciable value	80,020.90	79,856.03	79,894.91	80,050.31	80,185.54	80,185.54
7.	Balance useful life at the beginning of the period	13.75	12.75	11.75	10.75	9.75	8.75
8	Remaining depreciable value	29,974.17	25,186.85	23,250.29	21,426.94	19,568.96	17,561.89
9	Depreciation (for the period)	0.00	1,975.44	1,978.75	1,993.20	2,007.07	2,007.07
10	Depreciation (annualised)	4,622.45	**1,975.44**	**1,978.75**	**1,993.20**	**2,007.07**	**2,007.07**
11	Cumulative depreciation at the end of the period		56,644.62	58,623.37	60,616.57	62,623.65	64,630.72
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-
13	Add: Cumulative depreciation adjustment on account of liability Discharge	7.11	-	-	-	-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	238.40	-	-	-	-	-
15	Net Cumulative depreciation at the end of the period after adjustments	54,669.18	56,644.62	58,623.37	60,616.57	62,623.65	64,630.72

* Shall be provided at the time of truing up

(Petitioner)

						Part I
	Name of the Company	NTPC Ltd				Form 13
	Name of the Station	FGUTPS III				
S No	Loan	2019-20	2020-211	2021-22	2022-23	2023-24
1	LIC III Tr I D1					
	Net loan - Opening	450.00	350.00	250.00	150.00	50.00
	Addition during the year					
	Repayments of Loans during the year	100.00	100.00	100.00	100.00	50.00
	Net loan - Closing	350.00	250.00	150.00	50.00	-
	Average Net Loan	400.00	300.00	200.00	100.00	25.00
	Rate of Interest on Loan	6.5868%	6.5868%	6.5868%	6.5868%	6.5868%
	Interest on loan	26.35	19.76	13.17	6.59	1.65
2	Bonds XXI					
	Net loan - Opening	450.00	-	-	-	-
	Addition during the year					
	Repayments of Loans during the year	450.00	-	-	-	-
	Net loan - Closing	-	-	-	-	-
	Average Net Loan	225.00	-	-	-	-
	Rate of Interest on Loan	7.7425%	7.7425%	7.7425%	7.7425%	7.7425%
	Interest on loan	17.42	-	-	-	-
3	Bonds XXII Series					
	Net loan - Opening	200.00	100.00	-	-	-
	Addition during the year					
	Repayments of Loans during the year	100.00	100.00	-	-	-
	Net loan - Closing	100.00	-	-	-	-
	Average Net Loan	150.00	50.00	-	-	-
	Rate of Interest on Loan	8.2071%	8.2071%	8.2071%	8.2071%	8.2071%
	Interest on loan	12.31	4.10	-	-	-
4	Bonds XXIII Series					
	Net loan - Opening	40.00	20.00	-	-	-
	Addition during the year					
	Repayments of Loans during the year	20.00	20.00	-	-	-
	Net loan - Closing	20.00	-	-	-	-
	Average Net Loan	30.00	10.00	-	-	-
	Rate of Interest on Loan	8.4096%	8.4096%	8.4096%	8.4096%	8.4096%
	Interest on loan	2.52	0.84	-	-	-
5	Bonds XXVII Series					
	Net loan - Opening	1,500.00	1,200.00	900.00	600.00	300.00
	Addition during the year					
	Repayments of Loans during the year	300.00	300.00	300.00	300.00	300.00
	Net loan - Closing	1,200.00	900.00	600.00	300.00	-
	Average Net Loan	1,350.00	1,050.00	750.00	450.00	150.00
	Rate of Interest on Loan	11.2800%	11.2800%	11.2800%	11.2800%	11.2800%
	Interest on loan	152.28	118.44	84.60	50.76	16.92
6	PFC V T 1 D 22					
	Net loan - Opening	1,041.67	875.00	708.33	541.67	375.00
	Addition during the year					
	Repayments of Loans during the year	166.67	166.67	166.67	166.67	166.67
	Net loan - Closing	875.00	708.33	541.67	375.00	208.33
	Average Net Loan	958.33	791.67	625.00	458.33	291.67
	Rate of Interest on Loan	9.2811%	9.2811%	9.2811%	9.2811%	9.2811%
	Interest on loan	88.94	73.48	58.01	42.54	27.07
	Total Loans					
	Net loan - Opening	3,681.67	2,545.00	1,858.33	1,291.67	725.00
	Addition during the year	-	-	-	-	-
	Repayments of Loans during the year	1,136.67	686.67	566.67	566.67	516.67
	Net loan - Closing	2,545.00	1,858.33	1,291.67	725.00	208.33
	Average Net Loan	3,113.33	2,201.67	1,575.00	1,008.33	466.67
	Rate of Interest on Loan	9.6304%	9.8389%	9.8908%	9.9060%	9.7793%
	Interest on loan	299.83	216.62	155.78	99.89	45.64
Note:-						
1)	LIC III Rate of interest includes upfront fees of 0.0158% (i.e. 0.20%*1.103%/14years).					

Details of Source wise Fuel for Computation of Energy Charges

PART-I
FORM- 15

Name of the Company :		**NTPC Limited**						
Name of the Power Station :		**Feroze Gandhi Unchahar Thermal Power Station Stage-III**						
S. No.	**Month**	**Unit**	**Oct-18**		**Nov-18**		**Dec-18**	
			Domestic	**Imported**	**Domestic**	**Imported**	**Domestic**	**Imported**
1	Quantity of Coal supplied by Coal Company*	(MT)	4,26,491.27		4,66,330.82		7,17,402.45	
2	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	-205.00		-		-465.00	
3	Coal supplied by Coal Company (1+2)	(MT)	4,26,286.27		4,66,330.82		7,16,937.45	
4	Normative Transit & Handling Losses	(MT)	3,090.24		3,441.89		4,871.72	
5	Net coal / Lignite Supplied (3-4)	(MT)	4,23,196.03		4,62,888.93		7,12,065.74	
6	Amount charged by the Coal Company*	(Rs.)	1,31,86,25,700		1,43,47,92,597		2,09,80,44,090	
7	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	-5,94,500				-12,65,625	
8	Total amount Charged (6+7)	(Rs.)	1,31,80,31,200		1,43,47,92,597		2,09,67,78,465	
9	Transportation charges by rail transport	(Rs.)	54,50,31,691		60,99,78,457		86,17,48,793	
10	Adjustment (+/-) in amount charged made by Railways	(Rs.)						
11	Demurrage Charges	(Rs.)						
12	Cost of diesel in transporting coal through MGR system	(Rs.)						
13	Total Transportation Charges (9+10+11+12)	(Rs.)	54,50,31,691		60,99,78,457		86,17,48,793	
13A	Others (stone picking charges, loco driver's salary, sampling charges etc)	(Rs.)						
14	Total amount Charged for coal supplied including Transportation (8+13+13A)	(Rs.)	1,86,30,62,891		2,04,47,71,054		2,95,85,27,257	
15	Landed cost of coal (14)/(5)	Rs./MT	4402.36		4417.41		4154.85	
16	Blending Ratio (Domestic/Imported)		1.00	0.00	1.00	0.00	1.00	0.00
17	Weighted average cost of coal for preceding three months	Rs./MT	4296.44					
18	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4561		4692		4467	
19	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
20	Weighted average GCV of coal as Billed	(kCal/Kg)	4561		4692		4467	
21	GCV of Domestic Coal as received at Station	(kCal/Kg)	4120		3952		3794	
22	GCV of Imported Coal as received at Station	(kCal/Kg)						
23	Weighted average GCV of coal as Received	(kCal/Kg)	4120		3952		3794	

* Includes opening stock.

(Petitioner)

PART-I
FORM- 15A

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :		**NTPC Limited**						
Name of the Power Station :		**Feroze Gandhi Unchahar Thermal Power Station Stage-III**						
Sl.No.	**Month**	**Unit**	**Oct-18**		**Nov-18**		**Dec-18**	
			HFO	**LDO**	**HFO**	**LDO**	**HFO**	**LDO**
1	Quantity of Oil supplied by Oil Company*	**KL**	343.19	130.13	896.53	832.13	907.10	1,553.63
2	Adjustment(+/-) in quantity supplied made by Oil Company	**KL**	-		-		-	
3	Oil supplied by Oil Company (1+2)	**KL**	343.19	130.13	896.53	832.13	907.10	1,553.63
4	Normative Transit & Handling Losses	**KL**	-		-		-	-
5	Net Oil Supplied (3-4)	**KL**	343.19	130.13	896.53	832.13	907.10	1,553.63
6	Amount charged by the Oil Company*	**(Rs)**	1,48,08,026	60,16,428	4,50,37,315	4,82,11,238	4,39,38,213	8,64,28,035
7	Adjustment(+/-) in amount charged made by Oil Company	**(Rs)**						
8	Total amount charged (6+7)	**(Rs)**	1,48,08,026	60,16,428	4,50,37,315	4,82,11,238	4,39,38,213	8,64,28,035
9	Transportation charges by rail / ship / road transport	**(Rs)**						
10	Adjustment (+/-) in amount charged made by Railways/Transport Company	**(Rs)**						
11	Demurrage Charges, if any	**(Rs)**						
12	Cost of diesel in transporting Oil through MGR system, if applicable	**(Rs)**						
13	Total Transportation Charges (9+/-10-11+12)	**(Rs)**						
14	Others -Entry Tax on Oil	**(Rs.)**						
15	Total amount Charged for fuel supplied including Transportation (8+13+14)	**(Rs)**	1,48,08,026	60,16,428	4,50,37,315	4,82,11,238	4,39,38,213	8,64,28,035
16	Weighted average GCV of Oil as fired	**(kCal/L)**		9,488.00		9,626.00		9,720.00
17	Weighted average rate of Secondary Fuel	**Rs/KL**	43,148.69	46,235.40	50,234.92	57,937.42	48,438.22	55,629.67

Note: In terms of the order of Hon'ble Supreme Court regarding ban on use of HFO, main secondary fuel at Rihand is LDO w.e.f. 01.01.2019 and the same has been considered for calculation of Working Capital.

* Includes opening balance

PETITIONER

Computation of Energy Charges

Form-15B
ADDITIONAL FORM

Name of the Company	**NTPC Limited**
Name of the Power Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

Computation of Energy Charges

1	Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $(REC)_s$	$= (Q_s)_n \times P_s$	2.795
2	Heat Contribution from SFO / Alternate Fuel (H_s)	$= (Qs)_n \times (GCV)_s$	4.838
3	Heat Contribution from coal $(H_p)_s$	$= GHR - H_s$	2425.16
4	Specific Primary Fuel Consumption $(Qp)_n$	$= H_p / (GCV)_p$	0.631
5	Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$		271.266
6	Rate of Energy charge ex-bus (p/kWh) (REC)	$= ((REC)_s + (REC)_p / (1-(AUX))$	301.166

		2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	Days	366	365	365	365	366
Sp. Oil consumption	ml/kwh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption	%	9.00	9.00	9.00	9.00	9
Heat Rate	Kcal/Kwh	2,430.00	2,430.00	2,430.00	2,430.00	2430
Computation of Variable Charges						
Variable Charge (Coal)	p/kwh	298.094	298.094	298.094	298.094	298.094
Variable Charge (Oil)	p/kwh	3.072	3.072	3.072	3.072	3.072
Total	p/kwh	301.166	301.166	301.166	301.166	301.166
Price of fuel from Form-15/15A						
Coal Cost	(Rs./MT)	4296.44	4296.44	4296.44	4296.44	4296.44
Oil Cost	(Rs./KL)	55907.07	55907.07	55907.07	55907.07	55907.07
Computation of Fuel Expenses for Calculation of IWC:						
ESO in a year	(MUs)	1426.83	1422.93	1422.93	1422.93	1426.829
ESO for 50 days	(MUs)	194.922	194.922	194.92	194.92	194.922
Cost of coal for 45 Days	(Rs. Lakh)	5810.52	5810.52	5810.52	5810.52	5810.52
Cost of oil for 2 months	(Rs. Lakh)	73.05	72.85	72.85	72.85	73.05
Energy Expenses for 45 days	(Rs. Lakh)	5283.35	5283.35	5283.35	5283.35	5283.35

Coal		**3rd month**	**2nd month**	**1st month**	**Wtd. Avg.**
Wtd. Avg. Price of Coal	Rs./MT	4402.36	4417.41	4154.85	**4296.44**
Wtd. Avg. GCV of Coal as received	kCal/Kg	4120	3952	3794	**3926.09**
Wtd. Avg. GCV of Coal as received after adjustement of 85 kcal/kg					**3841.09**
Sec. Oil					
Wtd. Avg. Price of Secondary Fuel	Rs/KL	46235.40	57937.42	55629.67	**55907.07**
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9488.00	9626.00	9720.00	**9676.91**

PETITIONER

Statement of Capital cost

PART 1
FORM- L

Name of the Petitioner	**NTPC Ltd**
Name of the Generating Station	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Amount in Rs. Lakh)

S. No.	Particulars	2019-20		
		Accrual Basis	**Un-discharged Liabilities**	**Cash Basis**
A	a) Opening Gross Block Amount as per books	103095.41	1237.44	101857.97
	b) Amount of IDC in A(a) above			14.12
	c) Amount of FC in A(a) above			0.00
	d) Amount of FERV in A(a) above			2648.88
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in Gross Block Amount during the period (Direct purchases)	Shall be provided at the time of truing up		
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

(Petitioner)

Statement of Capital Woks in Progress

PART 1
FORM- M

Name of the Petitioner	NTPC Ltd
Name of the Generating Station	Feroze Gandhi Unchahar Thermal Power Station Stage-III

(Amount in Rs. Lakh)

S. No.	Particulars	2019-20		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	0.00	0	0
	b) Amount of IDC in A(a) above			0
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period	Shall be provided at the time of truing up		
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the perio			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

(Petitioner)

PART-I
FORM- N

Calculation of Interest on Normative Loan

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	Gross Normative loan – Opening	62,381.26	62,095.69	62,124.80	62,156.18	62,366.53	62,366.53
2	Cumulative repayment of Normative loan up to previous year	49,898.69	54,227.82	56,203.26	58,182.01	60,175.21	62,182.29
2A	Adjustment due to liability discharge						
2B	Adjustment due to decapitalization	293.32					
3	**Net Normative loan – Opening**	12,482.57	7,867.87	5,921.54	3,974.17	2,191.31	184.24
4	Add: Increase due to addition during the year / period	0.29	29.11	31.38	210.35	-	-
5	Less: Decrease due to de-capitalisation during the year / period	293.31	0.00	0.00	0.00	0.00	0.00
6	Less: Decrease due to reversal during the year / period						
7	Add: Increase due to discharges during the year / period	7.45	0.00	0.00	0.00	0.00	0.00
8	Less: Repayment of Loan	4622.45	1,975.44	1,978.75	1,993.20	2,007.07	184.24
9	**Net Normative loan - Closing**	7,867.87	5,921.54	3,974.17	2,191.31	184.24	-
10	**Average Normative loan**	10,175.22	6,894.70	4,947.85	3,082.74	1,187.78	92.12
11	Weighted average rate of interest	9.3544	9.6304	9.8389	9.8908	9.9060	9.7793
12	**Interest on Loan**	**951.83**	**663.99**	**486.81**	**304.91**	**117.66**	**9.01**

(Petitioner)

PART 1
FORM- O

Calculation of Interest on Working Capital

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Feroze Gandhi Unchahar Thermal Power Station Stage-III**

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Cost of Coal/Lignite	6,813.46	5810.52	5810.52	5810.52	5810.52	5810.52
2	Cost of Main Secondary Fuel Oil	72.70	73.05	72.85	72.85	72.85	73.05
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	773.12	624.88	649.42	674.91	701.92	729.96
6	Maintenance Spares	1,855.49	1499.71	1558.62	1619.80	1684.61	1751.91
7	Receivables	10,791.31	7372.39	7394.86	7414.71	7436.02	7459.92
8	Total Working Capital	20306.07	15380.54	15486.27	15592.79	15705.91	15825.35
9	Rate of Interest	13.50	12.05	12.05	12.05	12.05	12.05
10	**Interest on Working Capital**	**2741.32**	**1853.36**	**1866.10**	**1878.93**	**1892.56**	**1906.95**

Petitioner

Part 1
Form - S

Statement of Liability Flow

Name of the Petitioner NTPC Ltd
Name of the Generating Station Feroze Gandhi Unchahar Thermal Power Station Stage-III

Amount in Rs.

Sr. No.	Name of the Party	Name of the work	Year of creation of liability	Remarks	Undischarged liabilities as on 31.03.2019
1	2	3	4	5	6
a) For assets eligible for normal RoE					
Items allowed/ claimed					
1	H S C L	MAIN PLANT & OFFSITE CIVIL BUILDING	2006-07	Allowed	93,78,418
2	BHEL	MAIN PLANT PACKAGE STAGE III SUPPLY	2006-07	Allowed	9,25,61,115
3	BHEL	MAIN PLANT PACKAGE TG ERECTION STAGE III	2006-07	Allowed	83,79,087
4	H S C L	MAIN PLANT & OFFSITE CIVIL BUILDING	2009-10	Allowed	55,49,000
5	Jay Dee Construction	RCC Paving & CSLM - Stage III	2009-10	Allowed	33,108
6	BNA TECHNOLOGY CONSULTING LTD	Installation of CCTV system	2014-15	Allowed	3,07,164
7	UPL	Construction of residential building D type with I.E. & services in township	2017-18	Allowed	6,63,130
8	LOGICLADDER TECHNOLOGIES PVT LTD	Effluent Quality Monitoring System	2018-19	Claimed	27,354
Total Liabilities of Allowed/ claimed items					**11,68,98,376**
Items disallowed/ not claimed					
9	NESCL	5 Km Scheme	2014-15	Disallowed	62,33,390
10	CENTRAL ELECTRONICS LTD	Installation of 120 KW roof top solar	2016-17	Disallowed	5,49,600
11	MIRAJ ELECTRICAL & MECHANICAL CO	DIESEL ENGINE OPERATED WELDING GEN SET	2018-19	Not Claimed	24,500
12	1042447 PREMIUM TRANSMISSION PRIVATE LTD	GEAR BOX:06002W COMP ASSY GREAVES M2052301000	2018-19	Not Claimed	30,619
13	1004036 OMEGA INDUSTRIES PVT LTD	HYDROGEN SEAL RING,ID:400.16 MM	2018-19	Not Claimed	3,932

96

Part 1
Form - S

Statement of Liability Flow

Name of the Petitioner NTPC Ltd
Name of the Generating Station Feroze Gandhi Unchahar Thermal Power Station Stage-III

Amount in Rs.

Sr. No.	Name of the Party	Name of the work	Year of creation of liability	Remarks	Undischarged liabilities as on 31.03.2019
1	2	3	4	5	6
14	1004036 OMEGA INDUSTRIES PVT LTD	HYDROGEN SEAL RING,ID:400.16 MM	2018-19	Not Claimed	3,932
Total Liabilities of dis-allowed / not claimed items					**68,45,973**
Total					**12,37,44,349**
b) For assets eligible for RoE at weightage average rate of interest on loan					
Nil					

Petitioner

Summary of issues involved in the petition — **PART 1 FORM-T**

Name of the Company :		**NTPC Limited**	
Name of the Power Station :		**Feroze Gandhi Unchahar Thermal Power Station Stage-III**	
1	**Petitioner:**	**NTPC Limited**	
2	**Subject**	**Determination of Tariff for 2019-24 period**	
3	**Prayer:** i) Approve tariff of Feroze Gandhi Unchahar Thermal Power Station Stage-III for the tariff period 01.04.2019 to 31.03.2024. ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries. iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis. iv) Pass any other order as it may deem fit in the circumstances mentioned above.		
4	**Respondents**		
	Name of Respondents		
	a. Uttar Pradesh Power Corp. Ltd.	g. Punjab State Power Corporation Ltd.	
	b. Rajasthan Urja Vikas Nigam Limited	h. Himachal Pradesh State Electricity Board Ltd	
	c. Tata Power Delhi Distribution Ltd	i. Power Development Department (PDD-J&K)	
	d. BSES Rajdhani Power Ltd. (BRPL)	j. Electricity Department (Chandigarh)	
	e. BSES Yamuna Power Ltd.	k. Uttarakhand Power Corporation Ltd.	
	f. Haryana Power Purchase Centre		
5	**Project Scope**		
	Capital Cost as on 01.04.2019	**88708.13**	
	Station CoD	**01-01-2007**	
	Claim		
	AFC (2019-20) (Rs Lakhs)	**16990.84**	
	Capital Cost as on 01.04.2019	**88708.13**	
	Initial spare	**NA**	
	NAPAF (Gen)	**85%**	
	Any Specific		

Petitioner

Annexure-A

Annexure-A

No. Q-15017/40/2007-CPW
Government of India
Ministry of Environment, Forest & Climate Change
C P Division

Indira Paryavaran Bhawan,
Jor Bagh Road,
New Delhi-110003
Dated 26th August, 2015

Office Memorandum

Subject: Protocol for sampling, analysis of coal and reporting of compliance in respect of implementation of the Gazette notification on use & supply of raw or blended or beneficiated coal with ash content not exceeding 34% ash content in coal based thermal power plants

1.0 Purpose:

This protocol presents the protocol for sampling, analysis of coal and reporting of compliance on quarterly basis with respect to ash content in coal to be supplied and used by the thermal power plants covered under the provisions of the Gazette notification GSR 02 (E) dated January 02, 2014 on supply and use of raw or blended or beneficiated coal in thermal power plants. The objective is to ensure compliance of the quality of coal with respect to ash content, supplied and used by thermal power plants in keeping with applicable extant Notification of the Ministry in this regard. The data generated shall help in evaluation of compliance level of the notification.

2.0 The Notification:

In exercise of the powers conferred by Section 3, Section 6 and Section 25 of the Environment (Protection) Act, 1986 (29 of 1986) read with rule 5 of the Environment (Protection) Rules, 1986, the Ministry of Environment, Forest & Climate Change, Government of India made the following rules vide notification No GSR 2 (E) dated January 02, 2014 under the Environment (Protection) Rules, 1986, namely:—

With effect from the date specified hereunder, the following coal based thermal power plants shall be supplied with, and shall use, raw or blended or beneficiated coal with ash content not exceeding thirty-four per cent, on quarterly average basis, namely :—

(a) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located beyond 1000 kilometres from the pit-head or, in an urban area or an ecologically sensitive area or a critically polluted industrial area, irrespective of its distance from the pit-head, except a pit-head power plant, with immediate effect;
(b) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located between 750 – 1000 kilometres from the pit-head, with effect from the 1st day of January, 2015;

(c) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located between 500-749 kilometres from the pit-head, with effect from the 5th day of June, 2016:

Provided that in respect of a thermal power plant using Circulating Fluidised Bed Combustion or Atmosphere Fluidised Bed Combustion or Pressurized Fluidised Bed Combustion or Integrated Gasification Combined Cycle technologies or any other clean technologies as may be notified by the Central Government in the Official Gazette, the provisions of clauses (a), (b) and (c) shall not be applicable.

3.0 Statutory Compliance Requirement and Reporting:

As per the notification, power plants located 750 kilometres from pit head (500 kilometres from June 05, 2016) shall be supplied with, and shall use, raw or blended or beneficiated coal with ash content not exceeding thirty-four per cent, on quarterly average basis. Hence, coal mine or company, as applicable, supplying coal to thermal power plants as well as thermal power plants covered under provisions of the notification shall require to submit compliance report for each quarter with respect to average ash content in coal used by them to respective State Pollution Control Boards (SPCBs), Regional office of the Ministry of Environment, Forest & Climate Change (MoEF&CC) and Central Pollution Control Board (CPCB).

4.0 Amendment in Consent under Air (Prevention and Control of Pollution) Act, 1981 & conditions in Environmental Clearance issued under Environment (Protection) Act, 1986:

In order to implement the provisions made in the notification, the State Pollution Control Board concerned and Ministry of Environment, Forest & Climate Change shall include a condition with respect to specifying ash content in raw or blended or beneficiated coal to be supplied by the coal mine or company, as applicable, and used by thermal power plants, in the existing consent orders issued under Air (Prevention and control of pollution) Act, 1981 and in Environmental Clearance issued under Environment (Protection) Act, 1986 to thermal power plant and coal mine or company, as applicable, under the purview of the notification on supply and use of raw or blended or beneficiatedcoal and shall invariably prescribe to all new thermal power plant and coal mine or company, as applicable, which may otherwise fall under the purview of the said notification.

5.0 Ash content monitoring (sampling and analysis) technique of coal:

Coal is highly heterogeneous in nature consisting of particles of various shapes and sizes each having different physical characteristics, chemical properties and residual ash content: Sampling is further complicated by the sampling equipment available, the quantity to be represented by the sample mass, and the degree of precision required. In addition, the coal to be sampled may be a blend of different coal types and how the coal is blended has a profound effect on the way a representative sample is obtained. National and international standards have been developed to provide guidelines for coal sampling procedures under different conditions, sample preparation and bias test procedures for the purpose of obtaining unbiased samples.

Real Time monitoring using auto mechanical sampling (online) from moving streams shall be used for sampling fuels. This shall be effective from a date not later

than 01 September, 2016 in order to enable the Coal Companies and thermal power plants to install and operationalise the real time monitoring system. Manual sampling and analysis may be done so as to verify the online monitoring results.

In case of manual monitoring, coal samples may be taken from a moving conveyor belt since sampling from stationary coal such as a coal storage pile or railcars may be problematic. The analysis of samples shall be carried out by third party appointed by the respective thermal power plant/coal mine or company, as applicable, as per the guidelines of Coal Controller.

6.0 Calibration of auto-mechanical sampler:

It should be ensured that the online ash monitoring instrument is properly calibrated. Measurements should be accepted as valid only if the calibration level showsvariation in ash content is 1.0-2%. The online monitor and calibrator will hold a current calibration certificate traceable to national standards.

7.0 Location of Real-Time monitor:

The best location of real-time monitor for sampling from a moving stream is at the coal discharge point of a conveyor belt to bunker where the complete stream can be intersected at regular intervals.

8.0 Sampling frequency:

The continuous sampling of ash content in coal shall be carried out using real-time coal quality monitoring devices. In case of manual monitoring, minimum one sample from moving conveyor belt leading to bunker at each filling shall be collected. The data generated shall be computed and average for each quarter shall be calculated for reporting to concerned agencies as specified in the para 3.0 of this Office Memorandum.

9.0 Monitoring:

The following criteria will be observed when undertaking the sampling and analysis of coal samples with respect to ash content:

9.1 In case of manual monitoring:

i. Collection of coal samples shall strictly be collected as per the guidelines of Coal Controller/ Bureau of Indian Standards (BIS).
ii. Coal samples shall be collected by the third party appointed by the respective thermal power plant, coal mine or company, as applicable. However, in case of legal sampling a representative of concerned SPCB, thermal power plant, coal mine or company, as applicable shall also be present during sampling.
iii. Preparation of samples and analysis shall be carried out by using standard methodology as given by Coal Controller/ Bureau of Indian Standards (BIS) at the NABL accredited laboratory of either coal company/power plant or third party engaged.

9.2 In case of Real Time monitoring:

Data generated through real time online monitors shall be computed on daily basis an average of 3 months shall be calculated for reporting of compliance.

10.0 Monitoring records:

All power plants and coal mine or company, as applicable shall maintain records of the data generated and reported to SPCBs concerned, CPCB & Regional Office of MoEF&CC in compliance to the provisions of the notification for every quarter.

11.0 Compliance Reporting:

All thermal power plants covered under provisions of the notification shall submit compliance Report for each quarter with respect to average ash content in coal used by them to respective SPCBs. Regional office of the MoEF&.CC and CPCB on or before 10th day of next month of each quarter ending on 31st day of March, 30th day of June, 30th day of September and 31st day of December every year. Similarly, all coal mine or company, as applicable, supplying coal to power plants shall also submit the same to agencies as mentioned in para 3 of this Office Memorandum.

In order to improve compliance reporting, the thermal power plants and connected coal mine or company, as applicable, should explore possibility of reporting of compliance on continuous basis (online) by making suitable arrangements with respect to ash content in coal being supplied and used by thermal power plants.

12.0 Verification of data & Compliance:

The SPCB concerned shall verify the sampling and analysis process and calibration of real time monitoring devices at least once a year at each thermal power plant and coal mine. Besides, random sampling and analysis of coal used by the power plant and supplied by coal mine shall also be conducted once in a year to ensure compliance and quality of data reporting by the thermal power plants and coal mines.

26 Aug 2015

(Dr. Manoranjan Hota)
Director

To

1 PS to MEF&CC
2 PPS to Secretary (EF&CC)
3 Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
4 Secretary, Ministry of Power, Shram Shakti Bhawan New Delhi
5 Secretary, Ministry of Steel, Udyog Bhawan, New Delhi
6 PPS to Addl. Secretary (HKP)/AS (SK)/AS(MMK);
7 JS (MKS), JS(BS)
8 Chairman, CPCB/Member Secretary, CPCB
9 Member Secretary, All the SPCBs/PCCs
10 IT Division, MoEFCC to upload into the website

Annexure-B

ODISHA

BY REGD POST

STATE POLLUTION CONTROL BOARD, ODISHA

(Department of Forest & Environment, Govt. of Odisha)
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII
Bhubaneswar – 751012

No. 2755 / **Ind-II-NOC-5592** Date 28-02-14

OFFICE MEMORANDUM

In consideration of the application for obtaining Consent to Establish for **Derlipali Super Thermal Power Project of M/s. NTPC Ltd.**, the State Pollution Control Board has been pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 to set up of **Thermal Power Plant of capacity 1600 MW (2x800 MW, stage-I), At/Po-Derlipali** (Plot No. & Khata No. as mentioned in application form) in the district of **Sundargarh** with the following conditions.

GENERAL CONDITIONS.

1. This Consent to establish is valid for the raw materials, product, manufacturing process and capacity mentioned in the application form. This order is valid for five years, which means the proponent shall commence construction of the project within a period of five years from the date of issue of this order. If the proponent fails to do substantial physical progress of the project within five years then a renewal of this consent to establish shall be sought by the proponent.
2. Adequate effluent treatment facilities are to be provided such that the quality of sewage and trade effluent satisfies the standards as prescribed under Environment Protection Rule, 1986 or as prescribed by the Central Pollution Control Board and/or State Pollution Control Board or otherwise stipulated in the special conditions.
3. All emission from the industry as well as the ambient air quality and noise shall conform to the standards as laid down under Environment (Protection) Act, 1986 or as prescribed by Central Pollution Control Board/State Pollution Control Board or otherwise stipulated in the special conditions.
4. Appropriate method of disposal of solid waste is to be adopted to avoid environmental pollution.
5. The industry shall comply to the provisions of Environment Protection Act, 1986 and the rules made there under with their amendments from time to time such as the Hazardous Waste Management, Handling and Transboundary Movement Rules 2008 and amendment thereof, Hazardous Chemical Rules, /Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 etc. and amendments there under. The industry shall also comply to the provisions of Public Liability Insurance Act, 1991, if applicable.
6. The industry shall apply for grant of Consent to operate under section 25/26 of Water(Prevention & Control of Pollution)Act, 1974 & Air (Prevention & Control of Pollution)Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board. ✓
7. **This consent to establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.** ✓

SPECIAL CONDITIONS : -

1. The proponent shall obtain environmental clearance for the proposal as per EIA notification, 2006 and the construction activity for the proposal shall commence after obtaining environmental clearance.
2. The proponent shall carry out the construction activity as per the approved lay out map. Any deviation in approved layout map during construction activity shall be treated as violation of consent condition and appropriate action (including revocation of consent to establish) shall be taken as per law. If the proponent desires to change the approved plant layout map, they can submit a modified plant layout map surrendering the previous one before going for physical construction.
3. The unit shall not use 390 acres land ear-marked for green belt development for other purpose.
4. The industry shall set up its own fly ash brick manufacturing unit along with establishment of unit-I so that fly ash generated from the unit-I can be utilized for fly ash brick making and which will be used for civil construction of unit-II.
5. The industry has proposed to use 30% imported high GCV coal. They shall keep adequate space for installation of flue gas de-sulphurization unit in case substantial increase in GLC concentration of SO_2 is observed.
6. The industry shall construct ash pond over 400 acres of area as earmarked in the revised land use break-up. Under no circumstance land earmarked for ash pond shall be used for any other purpose. Consent to operate for power plant shall only be considered when ash pond will be ready for ash disposal.
2. The unit shall suitably divert all the public roads passing through the proposed project.
3. The unit shall develop thick green belt with high boundary wall along the boundary of the project as human habitations are close to the proposed site.
4. The unit shall include rain water harvesting proposal during execution of the project.
5. The unit shall submit year wise along with percentage wise fly ash utilisation plan to the Board in the end of the year.
6. The unit shall be based on zero discharge concepts and in no case any effluents shall be discharge to any water body.
7. The unit shall obtain necessary clearances such as forest clearance, wild life clearance, clearance from water resources department etc. from the appropriate authorities as applicable.
8. The unit shall adopt adequate safety measures in construction of ash dyke and detail constructional feature shall be submitted to the Board within one month from the date of issue of consent to establish.
9. The height of each stack of power plant boiler shall not be less than 275 meters from the ground. The power plant shall have two stacks for flue gas emission.
10. The unit shall install ESP in the stack attached to power plant boiler such that particulate matter emission shall not exceed 50 mg/Nm3. They should make provision for one spare field during the design of ESP. If more than one field of ESP fails, the plant should trip automatically through an interlocking system.

11. The unit shall provide port hole and platform at suitable location with safe approach to conduct emission monitoring at the stack.

12. **The unit shall provide dust extraction system at crusher house, boiler bunker to control dust emission. CHP shall be installed in a shed and coal carrying conveyor belts shall be covered.**

13. Separate energy meter shall be installed for all the pollution control equipments and the records shall be maintained for verification of the Board from time to time.

14. Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National Ambient Air Quality standards and standards for noise in industrial area as per Annexure-I. **The unit shall install adequate dust extraction as well as dust suppression system at all potential dust generating points to control fugitive dust emission and the ambient air quality inside the factory premises shall conform to the standard with reference to National Ambient Air Quality Standard prescribed by MoEF, Govt. of India dtd.16.11.2009 enclosed as Annexure – II.**

15. The construction material which has potential to be air borne, shall be transported in covered trucks.

16. The roads inside the plant premises shall be black topped. **Permanent high pressure water sprinkling system shall be installed for regular spraying of water on roads to minimize fugitive dust emission.**

17. The unit shall take adequate measures for controlling of fugitive dust emission during transportation of fly ash for utilisation. Good housekeeping practices shall be followed to improve the work environment. All roads and shop floors shall be cleaned regularly.

18. **At least 6 continuous ambient air quality monitoring stations** around the industry shall be set up to monitor PM-10, PM-2.5, SO2, NOx, CO and other important parameters as given in as per Annexure – II above within at least to the distance in down wind direction and where maximum ground level concentration is anticipated. The exact location of the monitoring stations shall be finalized in consultation with the State Pollution Control Board. **The proponent shall install continuous online ambient air quality monitoring and stack monitoring system with display facility at the gate. A detail proposal to this effect shall be submitted.**

19. Pneumatic conveyor system shall be provided as dust collection system for ESP dust. Silos shall be provided for collection of bottom ash and fly ash. Conveyor belt shall be closed and bag filter shall be provided at transfer points of conveyor system to control fugitive emission.

20. Air pollution Control devices shall be maintained properly. Fabric bags and cages in bag house shall be checked regularly and replaced whenever required. Adequate availability of spares shall be ensured for immediate replacement.

21. All the wastewater generated shall be discharged to a common monitoring basin before it is reused in the plant for various process.

22. The Blow down shall meet the following standards before it is discharged to the common basin.

Boiler Blow Down :

Suspended solids	-	100.0mg/l (max)
Oil & Grease	-	20.0 mg/l (max)
Copper (Total)	-	1.0 mg/l (max)
Iron (total)	-	1.0mg/l (max)

Cooling Tower Blow Down

Free available Chlorine	-	0.5 mg/l (Max)
Zinc	-	1.0 mg/l (Max)
Chromium (total)	-	2.0 mg/l (Max)
Phosphate	-	0.2 mg/l (Max)

23. The wastewater generated from leakages, blow downs and DM plant shall be treated individually to meet the prescribed standard of effluent discharge to inland surface water and stored in a common basin (i.e. guard pond) for utilization for plantation, dust suppression ash handling and green belt purpose inside the factory premises. Lining shall be provided in guard pond to prevent any seepage into ground to avoid ground water contamination. The proponent shall submit detail drawing with specification of ETP within 6 months.

24. The proponent shall provide garland drains around coal storage area followed by series of settling tanks to retain the solids, if any, in order to reduce the load on common monitoring basin.

25. The unit shall furnish details of the control measures at coal loading and unloading points.

26. The acidic water generated during boiler cleaning shall be properly neutralized so that the pH of cleaning water remains within the range of 6.0 – 9.0. After neutralization this water can be discharged to the common monitoring basin.

27. Oil catch pits shall be provided in oil handling area of power plant for collection of spillage

28. The unit shall provide treatment system such as Reverse osmosis plant to treat the waste water generated from cooling tower blow down and reuse the same in the process.

29. The storm water drains shall be maintained separately without being mixed up with the industrial effluent or sewage effluent. The domestic effluent from the industry as well as the colony shall be treated in proper sewage treatment plant to meet the prescribed BIS standard **(SS – 30mg/l, BOD – 20mg/l)** before being discharged or utilized for green belt development.

30. **The industry shall adopt High Concentration Slurry Disposal (HCSD) method for ash disposal. A detail design of the ash disposal area, the dykes, run off and seepage collection system etc shall be made and submitted within 3 months from the date of issue of this consent to establish.**

31. **A comprehensive ash utilization plan shall be prepared within the frame work of Fly Ash Notification, 2009 and its amendment thereof. The plan should explore all possible means of utilization with realistic timelines and utilization options. The ash utilization plan submitted by the proponent is not adequate. A detailed ash utilization plan is to be submitted keeping in view of less ash at the time of consent to operate application.**

32. **The proponent shall take precautionary measures to prevent surface run off from ash disposal area during torrential rain. A detailed proposal to this effect is to be submitted within 3 months.**

33. Rain water harvesting structure shall be developed inside the plant premises as per concept and practices made by CPCB and maximum efforts shall be made to reuse harvested rain water, with a definite plan and programme to reduce the drawal of fresh water from water bodies.

34. The unit shall explore the possibility of disposal of fly ash in abandoned mine pit for complete utilization of fly ash.

35. The unit shall submit details of hazardous chemicals and storage facility and risk assessment to the Board.

36. **The industry shall comply with all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in.**

37. A toe drain shall be provided around the ash mound. The seepage water collected in the toe drain shall be monitored every month with respect to pH, SS, O&G and fluoride and shall meet the following standards

    pH-6.5 to 8.5
    SS-100mg/l
    O&G-20mg/l and
    Flouride-2.0mg/l

    and the monitoring report shall be submitted to the Board quarterly.

38. Regular monitoring of runoff water from the disposal area and excess ash water shall be carried out with respect to pH, SS, O&G and fluoride content and monitoring report shall be submitted to the Board every quarter.

39. Ash pond shall be lined with HDPE or any other suitable impermeable lining such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.

40. The Project Proponent shall carry out detail hydrogeological study of the ash pond site incorporating soil analysis, ground water quality(fluoride& heavy metals), surface water quality(fluoride & heavy metals) and drainage network of the area and the change in hydrological status shall be monitored annually.

41. Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (F, Cd, Hg, Cr, As, Pb) and records shall be maintained and submitted to the Board. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.

42. The entire upstream face of the dyke shall be provided with stone pitching or brick lining or precast tile lining to prevent erosion of the slope by wave action during heavy wind.

43. The entire area of the ash dyke shall be provided with fencing and unauthorized entry within this ash pond area shall be strictly prohibited. Security guards shall be posted for vigilance of the ash dyke area round the clock. This is very important as there are chances of sabotage. The entire dyke perimeter shall have accessible roads. The entire dyke area shall be provided with street lights or flood lights for inspection during night time. A site office shall be constructed with a full time engineer responsible for inspection and monitoring of the ash dyke.

44. The industry shall construct a Sewage Treatment Plant (STP) for treatment of wastewater to be generated from domestic source and the treated sewage shall be discharged to the common monitoring basin.

45. The unit shall explore the possibility to use chlorine di-oxide for treatment of water instead of chlorine gas.

46. Plantation activity shall be planned in such a way so that trees will have better growth by the time the unit starts operation.

47. The proponent shall deploy vehicles which conform to the latest BIS emission specification. The proponent shall also to give a detail proposal to control noise pollution during construction phase. The proponent shall prepare pollution prevention and environment management plan for construction phase and operation phase separately and should submit to the Board three months prior to commencement of construction and operation respectively.

48. The rising temperature during summer in the area is a major concern. The unit shall conduct a detailed study on contribution of thermal heat to atmosphere due to the proposed project and its impact on ambient temperature during different season. The study should also investigate the heat island effect due to the project.

49. The industry shall provide screen at the water intake system of **Hirakud reservoir** for protection of aquatic life.

50. The industry shall set up a full-fledged environment monitoring laboratory and an environment management cell with qualified personnel for monitoring of pollutants and effective remedial measures in case of necessity. Head of the environmental management cell shall report to the unit head.

51. The civil construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the civil construction may carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board every year for record.

52. The land on which the unit is proposed to be established the power plant shall be converted to industrial use Kisam by the competent authority. The copy of said land conversion document shall be submitted to the Board along with consent to operate application.

53. **A green belt of adequate width and density preferably with local species along the periphery of the power plant shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover, in such a manner that, atleast plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years.**

54. **No production activity shall commence prior to installation of the pollution control devices. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and /or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.**

55. The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

Encl: Approved layout Map & Annexures

MEMBER SECRETARY

To

Shri S. K. Reddy, General Manager,
Derlipali Super Thermal Power Project (DSTPP) of
M/s. NTPC Ltd.,
3rd & 4th Floor, Amba Tower, Hospital Road,
Sundargarh- 770001.

Memo No._____/Dt._____/

Copy forwarded to:

1. District Magistrate & Collector, Sundargarh.
2. District Industries Centre, Sundargarh.
3. Director, Factories & Boiler, Bhubaneswar
4. Regional Officer, SPC Board, Rourkela.
5. Sr. Env. Engineer (Consent), SPC Board, Bhubaneswar.
6. DFO, Sundargarh.
7. Hazardous Waste Management Cell, SPC Board, Bhubaneswar.
8. Copy to Guard file.

SR. ENV. ENGINEER (N)

GOVERNMENT OF KARNATAKA
DEPARTMENT OF FACTORIES, BOILERS, INDUSTRIAL SAFETY & HEALTH

CSMC/TFC/CR-13/2013-14 5482

Phone No : 080-26531200
Fax No : 080-26531202

Directorate of Factories, Boilers, Industrial Safety & Health, "Karmika Bhavana" 2nd floor, Near Bengaluru Dairy, I.T.I compound, Bannergatta road, Bengaluru-29. Dated 23.09.2013

To,
General Manager,
M/s NTPC Limited,
Kudgi Super Thermal Power Project,
Plot No. 9, Mallikarjun Nagr,
Managuli Road, Bijapur-586 109.

AGM(PKS) 17/10/2013

Sir,

Subject : Site Clearance for setting up of super thermal power project-reg.

Reference : 1. Your letter dated 03.05.2013
2. Proceedings of Task force committee meeting held on 12.09.2013
3. Your reply mail dated 19.09.2013.

* * *

We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted, etc and has concurred in principle to issue the Site Clearance for the initial location for the establishment of super thermal power project for generating electrical power of 3 X 800 MW at Near Kudugi village, Basavana bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions;

1. The replacing of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypo chlorite shall be considered.

2. The mobile hydrogen cylinder bank with manifold system shall be adopted in place of loose Hydrogen Cylinders.

3. The safety check shall be prepared in storing, handling and usage of Hydrazine and its holding capacity shall be limited to a minimum required quantity.

4. The exclusive safety, health and environment (SHE) department shall be formed under the direct control & supervision of the occupier. This department shall be supported by the senior level qualified and competent executives with adequate field staff.

5. The effective online monitoring system shall be adopted to ensure the safe and healthy work environment with special trust to fugitive emition, it radiation, noise level etc.

6. No building of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety and Health.

7. The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for up-dating the same and continuous basis.

8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval

9. The provisions of rule 50 to 251 of Building and Other Construction Workers (Regulation of Employment and condition of service) (Karnataka) Rules 2006 shall be companied to ensure occupational safety and health of the construction workers involved project. The compliance shall be furnished regularly to jurisdiction officers of our department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions:

1. The industry shall adopt the rain - harvesting system to harvest atleast 80% of the rain water.
2. The industry shall adopt solar energy system at least catering to street lighting and in other suitable areas like water heating in the canteen, etc.

All the above conditions and suggestions shall be complied and a report shall be submitted. The department reserves all the rights to modify or withdraw clearance issued at any point of time.

Your's Faithfully,

Chairman
Task Force Committee
and Director of Factories, Boilers,
Industrial Safety and Health, Bangalore.