

Petition No : .....



***Barauni Thermal Power Station Stage-I***  
***(2x110 MW)***

**PETITION FOR TARIFF 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 **Barauni Thermal Power Station Stage-I (220 MW) for the period from 01.04.2019 to 31.03.2024.**

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**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
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**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 **Barauni Thermal Power Station Stage-I (220 MW) for the period from 01.04.2019 to 31.03.2024.**

**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. South Bihar Power Distribution Company Limited  
1st Floor, Vidyut Bhawan,  
Bailey Road, Patna - 800 001
2. North Bihar Power Distribution Company Limited  
1st Floor, Vidyut Bhawan,  
Bailey Road, Patna - 800 001.



The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd (hereinafter referred as NTPC), is a Government Company within the meaning of the Companies Act, 1913. Further, it is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) The petitioner is having power stations/projects in different regions and places in the country. Barauni Thermal Power Station Stage-I hereinafter called 'BTPS Stage-I' situated at Barauni in Begusarai District of Bihar, was previously owned by Bihar State Power Generating Company Ltd (BSPGCL). The assets of BTPS Stage-I, were transferred w.e.f. on 15.12.2018, and vested in the Petitioner, NTPC Ltd, by the Government of Bihar (GoB) in accordance with the "The Bihar Power Generation Undertakings Transfer Scheme, 2018", hereinafter called 'Transfer Scheme', vide notification dated 27.06.2018 and subsequent amendment dtd 14.12.2018. The power generated from BTPS Stage-I is supplied to the respondents herein above.
- 3) Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by a generating company. The Hon'ble Commission, under Section 79(1)(a) of Electricity Act, 2003, is vested with the jurisdiction to regulate the tariff of the Generating Companies owned or controlled by the Central Government.
- 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 under Section 62 & 79 of the Electricity Act, 2003.
- 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."*

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

- 6) The tariff petition of the station Barauni-I for the tariff period 15.12.2018 to 31.3.2019 is being filed along with this tariff petition vide affidavit dtd 15.01.2020 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014.
- 7) The actual closing capital cost as on 31.03.2019 as per petition filed for the period 15.12.2018 to 31.03.2019 is Rs 32.49 Crs based on the actual expenditure claimed for the period 15.12.2018 to 31.03.2019. The Hon'ble Commission may be pleased to accordingly adopt this capital cost as on 31.03.2019 and determine the tariff in the present petition for the period 2019-24.
- 8) The capital expenditure claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and capital expenditures for the period 2019-24 have been projected based on the 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. No water charges were paid during the FY 2018-19. However as per letter dtd 18.06.2007 of Water Resources Department, Govt of Bihar water charges payable for 2018-19 are Rs 2.83 Cr based on allocation of water. Accordingly, water charges may be allowed in tariff based on the same for the period 2019-24 subject to retrospective adjustment based on actuals. The details in respect of water charges such as type of cooling water system, allocation of water etc are furnished below. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	Remarks
Type of Plant	Thermal Power Plant
Type of cooling water system	Closed Cycle.
Consumption of Water	Total 45 Cusec is allotted for Stage-I & II. Out of this 20 Cusec is for Stage-I and 25 Cusec is for Stage-II. The total water charges as per letter dated 18.06.2007 of WRD, Govt of Bihar is Rs 6.375 crores for 45 Cusec pa. This letter is forwarded by BSPGCL vide letter no: 136 dated 03.07.2019 (copy enclosed). The amount is worked out on pro rata basis for 20 Cusec ( $20/45 \times 6.375$ ), i.e Rs 2.83 Crores
Rate of Water charges	Rs 14.11 Lakh per cusec
Total Water Charges Stage-I	Rs 283 Lakh

- 10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24. The details of actuals shall be furnished at the time of true-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) It is submitted that both the Units of BTPS Stage-I are very old and have crossed their useful life and are being operated in their extended useful life after R&M. Both units 6&7 were under shutdown at the time of takeover and were to be revived by doing selective repair, refurbishment/R&M as per requirement.
- The operating performance of BTPS Stage-I for 2016-17 is provided below :



Barauni Stage-I U#7 performance 2016-17					
Month	PLF%	Gross Generation (MU0)	HR (Kcal/Kwhr)	specific oil (ml/Kwhr)	Maximum Power ( MW)
Nov-16 (04.11.2016 onwards)	21.80	17.26	4768	30.3	106
Dec-16	40.52	33.16	4516	24	102.88
Jan-17	55.71	45.60	4195	8.9	90.33
Feb-17	20.93	15.47	4068	4.33	77.81
Mar-17	24.35	19.93	4564	16.03	110
Cumm. Value	33.64		4392	16	97

*Note : Based on Petition filed by BSPGCL in BEREC for 2018-19 ARR. Heat Rate and Specific oil weighted average based on generation.*

**Norms of operation Heat Rate, APC%, Specific Oil, Availability.**

The average PLF and Heat rate achieved during this period was 33.64% and 4392 Kcal/Kwhr respectively in 2016-17. In view of such condition of Units it has been agreed between The Petitioner and Respondent in the PPA dated 07.06.2018 that:

"5.1.4 Norms of Operation:

*BTPS Stage-I: The norms for Heat Rate, Auxiliary Power Consumption and Specific Oil Consumption, Target Availability for recovery of full annual fixed charges and O&M Expenses during the first year after the date of Asset transfer date shall be at the actuals. Thereafter, these norms shall be as decided by the Central Commission based on the actuals achieved during the past period."*

- 12) As per PPA clause 5.1.4 norms for Station Heat Rate, Auxiliary Power Consumption and Specific Oil Consumption, Target Availability for recovery of full annual fixed charges and O&M Expenses during the first year after the date of asset transfer date shall be based on the actuals. It is submitted that the petitioner has been able to revive generation from Unit-7 after restoration/refurbishment/R&M from 23.05.2019. Unit-6 is under shutdown for R&M and has started generation w.e.f 16.12.2019.

It is submitted that based on the provisions in PPA, the average actual operating parameters of Station Heat rate, APC, Specific Oil, Availability may be considered as normative for tariff for 1<sup>st</sup> year of operation of unit.

The actual performance of Unit-7 from 23.05.2019 to Oct-2019 is provided below. The re-commissioning and stabilization of Unit-6 will lead to lower performance achieved after 01.12.2019 to 31.03.2019.

The actual operating performance achieved by the station for the period 23.05.2019 to 31.10.2019 is provided below:

<b>Actual Performance of Barauni Stage-I after Takeover</b>					
	<b>Generation (MU)</b>	<b>DC %</b>	<b>Heat Rate (Kcal/Kwhr)</b>	<b>Specific Oil (mL/Kwhr)</b>	<b>APC%</b>
May2019 (23.05.2019 to 31.05.2019)	8.89	36.37	4409	54.92	No actual APC measurement available.
Jun-19	0.28	0.39	8151	330.94	
Aug-19	2.42	4.75	6257	274.79	
Sep-19	36.77	59.18	3520	10.52	14.06
Oct-19	30.18	92.32	3289	2.61	14.94
Cummulative value	<b>78.54</b>	<b>31.63*</b>	<b>3633</b>	<b>21.78</b>	<b>14.50</b>
<i>*As per SLDC Energy account for one unit. Unit-6 was under R&amp;M during the period.</i>					
<i>Note- Cummulative Heat Rate and Specific Oil weighted average based on gross generation.</i>					

Therefore for the purpose of tariff the petitioner has considered actual performance as above of Unit-7 from 23.05.2019 to 15.12.2019.

From 16.12.2019 to 31.03.2019 the average of actual Unit-7 performance from 23.05.2019 to 30.11.2019 and BERC approved norms for FY2018-19 (HR-3000, Sp Oil 3.0, Availability 70%) except APC% has been considered. The APC has been considered based on actual APC achieved, as Unit-6 will be under stabilization during this period.



From FY 2020-21 the BERC approved norms for FY-2018-19 of Target availability 70% HR-3000, Specific oil 3.0, and APC of 12% is considered.

### **O&M Norms.**

The O&M norms for 2019-20 has been adopted based on estimated O&M expenditure for FY-2019-20. From FY 2020-21 onwards the norms of Tanda (4x110 MW) has been considered, as allowed by Hon'ble Commission in case of Kanti Stage-I, wherein R&M was carried out on similar lines.

### **Depreciation**

- 13) In respect of depreciation to be charged in tariff, the Petitioner and Respondent have agreed as follows:

*"5.1.5 Depreciation :*

*BTPS Stage-I: The Capital Cost and any Additional Capital Expenditure required to sustain operation of the units, till they are scrapped would be depreciated within the remaining Useful Life of the station. Useful Life of the Existing Units shall be as determined by RLA studies or as per mutually agreed terms."*

It is submitted that in terms of above the total depreciation of the transfer value is to be recovered during the remaining life of the BTPS Stage-I. Based on RLA study carried by Bihar State Power Generating Company Ltd , the remaining life of 5 years has been considered recovery of total depreciation of the BTPS Stage-I units (i.e. 90% of the capital cost) i.e. from the date of Re-commissioning of units.

- 14) As per clause 3.5 of Transfer scheme all the outstanding debt on the Assets, properties, interest and lien, secured or unsecured, contingent or otherwise existing have been discharged by BSPGCL, as on the Effective Date of Transfer. The petitioner has tied-up new loans for the takeover of Barauni TPS. The interest rate for computation of interest on loan has been considered as per actual loans taken for BTPS Stage-I.
- 15) As per Tariff Regulation,2019 the fuel details for the month Oct-2018, Nov-2018 and Dec-2018 are to be used. However, Barauni Stage-I being a taken over station effective from 15.12.2018, no coal details are available for these months. The petitioner after taking over of station received the fuel during July-2019, Aug-2019 and Sep-19 for first time in station,

the details of same has been used while calculating working capital requirement. Hon'ble Commission may be pleased to consider the same.

- 16) Both units were under shutdown from 15.12.2018 to 22.05.2019 .The petitioner has not been able to get any revenue for unit under shutdown during this period. In view of above it is prayed that Hon'ble Commission may allow petitioner to bill O&M expenses and interest on loan for the period of shutdown of R&M of Unit-7 (from 01.04.2019 to 22.05.2019) and U-6 (from 01.04.2019 to 15.12.2019) for sustained operation as per proviso to Regulation 42(2) of CERC Tariff Regulations, 2019 which provides as hereunder :

*"Provided that in case of generating station or unit thereof under shutdown due to Renovation and Modernisation, the generating company shall be allowed to recover part of AFC which shall include O&M expenses and interest on loan only."*

- 17) The petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEF vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will effect 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 the order of the Hon'ble Commission in the said ECS petition.

- 18) 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 for bearing of 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 true-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."

The expenditure towards the ash transportation charges are recurring in nature. The Petitioner would be 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.

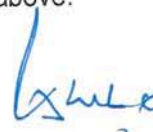
- 19) The requisite filing fee for the year 2019-20 for this petition may be adjusted against the excess filing fees paid by petitioner in Pet No 130/GT/2014. (Copy of letter dtd 06.01.2019 to Hon'ble Commission in this regard attached at **Annexure-I**). For the subsequent years, it shall be paid as 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 fee directly from the beneficiaries.

- 20) 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.
- 21) 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
- 22) 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 31.3.2014 is also being filed along with this petition. 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 Barauni Thermal Power Station Stage-I for the tariff period 01.04.2019 to 31.03.2024.
- ii) Allow norms of operation based on actual performance achieved by station.
- iii) Allow billing of O&M expenses and interest of loan component of AFC for Unit-7 from 01.04.2019 to 22.05.2019 and for Unit-6 from 01.04.2019 onwards till 15.12.2019 (From 16.12.2019 unit made available for generation).
- iv) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.
- v) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis.
- vi) Pass any other order as it may deem fit in the circumstances mentioned above.

  
Petitioner

New Delhi  
Date: 15<sup>th</sup> Jan. 2020

**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 **Barauni Thermal Power Station Stage-I (220 MW) for the period from 01.04.2019 to 31.03.2024.**

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. North Bihar Power Distribution Company Ltd (NBPDC),  
Vidyut Bhawan, Bailey Road  
Patna- 800021

2. South Bihar Power Distribution Company Ltd (SBPDCL),  
Vidyut Bhawan, Bailey Road  
Patna- 800021

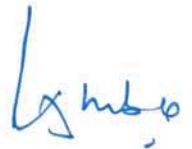


*[Handwritten signature]*

**Affidavit**

I, Rohit Chhabra, son of Sh. S M Chhabra, aged about 54 years, having office at NTPC Bhavan, SCOPE Complex, Lodhi Road, New Delhi do solemnly affirm and state as under:

1. That I am the Additional General Manager (Commercial) of the Petitioner NTPC Ltd. and am well conversant with the facts of the case and am competent to swear the present Affidavit.
2. That I have read the contents of the accompanying tariff petition filed by NTPC Ltd and have understood the same.
3. That the contents of the accompanying petition being filed by NTPC Ltd are based on information available with the petitioner in the normal 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 therefrom.

Verified at New Delhi on this 15<sup>th</sup> day of January 2020.



(DEPONENT)



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

Notary Public, DELHI

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15 JAN 2020

**TARIFF FILING FORMS (THERMAL)**

**FOR DETERMINATION OF TARIFF**

**FOR**

**Barauni Thermal Power Station Stage-I**

**(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-3B**	Statement of Special Allowance	✓
FORM-4	Details of Foreign loans	
FORM-4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5(1)**	Details of capitalisation as on 23.05.2019 U-7.	✓
FORM-5(2)**	Details of capitalisation as on 23.05.2019 U-6.	✓
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	NA
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	✓
FORM-15	Details of Fuel for Computation of Energy Charges	✓
FORM-15A	Details of Secondary 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	
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

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**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.	NA
3	Copies of relevant loan Agreements	✓
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	✓
7	Detailed note giving reasons of cost and time over run, if applicable.	Not applicable (Being takeover station)
	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.	Cost Audit Report is submitted in True-up Petition of Pet no. 286/GT/2014.
9	Any other relevant information, (Please specify)	-
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	To be provided at true-up.
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
Note	1: Electronic copy of the petition (in words format) and detailed calculation as per these formats (in excel format) and any other information submitted has to be uploaded in the e-filing website and shall also be furnished in pen drive/flash drive.	

✓

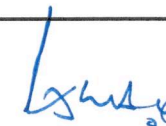
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**Summary of Tariff**

**Name of the Petitioner:** NTPC Limited  
**Name of the Generating Station:** Barauni Thermal Power Station Stage-I  
**Place (Region/District/State):** Eastern Region/ Begusarai /Bihar

Amount in Rs. Lakhs

S. No.	Particulars	Unit	Existing 2018-19	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5A	5B	5C	8	9	10	11
1.1	Depreciation	Rs Lakh		-	1,458.74	2,067.07	2,519.21	3,182.20	3,293.55	3,293.55
1.2	Interest on Loan	Rs Lakh		189.00	426.79	557.23	556.78	471.64	233.95	52.34
1.3	Return on Equity	Rs Lakh		183.08	456.63	662.12	785.29	925.36	942.26	942.26
1.4	Interest on Working Capital	Rs Lakh		-	1,257.15	1,578.00	1,897.59	1,908.41	1,906.76	1,903.45
1.5	O&M Expenses	Rs Lakh		6921.67	6921.67	6921.67	10438.20	10438.20	10438.20	10438.20
1.6	Special Allowance (If applicable)	Rs Lakh		0.00	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		0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	Rs Lakh		<b>7293.75</b>	<b>10520.98</b>	<b>11786.09</b>	<b>16197.06</b>	<b>16925.81</b>	<b>16814.72</b>	<b>16629.79</b>
2.1	Landed Fuel Cost (coal/gas/RLNG/liquid) as per FSA approved by beneficiaries	Rs/Ton					3541.67			
	(%) of Fuel Quantity	(%)					100.00			
2.2	Landed Fuel Cost Imported Coal as per FSA approved by beneficiaries						Nil			
	(%) of Fuel Quantity						0.00			
2.3	Landed Fuel Cost (coal/gas/RLNG/liquid) other than FSA	Rs/Ton					NA			
	(%) of Fuel Quantity	(%)								
2.4	Landed Fuel Cost Imported Coal other than FSA.						NA			
	(%) of Fuel Quantity									
2.5	Secondary fuel oil cost	Rs/Unit					0.146			
	Energy Charge Rate ex-bus (Paise/kWh) 2A, 2B, 2C, 2D	Rs/Unit					3.474			



(Petitioner)



Name of the Petitioner: NTPC Limited

Name of the Generating Station: Barauni Thermal Power Station Stage-I

Amount in Rs. Lakhs

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

S. No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	6	7
1	Opening Capital Cost	3,249.16	8,104.12	11,750.93	11,750.93	16,196.82	16,796.82	16,796.82
2	Add: Addition during the year/period	-	-	-	4,445.89	600.00	-	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-	-	-
6	Closing Capital Cost	3,249.16	8,104.12	11,750.93	16,196.82	16,796.82	16,796.82	16,796.82
7	<b>Average Capital Cost</b>	<b>3,249.16</b>	<b>8,104.12</b>	<b>11,750.93</b>	<b>13,973.88</b>	<b>16,496.82</b>	<b>16,796.82</b>	<b>16,796.82</b>

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

S. No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	6	7
1	Opening Capital Cost	3249.16	8104.12	11750.93	11750.93	16046.82	16646.82	16646.82
2	Add: Addition during the year / period	0.00	0.00	0.00	4295.89	600.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	3249.16	8104.12	11750.93	16046.82	16646.82	16646.82	16646.82
7	<b>Average Capital Cost</b>	<b>3249.16</b>	<b>8104.12</b>	<b>11750.93</b>	<b>13898.88</b>	<b>16346.82</b>	<b>16646.82</b>	<b>16646.82</b>

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

S. No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	6	7
1	Opening Capital Cost	0.00	0.00	0.00	0.00	150.00	150.00	150.00
2	Add: Addition during the year / period	0.00	0.00	0.00	150.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	0.00	0.00	0.00	150.00	150.00	150.00	150.00
7	<b>Average Capital Cost</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>75.00</b>	<b>150.00</b>	<b>150.00</b>	<b>150.00</b>

Note: Details of Capitalisation as on 23.05.2019 U-7 and 16.12.2019 U-6 provided in Form 5(1) and Form 5(2).



(Petitioner)



Name of the Petitioner: NTPC Limited  
Name of the Generating Station: Barauni Thermal Power Station Stage-I

## Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	6	7
	<b>Return on Equity</b>							
1	Gross Opening Equity (Normal)	974.75	2,431.24	3,525.28	3,525.28	4,814.05	4,994.05	4994.046025
2	Less: Adjustment in Opening Equity	-	-	-				
3	Adjustment during the year				0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	974.75	2,431.24	3,525.28	3,525.28	4,814.05	4,994.05	4,994.05
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	1288.77	180.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	974.75	2,431.24	3,525.28	4,814.05	4,994.05	4,994.05	4,994.05
11	Average Equity (Normal)	974.75	2,431.24	3,525.28	4,169.66	4,904.05	4,994.05	4,994.05
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782	18.782	18.782
13	Total ROE	183.08	456.63	662.12	783.15	921.08	937.98	937.98

  
(Petitioner)

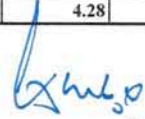


Name of the Petitioner: NTPC Limited  
Name of the Generating Station: Barauni Thermal Power Station Stage-I

## Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	6	7
<b>Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)</b>								
1	Gross Opening Equity (Loan rate)	0.00	0.00	0.00	0.00	45.00	45.00	45.00
2	Less: Adjustment in Opening Equity	0.00	0.00	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	0.00	0.00
4	Net Opening Equity (Loan rate)	0.00	0.00	0.00	0.00	45.00	45.00	45.00
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	45.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Loan rate)	0.00	0.00	0.00	45.00	45.00	45.00	45.00
11	Average Equity (Loan rate)	0.00	0.00	0.00	22.50	45.00	45.00	45.00
12	Rate of ROE (%)	10.070	9.831	9.512	9.512	9.512	9.512	9.512
13	Total ROE	0.00	0.00	0.00	2.14	4.28	4.28	4.28



(Petitioner)



		PART-I FORM-2
Plant Characteristics		
Name of the Petitioner	NTPC Ltd.	
Name of the Generating Station	BARAUNI STPS Stage-I (2*110 MW)	
Unit(s)/Block(s)/Parameters	Unit-6	Unit-7
Installed Capacity ( MW)	110	110
Schedule COD as per Investment Approval	After taking over from BSPGCL on 15.12.2018, unit started from 16.12.2019.	After taking over from BSPGCL on 15.12.2018, unit started from 23.05.2019
Actual COD /Date of Taken Over (as applicable)		
Pit Head or Non Pit Head	Non Pit Head	Non Pit Head
Name of the Boiler Manufacture	BHEL	BHEL
Name of Turbine Generator Manufacture	LMZ( BHEL)	LMZ( BHEL)
Main Steams Pressure at Turbine inlet (kg/Cm <sup>2</sup> abs) <sup>1</sup>	130	130
Main Steam Temperature at Turbine inlet °C) <sup>1</sup>	535	535
Reheat Steam Pressure at Turbine inlet (kg/Cm <sup>2</sup> ) <sup>1</sup>	32	32
Reheat Steam Temperature at Turbine inlet °C) <sup>1</sup>	540	540
Main Steam flow at Turbine inlet under MCR condition (tons /hr)	363.7	363.7
Main Steam flow at Turbine inlet under VWO condition (tons /hr)	375	375
Unit Gross electrical output under MCR /Rated condition (Mw)	110MW	110MW
Unit Gross electrical output under VWO condition (Mw)		
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) <sup>3</sup>		
Conditions on which design turbine cycle heat rate guaranteed( kcal/kwhr)		
% 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 °C)		
Back Pressure(Average condenser pressure in mmHg(A))	Not applicable	Not applicable
Steam flow at super heater outlet under BMCR condition (tons/hr)		
Steam Pressure at super heater outlet under BMCR condition(kg/Cm <sup>2</sup> )		
Steam Temperature at super heater outlet under BMCR condition °C)		
Steam Temperature at Reheater outlet at BMCR condition °C)		
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	FDCT	FDCT
Type of cooling system <sup>4</sup>	Closed Cycle	Closed Cycle
Type of Boiler Feed Pump <sup>5</sup>	MDBFP	MDBFP
Fuel Details <sup>6</sup>		
-Primary Fuel	Coal	Coal
-Secondary Fuel	LDO	LDO
-Alternate Fuels		
Types of SOX control system	Measurement provision is available	
Types of NOX control system	Measurement provision is available	
Details of SPM control system	ESP with measurement provision is installed	
Special Features/Site Specific Feature <sup>8</sup>		
Special Technological Feature <sup>9</sup>		
Environmental Regulation related feature <sup>10</sup>		

CP

LSM, O

## Normative parameters considered for tariff computations

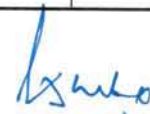
Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Barauni Thermal Power Station Stage-I

(Year Ending March)

Particulars	Unit	Existing 2018-19	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 14.12.2019)	2019-20 (15.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3	4A	4B	4C	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	8.310	8.113	7.850	7.850	7.850	7.850	7.850
Effective Tax Rate	%	21.4588	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	0.00	0.00	31.60	50.80	70.00	70.00	70.00	70.00
In High Demand Season	%	-	-	-	-	70.00	70.00	70.00	70.00
Peak Hours	%	-	-	-	-	70.00	70.00	70.00	70.00
Off-Peak Hours	%	-	-	-	-	70.00	70.00	70.00	70.00
In Low Demand Season(Off-Peak)	%	-	-	-	-	70.00	70.00	70.00	70.00
Peak Hours	%	-	-	-	-	70.00	70.00	70.00	70.00
Off-Peak Hours	%	-	-	-	-	70.00	70.00	70.00	70.00
Auxiliary Energy Consumption	%	0.00	0.00	14.50	14.50	12.00	12.00	12.00	12.00
Gross Station Heat Rate	kCal/kWh	0.00	0.00	3633.00	3316.00	3000.00	3000.00	3000.00	3000.00
Specific Fuel Oil Consumption	ml/kWh	0.00	0.00	21.80	12.40	3.00	3.00	3.00	3.00
Cost of Coal/Lignite for WC1	in Days	60	50	50	50	50	50	50	50
Cost of Main Secondary Fuel Oil for WC1	in Months	2	0	2	2	2	2	2	2
Fuel Cost for WC2	in Months								
Liquid Fuel Stock for WC2	in Months								
O&M Expenses	Rs lakh/MW	0	0	0	0	46.16	46.16	46.16	46.16
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	60	45	45	45	45	45	45	45
Storage capacity of Primary fuel	MT					60000			
SBI 1 Year MCLR plus 350 basis point <sup>3</sup>	%	12.80	12.05	12.05	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



**Calculation of O&M Expenses**

**Name of the Company :** NTPC Limited  
**Name of the Power Station :** Barauni Thermal Power Station Stage-I

Amount in Rs. Lakhs

S.No.	Particulars	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 14.12.2019)	2019-20 (15.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3A	3B	3C	4	5	7	8
1	<b>O&amp;M expenses under Reg.35(1)</b>							
1a	Normative *	6638.67	6638.67	6638.67	10155.20	10155.20	10155.20	10155.20
2	<b>O&amp;M expenses under Reg.35(6)</b>							
2a	Water Charges	283.00	283.00	283.00	283.00	283.00	283.00	283.00
2b	Secutiry expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2c	Capital Spares**	0.00	0.00	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	0.00	0.00
	<b>Total O&amp;M Expenses</b>	<b>6921.67</b>	<b>6921.67</b>	<b>6921.67</b>	<b>10438.20</b>	<b>10438.20</b>	<b>10438.20</b>	<b>10438.20</b>

\*\* Shall be provided at the time of truing up

\*O&M expenses for 2019-20 based on actual up to Sep-19 as per transfer agreement and from 2020-21 O&M norms of Tanda (4x110 MW) adopted.



Petitioner

*CP*



**Abstract of Claimed Capital Cost for the existing Projects**

<b>Name of the Company :</b>	<b>NTPC Limited</b>	
<b>Name of the Power Station :</b>	<b>Barauni Thermal Power Station Stage-I</b>	
Reference of Final True-up Tariff Petition	<b>Affidavit dated</b>	<b>15.01.2020</b>
Capital Cost as on 31.03.2019 as per 2018-19 tariff filed along with this petition.	<b>Rs. Lakhs</b>	3249.16
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		0.00
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		0.00
Gross Normative Debt		2274.41
Cumulative Repayment		0.00
Net Normative Debt		2274.41
Normative Equity		974.75
Cumulative Depreciation		0.00
Freehold land		1.00

**(Petitioner)**

Break-up of Capitalisation of Unit-7 as on 23.05.2019 (Actual basis)				
Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		Barauni TPS Stage-I (Unit 7)		
Sl. No.	Break Down	Breakup of capitalisation as on 23.05.2019 (unit-7 Recommissioning) on Accrual basis	Liabilities / Provisions corresponding to (3)	Breakup of capitalisation as on 23.05.2019 (unit-7 Recommissioning) on cash basis
(1)	(2)	(3)	(4)	(5)
<b>1</b>	<b>Cost of Land &amp; Site Development</b>			
1.1	Land			
	Freehold Land			
	Leasehold Land			
	Land - Right of use			
1.2	Rehabilitation & Resettlement (R&R)			
1.3	Preliminary Investigation & Site Development			
	<b>Total Land &amp; Site Development</b>	-	-	
<b>2</b>	<b>Plant &amp; Equipment</b>			
2.1	Steam Generator Island	22,96,73,877.34	20,45,88,655.30	2,50,85,222.03
2.2	Turbine Generator Island	10,21,63,750.49	8,40,00,000.00	1,81,63,750.49
2.3	<b>BOP Mechanical</b>			
2.3.1	External water supply system (Make Up water)			-
2.3.2	CW system	39,58,445.34		39,58,445.34
2.3.3	DM water Plant	2,06,97,034.91		2,06,97,034.91
2.3.4	Clarification plant			-
2.3.5	Chlorination Plant			-
2.3.6	Fuel Handling & Storage system	64,93,187.42		64,93,187.42
2.3.7	Ash Handling System	3,97,70,773.24		3,97,70,773.24
2.3.8	Coal Handling Plant	13,24,21,800.26	-	13,24,21,800.26
2.3.9	Rolling Stock and Locomotives			-
2.3.10	MGR			-
2.3.11	Air Compressor System	89,28,132.71		89,28,132.71
2.3.12	Air Condition & Ventilation System	1,02,80,880.09		1,02,80,880.09
2.3.13	Fire fighting System	2,21,85,057.03		2,21,85,057.03
2.3.14	HP/LP Piping			-
2.3.15	FGD system, if any			-
2.3.16	De-salination plant for sea-water intake			-
2.3.17	External coal handling in Jetty, if any			-
	<b>Total BOP Mechanical</b>	<b>57,65,72,938.81</b>	<b>28,85,88,655.30</b>	<b>28,79,84,283.51</b>
2.4	<b>BOP Electrical</b>			
2.4.1	Switch Yard Package			
2.4.2	Transformer Package			
2.4.3	Switch gear Package			
2.4.4	Cables, Cable facilities & grounding	4,01,49,969.00		4,01,49,969.00
2.4.5	Lighting			
2.4.6	Emergency D.G. set			
2.4.7	33 KV Line / Sub-station- Township			-
2.4.8	Electrical Installation	2,31,64,235.68		2,31,64,235.68
	<b>Total BOP Electrical</b>	<b>6,33,14,204.68</b>		<b>6,33,14,204.68</b>
2.5	<b>Control &amp; Instrumentation (C &amp; I) Package</b>	4,98,43,191.29	3,60,00,000.00	1,38,43,191.29
	<b>Total Plant &amp; Equipment excluding taxes &amp; Duties</b>	<b>68,97,30,334.78</b>	<b>32,45,88,655.30</b>	<b>36,51,41,679.48</b>
2.6	<b>Taxes &amp; Duties</b>			-
3	<b>Initial Spares</b>			-
4	<b>Civil Works</b>			
4.1	Main plant/Adm. Building			-
4.2	CW system			-
4.3	Cooling Towers	54,24,536.20		54,24,536.20
4.4	DM water Plant			-
4.5	Clarification plant			-
4.6	Chlorination plant			-

Break-up of Capitalisation of Unit-7 as on 23.05.2019 (Actual basis)				
Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		Barauni TPS Stage-I (Unit 7) <span style="float: right;">Fig A</span>		
Sl. No.	Break Down	Breakup of capitalisation as on 23.05.2019 (unit-7 Recommissioning) on Accrual basis	Liabilities /Provisions corresponding to (3)	Breakup of capitalisation as on 23.05.2019 (unit-7 Recommissioning) on cash basis
(1)	(2)	(3)	(4)	(5)
4.7	Fuel handling & Storage system			-
4.8	Coal Handling Plant			-
4.9	MGR & Marshalling Yard			-
4.1	Ash Handling System			-
4.11	Ash disposal area development			-
4.12	Fire fighting System			-
4.13	Township & Colony			-
4.14	Temp. construction & enabling works			-
4.15	Road & Drainage			-
4.16	Service Buildings			-
4.17	Air Compressor Building			-
4.18	Hydrogen Gen. Plant Bldg			-
4.19	Workshop & Lab Buildings			-
4.2	Canteen Building			-
4.21	Foam Shed			-
4.22	Store Building			-
4.23	Chimney			-
4.24	PT Water Plant			-
4.25	Make Up water Plant			-
4.26	Switchyard			-
	<b>Total Civil works</b>	<b>54,24,536.20</b>	<b>-</b>	<b>54,24,536.20</b>
<b>5</b>	<b>Construction &amp; Pre-Commissioning Expenses</b>			
5.1	Erection Testing and commissioning			-
5.2	Site supervision			-
5.3	Operator's Training			-
5.4	Construction Insurance			-
5.5	Tools & Plant			-
5.6	Start up fuel	17,82,360.08		17,82,360.08
	<b>Total Construction &amp; Pre-Commissioning Expenses</b>	<b>17,82,360.08</b>		<b>17,82,360.08</b>
<b>6</b>	<b>Overheads</b>			
6.1	Establishment	7,93,17,663.70		7,93,17,663.70
6.2	Design & Engineering			-
6.3	Audit & Accounts			-
6.4	Contingency			-
	<b>Total Overheads</b>	<b>7,93,17,663.70</b>		<b>7,93,17,663.70</b>
<b>7</b>	<b>Total Capital cost excluding IDC &amp; FC</b>	<b>77,62,54,894.76</b>	<b>32,45,88,655.30</b>	<b>45,16,66,239.46</b>
<b>8</b>	<b>IDC, FC, FERV &amp; Hedging Cost</b>			
8.1	Interest During Construction (IDC)	3,38,29,990.80		3,38,29,990.80
8.2	Financing Charges (FC)			-
8.3	Foreign Exchange Rate Variation (FERV) (incl in 8.1)			-
8.4	Hedging Cost (incl in 8.1)			-
	<b>Total of IDC, FC,FERV &amp; Hedging Cost</b>	<b>3,38,29,990.80</b>	<b>-</b>	<b>3,38,29,990.80</b>
<b>9</b>	<b>Capital cost including IDC, FC, FERV &amp; Hedging Cost</b>	<b>81,00,84,885.56</b>	<b>32,45,88,655.30</b>	<b>48,54,96,230.26</b>

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6/10/20

Break-up of Capitalisation of Unit-6		
Name of the Petitioner		NTPC Ltd.
Name of the Generating Station		Barauni TPS Stage-I (Unit 6) <i>Fig 2</i>
Sl. No.	Break Down	Breakup of estimated capitalisation as on 16.12.2019 on Unit 6 Re-commissioning.
(1)	(2)	(3)
<b>1</b>	<b>Cost of Land &amp; Site Development</b>	
1.1	Land	
	Freehold Land	
	Leasehold Land	
	Land - Right of use	
1.2	Rehabilitation & Resettlement (R&R)	
1.3	Preliminary Investigation & Site Development	
	<b>Total Land &amp; Site Development</b>	-
<b>2</b>	<b>Plant &amp; Equipment</b>	
2.1	Steam Generator Island	19,41,61,702.03
2.2	Turbine Generator Island	8,63,67,191.21
2.3	<b>BOP Mechanical</b>	
2.3.1	External water supply system (Make Up water)	
2.3.2	CW system	33,46,390.51
2.3.3	DM water Plant	
2.3.4	Clarification plant	
2.3.5	Chlorination Plant	
2.3.6	Fuel Handling & Storage system	
2.3.7	Ash Handling System	-
2.3.8	Coal Handling Plant	
2.3.9	Rolling Stock and Locomotives	
2.3.10	MGR	
2.3.11	Air Compressor System	
2.3.12	Air Condition & Ventilation System	-
2.3.13	Fire fighting System	
2.3.14	HP/LP Piping	
2.3.15	FGD system, if any	
2.3.16	De-salination plant for sea-water intake	
2.3.17	External coal handling in Jetty, if any	
	<b>Total BOP Mechanical</b>	<b>28,38,75,283.76</b>
2.4	<b>BOP Electrical</b>	
2.4.1	Switch Yard Package	
2.4.2	Transformer Package	
2.4.3	Switch gear Package	
2.4.4	Cables, Cable facilities & grounding	1,45,01,026.00
2.4.5	Lighting	
2.4.6	Emergency D.G. set	
2.4.7	<b>33 KV Line / Sub-station- Township</b>	
2.4.8	Electrical Installation	1,95,82,581.52
	<b>Total BOP Electrical</b>	<b>3,40,83,607.52</b>
2.5	<b>Control &amp; Instrumentation (C &amp; I) Package</b>	4,21,36,436.97
	<b>Total Plant &amp; Equipment excluding taxes &amp; Duties</b>	<b>36,00,95,328.25</b>

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Break-up of Capitalisation of Unit-6		
Name of the Petitioner		NTPC Ltd.
Name of the Generating Station		Barauni TPS Stage-I (Unit 6) <i>Fig Rs</i>
Sl. No.	Break Down	Breakup of estimated capitalisation as on 16.12.2019 on Unit 6 Re-commissioning.
(1)	(2)	(3)
2.6	Taxes & Duties	
3	Initial Spares	
4	Civil Works	
4.1	Main plant/Adm. Building	
4.2	CW system	
4.3	Cooling Towers	45,85,794.41
4.4	DM water Plant	
4.5	Clarification plant	
4.6	Chlorination plant	
4.7	Fuel handling & Storage system	
4.8	Coal Handling Plant	
4.9	MGR & Marshalling Yard	
4.1	Ash Handling System	
4.11	Ash disposal area development	
4.12	Fire fighting System	
4.13	Township & Colony	
4.14	Temp. construction & enabling works	
4.15	Road & Drainage	
4.16	Service Buildings	
4.17	Air Compressor Building	
4.18	Hydrogen Gen. Plant Bldg	
4.19	Workshop & Lab Buildings	
4.2	Canteen Building	
4.21	Foam Shed	
4.22	Store Building	
4.23	Chimney	
4.24	PT Water Plant	
4.25	Make Up water Plant	
4.26	Switchyard	
	<b>Total Civil works</b>	<b>45,85,794.41</b>
5	<b>Construction &amp; Pre-Commissioning Expenses</b>	
5.1	Erection Testing and commissioning	
5.2	Site supervision	
5.3	Operator's Training	
5.4	Construction Insurance	
5.5	Tools & Plant	
5.6	Start up fuel	To be provided on true-up
	<b>Total Construction &amp; Pre-Commissioning Expenses</b>	-
6	<b>Overheads</b>	To be provided on true-up
6.1	Establishment	
6.2	Design & Engineering	
6.3	Audit & Accounts	
6.4	Contingency	
	<b>Total Overheads</b>	-
7	<b>Total Capital cost excluding IDC &amp; FC</b>	<b>36,46,81,122.66</b>
8	<b>IDC, FC, FERV &amp; Hedging Cost</b>	
8.1	Interest During Construction (IDC)	
8.2	Financing Charges (FC)	
8.3	Foreign Exchange Rate Variation (FERV) (incl in 8.1)	
8.4	Hedging Cost (incl in 8.1)	
	<b>Total of IDC, FC, FERV &amp; Hedging Cost</b>	To be provided on true-up
9	<b>Capital cost including IDC, FC, FERV &amp; Hedging Cost</b>	<b>36,46,81,122.66</b>

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**PART-I**  
**Form-6**

**Financial Package upto COD**

Name of the Company

NTPC Ltd

Name of the Power Station

BARAUNI-I

Project Cost as on COD

Date of Commercial Operation of the Station

Debt : Equity Ratio

(Amount in Rs.)

Particulars	Financial Package as Approved		Financial Package as on 23.05.2019		As Admitted on COD	
	Currency and		Currency and Amount		Currency and Amount	
1	2	3	4	5	6	7
State Bank of India - XI			INR	1500000000		
Redeployed in other project				420000000		
<b>Total</b>				<b>1080000000</b>		

*Signature*

*Signature*

**Statement Giving Details of Project Financed through a Combination of loan  
Form 8**

BP NO 5050000661

TRANCHE NO  
T00001

D00006

**Unsecured Loan From SBI-XI**

Source of Loan :	<b>SBI-XI</b>	
Currency :	INR	
Amount of Loan :	50,00,00,00,000	
Total Drawn amount :	20,00,00,00,000	
Date of Drawal:	21.12.2018	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	8.30%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	21.12.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	01.10.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
<b>Project Code</b>	<b>Project Name</b>	<b>Amount</b>
	BARAUNI-I	1,50,00,00,000
	BARAUNI-II	18,50,00,00,000
<b>Total Allocated Amount</b>		<b>20,00,00,00,000.00</b>

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**Year wise Statement of Additional Capitalisation after COD**

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2019-24 (Summary)

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)							Total	Justification	Admitted Cost by the Commission, if any
		2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24			
I	2	3A	3B	3C	4	5	6	7	8	9	10
<b>A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate</b>											
I	Original scope Works related to Ash dyke and Ash handling Works	0.00			650.00	600.00			1250.00	Provided in respective Form 9	
II	Liability discharge				3245.89						
III	Change in Law and compliance of existing Law works	0.00			400.00				400.00		
<b>Total (A)</b>		-			4,295.89	600.00	-	-	4895.89		
<b>B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest</b>											
I	Safety and Security works	0.00			150.00	0.00			150.00	Provided in respective Form 9.	
<b>Total (B)</b>		0.00			150.00	0.00			150.00		
<b>Total Add. Cap. Claimed (A+B)</b>		0.00			4445.89	600.00	0.00	0.00	5045.89		

*[Handwritten Signature]*

(Petitioner)

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**Year wise Statement of Additional Capitalisation after COD**

<b>Name of the Petitioner</b>		NTPC Limited						
<b>Name of the Generating Station</b>		Barauni Thermal Power Station Stage-I						
<b>COD</b>		15-12-2018						
<b>For Financial Year</b>		2019-20 (01.04.2019 to 22.05.2019)						
								<b>Amount in Rs Lakh</b>
Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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
		NIL						
<b>Total Add. Cap. Claimed (A+B)</b>								
								<i>[Signature]</i> (Petitioner)

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**Year wise Statement of Additional Capitalisation after COD**

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2019-20 (23.05.2019 to 14.12.2019)

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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
		NIL						
<b>Total Add. Cap. Claimed (A+B)</b>								

*[Signature]*  
(Petitioner)

*[Signature]*

**Year wise Statement of Additional Capitalisation after COD**

<b>Name of the Petitioner</b>	NTPC Limited
<b>Name of the Generating Station</b>	Barauni Thermal Power Station Stage-I
<b>COD</b>	15-12-2018
<b>For Financial Year</b>	2019-20 (15.12.2019 to 31.03.2020)

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			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
		NIL						
<b>Total Add. Cap. Claimed (A+B)</b>								



(Petitioner)

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## Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2020-21

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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>A Works under original scope, Change in Law etc. eligible for RoE at Normal Rate</b>								
<b>I Original scope Works</b>								
1	Ash dyke and ash handling works.	650.00				Reg 25(1) ( c ) and 25 (1) (b)	<p>The works include</p> <p>1) Barauni TPS Stage-I was takenover from Bihar state Power Generating Company Ltd (BSPGCL) on 15.12.2018. At present only 56 acre contingency ash dyke is available . New ash dyke is to be constructed. For old dyke safety and for meeting the environment compliance, additional strengthening work of ash dyke is required for running the station successfully.</p> <p>Also Bihar state pollution control Board Émission consent dtd 07.03.2018 (copy attached at <b>Annexure-A</b>) mandates Barauni-I to maintain and operate proper ash dyke. The recommendations of IIT professor based on ash dyke study , carrying out massive strengthening work are attached as <b>Annexure-B</b>.</p> <p>2) One buffer hopper each for Unit 6 &amp; 7 are erected for collection of dry fly ash. For transportation and utilization of this ash, approach road of around 2 km length from buffer hopper to nearby road(NH-31) is required. This work is also required to be done in compliance with Bihar state pollution control Board Émission consent dtd 07.03.2018 (copy attached at <b>Annexure-A</b>) at point No 8&amp;9 page-I which mandates dry fly ash utilization in St-I to be ensured as per MOEF notification, 2009 for 100% ash utilization.</p> <p>These works are part of deferred ash dyke and ash handling works of station. Hon'ble Commission may be pleased to allow the same.</p>	
2	Liability discharge.	3245.89				Reg 24(1)(a)	Discharge of liability projected corresponding to capitalisation as on 23.05.2019 . Details of liability projected for discharge provided in Form 5(1).	
<b>SUB Total I</b>		<b>3895.89</b>						

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## Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2020-21

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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>II Change in Law and compliance of existing Law works</b>								
1	St- I Switch yard Gravel filling	200.00				26(1)(b)	Barauni-I being a takeover station , there is no existing gravel filled in St-I switchyard. As per CEA General guidelines for substations and switchyard of thermal/hydro power projects (attached at <b>Annexure-C</b> ), the switchyard area shall be filled with 150/100 mm thick gravels to restrict the growth of grass in outdoor sub-station/switchyard. Hon'ble Commission may be pleased to allow the same under compliance of exiting law.	
2	Fire system additional work	200.00				26(1)(b)	Barauni-I being a takeover station, there is no proper existing firefighting system in place, which is required as per CEA Regulations for construction of electric power plant, 2010 . As per NTPC standard/practices, mulsifier system in Fuel oil tank area and Unit 6 & 7 firing floor is not installed. To ensure the fire safety in these areas, fire mulsifier system with agumnetation in associate pipeline and pump size/capacity is required. Copy of CEA Guidelines attached at <b>Annexure-D</b> . Hon'ble Commission may be pleased to allow the same.	
<b>SUB Total II</b>		400.00						
<b>Total (A)= (I+II)</b>		<b>4,295.89</b>						
<b>B. Works beyond Original scope exluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest</b>								
<b>I Safety and Security works</b>								
1	CCTV/Security System	150.00				26(1)(d)	At present CCTV/Security system is not available in takeover BTPS, Barauni by NTPC. To ensure the high security and safety of the plant , the survey of CISF identified the requirement of CCTV/Security system. Copy of survey report and recommendation of CISF is attached at <b>Annexure-E</b> . Hon'ble Commission may be pleased to allow the same under need for higher security and safety of plant.	
<b>SUB Total I</b>		150.00						
<b>Total (B)=(I+II)</b>		<b>150.00</b>						
<b>Total Add. Cap. Claimed (A+B)</b>		<b>4,445.89</b>						

  
 (Petitioner)



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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2020-21

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			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>A Works under original scope, Change in Law etc. eligible for RoE at Normal Rate</b>								
<b>I Works related to Ash dyke</b>								
1	Ash dyke and ash handling works.	600.00				Reg 25(1) ( c ) and 25 (1) (b)	Balance capitalisation, Justification provided in Form 9A, 2020-21.	
<b>SUB Total I</b>		600.00						
<b>B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest</b>								
Nil								
<b>Total Add. Cap. Claimed (A+B)</b>		600.00	-	-	-			

  
 (Petitioner)




**Year wise Statement of Additional Capitalisation after COD**

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Barauni Thermal Power Station Stage-I
COD	15-12-2018
For Financial Year	2022-23

Amount in Rs Lakh


Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			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
Total Add. Cap. Claimed (A+B)		Nil						

  
 (Petitioner)

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**Year wise Statement of Additional Capitalisation after COD**

<b>Name of the Petitioner</b>		NTPC Limited						
<b>Name of the Generating Station</b>		Barauni Thermal Power Station Stage-I						
<b>COD</b>		15-12-2018						
<b>For Financial Year</b>		2023-24						
								<b>Amount in Rs Lakh</b>
Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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>Total Add. Cap. Claimed (A+B)</b>		Nil						
								 (Petitioner)

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## Statement of Depreciation

Name of the Company : NTPC Limited

Name of the Power Station : Barauni Thermal Power Station Stage-I

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3	4A	4B	4C	5	6	7	8
1	Opening Capital Cost		3,249.16	8,104.12	11,750.93	11,750.93	16,196.82	16,796.82	16,796.82
2	Closing Capital Cost		3,249.16	8,104.12	11,750.93	16,196.82	16,796.82	16,796.82	16,796.82
3	Average Capital Cost		3,249.16	8,104.12	11,750.93	13,973.88	16,496.82	16,796.82	16,796.82
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		-	-	-	-	-	-	-
5	Rate of depreciation								
6	Depreciable value		2,924.24	7,293.71	10,575.84	12,576.49	14,847.14	15,117.14	15,117.14
7	Balance useful life at the beginning of the period			5.00	4.72	4.42	3.42	2.42	1.42
8	Remaining depreciable value		2,924.24	7,293.71	9,750.81	11,147.16	10,898.60	7,986.40	4,692.85
9	Depreciation (for the period)		-	825.03	604.31	2,519.21	3,182.20	3,293.55	3,293.55
10	Depreciation (annualised)		-	1,458.74	2,067.07	2,519.21	3,182.20	3,293.55	3,293.55
11	Cumulative depreciation at the end of the period		-	825.03	1,429.33	3,948.54	7,130.74	10,424.29	13,717.83
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009		-	-	-	-	-	-	-
13	Add: Cumulative depreciation adjustment on account of liability Discharge		-	-	-	-	-	-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation		-	-	-	-	-	-	-
15	Net Cumulative depreciation at the end of the period after adjustments	0.00	-	825.03	1,429.33	3,948.54	7,130.74	10,424.29	13,717.83
	Remaining useful life		23.05.2019	16.12.2019	01.04.2020				
	Unit-7		5	4.43	4.14				
	Unit-6		5	5	4.71				
	station		5	4.72	4.42				

  
 (Petitioner)



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**PART-I  
FORM-13**

**Calculation of Interest on  
Actual Loans**

**Name of the Company**  
**Name of the Power Station**

**NTPC Limited**  
**BARAUNI-I**

							(Amount in lacs)	
Sl. no.	Particulars	1.4.2019- 22.05.2019	23.05.2019- 15.12.2019	16.12.2019 to 31.03.2020	2020-21	2021-22	2022-23	2023-24
<b>1</b>	<b>SBI-XI</b>							
	Gross loan - Opening	15,000	15,000	15,000	15,000	15,000	15,000	15,000
	Cumulative repayments of Loans upto previous year		4200	4200	4200	4200	4200	5400
	Net loan - Opening	15,000	10,800	10,800	10,800	10,800	10,800	9,600
	Addition							
	Repayments of Loans during the year	4,200					1200	1200
	Net loan - Closing	10,800	10,800	10,800	10,800	10,800	9,600	8,400
	Average Net Loan	12,900	10,800	10,800	10,800	10,800	10,200	9,000
	Rate of Interest on Loan	8.3098%	8.1133%	7.8500%	7.8500%	7.8500%	7.8500%	7.8500%
	Interest on loan	1,072	876	848	848	848	801	707
	<b>Total Loan</b>							
	Gross loan - Opening	15,000	15,000	15,000	15,000	15,000	15,000	15,000
	Cumulative repayments of Loans upto previous year	-	4,200	4,200	4,200	4,200	4,200	5,400
	Net loan - Opening	15,000	10,800	10,800	10,800	10,800	10,800	9,600
	Addition	-	-	-	-	-	-	-
	Repayments of Loans during the year	4,200	-	-	-	-	1,200	1,200
	Net loan - Closing	10,800	10,800	10,800	10,800	10,800	9,600	8,400
	Average Net Loan	12,900	10,800	10,800	10,800	10,800	10,200	9,000
	Rate of Interest on Loan	8.3098%	8.1133%	7.8500%	7.8500%	7.8500%	7.8500%	7.8500%
	Interest on loan	1,072	876	848	848	848	801	707

\* Rs. 4200 Lakhs have been redeployed in other project on 22.05.2019

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<b>2018-19</b>					
<b>State Bank of India-XI</b>					
	01-Apr-19	8.35%	10.00	0.84	
	11-Apr-19	8.30%	41.00	3.40	
	22-May-19		51.00	4.24	8.3098
	23-May-19	8.30%	49.00	4.07	
	11-Jul-19	8.20%	92.00	7.54	
	11-Oct-19	7.85%	65.00	5.10	
	15-Dec-19		206.00	16.71	8.1133
	16-Dec-19	7.85%	107.00	8.40	
	01-Apr-20		107.00	8.40	7.8500

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Form 14		(Amt in ₹)							
Name of the Company		NTPC Ltd							
Name of the Power Station		BARAUNI-I							
Name of the Bank	Description	Q3 2018-19	Q4 2018-19	Total 2018-19	Q1 2019-20	Q2 2019-20	Q3 2019-20	Total 2019-20	GRAND TOTAL
				-				-	1,50,00,00,000
<b>State Bank of India-IX</b>	<b>Drawl Amount</b>	1,50,00,00,000		1,50,00,00,000			1,50,00,00,000	-	1,50,00,00,000
	Interest Debit	37,52,055	3,08,63,014	3,46,15,068	2,72,39,861	2,23,51,561	1,42,72,274	6,38,63,696	9,84,78,764
	Interest Credit			-				-	-
	Adj. Amount			-				-	-
	Net Charges			-				-	-
	Financial charges			-				-	-
									-
<b>TOTAL</b>	<b>Drawl Amount</b>	1,50,00,00,000	-	1,50,00,00,000	-	-	1,50,00,00,000	-	1,50,00,00,000
	Interest Debit	37,52,055	3,08,63,014	3,46,15,068	2,72,39,861	2,23,51,561	1,42,72,274	6,38,63,696	9,84,78,764
	Interest Credit	-	-	-	-	-	-	-	-
	Adj. Amount	-	-	-	-	-	-	-	-
	Net Charges	37,52,055	3,08,63,014	3,46,15,068	2,72,39,861	2,23,51,561	1,42,72,274	6,38,63,696	9,84,78,764
	Financial charges	-	-	-	-	-	-	-	-

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## FORM- 15 : Details of Fuel for Computation of Energy Charges

Form-15

Name of the Petitioner: NTPC LTD

Name of the Generating Station		Barauni Stage-I							
S. No.		Unit (2x110 MW)							
		Domestic		Imported		Domestic		Imported	
A)		Jul-19		Aug-19		Sep-19			
1	Opening Quantity of Coal	(MMT)	4342.72	0.00	52882.68	0.00	65464.16	0.00	
2	Value of Stock	(Rs.)	7451221.37	0.00	181441842.00	0.00	230461525.00	0.00	
<b>B) QUANTITY</b>									
3	Quantity of Coal supplied by Coal Company	(MMT)	48931.42	0.00	15024.70	0.00	33944.29	0.00	
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MMT)							
5	Coal supplied by Coal Company (3+4)	(MMT)	48931.42	0.00	15024.70	0.00	33944.29	0.00	
6	Normative Transit & Handling Losses (For Coal based Projects)	(MMT)	391.45	0.00	120.20	0.00	271.55	0.00	
7	Net Coal Supplied (3- 4)	(MMT)	48539.97	0.00	14904.50	0.00	33672.74	0.00	
<b>C) PRICE</b>									
8	Amount charged by the Coal Company	(Rs.)	127466349.00	0.00	40743959.00	0.00	88424875.00	0.00	
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	
10	Handling, Sampling and such other similar charges	(Rs.)							
11	Total amount Charged (8+9+10)	(Rs.)	127466349.00	0.00	40743959.00	0.00	88424875.00	0.00	
<b>D) TRANSPORTATION</b>									
12	Transportation charges by rail/ship/road transport	(Rs.)							
	By Rail		46484849.00	0.00	16374822.00	0.00	32247076.00	0.00	
	By Road		0.00	0.00	0.00	0.00	0.00	0.00	
	By Ship								
	.....								
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)							
14	Demurrage Charges, if any	(Rs.)							
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	39422.50	0.00	78845.00	0.00	26532.00	0.00	
16	Total Transportation Charges (12+13+14+15)	(Rs.)	46524271.50	0.00	16453667.00	0.00	32273608.00	0.00	
17	Other Charges	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	173990620.50	0.00	57197626.00	0.00	120698483.00	0.00	
<b>E) TOTAL COST</b>									
18	Landed cost of Coal (2+17)/(1+7)	Rs./MT	3431.03	0.00	3520.42	0.00	3542.17	0.00	
19	Blending Ratio (Domestic/Imported)		100%	0%	100%	0%	100%	0%	
20	Weighted average cost of Coal	Rs./MT			3541.67				
<b>F) QUALITY</b>									
21	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	5756		4695		4674		
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4601		4601		4601		
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0		0			
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0		0			
25	Weighted average GCV of coal as Billed	(kCal/Kg)	4695		4674		4649		
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3197		3698		3696		
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3743		3689		3885		
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0		0	0		
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0		0	0		
30	Weighted average GCV of coal as Received	(kCal/Kg)	3698		3696		3760		

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## FORM-15A

Details/Information to be Submitted in respect of Oil (HFO) for Computation of Energy Charges<sup>1</sup>

Name of the Company		NTPC Ltd.			
Name of the Power Station		BARAUNI STPS stage I			
S. No.	Month	Unit	Jul-19	Aug-19	Sep-19
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Oil	(KL)		2312.61	
2	Value of Opening Stock	(Rs.)		103047683	
<b>B) QUANTITY</b>					
3	Quantity of LDO supplied by Oil company	(KL)		2968.04	
4	Adjustment(+/-) in qty. supplied made by Oil Company	(KL)		0.00	
5	LDO supplied by Oil company (3+4)	(KL)		2968.04	
6	Normative transit & Handling losses	(KL)		0.00	
7	Net Oil supplied (5-6)	(KL)		2968.04	
<b>C) PRICE</b>					
8	Amount charged by Oil Company	(Rs.)		153958171	
9	Adjustment (+/-) in amount charged by Oil Company	(Rs.)		0.00	
10	Handling, Sampling and such other similar charges	(Rs.)		0.00	
11	Total amount Charged (8+9+10)	(Rs.)		153958171	
<b>D) TRANSPORTATION</b>					
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail			0	
	By Road				
	By Ship				
	.....				
13	Adjustment(+/-) in amount made by Railways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)		0	
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)		153958171	
<b>E) TOTAL COST</b>					
18	Weighted average cost of Oil	(Rs./KL)		48669.34	
<b>F) QUALITY</b>					
19	GCV of Oil of the opening stock as per Oil Company	Kcal/KL		0	
20	Weighted average GCV of Oil	Kcal/KL		10153	
*No oil Received during Jul-19 and Sep-19.					

**Computation of Energy Charges**

**Form-13F  
ADDITIONAL FORM**

<b>Name of the Company</b>	<b>NTPC Limited</b>
<b>Name of the Power Station</b>	<b>Barauni Thermal Power Station Stage-I</b>

	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21		2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
	<b>Computation of Energy Charges</b>										
				Target availability	0.00	31.60	50.80	70.00	70.00	70.00	70.00
				No of Days in the year	366	366	366	365	365	365	366
				Sp. Oil consumption	0.000	21.800	12.400	3.000	3.000	3.000	3.000
				Auxiliary consumption	0.00	14.50	14.50	12.00	12.00	12.00	12.00
				Heat Rate	-	3,633.00	3,316.00	3,000.00	3,000.00	3,000.00	3000
<b>1 Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) <math>(REC)_s = (Q_s)_n \times P_s</math></b>	106.099	60.350	14.601	<b>Computation of Variable Charges</b>							
				Variable Charge (Coal)		391.196	365.791	330.827	330.827	330.827	330.827
				Variable Charge (Oil)		124.093	70.585	16.592	16.592	16.592	16.592
<b>2 Heat Contribution from SFO / Alternate Fuel <math>(H_s) = (Q_s)_n \times (GCV)_s</math></b>	221.335	125.897	30.459	<b>Total</b>		515.289	436.376	347.419	347.419	347.419	347.419
				<b>Price of fuel from Form-15/15A</b>							
				Coal Cost	(Rs./MT)	3541.67	3541.67	3541.67	3541.67	3541.67	3541.67
<b>3 Heat Contribution from coal <math>(H_p)_s = GHR - H_s</math></b>	3411.66	3190.10	2969.54	Oil Cost	(Rs./KL)	48669.34	48669.34	48669.34	48669.34	48669.34	48669.34
				<b>Computation of Fuel Expenses for Calculation of IWC:</b>							
<b>4 Specific Primary Fuel Consumption <math>(Q_p)_n = H_p / (GCV)_p</math></b>	0.944	0.883	0.822	ESO in a year	(MUs)	522.12	839.35	1187.16	1187.16	1187.16	1190.41
				ESO for 50 days	(MUs)	71.328	114.666	162.624	162.624	162.624	162.624
<b>5 Rate of Energy charge from Primary Fuel (p/kwh) <math>(REC)_p</math></b>	334.473	312.751	291.128	Cost of coal for 50 Days	(Rs. Lakh)	2790.31	4194.37	5380.05	5380.05	5380.05	5380.05
				Cost of oil for 2 months	(Rs. Lakh)	1079.85	987.43	328.28	328.28	328.28	329.18
<b>6 Rate of Energy charge ex-bus (p/kWh) <math>(REC) = ((REC)_s + (REC)_p) / (1 - (AUX))</math></b>	515.289	436.376	347.419	Energy Expenses for 45 days	(Rs. Lakh)	3307.89	4503.36	5084.88	5084.88	5084.88	5084.88
				<b>Coal</b>							
				Wtd. Avg. Price of Coal	Rs./MT	3431.03	3520.42	3542.17			3541.67
				Wtd. Avg. GCV of Coal as received	kCal/Kg	3698	3696	3760			3697.55
				<b>Wtd. Avg. GCV of Coal as received after adjustment of 85 kcal/kg</b>							3612.55
				<b>Sec. Oil</b>							
				Wtd. Avg. Price of Secondary Fuel	Rs./KL		48669.34				48669.34
				Wtd. Avg. GCV of Secondary Fuel	kCal/L		10153.00				10153.00

*Signature*

**PETITIONER**

*Signature*

**Statement of Additional Capitalisation during five year before the end of useful life of the Project**

Name of the Company :	NTPC Limited
Name of the Power Station :	Barauni Thermal Power Station Stage-I
COD	15-12-2018

(Amount in Rs. Lakh)

S. No.	Year	Work / Equipment added during last five years of useful life of each Unit/Station	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Impact on life extension
			Accrual basis	Un-discharged Liability included in col. 4	Cash basis	IDC included in col. 4			
1	2	3	4	5	(6 = 4 - 5)	7	8	9	10
Not applicable									

**Note:**

1. Cost Benefit analysis for capital additions done should be submitted along with petition for approval of such schemes
2. Justification for additional capital expenditure claim for each asset should be relevant to regulations under which claim has been made and the necessity of capitalization of the asset.

  
 (Petitioner)





Name of the Petitioner  
Name of the Generating Station

NTPC Ltd  
Barauni TPS Stage-I (220 MW)

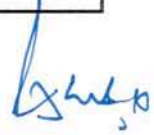
**Statement of Capital cost**

(Amount in Rs. Lakh)

S. No.	Particulars	stage I As on relevant date 23.05.2019		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as on 01.04.2019 as per books	3249.2	0.0	3249.2
	b) Amount of IDC in A(a) above	0.0	0.0	0.0
	c) Amount of FC in A(a) above	0.0	0.0	0.0
	d) Amount of FERV in A(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in A(a) above	0.0	0.0	0.0
	f) Amount of IEDC in A(a) above	0.0	0.0	0.0
		0.0	0.0	0.0
B	a) Addition in Gross Block Amount during the period (Direct purchases)	0.0	0.0	0.0
	b) Amount of IDC in B(a) above	0.0	0.0	0.0
	c) Amount of FC in B(a) above	0.0	0.0	0.0
	d) Amount of FERV in B(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in B(a) above	0.0	0.0	0.0
	f) Amount of IEDC in B(a) above	0.0	0.0	0.0
		0.0	0.0	0.0
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)	8100.8	3245.9	4855.0
	b) Amount of IDC in C(a) above	338.3	0.0	338.3
	c) Amount of FC in C(a) above	0.0	0.0	0.0
	d) Amount of FERV in C(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in C(a) above	0.0	0.0	0.0
	f) Amount of IEDC in C(a) above	793.2	0.0	793.2
		0.0	0.0	0.0
D	a) Deletion in Gross Block Amount during the period	0.0	0.0	0.0
	b) Amount of IDC in D(a) above	0.0	0.0	0.0
	c) Amount of FC in D(a) above	0.0	0.0	0.0
	d) Amount of FERV in D(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in D(a) above	0.0	0.0	0.0
	f) Amount of IEDC in D(a) above	0.0	0.0	0.0
		0.0	0.0	0.0
E	a) Closing Gross Block as on 23.05.2019 as per books	11350.0	3245.9	8104.1
	b) Amount of IDC in E(a) above	338.3	0.0	338.3
	c) Amount of FC in E(a) above	0.0	0.0	0.0
	d) Amount of FERV in E(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in E(a) above	0.0	0.0	0.0
	f) Amount of IEDC in E(a) above	793.2	0.0	793.2

**Note:**

1. Relevant date/s means date of COD of unit/s/station and financial year start date and end date

  
(Petitioner)

Name of the Petitioner  
Name of the Generating StationNTPC Ltd  
Barauni TPS Stage-I (220 MW)Statement of Capital Woks in Progress

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as on 01.04.2019 as per books	11668.2	5409.8	6258.4
	b) Amount of IDC in A(a) above	270.1	0.0	270.1
	c) Amount of FC in A(a) above	0.0	0.0	0.0
	d) Amount of FERV in A(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in A(a) above	0.0	0.0	0.0
	f) Amount of IEDC in A(a) above	797.7	0.0	797.7
		0.0	0.0	0.0
		0.0	0.0	0.0
B	a) Addition in CWIP during the period	675.4	0.0	675.4
	b) Amount of IDC in B(a) above	245.8	0.0	245.8
	c) Amount of FC in B(a) above	0.0	0.0	0.0
	d) Amount of FERV in B(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in B(a) above	0.0	0.0	0.0
	f) Amount of IEDC in B(a) above	411.8	0.0	411.8
		0.0	0.0	0.0
		0.0	0.0	0.0
C	a) Transferred to Gross Block Amount during the period	8100.8	3245.9	4855.0
	b) Amount of IDC in C(a) above	338.3	0.0	338.3
	c) Amount of FC in C(a) above	0.0	0.0	0.0
	d) Amount of FERV in C(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in C(a) above	0.0	0.0	0.0
	f) Amount of IEDC in C(a) above	793.2	0.0	793.2
		0.0	0.0	0.0
		0.0	0.0	0.0
D	a) Deletion in CWIP during the period	0.0	0.0	0.0
	b) Amount of IDC in D(a) above	0.0	0.0	0.0
	c) Amount of FC in D(a) above	0.0	0.0	0.0
	d) Amount of FERV in D(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in D(a) above	0.0	0.0	0.0
	f) Amount of IEDC in D(a) above	0.0	0.0	0.0
		0.0	0.0	0.0
		0.0	0.0	0.0
E	a) Closing CWIP as on 23.05.2019 as per books	4242.7	2163.9	2078.8
	b) Amount of IDC in E(a) above	177.6	0.0	177.6
	c) Amount of FC in E(a) above	0.0	0.0	0.0
	d) Amount of FERV in E(a) above	0.0	0.0	0.0
	e) Amount of Hedging Cost in E(a) above	0.0	0.0	0.0
	f) Amount of IEDC in E(a) above	416.3	0.0	416.3

  
(Petitioner)



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## Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Barauni Thermal Power Station Stage-I							
(Amount in Rs Lakh)									
S. No.	Particulars	Existing	2019-20	2019-20	2019-20	2020-21	2021-22	2022-23	2023-24
		2018-19	(01.04.2019 to 22.05.2019)	(23.05.2019 to 15.12.2019)	(16.12.2019 to 31.03.2020)				
1	2	3	4			5	6	7	8
1	Gross Normative loan – Opening		2,274.41	5,672.89	8,225.65	8,225.65	11,337.77	11,757.77	11,757.77
2	Cumulative repayment of Normative loan up to previous year		0.00	0.00	825.03	1,429.33	3,948.54	7,130.74	10,424.29
3	<b>Net Normative loan – Opening</b>		2,274.41	5,672.89	7,400.63	6,796.32	7,389.23	4,627.03	1,333.49
4	Add: Increase due to addition during the year / period		-	-	-	3,112.12	420.00	-	-
5	Less: Decrease due to de-capitalisation during the year / period		0.00	0.00	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		0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Less: Repayment of Loan		0.00	825.03	604.31	2519.21	3182.20	3293.55	1333.49
9	<b>Net Normative loan - Closing</b>		2,274.41	4,847.86	6,796.32	7,389.23	4,627.03	1,333.49	-
10	<b>Average Normative loan</b>		2,274.41	5,260.37	7,098.47	7,092.78	6,008.13	2,980.26	666.74
11	Weighted average rate of interest		8.3098	8.1133	7.8500	7.8500	7.8500	7.8500	7.8500
12	<b>Interest on Loan</b>		<b>189.00</b>	<b>426.79</b>	<b>557.23</b>	<b>556.78</b>	<b>471.64</b>	<b>233.95</b>	<b>52.34</b>


  
(Petitioner)



**Calculation of Interest on Working Capital**

<b>Name of the Company :</b>	<b>NTPC Limited</b>
<b>Name of the Power Station :</b>	<b>Barauni Thermal Power Station Stage-I</b>

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20 (01.04.2019 to 22.05.2019)	2019-20 (23.05.2019 to 15.12.2019)	2019-20 (16.12.2019 to 31.03.2020)	2020-21	2021-22	2022-23	2023-24
1	2	3	4A	4B	4C	5	6	7	8
1	Cost of Coal/Lignite			2790.31	4194.37	5380.05	5380.05	5380.05	5380.05
2	Cost of Main Secondary Fuel Oil			1079.85	987.43	328.28	328.28	328.28	329.18
3	Fuel Cost								
4	Liquid Fuel Stock								
5	O & M Expenses			576.81	576.81	869.85	869.85	869.85	869.85
6	Maintenance Spares			1384.33	1384.33	2087.64	2087.64	2087.64	2087.64
7	Receivables			4601.45	5952.47	7081.78	7171.63	7157.93	7129.53
8	Total Working Capital			10432.75	13095.41	15747.60	15837.45	15823.75	15796.25
9	Rate of Interest		Units under shutdown	12.05	12.05	12.05	12.05	12.05	12.05
10	<b>Interest on Working Capital</b>			<b>1257.15</b>	<b>1578.00</b>	<b>1897.59</b>	<b>1908.41</b>	<b>1906.76</b>	<b>1903.45</b>

  
 Petitioner



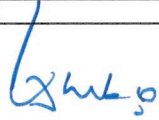
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Statement of Liability FlowName of the Petitioner : NTPC Limited  
Name of the Generating Station :Barauni TPS

Stage-I

(Amount in Rs Lakh)

Party	Asset / Work	Year of actual capitalisation	Original Liability	Liability as on 23.05.2019	Discharges (Year wise)	Reversal (Year wise)
1030575 BHARAT HEAVY ELECTRICALS LIMITED	Stage II Turnkey	2018-19	20,45,88,655.30	20,45,88,655.30	-	
1069130 BIHAR STATE POWER GENERATION C	Stage II Turnkey	2018-19	12,00,00,000.00	12,00,00,000.00	-	
			32,45,88,655.30	32,45,88,655.30	-	

*Note: No new Liability created in Stage I & II from 01.04.2019-23.05.2019*  
(Petitioner)

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**Summary of issue involved in the petition**

Name of the Company :		NTPC Limited
Name of the Power Station :		Barauni Thermal Power Station Stage-I
1	Petitioner:	NTPC Limited
2	Subject	Tariff petition for 2019-24
3	<b>Prayer:</b> i) Approve tariff of Barauni Thermal Power Station Stage-I 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.	
4	<b>Respondents</b>	
	Name of Respondents	
	a. North Bihar Power Distribution Company Ltd	
	b. South Bihar Power Distribution Company Ltd	
5	<b>Project Scope</b>	
	Cost	
	Commissioning	
	Claim	
	AFC	
	Capital cost	
	Initial spare	
	NAPAF (Gen)	
	Any Specific	

*Signature*

*CS*

Annexure - A



Regional Office- cum-Laboratories

## Bihar State Pollution Control Board

Barauni Industrial Area, P.o.-Tilrath, Distt.-Begusarai-851122

Ref. No. :-ROB(A+W)617/17

Barauni, Dated-

### EMISSION CONSENT ORDER

With reference to the application no. 350952 dated 20.04.2016 of M/s Barauni Thermal Power Station, At+P.O.-B.T.P.S. Barauni, Dist-Begusarai for consent under section 21 of the Air (Prevention & Control of Pollution) Act, 1981, he/they is/are granted consent to operate his/their plant at At+P.O.-B.T.P.S. Barauni, Dist-Begusarai for generation of electricity with capacity 220 MW for the period upto 31.03.2021 with the following conditions:-

- 1 That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 22,23 and 31A of the Air (Prevention & Control of Pollution) Act, 1981 and further shall extend co-operation to the Board in performing its functions entrusted under sections 24,25 and 26 of the Act;
- 2 That, he /they shall comply with the requirements of rule 14 of the Environment (Protection) Rules, 1986; rules 4,5,7,9,10 and 11 of the Hazardous Wastes (Management and Handling), Rules 1989; rules 4,5,7,8,10,11,12,13,15,17 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989; and the provisions of the Public Liability Insurance Act, 1991, whichever is applicable;
- 3 That, he/they shall monitor his/their emission(s) and the ambient air quality from representative point regularly and shall maintain its quality in conformity with Board's standards and shall produce its proof, as and when asked for;
- 4 That, he/they shall submit application for consent again 30 days before the expiration of the period of consent i.e. 28.02.2021 or within 30 days from the date of receipt of this order whichever is applicable.
- 5 *That, the unit shall operate ESP to ensure emission standard notified under the E(P) Rules.*
- 6 *That, the unit shall ensure connectivity of online stack emission monitoring system with CPCB server before operation of the Plant.*
- 7 *That, the unit shall ensure plantation in the vacant land to develop green belt in & around plant premises.*
- 8 *That, the unit shall ensure dry fly ash collection from silos for its proper utilization by the concerned stakeholders with the proper detailed record keeping.*
- 9 *That, the unit shall ensure fly ash utilization as per the notification.*
- 10 *That, the unit shall explore water spray system for control of fugitive emission specially coal handling plant.*
- 11 *That, the unit shall submit flue gas and AAQ report monthly to the Board.*
- 12 *That, the unit shall comply with the new emission standard notified by MOEF dated 07.12.15 (PM-30 mg/NM<sup>3</sup>, So<sub>2</sub>-100 mg/Nm<sup>3</sup>, Nox 100 mg/NM<sup>3</sup> and Hg 0.03 mg/NM<sup>3</sup>)*

Sd/-

07.03.2018

(Alok Kumar)

Member Secretary

Dated. 8.3.18

Memo No. 413.....

Copy Forwarded to M/s Barauni Thermal Power Station, At+P.O.-B.T.P.S. Barauni, Dist-Begusarai for information and necessary action.

(Diensh Kumar)

Regional officer

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Regional Office- cum-Laboratories

## Bihar State Pollution Control Board

Barauni Industrial Area, P.o.-Tilrath, Distt.-Begusarai-851122

Ref. No. :- ROB(A+W) 617/17

Barauni, Dated-

### DISCHARGE CONSENT ORDER

With reference to the application no. **350952** dated **20.04.2016** of **M/s Barauni Thermal Power Station, At+P.O.-B.T.P.S. Barauni, Dist-Begusarai** for consent under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974, he/they is/are granted consent to bring into use his/their new/altered/existing outlet(s) for discharge of trade effluent and/or domestic sewage at **At+P.O.-B.T.P.S. Barauni, Dist-Begusarai** for generation of electricity with capacity 220 MW for the period upto **31.03.2021** with the following conditions:-

- 1 That, he/they shall not make any alteration, addition, deletion or modification in the plant without the prior clearance from the Board and shall also abide by the obligations under sections 24,31 and 33A of the Water (Prevention & Control of Pollution) Act, 1974 and further shall extend co-operation to the Board in performing its functions entrusted under sections 20,21,23,30 and 32 of the Act;
- 2 That, he /they shall comply with the requirements of rule 14 of the Environment (Protection) Rules, 1986; rules 4,5,7,9,10 and 11 of the Hazardous Wastes (Management and Handling), Rules 1989; rules 4,5,7,8,10,11,12,13,15,17 and 18 of the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989; and the provisions of the Public Liability Insurance Act, 1991, whichever is applicable;
- 3 That, he/they shall monitor his/their effluents (s) regularly and maintain its quality in conformity with Board's standards and shall produce its proof, as and when asked for;
- 4, That, he/they shall submit application for consent again 30 days before the expiration of the period of consent i.e. **28.02.2021** or within 30 days from the date of receipt of this order, whichever is applicable.
5. **That, the unit shall operate ETP system to ensure treated effluent for ash slurry preparation and gardening.**
6. **That, the unit shall ensure connectivity of online effluent quality monitoring system with CPCB server.**
7. **That, the unit shall discharge ash slurry into ash dyke with impervious base and ensure re-use of supernatant water in ash slurry preparation through AWRS.**
8. **That, the unit shall obtain permission from Central Ground Water Authority(CGWA) for extraction of ground water.**
9. **That, the unit shall not discharge any effluent without treatment and outside the ash dyke and shall maintain the local ecology of the Area.**
10. **That, the unit shall submit analysis report of their treated effluent (Domestic and Industrial) monthly to the Board.**

Sd/-

07.03.2018

(Alok Kumar)

Member Secretary

Dated... 8.3.18

Memo No. 414.....

Copy Forwarded to **M/s Barauni Thermal Power Station, At+P.O.-B.T.P.S. Barauni, Dist-Begusarai** for information and necessary action.

(Dinesh Kumar)

Regional officer



**Site Visit report of visit to Barauni Thermal Power Station, Begusarai District, Bihar on 21<sup>st</sup> and 22<sup>nd</sup> May 2019.**

On a telephonic request from Mr. A.K. De, AGM (P), NTPC, Barauni Thermal Power Station the undersigned made a visit to the ash dyke area of the Power plant to access the present condition of the ash disposal area and make suggestions regarding its improvement if required. The plant has recently been taken over by NTPC from Bihar State Electricity Board. The layout plan of the ash dyke and the cross section of the ash dyke are shown in drawing number ETG039/C-02 provided by M/s. STEAG Energy service (India) Pvt. Ltd. There are no details provided for the analysis of slope stability and the soil parameters used for the analysis. The ash dyke design in the report does mention about the starter dyke but the cross section in the drawing does not show starter dyke in the section. The details regarding the construction of the starter dyke, the material used and its cross section are not available. There were five bore holes drilled at the lagoon and the geotechnical testing report is available. The report is more suited for foundation design rather than for slope stability analysis and does not show the soil parameters for the foundation soil and for the fill material required for slope stability. There is no borehole data to show the state of the ash dyke and its compactness. The permeability of the soil is in the range of  $10^{-2}$  cm/sec making the foundation soil very pervious.

During the site visit, it was observed that the lagoon has been divided in two compartments by constructing a middle dyke. The salient observations are listed below:

1. On three sides of the lagoon is ash dyke constructed by using fly ash and on the fourth side there is an earthen bund, called Gupta bund constructed for flood protection purposes.
2. There is HDP lining provided on the upstream face of the slope as well as on the bottom of the compartment 1.
3. There is no soil cover and the turfing provided on the downstream side of the slope as shown in the drawing.
4. There is no lining provided on the upstream face and only HDP liner is there.
5. There is some stone pitching on the lower portion of the downstream side of the slope but it could not be ascertained if it is part of the toe filter.
6. It could not be ascertained if there is any soil cover provided in this region.
7. There is a drain on the periphery of the ash dyke but it is choked and it is not sure whether the slope of the drain is proper and if it could be used to drain water.
8. There is no test data available to show the current state of the ash dyke in terms of its density at certain locations.
9. There are two decantation wells of 4 m inner diameter provided, one in each compartment. Two openings of square shape of 350 mm size at diametrically opposite locations are provided at each depth. There is filter provided in these openings but no details are available about the material placed in it.
10. There is no pipe provided under the decantation wells and there is no filter material placed at the bottom of these wells. Hence it cannot be used as decantation well and may be used as intake well for pumping out water.

11. There are few houses located very close to the ash dyke. There is a retaining wall constructed in some portion of the dyke near the houses but in some other areas only stone pitching is provided.

Based on the site visit to the area, discussion held with NTPC officials and the reports and drawing studied, the following recommendations are made:

1. The ash dyke section needs immediate attention in terms of soil cover on the downstream side and protection against seepage on the upstream side.
2. At least three boreholes up to 8m depth should be bored on the ash dyke to ascertain the condition of the ash dyke in terms of its compactness and presence of any earth material inside.
3. The upstream face of the slope should be covered by tiles on top of HDP layer and plastered to make it as impervious as possible.
4. The downstream face of the slope should be covered with soil cover and turfing as per the design and specifications provided by M/s. STEAG Energy service (India) Pvt. Ltd.
5. Water logging of more than 1 m depth should not be allowed and the water should be pumped out of the pond to maintain it.
6. Toe filter and drains should be made functional.
7. The decantation wells may be used as intake wells.
8. Any damages to the section of the ash dyke should be immediately fixed before filling of the pond.
9. The section of the ash dyke as shown in the drawing should be completed before filling up of the pond up to 2m depth.



(DR SARVESH CHANDRA)

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Greater Noida 201310.





Annexure - C

General Guidelines for  
765/400/220/132kV substations and  
switchyard of Thermal/ Hydro Power Projects

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- Temperature load: System and system component design criteria, which require ambient temperature extremes shall use the range from (-)3.9<sup>0</sup>C to 48.3<sup>0</sup>C for dry bulb temperatures.

### 12.2 Civil works

- i) Basis of all civil design for foundations of all structures shall be geo-technical investigation report. The report shall constitute the main soil data viz recommended type of foundation, safe bearing capacity for various types of foundations and other investigation data soil resistivity, water table etc.

The civil specification for Main Plant shall be followed as a guideline for Sub-station/ switchyard equipment foundations, control room building.

- ii) The switchyard area shall be filled with 150/100mm thick gravels to restrict the growth of grass in outdoor sub-station/ switchyard. The gravels shall consist of 75/50mm thick of 40mm stone size on the top and 75/50mm thick of 20mm stone size below.

Each layer shall be compacted by using ½ ton roller with 4-5 passes and suitable water sprinkling. Before laying the gravel fill, the top layer of the soil shall be treated for anti-weed considering the types of weeds found in the vicinity.

### 12.3 Fencing

The fence around sub-station/ switchyard area shall comprise of PVC coated GI chain link fencing of minimum 8G (including PVC coating) of 75mm mesh size and of height 2.4m above the toe wall with a 600mm high concertina at the top, such that total fence height of 3m above the toe wall is achieved. The diameter of the steel wire for chain link fence (excluding PVC coating) shall not be less than 12G.

### 13.0 INTERNATIONAL/ INDIAN STANDARDS

The list of major International/ Indian Standards is given in Schedule - 15

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- (B) Alternatively, these transformers may be provided with Nitrogen injection based fire protection system. The transformers of 220kV or higher voltage may preferably be provided with Nitrogen injection based fire protection system in addition to automatic high velocity water spray system;
- (C) Lubricating oil systems including storage tanks, purifier units, coolers, turbine oil canal pipelines;
- (D) Generator seal oil system tanks, coolers;
- (E) Steam generator burner fronts.
- (ii) Steam turbine bearing housing and air pre-heater shall be provided with manually actuated high velocity water spray system.
- (iii) Automatic medium velocity water spray system, complying with TAC guidelines, shall be provided for the areas relating to:
- (A) Cable galleries, cable vaults, cable spreader rooms, cable risers, cable shafts etc.;
- (B) Coal conveyors, transfer points, crusher houses etc.;
- (C) Fuel oil pumping stations;
- (D) LDO and day oil tanks.;
- (E) DG set building.
- (iv) Automatic foam system shall be provided for fuel oil storage tanks as per NFPA guidelines.
- (v) Automatic inert gas flooding system, comprising of 2x100% inert gas cylinder batteries and conforming to NFPA, shall be provided for Unit control rooms, control equipment rooms and area above false ceiling of these rooms.
- (g) Portable fire extinguishers as per TAC guidelines shall be provided for each room/area of power station in addition to fixed fire protection system to extinguish fire in its early phase to prevent its spread.
- (h) Fire station and fire tenders alongwith trained staff shall also be provided for the Station.
- (i) Passive fire protection measures such as fire barriers for cable galleries and shafts etc., fire retardant coatings, fire resistant penetration sealing for all openings in floors, ceilings, walls etc., fire proof doors etc. shall be provided to prevent spreading and for containment of fire.

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**(5) High pressure and low pressure compressed air systems**

- (a) High pressure (HP) compressed air system shall be provided to meet the compressed air requirement of turbine governing system and MIV. The pressure of HP air compressor shall be 1.1 times the governor working pressure. However, the HP compressed air system shall not be required in case the high pressure nitrogen system has been provided for turbine governing system and MIV.
- (b) Low-pressure (LP) compressed air system shall be provided to meet requirements such as inflatable rubber seal of shaft glands, operation of pneumatic tools, cleaning, generator braking and jacking, boosting pressure in the fire protection hydro-pneumatic tank, pneumatic detection line for the operation of deluge valve provided for the generator transformer, etc.
- (c) A separate compressed air system, wherever required, shall be provided to supply the compressed air for depressing the water level in the draft tube below the runner to run the machine in synchronous condenser operation mode.

(6) **Power house lift-** The lift and its associated equipment shall comply with the requirements of latest versions of relevant IS. A minimum of one lift shall be provided in the power house besides two sets of staircases for the movement of persons/ goods.

**(7) Oil handling and purification system**

- (a) The insulating oil required in the generator transformers for the hydro station shall conform to relevant IS. The type of turbine oil used as a working fluid in speed regulation system and as a lubricant and a coolant for thrust and guide bearings shall be as per the recommendations of the equipment manufacturer.
- (b) The oil handling system for each grade of oil shall incorporate two tanks (one for pure oil and another for used oil), associated piping and control equipment.
- (c) The oil handling facilities shall be located within the power house or in an isolated building outdoors. To convey the oil to the turbines, generators and transformers, suitable oil pipes shall be laid within the power house. Portable type pumps and purifiers and standard oil drums shall be used for small hydro- electric stations.

**(8) Fire fighting system****(a) General**

- (i) The state of the art fire detection, alarm and protection system shall be provided for the Station. The fire protection system as well as hydrant system shall be designed complying with the guidelines of Tariff Advisory Committee (TAC) or National Fire Protection Association (NFPA) as applicable.

- (ii) All major and minor fire risks in the Station such as transformers, cable galleries/shafts, control rooms etc. shall be protected against the fire by suitable automatic fire protection systems. The state of the art automatic fire detection and alarm system shall be provided to facilitate detection of fire at the incipient stage and warning to fire fighting staff.
- (iii) Portable and mobile fire extinguishers shall be provided to extinguish a fire in the initial stage to prevent its spread.
- (b) The transformers or reactors of 10 MVA and higher rating or oil filled transformers or reactors with oil capacity of more than 2000 litres shall be provided with automatic high velocity water spray system as per relevant IS or Nitrogen injection based fire protection system. The transformers or reactors of 220kV or higher voltage may be provided with Nitrogen injection based fire protection system in addition to automatic high velocity water spray system.
- (c) The provision shall be made for water sprinkler system for oil plant rooms, especially in an underground power house. In addition, provision shall also be made for fire hose cabinets/hydrants inside the power house as well as for the transformer area. The capacity of overhead / pressurised water tank shall be adequate to meet the fire water requirement for one generator transformer for 40 minutes, plus operation of one hydrant for 60 minutes. Two nos. of fire pumps, each capable of pumping water to fill the overhead water tank in 6 hours time shall be provided.
- (9) **Equipment for mechanical workshop-** Mechanical workshop equipment shall be provided for essential maintenance work and on-site repairs. The standard workshop equipment like centre lathe, universal milling machine, pedestal drilling machine, pedestal grinding machine, hacksaw machine, fitters, benches/racks, miscellaneous measuring and cutting tools etc. shall be provided.

### 37. Electrical System

#### (1) General requirements

- (a) For the purpose of design of equipment or systems, an ambient temperature of 40°C or higher as applicable to Station site and relative humidity of 95% shall be considered.
- (b) All equipments shall be suitable for rated frequency of 50Hz with a variation of -5% and +3%. The overall system shall be designed considering maximum voltage variation and combined variation of voltage and frequency as specified in Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007.

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- (iv) Reduced voltage operation;
  - (v) Power reversal mode.
- (d) The 'Sequence of events' recorder, transient fault recorder, on-line DC Line fault locator, GPS system, visual display system, operator control protection and monitoring system shall be a part of the HVDC system.
6. **Telecommunication-** For smooth operation of the HVDC system, communication network with high reliability and availability shall be provided for transmission of control and protection signals between the two HVDC terminals. The communication system shall be through optical fibers, PLCC or both.
7. **Electrode**
- (a) The earth electrode station shall be connected to the terminal by means of an overhead transmission line. The earth electrode shall be located approximately 25 km (radial distance) away from the converter station. It shall be designed to operate continuously at nominal load and overload as per the requirement.
  - (b) The earth electrode station shall have sub-electrodes. The maximum current density at the sub-electrode surface, i.e. the boundary between backfill (coke) and soil shall not exceed  $0.5 \text{ A/m}^2$  in clay soils. The number of sub-electrodes shall be determined considering that 30% of the sub-electrodes are not available. The amp hour rating for earth electrode shall be selected based on the study for duration of earth electrode current and the service life of the earth electrode station.
  - (c) Each ground electrode shall have a resistance of less than or equal to 0.3 ohm (both working as an anode and cathode) at  $50^\circ \text{ C}$  ambient temperature.
  - (d) **Touch voltage ( $V_t$ )-** The touch voltage between any grounded metallic object in the electrode station (including the connection to the overhead electrode line) and any point in the soil which can be touched by a person simultaneously shall not exceed 40 V when the electrode is operating at the 5 sec overload rating.
  - (e) **Step Voltage ( $V_s$ )-** The step voltage at ground level above the ground electrode when the electrode is operating at the temporary overload rating shall not exceed  $(V_s) = 5.0 + 0.03ps$ , where  $ps$  is the minimum local soil surface resistivity in ohm-m.
  - (f) The above values of resistance, touch and step voltages would depend on the actual geophysical characteristics of the soil at the place where the electrode station is located. Suitable mitigation measures shall have to be adopted in case the site has high resistivity.

AMARJEET SINGH, Secy.

[ADVT. III/4/187-G/10-Exty.]

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के.ओ.सु.ब. इकाई एनटीपीसी बरौनी  
पोस्ट : एनटीपीसी बरौनी  
जिला : बेगूसराय (बिहार)  
दिनांक: 08.03.2019

पत्र संख्या ई-17099/एनटीपीसी(ब)/आसू/सर्वे/2019/174

विषय:- एनटीपीसी बरौनी सुरक्षा समीक्षा बोर्ड का मिटिंग ।

उपरोक्त विषयान्तर्गत के.ओ.सु.ब. इकाई एनटीपीसी बरौनी में एनटीपीसी बरौनी एवं के.ओ.सु.ब. के अधिकारियों के द्वारा सुरक्षा समीक्षा किया गया, । सुरक्षा समीक्षा के दौरान सर्वप्रथम कॉलोनी एवं दानो संयंत्र के सुरक्षा मजबूती के बारे में चर्चा एवं समीक्षा किया गया । जिसमें निम्न बिंदुओं पर चर्चा किया गया :-

01. सर्वप्रथम कॉलोनी के सुरक्षा हेतु सर्वे कया गया जिसमें निश्चय किया गया कि जगतपुरा से कॉलोनी में प्रवेश हेतु गेट को पुरी तरह से बंद कर सिर्फ दो पहिया वाहन हेतु रास्ता छोड़ने की जरूरत है । बांध से नीचे प्रवेश करने के पश्चात सामने एवं बायें सड़क पर बेरियर लगाने की जरूरत है जिससे की सिर्फ पदल आने जाने वाले व्यक्तियों के द्वारा इस्तेमाल किया जाए एवं दाहिने तरफ का रास्ता खुला रहेगा जिससे कि दो पहिया वाहन कॉलोनी मंदिर के उत्तर से बैंक, बाजार एवं चकिया मेन रोड पर आना-जाना कर सकता है ।
02. लोहिया नगर माउण्ट कार्मेल स्कूल के सामने का रास्ता अधिक व्यस्त होने के कारण स्कूल एवं बच्चों की सुरक्षा को देखते हुए रोड बेरिकेड लगाने की जरूरत है ।
03. वर्तमान मडिकल दुकान से बाजार की तरफ जाने बाला रास्ता का पहला बायें की तरफ जाने वाले रास्ता (आवास संख्या ईएफ-01 के पास ) पर रोड बेरिकेड लगाने की जरूरत है । जिससे की अनाधिकृत व्यक्ति कॉलोनी में न जा पाये ।
04. कॉलोनी में स्थिति एटीएम से आगे एवं आवास संख्या सी-2 के पास बेरियर लगाया जाएगा जिससे संयंत्र की ओर कीसी अनावश्यक व्यक्ति का प्रवेश न हो ।
05. रेलवे लाईन से पहले दाहिने तरफ जाने वाले रास्ता जो महाप्रबंधक आवास की तरफ जाता (आवास संख्या सीएफ-09/10, सीएफ-11/12 के बीच के रास्ते) है उस पर रोड बेरिकेड लगाने की जरूरत है ।
06. कॉलोनी मेन रोड पर जगह जगह रोड पर गति अवरोधक लगाने की जरूरत है ।
07. बाजार होकर चकिया पुलिस थाना की तरफ जाने वाले रास्ता जहां पर कॉलोनी का परिधि दिवार समाप्त होती है वहां एक गेट लगाने की जरूरत है एवं उस गेट पर निजी सुरक्षा 24 घंटे के लिए गार्ड तैनात करने की जरूरत है जिससे की कॉलोनी में अनाधिकृत व्यक्ति का प्रवेश रोका जा सके ।
08. स्टेज-1 के स्टोर, स्वीच यार्ड के पीछे का हिस्सा एवं पम्प हाउस के नजदीक, प्रशासनिक भवन के पीछे, प्रटोल पम्प के पास, सीएचपी के पास, पश्चिमी रेलवे गेट के पास, पूर्वी रेलवे गेट के पास, सीडब्लू पम्प हाउस, ओ एंड एम के पास, स्टेज-2 के मुख्य द्वार के नजदीक, वाच टावर संख्या 01 एवं 02 के बीच, वाच टावर संख्या 3 एवं 04 के बीच, वाच टावर संख्या 04 एवं 05 के बीच, वाच टावर संख्या 05 एवं 06 के बीच, वाच टावर संख्या 06 एवं 07 के बीच, रेलवे गेट के पास, सेलो गेट के पास, वाच टावर संख्या 08 के पास, डीएम संयंत्र के पास, बैंगन टिपलर से रेलवे गेट के बीच हाई मास्ट लाईट लगाने की आवश्यकता है एवं कॉलोनी के रेलवे कॉसिंग के पास, पम्प हाउस के पास, मंदिर के पास, एस पॉण्ड के कॉनर के पास, हॉस्पिटल के पास, मार्केट के पास, बैंक के पास हाई मास्ट लाईट लगाने की आवश्यकता है जिससे की आसपास में हो रहे गतिविधियों का पता चल सके एवं असमान्य गतिविधियों को रोका जा सके ।

#### 09. वाच टावर:-

- i. पुराने संयंत्र में सीएचपी के पास 01 वाच टावर बनाने की जरूरत है जिससे की सीएचपी एवं न्यू संयंत्र का निगरानी किया जा सके ।
- ii. बांध के सटे हुए ओ एण्ड एम स्टोर के सामने 01 वाच टावर बनाने की जरूरत है जिससे की ओ एण्ड एम स्टोर की निगरानी किया जा सके ।
- iii. ओ एण्ड एम स्टोर के पिछले हिस्से में रेलवे ट्रैक के पास 01 वाच टावर बनाने की जरूरत है जिससे की ओ एण्ड एम स्टोर एवं रेलवे ट्रैक की निगरानी किया जा सके ।
- iv. सिवरेज पम्प हाउस के पास 01 वाच टावर बनाने की जरूरत है जिससे की सिवरेज पम्प हाउस एवं रेलवे यार्ड की निगरानी किया जा सके ।
- v. के.ओ.सु.ब. कॉलोनी के पीछे उत्तर पूर्व कार्नर (परिधि दिवार के अंदर) 01 वाच टावर बनाने की जरूरत है जिससे कि एस पॉण्ड की निगरानी किया जा सके ।
- vi. प्रशासनिक भवन के पीछे एवं चकिया थाना के सामने संयंत्र चार दिवारी के अन्दर 01 वाच टावर बनाने की जरूरत है जिससे की संयंत्र के अन्दर एवं आसपास का गतिविधियों को निगरानी किया जा सके ।
- vii. पुराने संयंत्र के स्टोर के पिछले हिस्से में स्टोर संख्या 06 एवं 07 के पीछे वाच टावर बनाने की जरूरत है जिससे की स्टोर के पीछे का भाग को निगरानी किया जा सके ।
- viii. पुराने संयंत्र के स्टोर गेट के सामने लगभग 100 मीटर की दूरी पर वाच टावर बनाने की जरूरत है जिससे की स्टोर के आगे का भाग को निगरानी किया जा सके ।

नोट:- सारे वाच टावर पर सर्च लाईट, चार्जिंग, पंखा एवं इंटरकॉम की जरूरत है जिससे की कीसी आपातकालीन स्थिति में उपयोग किया जा सके ।

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## 10. एलिवेटेड पोस्ट:-

- पुराने संयंत्र के अंदर पूर्वी रेलवे गेट के नजदीक बैटरी रूम के पास एक एलिवेटेड पोस्ट बनाने की जरूरत है जिससे की पूर्व की तरफ जा रहे रेलवे लाईन ईटीपी प्लांट, डीएम प्लांट भवन, टैंक एरिया का निगरानी किया जा सके ।
- मटेरियल गेट के उपर एलिवेटेड पोस्ट बनाने की जरूरत है जिससे वाहनों का उपरी हिस्सा एवं स्वीच यार्ड का पिछला हिस्सा का निगरानी किया जा सके ।
- पश्चिमी रेलवे गेट के नजदीक एक एलिवेटेड पोस्ट बनाने की जरूरत है जिससे की बाहर से आ रहे मालगाड़ी , पश्चिमी रेलवे टैंक, एलडीओ टैंक एरिया की निगरानी किया जा सके ।

नोट:- सभी एलिवेटेड पोस्टो पर सीसीटीवी कैमरा, सर्च लाइट, इंटरकॉम एवं चार्जिंग की सुविधा उपलब्ध कराने की आवश्यकता है जिससे की आपातकालीन स्थिति में उपयोग किया जा सके ।

## 11. गेट

- चकिया बस स्टैंड से होकर संयंत्र में प्रवेश करने वाले जगह पर एक गेट है जिस पर केओसुब को तैनाती की जरूरत है जिससे कि संयंत्र के आस-पास असमाजिक तत्व न जा पाए एवं उस गेट से केवल एनटीपीसी कर्मचारी , केओसुब कर्मचारी एवं उनके परिवारजनों को कॉलोनी में प्रवेश दिया जाएगा ।
- पुराने संयंत्र का वर्तमान का मुख्यद्वार पर केओसुब की तैनाती है परन्तु वहां पर स्टाफ, विजिटर, कर्मचारी एवं लेडिज स्टाफों के लिए कीसी भी प्रकार का टॉयलेट उपलब्ध नहीं है, चेकिंग हेतु गेट पर आधुनिक उपकरण, गेट रिनोवेशन किया जाना अति आवश्यक है । भविष्य में इस गेट को सिर्फ एनटीपीसी अधिकारी/कर्मचारी के आवागमन के उपयोग में लाया जाएगा ।
- पुराने संयंत्र के मुख्य द्वार के ठीक सामने लगभग 300 मीटर दुरी पर स्वीच यार्ड के पीछे एवं पंप हाउस के नजदीक एक गेट बनाने की जरूरत है जिससे मटेरियल, आगन्तुक, श्रमिक आदि का आना जाना हो सके । क्योंकि वहां बाहर की तरफ बहुत ज्यादा जगह है जिसमें टैंकर, ट्रक, पार्किंग इत्यादि आसानी से बनाया जा सकता है ।

## 12. रेलवे वेरियर



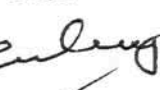
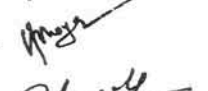


- सीडब्लू पम्प हाउस से पुराना संयंत्र वर्तमान मेन गेट की तरफ जाने वाले रास्त पर रेलवे लाईन के दोनो तरफ, ओएण्डएम के पीछे रेलवे कॉसिंग , सिवरेज पम्प हाउस के पास रेलवे कॉसिंग पर रेलवे वेरियर लगाने की जरूरत है ।

13. नया संयंत्र में टावर संख्या 01 एवं 02 के बीच कॉर्नर पर एवं टावर संख्या 03 एवं 04 के बीच कॉर्नर पर एलिवेटेड बनाने की जरूरत है । रेलवे गेट पर एलिवेटेड पोस्ट बनाने एवं वर्तमान में जो टावर स्थिति है उसे ठीक करने की जरूरत है ।

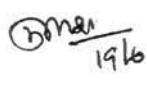
14. दोनो संयंत्र में चारदिवारी एवं गेट पर सीसीटीवी लगाने की जरूरत है एवं विजिटर पास बनाने हेतु वेव कैमरा लगाने की जरूरत है ।

15. सभी कर्तव्य पोस्टो पर मूलभूत सुविधा (जैसे बिजली, पंखा, पानी, इंटरकॉम इत्यादि )उपलब्ध कराने की जरूरत है

उपरोक्त सुरक्षा समीक्षा के दौरान निम्न अधिकारी मौजूद थे :-

01. महाप्रबंधक/प्रचालन	श्री एस के पांडा	-	
02. उप समादेष्टा/केओसुब	श्री पुरषोत्तम मलिक	-	
03. अपर महाप्रबंधक/प्रचालन	श्री ए के देव	-	
04. अपर महाप्रबंधक/मानव संसाधन	श्री एस पी दुबे	-	
05. उपमहाप्रबंधक	श्री विनोद भोयर	-	
06. निरीक्षक/केओसुब	श्री मनोज कुमार भारती	-	

May like to see please .

cgm  19/6


19/06/2019

GM (O&M)  
GM (P)

for na pl.



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(पुरषोत्तम मलिक)  
उप समादेष्टा महोदय  
केओसुब इकाई बीटीपीएस बरौनी

Annex- I



एनटीपीसी लिमिटेड  
(भारत सरकार का उद्यम)

NTPC Limited  
(A Govt. of India Enterprise)

कॉर्पोरेट कार्यालय / Corporate Centre

Ref. No:01:CD:433

Date: 06.01.2020

To,  
The Secretary,  
Central Electricity Regulatory Commission  
3<sup>rd</sup> & 4<sup>th</sup> Floor, Chanderlok Building  
36, Janpath  
New Delhi-110001.



Subject: Regarding adjustment of excess Tariff Filing Fees paid in Tariff Pet No 130/GT/2014, Barh Super Thermal Power Station, Stage – II (1320 MW) for the period from 15.11.2014 to 31.03.2019.

Dear Sir,

The petitioner had filed Tariff Petition No 130/GT/2014 based on COD of Unit-IV as 15.11.2014. However the COD of Unit-IV was revised to 08.03.2016 from 15.11.2014 vide Hon'ble Commission order dtd 20.09.2017 in Petition No. 130/MP/2015. Accordingly the excess fees paid by the petitioner for the period 15.11.2014 to 07.03.2016 for Unit-IV (660 MW) amounting to Rs 38,11000/- (Details attached) needs to be adjusted.

The excess fees of Rs 38,11000/- may be made free and adjusted against fees for Barh Stage-II and other petitions as and when filed by NTPC.

Thanking you,

Yours faithfully,

(Rajnish Bhagat)  
Executive Director (Commercial)

Encl: as above

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