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-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the period from 01.04.2024 to 31.03.2029.

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Summary of Issues

Determination of Tariff of Kahalgaon Stage-I (4X210 MW) for 2024-29 Period

I. CONSPECTUS:

- Kahalgaon Stage-I Station comprises of four units of 210 MW capacity having the station COD date 01.08.1996.
- Instant Petition is filed under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the period from 01.04.2024 to 31.03.2029.
- Petitioner has filed a separate petition under Regulation-13 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for revision of tariff of instant station for the period from 01.04.2019 to 31.03.2024 after the truing up exercise.
- Hon'ble Commission vide its order dated 08.11.2024 in Petition No-440/GT/2020 determined the tariff of instant station for 2019-24 period.

II. ISSUES FOR CONSIDERATION:

(a) **Capital Cost:** Hon'ble Commission vide its Order dated 29.03.2023 in petition no. 440/GT/2020 at para 39 allowed capital cost of Rs 222776.63 Lakh as on 31.03.2024 based on the admitted projected capital expenditure for the 2019-24 period. However, the actual closing capital cost as on

31.03.2024 has been worked out in the aforesaid true-up petition as Rs. 226162.93 Lakh based on the actual expenditure after truing up exercise for the period 2019-24. Accordingly, the opening capital cost as on 01.04.2024 has been considered as Rs. 226162.93 Lakh in the instant petition.

(b) The tariff of instant station for 2024-29 period has been worked out based on opening capital cost as on 01.04.2024 arrived as above and projected additional capital expenditure (Add Cap) for 2024-29 period. The detail of projected add cap year wise is provided in Form-9 of the Tariff forms attached as **Appendix-I.**

(c) **Claim of water charges, Capital Spares Consumption & security expenses:**

i. **Water Charges:** Water charges are claimed based on projected expenditure towards water charges and provided in Form-3A of Appendix-I.

ii. **Capital Spares Consumption:** The details of year-wise actual capital spares consumption is not provided at the instant petition. The same shall be provided at the time of true-up in terms of the proviso to the Regulation 36(1)(6) based on actual consumption of spares during the period 2024-29.

iii. **Security expenses:** Security expenses are claimed based on estimated expenditure to be incurred towards deployment of CISF personnel/security personnel for safety and security according to security threat perception, survey and as per the guidelines of

Ministry of Home Affairs. The estimated security expenses year wise is provided in Form-3A of the Appendix-I.

(d) **Ash Transportation Charges:** Hon'ble Commission vide its order dated 28.10.2022 in petition no 205/MP/2021 allowed the Ash transportation expenses for FY 2019-20, 2020-21, and 2021-22 and further allowed the monthly billing of ash transportation charges for 2022-23 and 23-24 period. The petitioner is incurring ash transportation charges as per MOEF&CC notifications dated 25.1.2016 and 31.12.2021 in current tariff period as well. Accordingly, Petitioner has claimed ash transportation charges on the projected basis for 2024-29 period and same has been provided in Form-3A of Appendix-I.

(e) **Filing and Publication Expenses:** Petitioner has claimed the Filing and Publication expenses as per Regulation, 94 of Tariff Regulations, 2024.

(f) **Liberty to approach Commission for Pay Revision:** It is submitted that the pay/wage revision for the employees of the Petitioner will be due wef 01.01.2027. Further, the wage/pay revision of CISF and Kendriya Vidyalaya employees will also be due for revision during the tariff period 2024-29. In view of the above, Petitioner seeks liberty to approach the Hon'ble Commission for allowing the impact of Pay/wage revision of employees of the Petitioner and personnel of CISF and Kendriya Vidyalaya as applicable.

(g) **Additional APC:** Hon'ble commission may be pleased to allow an Additional APC of 0.88% for Kahalgaon Stage-I for the 2024-29 period over the normative 9.0%. Details have been provided in the petition in this regard.

III. ANNUAL FIXED CHARGES CLAIMED:

The detail of Annual Fixed Charges are provided at **Appendix-I**.

IV. Prayer

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

i) Approve tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the tariff period 01.04.2024 to 31.03.2029.

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

iii) Allow an Additional APC of 0.88% for Kahalgaon Stage-I for the 2024-29 period over the normative 9.0%.

iv) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries on monthly basis, subject to true up.

v) Grant liberty to approach the Hon'ble Commission to allow for the recovery of pay/wage revision due in 2024-29 period as additional O&M over and above the normative O&M.

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

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-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the period from 01.04.2024 to 31.03.2029.

Petitioner:

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

Respondents:

1 Jharkhand Bijli Vitaran Nigam Limited
Engineering Building, HEC Township
Dhurwa
Ranchi-834004

2 West Bengal State Electricity Distribution Company Limited
Vidyut Bhawan, Block-DJ,
Sector-II, Salt Lake City,
Kolkata-700 091

3 Tamil Nadu Generation & Distribution Corporation Limited,
144, Anna Salai,
Chennai-600 002

4 Gujarat Urja Vikas Nigam Limited
Sardar Patel Vidyut Bhawan
Race Course, Baroda – 390007

5 Uttar Pradesh Power Corp. Limited
Shakti Bhawan
14, Ashok Marg
Lucknow – 226001

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

7 Jaipur Vidyut Vitran Nigam Ltd (JVVN)
Vidyut Bhawan, Janpath
Jaipur 302 005

8 Ajmer Vidyut Vitran Nigam Ltd (AVVN)
Old Power House, Hathi Bhata
Jaipur Road, Ajmer

9 Jodhpur Vidyut Vitran Nigam Ltd (JdVVN)
New Power House Road, Industrial Area
Jodhpur

10 Power Development Department(J&K)
Govt. of J&K
Secretariat, Srinagar

11 BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place
New Delhi-110019

12 BSES Yamuna Power Ltd.
Shakti Kiran Bldg., Karkardooma
Delhi-6

13 Tata Power Delhi Distribution Ltd.
NDPL House,
Hudson Lane, Kingsway Camp
New Delhi-110009

14 Assam Power Distribution Company Limited,
Bijulee Bhawan, Paltan Bazar,
Guwahati-781001

The Petitioner humbly states that:

1) The Petitioner herein NTPC Ltd. (hereinafter referred to as 'Petitioner' or 'NTPC'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.

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

3) The Petitioner is having power stations/ projects at different regions and places in the country. Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) (hereinafter referred to as Kahalgaon St-I) is one such station located in the State of Bihar. The power generated from Kahalgaon St-I is being supplied to the respondents herein above.

4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2024 (hereinafter 'Tariff Regulations 2024') which came into force from 01.04.2024, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2024 to 31.03.2029.

5) Regulation 9(2) of Tariff Regulations 2024 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 30.11.2024 , based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2024 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2024-

29 along with the true up petition for the period 2019-24 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019."

In terms of above, the Petitioner is filing the present petition for determination of tariff for Kahalgaon St-I for the period from 01.04.2024 to 31.03.2029 as per the Tariff Regulations 2024.

6) The tariff of the Kahalgaon St-I for the tariff period 1.4.2019 to 31.3.2024 was determined by the Hon'ble Commission vide its order dated 08.11.2024 in Petition No.440/GT/2020 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2019. The petitioner vide affidavit dated 22.11.2024 had filed a separate true up petition for the period 01.04.2019 to 31.03.2024 for revision of tariff in line with the applicable provisions of Tariff Regulations 2019.

7) It is submitted that Hon'ble Commission vide order dated 08.11.2024 in Petition no 440/GT/2020 has allowed a capital cost of Rs 222776.63 Lakh as on 31.03.2024 based on the admitted projected capital expenditure for the 2019-24 period. However, the actual closing capital cost as on 31.03.2024 has been worked out in the aforesaid true-up petition as Rs. 226162.93 Lakh based on the actual expenditure after truing up exercise for the period 2019-24. Accordingly, the Petitioner has added an amount of Rs. 3386.80 Lakh in the admitted capital cost as on 31.03.2024 and accordingly the opening capital cost as on 01.04.2024 has been considered as Rs 226162.93 Lakh in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2024 and determine the tariff in the present petition for the period 2024-29.

8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2024 considered as above and projected estimated capital expenditures claimed for the period 2024-29 under Regulation 19 and Regulation 24, 25 and 26 of the Tariff Regulations, 2024.

9) The Petitioner further respectfully submits that as per Regulation 36(1)(6) of the Tariff Regulations 2024, the water charges, security expenses, ash transportation expe

and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2023-24 have been 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	Coal based station
Type of cooling water system	Closed Cycle
Rate of Water charges	Water Charges: Rs 9.02/Cum
Total Water Charges	Presently water charges are not billed by the concerned authority for consumptive water in the instant station. However as and when the same is billed by the Authority and paid by the Petitioner, the Petitioner shall approach the Hon'ble Commission for claim of the same. Hon'ble Commission may be pleased to allow the same.

10) Similarly, the Petitioner is claiming the security & ash transportation expenses based on the estimated expenses for the period 2024-29, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 36(1)(6) based on actual consumption of spares during the period 2024-29.

11) However, it is submitted that the expenditure towards the ash transportation charges is recurring in nature and the Petitioner has been incurring ash transportation expenditure in its stations in the current tariff period also. In case the same is permitted to be recovered after the issuance of the tariff order for the period 2024-29, there will be additional liability on the beneficiary on account of the interest payment for the period till the time the tariff petitions for the period 2024-29 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

transportation charges on a monthly basis subject to true-up at the end of the 2024-29 period.

12) The petitioner humbly submits that petition no. 227/MP/2024 has been filed by the petitioner concerning Ash Transport Expenditure for its stations which is under active consideration of this Hon'ble Commission and the outcome of the said petition will be applicable to the instant petition also.

13) The present petition is filed on the basis of norms specified in the Tariff Regulations 2024. It is submitted that the petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEF vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will affect the Station APC, Heat Rate, O&M expenses, water charges etc. In addition, the availability of the unit/ station would be also affected due to shutdown of the units for installation of ECS. The petitioner would be submitting the details of the same in terms of CERC (Terms& Conditions of Tariff) Regulations 2024.

Relaxation in APC norms for Kahalgaon STPS-I

14) CERC Tariff Regulations 2024 has provided the normative APC of 8.50% applicable to 200 MW and above unit size. In addition, thermal generating stations are allowed additional normative APC of 0.5% having Induced Draft Cooling Tower (IDCT).

15) It is pertinent to mention that the actual APC of Kahalgaon Stage-1 (4x210 MW) is about 9.88% as against the proposed norms of 9.0%. The reason for higher APC is on account of following factors:-

a) **Stage – I ESP System:** At the time of inception of stage – I ESP was designed with 24 ESP fields along with associated system (i.e. Number of emitting and collecting electrode with specified collection area, rectifier transformer, rapping mechanism, insulator and hopper heating elements with control panel and control room) with permissible emission limits of 150 mg/M3. As per the new environmental

guideline (< 100 mg/M3 emission norms), R&M of ESP System with additional row of collecting fields is envisaged and commissioned with larger colleting area and higher rating of transformer, rapping mechanism and hopper heating elements etc. This is also leading to higher auxiliary power consumption of Stage - I.

b) Dry Fly Extraction and Transportation plant: As per guideline issued by MOEF&CC and to utilize 100% DFA, Dry Fly Extraction and Transportation plant (DAETP) of Unit # 3,4 is commissioned recently and drawing process power from Stage – I units, while DAETP of Unit # 1 and 2 is under construction and will draw power from same source. The power consumption of DAETP was not envisaged original scheme of stage – I. These systems also drawing process power from Stage – I units and further increasing the auxiliary power consumptions.

c) **Zero Liquid Discharge System:** In compliance to the GoI guideline the ZLD System is commissioned in plant area to separate process water from storm drain and prevent it to discharge in nature. To achieve this at plant area additional pumps are installed and in dyke area pumps (4 X 75 kW) with associated system is installed and additionally increasing APC of Stage – I.

d) Stage – I Coal Mill System: Each Coal mill is associated with individual PA fan instead of two PA fans common for all mills alike other units of similar capacity. NTPC–Kahalgaon is receiving coal of lower GCV through MGR. Hence, running 5th mill is inevitable to achieve full load. So whenever additional coal mill is taken in service the individual PA fan invariably will be in service, this operational necessity increasing APC of Stage – I.

Detail break up of additional APC is enclosed as Annexure-A for ready reference please. As evident from above, an additional APC of 0.88% is required for Kahalgaon Stage-I Station over and above norms specified in CERC Tariff Regulations 2024.

Hon'ble commission may be pleased to allow an Additional APC of 0.88% for Kahalgaon Stage-I for the 2024-29 period over the normative 9.0%. The petitioner seeks liberty to claim normative APC as 9.88 % in the instant 2024-29 tariff petition.

16) It is submitted that in terms of Regulation 60 (5) of the Tariff Regulations 2024, the Petitioner is required to furnish details qua providing the details of Landed Price & Gross Calorific Value ("GCV") of coal in Form 15. It is further submitted that the Petitioner in terms of Regulation 40 of the Tariff Regulations 2019 was required to furnish the details for Landed Price & GCV of coal also as per Form 15 of the Tariff Regulations, 2019.

17) However, in so far as the present Petition is concerned, the Petitioner has prepared & submitted the data of coal as per Form 15 of the Tariff Regulations, 2019. The same is because of the following reasons: -

(a) This Hon'ble Commission had notified the Tariff Regulations, 2019 on 07.03.2019 and the same was in effect till 31.03.2024.

(b) The Petitioner being a diligent utility has been seamlessly providing the said data of coal in terms of the prescribed format (i.e. Form 15 of Annexure-I (Part I)) of the Tariff Regulations, 2019 to this Hon'ble Commission for computation of Interest on Working Capital.

(c) Thereafter, this Hon'ble Commission on 15.03.2024 notified the Tariff Regulations, 2024, wherein the format of Form 15 was changed/ amended by this Hon'ble Commission and a new format was placed in the Tariff Regulations 2024 in the month of June'2024.

(d) By virtue of the said change, the Petitioner has been obligated to furnish the data of coal for its existing plants month wise for the preceding 12 months i.e. for FY 2023-24 for computation of Interest on Working Capital.

18) It is humbly submitted that by virtue of the Tariff Regulations, 2024, this Hon'ble Commission has added a new format/ revised the format of Form-15 which has not prescribed in the past Tariff Regulations i.e. of 2019. Hence, it is only now (in the Tariff Regulations 2024) that the Petitioner has been obligated to furnish the data of coal as per the new format of Form-15.

19) It is respectfully submitted that since the format for Form 15 has been changed in Tariff Regulations, 2024 and was notified in the month of June'2024, the Petitioner could not have been aware about the said changes earlier, hence the Petitioner did not maintain the data required in new format of Form 15 of Tariff Regulations, 2024.

20) Therefore, this Hon'ble Commission may kindly exempt the Petitioner from furnishing the data of coal in terms of new format of Form 15 of the Tariff Regulations, 2024 & may be allowed to furnish the details of coal for FY 2023-24 in terms of the prescribed format of Form-15 of the Tariff Regulations, 2019.

21) In light of the above submissions, it may kindly be noted that no prejudice shall be caused to any party if the Petitioner is allowed for providing the details of Landed Price & GCV of coal to this Hon'ble Commission in terms of Form 15 of the Tariff Regulations, 2019 as the value of Landed Price & GCV of coal will remains unaffected.

22) The petitioner has accordingly calculated the tariff for 2024-29 period based on the above and the same is enclosed as Appendix-I to this petition.

23) The Petitioner humbly submits that the pay/wage revision for the employees of the Petitioner will be due wef 01.01.2027. Further, the wage/pay revision of CISF and Kendriya Vidyalaya employees will also be due for revision during the tariff period 2024-29. Regulation-36(1)(8) of CERC (Terms & Conditions of Tariff) Regulations-2024 provides as below:

"In the case of a generating company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff."

In accordance with the above said regulation, the Petitioner shall approach the Hon'ble Commission for allowing the impact of Pay/wage revision of employees of the Petitioner i.e. NTPC Limited, CISF and Kendriya Vidyalaya (wherever applicable) as additional O&M at the time of truing-up of tariff for the control period 2024-29. Hon'ble Commission may be pleased to grant liberty to consider the impact of wage/pay revision as an additional impact on O&M from the date same is implemented and allow the same as additional O&M over and above the normative O&M.

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

25) In accordance with the 'Conduct of Business Regulations 2023' of the Hon'ble Commission, the Petitioner shall, within 7 days after filing the tariff petition, publish a notice about such filing in at least two daily leading digital newspapers one in English language and another in any of the Indian languages, having wide circulation in each of the States and Union Territories where the beneficiaries are situated, as per Form 14 appended to these regulations. Subsequently, the Petitioner shall submit the proof of publications as soft copies of the publications under an affidavit through the e-filing portal of the Hon'ble Commission within one week from the date of publication. Further, the Petitioner shall also submit the detail of expenses incurred for publication of the notice alongwith the prayer for recovery of Publication Expenses as per Regulation-94 of CERC Tariff Regulations 2024.

26) It is submitted that the Petitioner has already paid the requisite filing fee vide UTR No. 37c568eba62158b7b321 on 24.04.2024 for the year 2024-25 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dtd. 27.04.2024. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 94 (1) of Tariff Regulations,

2024 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 recovery of filing fee and publication fee directly from the beneficiaries.

27) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2019 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

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

i) Approve tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the tariff period 01.04.2024 to 31.03.2029.

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

iii) Allow an Additional APC of 0.88% for Kahalgaon Stage-I for the 2024-29 period over the normative 9.0%.

iv) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries on monthly basis, subject to true up.

v) Grant liberty to approach the Hon'ble Commission to allow for the recovery of pay/wage revision due in 2024-29 period as additional O&M over and above the normative O&M.

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

Petitioner

Date: 27.11.2024

Place: Noida

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-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of **Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the period from 01.04.2024 to 31.03.2029**.

NOTARIAL NOTARIAL

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

Respondents: Jharkhand Bijli Vitaran Nigam Limited
Engineering Building, HEC Township
Dhurwa
Ranchi-834004

And Others

AFFIDAVIT

I, Prashant Chaturvedi, Son of Dr. S.C.Chaturvedi, aged about 48 years, working as Additional General Manager (Commercial) at NTPC Limited, resident of 103, Bhabha Tower, GrihaPravesh, Sector-77, Noida (UP)-201301, do hereby solemnly affirm and state as follows:

1. That the deponent is the Additional General Manager (Commercial) of the Petitioner NTPC Ltd., and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.

2. That the accompanying Petition under Section 62 and 79 (1) (a) of the Electricity Act, 2003, has been filed by my authorized representative under my

NOTARY YOGENDRA SINGH AREA NOIDA G.B. NAGAR REGN. NO. 5677/08 GOVT. OF INDIA

प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबंधक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOC, A-8A, Sector-24, NOIDA

instruction and the contents of the same are true and correct to the best of my knowledge and belief.

3. That the contents of Para No...1..... to...37... as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office.

4. That the annexures annexed to the Petition are correct and true copies of the respective originals.

5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute.

(Deponent)

प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, NOIDA-201301

Verification:

Verified at Noida on this 27th day of November 2024, that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.

(Deponent)

प्रशान्त चतुर्वेदी/PRASHANT CHATURVEDI
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, NOIDA-201301

NOTARY GOVT. OF INDIA
YOGENDRA SINGH
AREA NOIDA
G.B. NAGAR
REGN. NO. 5997/08

ATTESTED
YOGENDRA SINGH
NOTARY NOIDA
G B NAGAR (U.P.) INDIA
27 NOV 2024

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)

(From 01.04.2024 to 31.03.2029)

PART-I

ANNEXURE-I

Checklist of 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	**NA**
FORM- 4	Details of Foreign loans	**NA**
FORM- 4A	Details of Foreign Equity	**NA**
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	**NA**
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	**NA**
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	**NA**
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A	Details of Seconday Fuel for Computation of Energy Charges	✓
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	**NA**
FORM-17	Details of Capital Spares	**NA**
FORM- 18	Non-Tariff Income	**NA**
FORM-19	Details of Water Charges	**NA**
FORM-20	Details of Statutory Charges	**NA**

Provided yearwise for the period 2019-24
***** Shall be provided at the time of true up**

PART-I

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

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

PART-I
FORM- 1

Summary of Tariff

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**
Place (Region/District/State):	**Bihar**

Amount in Rs. Lakhs

S. No.	Particulars	Unit	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	2,252.79	2,540.15	34.35	1,193.81	3,537.77	7,921.27
1.2	Interest on Loan	Rs Lakh	53.58	53.10	11.87	339.01	773.64	1,229.44
1.3	Return on Equity	Rs Lakh	12,608.79	12,742.37	12,756.46	13,098.43	13,674.78	14,580.33
1.4	Interest on Working Capital	Rs Lakh	8,060.93	7,439.11	7,513.04	7,643.43	7,682.87	7,886.53
1.5	O&M Expenses	Rs Lakh	43,704.09	45885.81	48159.27	50259.92	52481.59	54826.32
1.6	Special Allowance (If applicable)	Rs Lakh	7980.00	9030.00	9030.00	9030.00	9030.00	9030.00
		Rs. Lakh						
	Total	Rs Lakh	**74,660.17**	**77,690.55**	**77,504.99**	**81,564.60**	**87,180.65**	**95,473.89**
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid) as per FSA	Rs/Ton	5158.93	3578.57	3578.57	3578.57	3578.57	3578.57
	(%) of Fuel Quantity	(%)						
2.2	Landed Fuel Cost Imported Coal							
	(%) of Fuel Quantity							
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.4	Landed Fuel Cost Imported Coal other than FSA.							
	(%) of Fuel Quantity							
2.5	Secondary fuel oil cost	Rs/Unit	0.03	0.07	0.07	0.07	0.07	0.07
	Energy Charge Rate ex-bus (Paise/kWh) 2A, 2B, 2C, 2D	Rs/Unit	3.753	3.111	3.111	3.111	3.111	3.111

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

(Petitioner)

PART-I
FORM- 1(I)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	2,26,162.93	2,26,162.93	2,26,662.93	2,40,462.93	2,50,362.93
2	Add: Addition during the year/period	-	500.00	13,800.00	9,900.00	24,681.00
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	2,26,162.93	2,26,662.93	2,40,462.93	2,50,362.93	2,75,043.93
7	**Average Capital Cost**	**2,26,162.93**	**2,26,412.93**	**2,33,562.93**	**2,45,412.93**	**2,62,703.43**

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

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	226080.43	226080.43	226580.43	230380.43	235280.43
2	Add: Addition during the year / period	0.00	500.00	3800.00	4900.00	18400.00
3	Less: De-capitalisation during the year / period	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
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	226080.43	226580.43	230380.43	235280.43	253680.43
7	**Average Capital Cost**	**226080.43**	**226330.43**	**228480.43**	**232830.43**	**244480.43**

Statement showing claimed capital cost eligible for RoE at one year MCLR + 350 bps subject to ceiling of 14.00% (B)

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	82.50	82.50	82.50	10082.50	15082.50
2	Add: Addition during the year / period	0.00	0.00	10000.00	5000.00	6281.00
3	Less: De-capitalisation during the year / period	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
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	82.50	82.50	10082.50	15082.50	21363.50
7	**Average Capital Cost**	**82.50**	**82.50**	**5082.50**	**12582.50**	**18223.00**

(Petitioner)

PART-I
FORM- 1(IIA)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	67,824.13	67,824.13	67,974.13	69,114.13	70,584.13
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		-	-	-	-
4	Net Opening Equity (Normal)	67,824.13	67,824.13	67,974.13	69,114.13	70,584.13
5	Add: Increase in equity due to addition during the year / period	0.00	150.00	1140.00	1470.00	5520.00
7	Less: Decrease due to De-capitalisation during the year / period	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
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	67,824.13	67,974.13	69,114.13	70,584.13	76,104.13
11	Average Equity (Normal)	67,824.13	67,899.13	68,544.13	69,849.13	73,344.13
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	**12,738.73**	**12,752.81**	**12,873.96**	**13,119.06**	**13,775.49**

(Petitioner)

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

PART-I
FORM- 1(IIB)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

Statement showing Return on Equity at SBI MCLR + 350 basis subject to ceiling of 14%

Amount in Rs. Lakhs

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
	Return on Equity (beyond the original scope of work including additional capitalization due to Change in Law, Force Majeure)					
1	Gross Opening Equity (Normal)	24.75	24.75	24.75	3024.75	4524.75
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	24.75	24.75	24.75	3024.75	4524.75
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	3000.00	1500.00	1884.30
7	Less: Decrease due to De-capitalisation during the year / period	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
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	24.75	24.75	3024.75	4524.75	6409.05
11	Average Equity (Normal)	24.75	24.75	1524.75	3774.75	5466.90
12	Rate of ROE (%)-Base Rate	12.15	12.15	12.15	12.15	12.15
12A	Rate of ROE (%)-Grossed up	14.722	14.722	14.722	14.722	14.722
13	Total ROE	**3.6437**	**3.6437**	**224.4737**	**555.7187**	**804.8370**

(Petitioner)

PART-I
FORM-2

Plant Characteristics

Name of the Petitioner	**NTPC Limited**			
Name of the Generating Station	**Kahalgaon Super Thermal Station Stage-I (4x210 MW)**			
Unit(s)/Block(s)/Parameters	**Unit-I**	**Unit-II**	**Unit-III**	**Unit-IV**
Installed Capacity (MW)	210	210	210	210
Actual COD /Date of Taken Over (as applicable)	1-Jan-95	1-Apr-95	1-Feb-95	1-Aug-96
Pit Head or Non Pit Head or Integrated Mine	PIT HEAD	PIT HEAD	PIT HEAD	PIT HEAD
Name of the Boiler Manufacture	BBP(USSR)	BBP(USSR)	BBP(USSR)	BBP(USSR)
Name of Turbine Generator Manufacture	LMZ(USSR)	LMZ(USSR)	LMZ(USSR)	LMZ(USSR)
Main Steams Pressure at Turbine inlet (kg/Cm^2) abs[1].	NOT APPLICABLE			
Main Steam Temperature at Turbine inlet (^{0}C) [1]				
Reheat Steam Pressure at Turbine inlet (kg/Cm$^{2)}$ [1]				
Reheat Steam Temperature at Turbine inlet (^{0}C) [1]				
Main Steam flow at Turbine inlet under MCR condition (tons /hr)[2]				
Main Steam flow at Turbine inlet under VWO condition (tons /hr)[2]				
Unit Gross electrical output under MCR /Rated condition (MW)[2]				
Unit Gross electrical output under VWO condition (MW)[2]				
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)3				
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 (^{0}C)				
Back Pressure(Average condenser pressure in mmHg(A))				
Steam flow at super heater outlet under BMCR condition (tons/hr)				
Steam Pressure at super heater outlet under BMCR condition) (**kg/Cm^2**)				
Steam Temperature at super heater outlet under BMCR condition (**^{0}C**)				
Steam Temperature at Reheater outlet at BMCR condition (^{0}C)				
Design Fuel with and without Blending of domestic/imported coal				
(GCV) Domestic Design coal				
Blended Coal (Domestic Design 70%+ Imported 30%)				
Type of Cooling Tower	INDUCED DRAFT			
Type of cooling system[5]	CLOSED CIRCUIT COOLING			
Type of Boiler Feed Pump[6]	MOTOR DRIVEN			
Type of Boiler Firing	Boiler is also equiped with wall (front/rear/sides) firing			
Fuel Details[7]				
-Primary Fuel	Coal	Coal	Coal	Coal
-Secondary Fuel	HFO	HFO	HFO	HFO
-Alternate Fuels	-			-
Special Features/Site Specific Features[8]	Coal reciept through MGR & Indian Railways			
Special Technological Features[9]				
Environmental Regulation related features[10]	1.ESP is provided. 2.FGD under implementation			
Any other special features				

1: At Turbine MCR condition.
2: with 0% (Nil) make up and design Cooling water temperature
3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.
4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put
5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.
6: Motor driven, Steam turbine driven etc.
7: Coal or natural gas or Naptha or lignite etc.
8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features
9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.
10: Environmental Regulation related features like FGD, ESP etc.,

(PETITIONER)

PART-I
FORM- 3

Normative parameters considered for tariff computations

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

(Year Ending March)

Particulars	Unit	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
Base Rate of Return on Equity	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization linked to SBI MCLR+350	%		12.15	12.15	12.15	12.15	12.15
Effective Tax Rate	%	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00	85.00	85.00	83.00	83.00
In High Demand Season	%	-	-	85.00	85.00	83.00	83.00
Peak Hours	%	-	-	85.00	85.00	83.00	83.00
Off-Peak Hours	%	-	-	85.00	85.00	83.00	83.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	83.00	83.00
Peak Hours	%	-	-	85.00	85.00	83.00	83.00
Off-Peak Hours	%	-	-	85.00	85.00	83.00	83.00
ß- Average Monthly Frequency Response Performance	0-1	NA	To be provided at the time of Truing Up.				
Auxiliary Energy Consumption	%	9.88	9.88	9.88	9.88	9.88	9.88
Gross Station Heat Rate	kCal/kWh	2430.00	2415.00	2415.00	2415.00	2415.00	2415.00
Specific Fuel Oil Consumption	ml/kWh	0.50	1.00	1.00	1.00	1.00	1.00
Cost of Coal/Lignite for WC	in Days	40	40	40	40	40	40
Cost of Main Secondary Fuel Oil for WC	in Months	2	2	2	2	2	2
Fuel Cost for WC2	in Months						
Liquid Fuel Stock for WC	in Months						
O&M Expenses	Rs lakh/MW	37.84	40.92	43.07	45.33	47.71	50.21
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	45	45	45	45	45	45
Storage capacity of Primary fuel (both stages)	Lakh MT	10					
SBI 1 Year MCLR plus 325 basis point	%	12	11.9	11.9	11.9	11.9	11.9
Blending ratio of domestic coal/imported coal							
Norms for consumption of reagent	FGD NOT YET COMMISSIONED						
Specific Limestone consumption for Wet Limestone FGD							
Specific Limestone consumption for Lime Spray Dryer or Semi-dry FGD							
Specific consumption of sodium bicarbonate							
Specific Limestone consumption for CFBC based generating station							

Petitioner

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**

Amount in Rs. Lakhs

S.No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	7	8
1	**O&M expenses under Reg.36(1)(1)**					
1a	Normative	34372.80	36178.80	38077.20	40076.40	42176.40
2	**O&M expenses under Reg.36(1)(6)**					
2a	Water Charges*	0.00	0.00	0.00	0.00	0.00
2b	Secutiry expenses*	1838.65	2022.52	2224.77	2447.25	2691.97
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
3	O&M expenses-Ash Transportation*	9674.36	9957.95	9957.95	9957.95	9957.95
	Total O&M Expenses	**45885.81**	**48159.27**	**50259.92**	**52481.59**	**54826.32**

* Subject to True Up

** Shall be provided at the time of True Up

Note: Presently water charges are not billed by the concerned authority for consumptive water in the instant station. However as and when the same is billed by the Authority and paid by the Petitioner, the Petitioner shall approach the Hon'ble Commision for claim of the same . Hon'ble Commision may be pleased to allow the same. However, the likely billing if done is projected to be Rs. 2301.95 Lakhs for FY 2024-25, Rs. 2474.80 Lakhs for FY 2025-26, Rs. 2660.63 Lakh for FY 2026-27, Rs 2860.42 Lakh and Rs. 3075.21 Lakhs for FY 2028-29.Any arrear amount for the previous period shall be additional.

Petitioner

FORM-3B
Additional Form

Computation of Special Allowance

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**

Rate of Special allowance @lakh/MW/year	**10.75**

(Rs. Lakh)

Unit No.	Capacity (MW)	Date of COD	Year of completion of useful life of 25 yrs.		Special Allowance as per Clause 28				
				Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	210	01.01.1995	2019-20	1995.00	2257.50	2257.50	2257.50	2257.50	2257.50
2	210	01.04.1995	2020-21	1995.00	2257.50	2257.50	2257.50	2257.50	2257.50
3	210	01.02.1996	2020-21	1995.00	2257.50	2257.50	2257.50	2257.50	2257.50
4	210	01.08.1996	2021-22	1995.00	2257.50	2257.50	2257.50	2257.50	2257.50
Year wise Total for the Station				**7980**	**9030**	**9030**	**9030**	**9030**	**9030**

Petitioner

PART 1
FORM- 5

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**

Last date of order of Commission for the project	**Date (DD-MM-YYYY)**	08.11.2024
Reference of petition no. in which the above order was passed	**Petition no.**	440/GT/2020
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is		
Capital cost (as on 31.03.2024)	**(Rs. in lakh)**	222776.63
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis) as on 1.4.2014		
Gross Normative Debt		115402.76
Cumulative Repayment		114379.13
Net Normative Debt		789.66
Normative Equity		66832.99
Cumulative Depreciation		192873.58
Freehold land		4824.4

(Petitioner)

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

PART 1
FORM- 5A

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**

Reference of Final True-up Tariff Petition	**Affidavit dated**	
Capital Cost allowed in the Main 2019-24 Tariff Petition no. 440/GT/2020 vide order dt 08.11.2024	**Rs. Lakh**	222776.63
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.2024	**(Rs. in lakh)***	226162.93
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost) as on 31.03.2024		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		
Gross Normative Debt		117949.07
Cumulative Repayment		116552.36
Net Normative Debt		1396.72
Normative Equity		67848.88
Cumulative Depreciation		196625.82
Freehold land		4954.77

(Petitioner)

FORM-8

Statement Giving Details of Project Financed through a Combination of loan

Form 8

	TRANCHE NO	
BP NO 5050000521	**T00001**	**D00004**

Unsecured Loan From HDFC Bank Ltd.-IV		
Source of Loan :	**HDFC Bank Ltd.-IV**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	12,45,00,00,000	
Date of drawl	29.06.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.00%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	29.06.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	17.04.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KORBA R&M	90,00,00,000
	RAMAGUNDAM R&M	2,20,00,00,000
	UNCHAHAR R&M	70,00,00,000
	RIHAND R&M	90,00,00,000
	KAWAS R&M	1,80,00,00,000
	AURAIYA R&M	1,80,00,00,000
	TSTPP R&M	90,00,00,000
	GANDHAR R&M	1,85,00,00,000
	NCTPP R&M	30,00,00,000
	KAHALGAON R&M	30,00,00,000
	ANTA R&M	80,00,00,000
Total Allocated Amount		**12,45,00,00,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

	TRANCHE NO	
BP NO 5050000531	**T00001**	**D0009**

Unsecured Loan From SBI-IX		
Source of Loan :	**SBI-IX**	
Currency :	INR	
Amount of Loan :	30,00,00,00,000	
Total Drawn amount :	2,00,00,00,000	
Date of Drawal:	27.06.2018	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.85%	
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 :	27.06.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.03.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	**Project Name**	**Amount**
	BARH-I	25,00,00,000
	TANDA II	30,00,00,000
	TELANGANA	30,00,00,000
	RAMAGUNDAM R&M	25,00,00,000
	TALCHER STPP R&M	40,00,00,000
	KAHALGAON R&M	20,00,00,000
	PAKRI BARWADIH CMB	30,00,00,000
Total Allocated Amount		**2,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

	TRANCHE NO	
BP NO 5050000442	**T00001**	**D00018**

Unsecured Loan From SBI-VIII		
Source of Loan :	**SBI-VIII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	1,50,00,00,000	
Date of Drawl	21.04.2016	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	D00018-9.30%	
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 :	6 Years	
Moratorium effective from :	21.04.2016	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.01.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	**Project Name**	**Amount**
	BONGAIGAON	70,00,00,000
	UNCHAHAR-IV	5,00,00,000
	RAMAGUNDAM R&M	15,00,00,000
	TSTPS R&M	21,00,00,000
	GANDHAR R&M	8,00,00,000
	KORBA R&M	6,00,00,000
	DADRI GAS R&M	10,00,00,000
	UNCHAHAR R&M	5,00,00,000
	BADARPUR R&M	5,00,00,000
	KAHALGAON R&M	5,00,00,000
Total Allocated Amount		**1,50,00,00,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000661 **T00001** **D00004**

Unsecured Loan From SBI-XI		
Source of Loan :	**SBI-XI**	
Currency :	INR	
Amount of Loan :	50,00,00,00,000	
Total Drawn amount :	8,00,00,00,000	
Date of Drawal:	22.11.2018	
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 :	22.11.2018	
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.	
Project Code	**Project Name**	**Amount**
	BARH-I	40,00,00,000
	TAPOVAN VISHNUGARH	11,00,00,000
	BONGAIGAON	11,00,00,000
	SOLAPUR	20,00,00,000
	LARA-I	50,00,00,000
	GADARWARA	55,00,00,000
	NORTH KARANPURA	36,00,00,000
	DARLIPALLI	40,00,00,000
	TANDA-II	10,00,00,000
	KHARGONE	75,00,00,000
	TELANGANA	75,00,00,000
	TALAIPALI COAL MINE	7,00,00,000
	RAMAGUNDAM I & II R&M	36,00,00,000
	VINDHYACHAL R&M	14,00,00,000
	FARAKKA R&M	10,00,00,000
	KAHALGAON R&M	10,00,00,000
	KHARGONE	2,00,00,000
	TELANGANA	1,00,00,000

Total Allocated Amount	**8,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

	TRANCHE NO	
BP NO 5050000791	**T00001**	**D00003**

Unsecured Loan From HDFC Bank Ltd. VII		
Source of Loan :	**HDFC Bank Ltd. VII**	
Currency :	INR	
Amount of Loan :	25,00,00,00,000	
Total Drawn amount :	1,70,00,00,000	
Date of drawl	01.01.2020	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	7.65%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	6 Years	
Moratorium effective from :	01.01.2020	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	11.06.2026	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KORBA R&M	20,00,00,000
	RAMAGUNDAM R&M	40,00,00,000
	VINDHYACHAL R&M	40,00,00,000
	FARAKKA R&M	30,00,00,000
	UNCHAHAR R&M	10,00,00,000
	RIHAND R&M	10,00,00,000
	TSTPP R&M	10,00,00,000
	KAHALGAON R&M	10,00,00,000
Total Allocated Amount		**1,70,00,00,000**

Form 8

TRANCHE NO

BP NO 5050001151 **T00001** **D00002**

Unsecured Loan From HDFC Bank Ltd. X		
Source of Loan :	**HDFC Bank Ltd. X**	
Currency :	INR	
Amount of Loan :	30,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of drawl	24.11.2021	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	5.83%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	24.11.2021	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	12 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	24.11.2025	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	NORTH KARANPURA	24,00,00,000.00
	RAMMAM	3,00,00,000.00
	TELANGANA	23,00,00,000.00
	LARA	50,00,00,000.00
	GADARWARA	50,00,00,000.00
	DARLIPALLI	77,00,00,000.00
	TANDA-II	65,00,00,000.00
	BARAUNI-II	20,00,00,000.00
	SINGRAULI R&M	15,00,00,000.00
	KORBA R&M	25,00,00,000.00
	RAMAGUNDAM I & II R&M	40,00,00,000.00
	VINDHYACHAL R&M	7,00,00,000.00
	FARAKKA R&M	10,00,00,000.00
	UNCHAHAR R&M	4,00,00,000.00
	RIHAND R&M	15,00,00,000.00
	KAHALGAON R&M	3,00,00,000.00
	CHATTI BARIATU CMB	5,00,00,000.00
	DULANGA COAL MINE	26,00,00,000.00
	TALAIPALI COAL MINE	26,00,00,000.00
	KIRENDARI	3,00,00,000.00
	BARH-II FGD	2,50,00,000.00

	MOUDA-II FGD	6,50,00,000.00
Total Allocated Amount		**5,00,00,00,000**

Form 8

TRANCHE NO

BP NO 5050001151 **T00001** **D00004**

Unsecured Loan From HDFC Bank Ltd. X		
Source of Loan :	**HDFC Bank Ltd. X**	
Currency :	INR	
Amount of Loan :	30,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of drawl	12.05.2022	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	5.83%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	24.11.2021	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	12 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	24.11.2025	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	NORTH KARANPURA	33,00,00,000.00
	KAYAKULAM FLOATING	40,00,00,000.00
	AURAIYA SOLAR FS 20	5,00,00,000.00
	JETSAR SOLAR	10,00,00,000.00
	DEVIKOT SOLAR	5,00,00,000.00
	DEVIKOT SOLAR-90MW	20,00,00,000.00
	NOKHRA SOLAR	1,00,00,00,000.00
	ETTAYAPURAM SOLAR	5,50,00,000.00
	RIHAND-SOLAR	1,00,00,000.00
	KAWAS SOLAR	5,00,00,000.00
	ANTA SOLAR	8,50,00,000.00
	SOLAPUR SOLAR	5,00,00,000.00
	NOKH SOLAR PLOT-I (245MW)	33,00,00,000.00
	NOKH SOLAR PLOT-III (245M	39,00,00,000.00

	SINGRAULI-R&M	13,00,00,000.00
	KORBA-R&M	10,00,00,000.00
	RAMAGUNDAM-R&M	37,00,00,000.00
	VSTPS R&M	9,00,00,000.00
	FSTPS R&M	20,00,00,000.00
	RIHAND-R&M	20,00,00,000.00
	FARIDABAD R&M	5,00,00,000.00
	TSTPP R&M	10,00,00,000.00
	KAHALGAON(R&M)	10,00,00,000.00
	NCPS-STAGE-I-DSI	56,00,00,000.00
Total Allocated Amount		**5,00,00,00,000**

	TRANCHE NO	
BP NO 5050000981	**T00001**	**D00008**

Unsecured Loan From HDFC Bank Ltd. IX		
Source of Loan :	**HDFC Bank Ltd. IX**	
Currency :	INR	
Amount of Loan :	50,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of drawl	18.11.2020	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	5.95%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	18.11.2020	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	12 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	30.06.2024	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH I	1,75,00,00,000.00
	BARAUNI-II	25,00,00,000.00
	SOLAPUR	20,00,00,000.00
	TTPS R&M	1,00,00,000.00
	SINGRAULI R&M	15,00,00,000.00
	KORBA R&M	15,00,00,000.00
	RAMAGUNDAM I & II R&M	43,50,00,000.00
	VINDHYACHAL R&M	18,00,00,000.00
	FARAKKA R&M	12,00,00,000.00
	UNCHAHAR R&M	16,00,00,000.00
	RIHAND R&M	16,00,00,000.00
	FARIDABAD R&M	1,50,00,000.00
	DADRI GAS R&M	3,00,00,000.00
	TSTPP R&M	11,50,00,000.00
	KAHALGAON R&M	16,00,00,000.00
	SIMHADRI R&M	1,50,00,000.00
	CHATTI BARIATU CMB	25,00,00,000.00
	TALAIPALI COAL MINE	75,00,00,000.00
	KIRENDARI	10,00,00,000.00
Total Allocated Amount		**5,00,00,000**

Particulars					
Series	**54**	**57**	**73**	**74**	**75**
Source of Loan1	BONDS	BONDS	BONDS	BONDS	BONDS
Currency2	INR	INR	INR	INR	INR
Amount of Loan sanctioned	**1030683**	**50000**	2,50,000	3,99,600	3,00,000
Interest Type6	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	8.49%	8.19%	6.43%	6.87%	6.69%
Base Rate, if Floating Interest7	N/A	N/A	N/A	N/A	N/A
Margin, if Floating Interest8	N/A	N/A	N/A	N/A	N/A
Are there any Caps/Floor9	No	No	No	No	No
If above is yes,specify caps/floor	N/A	N/A	N/A	N/A	N/A
Moratorium Period10	8	10	10	15 Years and 1 day	10
Moratorium effective from #	25-03-2015	15-12-2015	27-01-2021	20-04-2021	13-09-2021
Repayment Period11	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment effective from	25-03-2023	15-12-2025	27-01-2031	21-04-2036	13-09-2031
Repayment Frequency12	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment Instalment13,14	Installments 1st - 206,136.61 2nd - 412,273.22 3rd - 412,273.22	50000	2,50,000	3,99,600	3,00,000
Base Exchange Rate16	N/A	N/A	N/A	N/A	N/A
Door to Door Maturity	10	10	10	15 Years and 1 day	10

Name of the Projects					
A&N SOLAR	-	-	0	0	0
Anantpur Solar	5,600	-	0	0	0
ANTA	-	-	0	0	0
Anta Solar 90MW			0	0	650
AURAIYA	-	-	0	0	0
Auraiya R&M	-	1,400	200	0	0
Auraiya Solar 20MW			400	0	0
Auraiya Solar FS 20MW			0	150	0
Badarpur R&M	2,300	-	0	0	0
Barauni-II			0	1500	8400
BARH I	74,883	8,900	51100	32900	42800
BARH II	63,500	-	0	0	0
Bhadla Solar	-	-	0	0	0
BONGAIGAON	54,000	500	0	0	0
CC			0	0	0
CC - Jhabua Power			0	0	0
CC - NEEPCO			18243	56696	48250
CC - THDC			34207	106304	90470
Chatti Bariatu CMB	8,100	-	825	200	1350
DADRI GAS	-	-	0	0	0
DADRI GAS R&M	600	-	0	100	200
DADRI SOLAR	-	-	0	0	0
DARLIPALLI	49,200	-	28300	11500	1000
Dulanga CMP	-	-	2700	3400	4100
FARAKKA II	-	-	0	0	0
FARAKKA III	10,900	-	0	0	0
Farakka R&M	2,000	-	1700	1600	1550
Farakka-I , II & III FGD			0	1600	1550
FARIDABAD	-	-	0	0	0

Particulars					
Series	**54**	**57**	**73**	**74**	**75**
Faridabad R&M			100	0	700
FARIDABAD SOLAR	-	-	0	0	0
GADARWARA	81,000	2,000	19000	7500	0
GANDHAR	-	-	0	0	0
Gandhar 20MW			0	3750	90
Gandhar R &M	4,300	800	0	0	0
KAHALGAON II			0	0	0
Kahalgaon II Phase I	-	-	0	0	0
Kahalgaon II Phase II	1,800	-	0	0	0
KAHALGAON R&M	**2,000**	**500**	**600**	**1200**	**2620**
Kahalgaon-I & II FGD			0	300	0
KAWAS	-	-	0	0	0
Kawas R & M	1,400	-	0	0	0
Kawas Solar			0	2800	5250
Kayamkulam FS (22 MW)			170	2000	2195
Kayamkulam FS (70 MW)			1830	2850	1925
Khargone	45,000	3,000	3000	2000	0
Kirenderi Coal Mine			7350	0	165
KOLDAM	25,100	3,700	0	0	0
KORBA III	9,200	500	0	0	0
Korba R&M	4,400	-	2300	1350	4050
Korba-I, II & III FGD			0	100	0
Kudgi	1,23,300	-	0	0	0
KUDGI-FGD			0	2950	1000
LARA	53,300	13,700	1700	14000	0
Lata Tapovan	1,600	-	0	0	0
LOHARINAGPALA	-	-	0	0	0
Mandsaur Solar	-	-	0	0	0
Mauda I	21,900	-	0	500	0
Mauda II	45,800	-	0	100	2200
Nabinagar			0	0	0
NCPS-FGD			0	0	5600
NCTPP	-	-	0	0	0
NCTPP II	11,000	500	0	0	0
NCTPP R&M	3,700	-	0	200	0
Nokh Solar Plot-I (245MW)			0	0	0
Nokh Solar Plot-II (245MW)			0	0	0
Nokh Solar Plot-III (245MW)			0	0	0
NORTH KARANPURA	12,400	-	9500	11700	11900
Pakri Barwadih CMB	26,600	800	0	20000	0
RAJGARH SOLAR	-	-	0	0	0
Ramagundam I & II R&M	2,400	-	0	0	0
Ramagundam Floating Solar-100 MW			3375	3800	8640
Ramagundam I & II R&M			4200	3300	8985
RAMAGUNDAM SOLAR	-	-	0	0	0
Ramagundam-I & II FGD			0	0	100
Ramagundam-III (1x500 MW)	-	-	0	400	0
Rammam	3,100	-	3300	1100	800
Rihand- I FGD			0	0	20
RIHAND II	-	-	0	0	0
Rihand- II & III FGD			0	0	130
RIHAND III	28,300	800	0	0	0
Rihand R&M	2,500	-	1200	2000	6275
Rihand Solar (20MW)			0	300	510
SIMHADRI	-	-	0	0	0
Simhadri Floating			1875	3050	325
Simhadri II	26,800	1,000	0	0	0

Particulars					
Series	**54**	**57**	**73**	**74**	**75**
Simhadri R&M	900	-	0	0	200
Simhadri-II & I (2x500 MW) & (2x500 MW) FGD			0	7600	1150
Singrauli R&M	1,600	-	4200	1700	2725
Singrauli-I & II FGD			0	8700	150
SIPAT I	20,500	1,400	0	0	0
SIPAT II	-	-	0	0	0
Sipat-I (3x660 MW) FGD			0	5600	1100
SOLAPUR	70,300	-	0	0	0
Solapur Solar			0	0	2575
Solapur-FGD			0	2700	3450
Talaipali Coal Mine	-	-	19400	4800	2160
TALCHER I	-	-	0	0	0
TALCHER II	12,000	700	0	0	0
TALCHER SOLAR	-	-	0	0	0
Tanda II	9,000	400	9500	16700	1000
Tanda R&M	-	-	0	0	0
Tapovan Vishnugad	26,400	-	6200	8000	1500
Telangana	-	-	9725	20300	9200
TSTPP R&M	1,600	1,000	500	0	640
TSTPS Stage-II & I FGD			0	9700	0
TTPS R&M	1,000	-	0	0	0
UNCHAHAR II	-	-	0	0	0
Unchahar III	-	-	0	0	0
Unchahar IV	17,400	4,800	0	0	0
Unchahar R&M	3,400	-	500	900	1050
UNCHAHAR SOLAR	-	-	0	0	0
Unchahar-I, II & III-FGD			0	5400	5100
Unchahar-IV-FGD			0	2750	1200
Vidhyachal Hydro**	1,900	-	0	0	0
VINDHYACHAL II	-	-	0	0	0
Vindhyachal III	-	-	0	0	0
Vindhyachal IV	17,200	500	0	0	0
Vindhyachal R&M	1,200	900	2800	1450	2900
Vindhyachal V	33,500	2,200	0	0	0
Vindhyachal-I &II FGD			0	200	900
Vindyachal Solar**	4,800	-	0	0	0
TOTAL	**10,30,683**	**50,000**	**2,50,000**	**3,99,600**	**3,00,000**

PART-I
FORM- 9A
Summary

Name of the Petitioner	**NTPC Ltd.**
Name of the Generating Station	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**
COD	**01.08.1996**
For Financial Year	**2024-29 (Summary)**

Rs. Lakhs

Sl. No.	Head of Work /Equipment	ACE Claimed Cash Basis					Justification	Admitted Cost by the Commission,
		2024-25	2025-26	2026-27	2027-28	2028-29		
1	2	3	4	5	6	7	9	10
	Works eligble for RoE at Normal Rate							
1	Drain Separation and Toe water Drain System		500				Refer to Form-9A of individual Financial Year	
2	400 KV/ 132 KV Switchyard extension package			3600				
3	Replacment of 400 KV & 132 KV Circuit Breakers in Switchyard of NTPC Kahalgaon Stage#1			200				
4	Modification/Replacement of hydraulic governing system of main turbine to electro hydraulic governing system				2500	8300		
5	Upgradation of Motorized 140/6 & 140/29 Pressure Control Valve to Hydraulic Control PCV of LMZ Turbine				1200	4100		
6	DDCMIS Xen Server Upgradation From Gen8 To Gen-10 In All Four Units Of Stage-1				1200	3600		
7	Ash dyke/ash handling related works					2400		
	Sub total Additional Capitalization at normal ROE (A)	**0**	**500**	**3800**	**4900**	**18400**		
	Works eligble for Return on Equity linked to SBI MCLR:							
8	Augmentation of ESP Stage-I			10000	5000	6281		
	Sub Total(B)	**0.0**	**0.0**	**10000**	**5000**	**6281**		
	Total Add Cap Claimed for Tariff	**0**	**500**	**13800**	**9900**	**24681**		

Signature Not Verified

Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

PART-I
FORM- 9A
Amount in Rs. Lakhs

Name of the Petitioner	NTPC Ltd
Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)
Station COD	01.08.1996
For Financial Year	2024-25

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2024-25)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A	**Works eligble for RoE at Normal Rate**							
1								
2								
	Sub Total(A)							
B	**Works eligble for Return on Equity linked to SBI MCLR:**							
	Sub Total(B)	**0.00**	**0.00**	**0.00**				
	Total ADD Cap claimed(A+B)	**-**	**-**	**-**				

Year wise Statement of Additional Capitalisation after COD								PART-I FORM- 9A Amount in Rs. Lakhs
Name of the Petitioner				NTPC Ltd				
Name of the Generating Station				Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)				
COD				01.08.1996				
For Financial Year				2025-26				
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2025-26)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5=3-4	6	7	8	9
A	**Works eligble for RoE at Normal Rate**							
1	Drain Separation and Toe water Drain System	500	0	500	0	26(1)(b)	It is submitted that the Ministry of Water Resources, River Development, and Ganga Rejuvenation, Government of India vide its Notification dated 07.10.2016 has notified the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016 ("2016 Order"). Clause 6(2) of the 2016 Order unequivocally mandates that:- "No person shall discharge, directly or indirectly, any untreated or treated trade effluent and industrial waste, bio medical waste, or other hazardous substance into the River or its Tributaries or on their banks." The Order was notified in the year 2016 and is therefore, a Change in Law event and falls squarely within the meaning of Regulation 3 (10) read with Regulation 26(1)(b) of the Tariff Regulations, 2019. It is stated that the requirement was only notified in the year 2016 and hence, there was no provision for preventing any direct discharge. Petitioner further submits that the Drain separation and toe water drain system scheme at KSTPS Stage – I comprises of following: i. Separation of process water and storm/ rainwater ii. Treatment of process water for re-use in plant iii. Diversion of storm water to outside drain / Clariflocculator for re-use. iv. Ash water recirculation and Toe drain recirculation. Copy of notification is enclosed as **Annexure-C** Accordingly, Drain sepration and Toe Drain system wok is required to comply the statutory requirement.It is submitted that the Hon'ble commission vide order dated 08.11.2024 in petition no. 440/GT/2020 for 2019-24 period for the instant station petition has granted liberty to claim the aforesaid works at the time of truing up of 2019-24 tariff. The work completed in 2019-24 period has been claimed in True Up petition and balance work is being projected in the instant petition. The Hon'ble commission may be pleased to allow the same same.	Liberty given vide order dated 08.11.2024 in petition no. 440/GT/2020 for 2019-24 petition.
	Sub Total (A)	**500.00**	**0.00**	**500.00**	**0.00**			
B	**Works eligble for Return on Equity linked to SBI MCLR:**							
	Sub Total (B)	**0.00**	**0.00**	**0.00**	**0.00**			
	Total Add Cap claimed(A+B)	**500.00**	**0.00**	**500.00**	**0.00**			

Year wise Statement of Additional Capitalisation after COD

PART-I
FORM- 9A
Amount in Rs. Lakhs

Name of the Petitioner	NTPC Ltd
Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)
Station COD	01.08.1996
For Financial Year	2026-27

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2026-27)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A	**Works eligble for RoE at Normal Rate**							
1	400 KV/ 132 KV Switchyard extension package	3600.00	0.00	3600.00		26(1)(b)	Hon'ble commission has allowed 400 KV Bus splitting work for safe and reliable operation of the Grid vide order dtd. 21.01.2017 in 283/GT/2014 para 44 of Kahalgaon Stage-II and also vide order dated 29.03.2023 in 442/GT/2020 (para 38). Bus splitting work required to be carried out as per the directive of the Standing Committee on Power System Planning in Eastern Region due to increase in fault current in the Grid . However, as the bus splitting is related to both Stages (i.e Stage-I and Stage-II) of Kahalgaon STPS, Hon'ble Commission has apportioned the total expenditure in pro rata, based on the capacity of Stage-I (840 MW) and Stage-II (1500MW) of Kalagaon STPS in the same order. Accordingly, 400KV Buses have been splitted at Kahalgaon STPS Switchyard. But, the station auxiliary supply could not be segregted due to unavailability of ICT at site on account of non performance of the vendor M/s EMCO Ltd. due to severe financial stress and eventually Corporate Insolvency Resolution Process started against EMCO from 16.08.2019. Subsequently, NCLT Mumbai vide order dated 09.08.2021 ordered the commencement of liquidation of the EMCO Limited. Petitioner has already submitted the aforesaid information and relevent documents with petition no. 442/GT/2020 for 2019-24 period for Kahalgaon Stage-II and in petition no. 440/GT/2020 for Kahalgaon Stage-I. Based on same, Hon'ble Commission has allowed the work. After the contract of M/s EMCO was terminated, Petitioner has re-awarded the same to M/s BHEL and the work is now likely to be capitalized during 2024-29 period. In view of the above, it is pleaded that Hon'ble Commission may pleased to allow the said work as captilization of said work is alredy allowed by Hon'ble Commission in order dated 21.01.2017 and 08.11.2024.	3457.28 lakh
2	Replacment of 400 KV & 132 KV Circuit Breakers in Switchyard of NTPC Kahalgaon Stage#1	200.00	0.00	200.00		25(2)(c)	Existing breaker have become obsolete & spares were not available. Most of the Circuit Breakers have been replaced during 2019-24 tariff regime and have been claimed with 2019-24 True Up petition. Balance Circuit Breakers are proposed to be replaced during 2024-29 regime. It is submitted that new Breakers are being installed with numerical relays protetion system which are more efficient in fault detection and clearance.This work is required to enhance the protection system to reduce downtime of station, reduce the fault current in the grid and for providing the reliable power to customer and safe operation of the Grid.The Hon'ble commision may be pleased to allow the same.	
	Sub Total (A)	**3800.00**	**0.00**	**3800.00**				

Year wise Statement of Additional Capitalisation after COD

PART-I
FORM- 9A
Amount in Rs. Lakhs

Name of the Petitioner	NTPC Ltd
Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)
Station COD	01.08.1996
For Financial Year	2026-27

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2026-27)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
B	**Works eligble for Return on Equity linked to SBI MCLR:**							
3	Augmentation of ESP Stage-I	10000	0	10000		26(1)(b)	This work is required in view of revised emission standards as per MOEF notification dated 07.12.2015. The Environment Clearance for Kahalgaon Stage-I was accorded with particulate emission limit of 150 mg/Nm3 by the State Pollution Control Board which is as per designed ESP installed at the station. As per the MoEFCC Notification, particulate matter emission norm for units installed before 31.12.2003 is 100 mg/Nm3. In order to comply with the revised norm, the augmentation of ESP is a must for the instant station as the particulate emission is higher than revised norm of 100 mg/Nm3. Further, the emission consent order dated 19.07.2024 by Bihar State Pollution Control Board also directs petitioner to comply with new emisslon standard notified by MoEF&CC, dated 07.12.2015. Copy enclosed as **Annexure-D.** It is submitted that the the original ESPs consist of four passes with each pass having six fields in series along with fixed type collecting electrodes, emitting electrodes, rapping mechanism with controllers, ESP hoppers etc. No R&M as regards ESP has been carried out in past other than the aforesaid augmentation of ESP in view of the new environment norms. The augmentation of ESPs would result in augmentation of the pollution control capability of the existing ESPs by providing additional collection surface resulting in lowering of particulate emission. It is submitted that the Hon'ble Commission vide its order dated 31.10.2021 in petition no. 522/MP/2022 has recognized the aforesaid works and has stated that the Installation of FGD system also reduces SPM levels.Hon'ble Commission hads further stated that as the details of the impact of FGD system installation on SPM is not provided therefore, presently, we are not inclined to allow this expenditure. In this regard it is submitted that FGD work is still in progress and the same is likely to be Commissioned in FY 2026-27 only. In view of the liberty given by the Hon'ble Commission, Petitioner is putting its case afresh for consideration as this work is required as per MOEF notification dated 07.12.2015 i.e. 'Change in Law'. The Hon'ble commision may be pleased to allow the same.	
	Sub Total(B)	10000.00	0.00	10000.00				
	Total ADD Cap claimed(A+B)	**13800.00**	**0.00**	**13800.00**				

Year wise Statement of Additional Capitalisation after COD

	Name of the Petitioner	NTPC Ltd						PART-I
	Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)						FORM- 9A
	Station COD	01.08.1996						Amount in Rs. Lakhs
	For Financial Year	2027-28						
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2027-28)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A	**Works eligble for RoE at Normal Rate**							
A.1	**Upgradation process scheme for flexible operation**							
1	Modification/Replacement of hydraulic governing system of main turbine to electro hydraulic governing system	2500	0	2500		25(2) b & c and 26(1)(g)	The increased penetration of renewable energy (RE) has introduced significant fluctuations in the net electricity demand from conventional coal-based generating stations throughout the day. As RE integration grows, coal-based power plants must operate at variable loads to manage RE intermittency, which is essential for grid stability. However, due to the limited number of gas-based power stations and the fact that Indian coal-based plants were originally designed for base-load operations, operating at variable loads poses safety and efficiency challenges. It is submitted that , the Central Electricity Authority's (CEA) Flexible Operation of Coal-Based Thermal Power Generating Units Regulations, 2023 mandates that coal-based thermal power generating units must be capable of flexible operation. The regulations further stipulate that these units should be designed or retrofitted, if necessary, to meet the flexibility requirements. It is further submitted that the supporting low-load operation has been acknowledged by the CEA in its report, Flexibilization of Coal-Fired Power Plants, released in February 2023. It is submitted that the Kahalgaon Stage-I (4x210 MW) is equipped with old mechanical governing system. As per CERC guidelines, ramp up and ramp down are required to maintain the grid demand. Existing system is not capable for ramp up and ramp down as per CERC norms.Old hydaullic sytem is not capable for flexible operation and hence installation of the Electro hydraulic governing system is required for the instant station. Hon'ble commission acknowledges the inclusion of capital expenditure for enabling Flexible operation in capital cost as per provision of regulation 19(3)(g). In light of the above, it is respectfully requested that the Hon'ble Commission kindly approve the proposed capitalization under Regulation 25(2) b & c read with 26(1)(g).	
2	Upgradation of Motorized 140/6 & 140/29 Pressure Control Valve to Hydraulic Control PCV of LMZ Turbine	1200.00	0.00	1200.00		25(2) b & c and 26(1)(g)	Stage 1 4x210 MW is equipped with Motorized 140/6 & 140/29 Pressure Control Valve and HRH Dump system. Frequent operation of 30% bypass valves 140/6 and 140/29 are required during low load operation and control of process parameters as per requirement. Motorised operated control valves are not capable for frequent operation however fast opening & fast closing operation are not built in existing system.Existing system is not capable for flexible operation. Proposed system will be hydraulic operated and capable to operate as per current requirements of flexible operation as explained in the above para for replacement of hydraulic governing system of main turbine to electro hydraulic governing system. It is respectfully requested that the Hon'ble Commission kindly approve the proposed capitalization under Regulation 25(2) b & c read with 26(1)(g)	

Year wise Statement of Additional Capitalisation after COD

	Name of the Petitioner	NTPC Ltd						PART-I
	Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)						FORM- 9A
	Station COD	01.08.1996						Amount in Rs. Lakhs
	For Financial Year	2027-28						
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2027-28)			IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis				
1	2	3	4	5= (3-4)	6			
A.2	DDCMIS Xen Server Upgradation From Gen8 To Gen-10 In All Four Units Of Stage-1	1200.00	0.00	1200.00		25 (2)(b) & 25(2)(c)	It is submitted that the CEA Guidelines (2021) for Cyber Security in the Power Sector (attached as **Annexure-E**) mandates (i) Phasing out legacy systems, (ii) Hardening existing systems with additional security controls in consultation with the OEM, and (iii) Maintaining system logs for a minimum of six months. In light of these mandates, it has become essential to upgrade the existing systems of Stage-I. It is submitted that the proposed upgradation involves upgradation of existing System and implementing a cybersecurity suite to strengthen system hardening as mandated in the CEA guideline. Hon'ble Commission has allowed the similar additional capital expenditure incurred on HMI upgradation in Anta gas power station and Mejja thermal power station vide its order dated 05.09.2023 (in petition no. 432-GT-2020) and order dated 27.04.2023 (in petition no. 568-GT-2020) respectively. Therefore, it is humbly requested that Hon'ble Commission may be pleased to allow the same under Regulation 25(2)(c) and 25(2)(b) of Tariff Regulations 2024.	
	Sub Total (A)	**4900.000**	**0.000**	**4900.000**				
B	**Works eligble for Return on Equity linked to SBI MCLR:**							
4	Augmentation of ESP Stage-I	5000.00	0.00	5000.00		26(1)(b)	Plz refer to justification in Sl No 3 in Form 9A (2026-27)	
	Sub Total (B)	5000.00	0.00	5000.00				
	Total ADD Cap claimed(A+B)	**9900.00**	**0.00**	**9900.00**				

Year wise Statement of Additional Capitalisation after COD

	Name of the Petitioner	NTPC Ltd						PART-I
	Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)						FORM- 9A
	Station COD	01.08.1996						Amount in Rs. Lakhs
	For Financial Year	2028-29						
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2028-29)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A	**Works under Original scope, Change in Law etc. eligble for RoE at Normal Rate**							
1	Ash dyke/ash handling related works	2400	0	2400		25(1)(b) & (e)	The expenditure incurred is for disposal of ash for sustained operation related to Ash dyke/ ash handling system, which are of continuous nature during the operational life of the generating station. The works planned during the period is the raising of lagoons/butstressing which is a continuous process and occurs throughout the life of the generating station.These works are as per the approved scheme under original scope of work. The Hon'ble Commission vide its order dated 08.11.2024 in 440/GT/2023 has granted liberty to claim the Ash Dyke Works at the time of truing of 2019-24 period.However due to various reasons such as COVID-19 etc led to deferement of work. The work will be capitalised during the 2024-29 period. It is submitted that as per MoEF&CC notification dated 31.12.2021, the timelines for achieving 100% fly ash utilization by Thermal Power Plants ("TPPs") have now been revised in terms of Clause (4). The regime, now prescribed by the MoEF&CC, contemplates a three-year cycle for achieving 100% average utilization in those 3 years subject to certain conditions. It is submitted that the notification dated 31.12.2021, provides that the operational TPPs may be permitted to construct/establish an ash pond with an area of 0.1 hectare per Mega Watt ("MW"). It is evident from the said notification itself permits operational TPPs (i.e., Petitioner in the present case) to construct/establish an ash pond. Achieving 100% Ash utilisation is statutory requirement from MoEF. The Works associated with Ash Dyke are Ash Dyke raising with Ash and earth covering, construction of sand blanket and sand chimney, construction of rock toe, inner slope with flat ash brick pitching and outer slope with grass, construction of decanting well for collection of decanted water for re-use, buttressing, laying of Hume pipe for drainage of toe drain water, slope drain on each embankment to escape the rainwater from road, construction of toe guard on each embankment etc. These works are required for disposal of ash during the life of plant for sustained operation. It is further submitted that to keep the station running and to enhance the capacity of Ash Dyke, frequent raising works are required. When coal is burned to generate electricity, the ash is continuously produced. It is unlikely that all the ash produced will be used right away. Further, the bottom ash so produced cannot be transported immediately as it is having too much water content. The same may be transported only after the water settle down which requires dumping of this ash in ash dyke. The ash generated must be stored in an ash dyke, and the raising of ash dykes is therefore necessary. The Petitioner is also taking measures to dispose of fly ash quickly despite experiencing difficulties on account of remote location of plant. It is further submitted that ash generation is a continuous phenomena and its utilization is often dictated by market demands, seasons, project location etc. Hence augmentation of space along with strengthening is critical for safety of ash dykes. Ash dyke space is required for ash disposal as non disposal of ash can lead to long term unit outage. Secondly Ash dyke strengthening is very critical regarding safety of nearby villagers and locals. There have been incidents in the past of dyke collapse leading to damage to villagers. Such incidents can lead to IR issues, violent protests and station outage. Any such situation is not in the larger interest of the nation and hence the petitioner pleads to allow the same in 25(1)(b) and 25 (1) (e) under 2019 Tariff regulations.	
2	Modification/Replacement of hydraulic governing system of main turbine to electro hydraulic governing system	8300	0	8300		25(2) b & c	Plz refer to justification in Sl No 1 (A1) in Form 9A (2027-28)	
3	Upgradation of Motorized 140/6 & 140/29 Pressure Control Valve to Hydraulic Control PCV of LMZ Turbine	4100	0	4100		25(2) b & c	Plz refer to justification in Sl No 2 (A2) in Form 9A (2027-28)	
4	DDCMIS Xen Server Upgradation From Gen8 To Gen-10 In All Four Units Of Stage-1	3600	0	3600		25(2) b & c	Plz refer to justification in Sl No A2 in Form 9A (2027-28)	
	Sub Total (A)	**18400**	**0**	**18400**				
B	**Works beyond Original scope, Change in Law etc. eligble for RoE at weighted average Rate**							

Year wise Statement of Additional Capitalisation after COD

	Name of the Petitioner	NTPC Ltd						PART-I
	Name of the Generating Station	Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)						FORM- 9A
	Station COD	01.08.1996						Amount in Rs. Lakhs
	For Financial Year	2028-29						
Sl. No.	Head of Work /Equipment	ACE Claimed (Projected for 2028-29)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
5	Augmentation of ESP Stage-I	6281	0	6281		26(1)(b)	Plz refer to justification in Sl No 3 in Form 9A (2026-27)	
	Sub Total (B)	6281	0	6281				
	Total ADD Cap claimed (A+B)	**24681**	**0**	**24681**				

Signature Not Verified

Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

PART-I
FORM- 10

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**
Date of Commercial Operation	**01-08-1996**

Amount in Rs Lakh

Financial Year (Starting from COD)1	Actual					Admitted				
	2024-25	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**
1		3	4	5	6	7	8	9	10	11
Amount capitalised in Work/ Equipment										
Financing Details	**Add cap is proposed to be finance in Debt:Equity ratio of 70:30**									
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan2										
Equity Internal Resources										
Others (Pl. specify)										
Total										

(Petitioner)

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

PART-I
FORM- 12

Statement of Depreciation

Name of the Company : NTPC Limited

Name of the Power Station : Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
	A. FOR EXISTING ASSETS						
1	Opening Capital Cost	2,21,429.90	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93
2	Closing Capital Cost	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93
3	Average Capital Cost	2,23,796.42	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93	2,26,162.93
1a	*Cost of IT Equipments & Software included in (1) above	1,240.89	957.78	957.78	957.78	957.78	957.78
2a	*Cost of IT Equipments & Software included in (2) above	957.78	957.78	957.78	957.78	957.78	957.78
3a	*Average Cost of IT Equipments & Software	1,099.34	957.78	957.78	957.78	957.78	957.78
4	Freehold land	4,954.77	4,973.83	4,973.83	4,973.83	4,973.83	4,973.83
5	Rate of depreciation	-	-	-	-	-	-
6	Depreciable value	1,97,067.42	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97
7	Balance useful life at the beginning of the period	-	-	-	-	-	-
8	Remaining depreciable value	2,252.79	2,540.15	-	-	-	-
9	Depreciation (for the period)	2,252.79	2,540.15	-	-	-	-
10	**Depreciation (annualised)**	**2,252.79**	**2,540.15**	**-**	**-**	**-**	**-**
11	Cumulative depreciation at the end of the period	1,97,067.42	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	-		-	-	-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	441.60					
15	Net Cumulative depreciation at the end of the period after adjustments	1,96,625.82	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97	1,99,165.97

* To be provided at the time of True Up

	B. For New Assets (proposed in 2024-29 period)						
16	Opening capital cost		-	-	500.00	14,300.00	24,200.00
17	Additional capital expenditure		-	500.00	13,800.00	9,900.00	24,681.00
18	Closing capital cost		-	500.00	14,300.00	24,200.00	48,881.00
19	Average capital cost		-	250.00	7,400.00	19,250.00	36,540.50
20	Freehold land						
21	Depreciable Value		-	225.00	6,660.00	17,325.00	32,886.45
22	Cumulative depreciation at the beginning of the year		-	-	34.35	1,228.16	4,765.93
23	Balance depreciable value		-	225.00	6,625.65	16,096.84	28,120.52
24	Balance useful life at the beginning of the year		7.55	6.55	5.55	4.55	3.55
25	Depreciation Rate						
26	**Depreciation for the year**		**-**	**34.35**	**1,193.81**	**3,537.77**	**7,921.27**
27	Cu. depreciation adjustment on account of de-capitalisation						
28	Cu. Depreciation at end of the year		-	34.35	1,228.16	4,765.93	12,687.20
	C. For total Assets (A+B)						
29	Opening capital cost		2,26,162.93	2,26,162.93	2,26,662.93	2,40,462.93	2,50,362.93
30	Additional capital expenditure		-	500.00	13,800.00	9,900.00	24,681.00
31	Closing capital cost		2,26,162.93	2,26,662.93	2,40,462.93	2,50,362.93	2,75,043.93
32	Average capital cost		2,26,162.93	2,26,412.93	2,33,562.93	2,45,412.93	2,62,703.43
33	Freehold land		4,973.83	4,973.83	4,973.83	4,973.83	4,973.83
34	Depreciable Value		1,99,165.97	1,99,390.97	2,05,825.97	2,16,490.97	2,32,052.42
35	Cumulative depreciation at the beginning of the year		1,96,625.82	1,99,165.97	1,99,200.32	2,00,394.13	2,03,931.90
36	Balance depreciable value		2,540.15	225.00	6,625.65	16,096.84	28,120.52
37	Balance operational life at the beginning of the year		7.55	6.55	5.55	4.55	3.55
38	Depreciation Rate						
39	**Depreciation for the year**		**2,540.15**	**34.35**	**1,193.81**	**3,537.77**	**7,921.27**
40	Cu. depreciation adjustment on account of de-capitalisation						
41	Cu. Depreciation at end of the year		1,99,165.97	1,99,200.32	2,00,394.13	2,03,931.90	2,11,853.17

PART-I
FORM-13

Calculation of Interest on Actual Loans[1]

Name of the Company
Name of the Power Station

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	2					
1	**HDFC Bank Limited-IV (Repayment wef 17.4.21)**					
	Gross loan - Opening	3000.00	3000.00	3000.00	3000.00	3000.00
	Cumulative repayments of Loans upto previous period	1000.00	1333.33	1666.67	2000.00	2333.33
	Net loan - Opening	2000.00	1666.67	1333.33	1000.00	666.67
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	2000.00	1666.67	1333.33	1000.00	666.67
	Repayments of Loans during the period	333.33	333.33	333.33	333.33	333.33
	Net loan - Closing	1666.67	1333.33	1000.00	666.67	333.33
	Average Net Loan	1833.33	1500.00	1166.67	833.33	500.00
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on Loan Annualised	145.75	119.25	92.75	66.25	39.75
2	**State Bank of India - IX (Repayment in nine instalments 31.3.21)**					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans upto previous period	888.89	1111.11	1333.33	1555.56	1777.78
	Net loan - Opening	1111.11	888.89	666.67	444.44	222.22
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1111.11	888.89	666.67	444.44	222.22
	Repayments of Loans during the period	222.22	222.22	222.22	222.22	222.22
	Net loan - Closing	888.89	666.67	444.44	222.22	0.00
	Average Net Loan	1000.00	777.78	555.56	333.33	111.11
	Rate of Interest on Loan	8.2000%	8.2000%	8.2000%	8.2000%	8.2000%
	Interest on Loan Annualised	82.00	63.78	45.56	27.33	9.11
3	**State Bank of India - VIII (Repayment in nine instalments wef 31.1.2022)**					
	Gross loan - Opening	500.00	500.00	500.00	500.00	500.00
	Cumulative repayments of Loans upto previous period	166.67	222.22	277.78	333.33	388.89
	Net loan - Opening	333.33	277.78	222.22	166.67	111.11
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	333.33	277.78	222.22	166.67	111.11
	Repayments of Loans during the period	55.56	55.56	55.56	55.56	55.56
	Net loan - Closing	277.78	222.22	166.67	111.11	55.56
	Average Net Loan	305.56	250.00	194.44	138.89	83.33
	Rate of Interest on Loan	8.2000%	8.2000%	8.2000%	8.2000%	8.2000%
	Interest on Loan Annualised	25.06	20.50	15.94	11.39	6.83
4	**State Bank of India - XI (Repayment in nine instalments wef 1.10.22)**					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans upto previous period	222.22	333.33	444.44	555.56	666.67
	Net loan - Opening	777.78	666.67	555.56	444.44	333.33
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	777.78	666.67	555.56	444.44	333.33
	Repayments of Loans during the period	111.11	111.11	111.11	111.11	111.11
	Net loan - Closing	666.67	555.56	444.44	333.33	222.22
	Average Net Loan	722.22	611.11	500.00	388.89	277.78
	Rate of Interest on Loan	8.2000%	8.2000%	8.2000%	8.2000%	8.2000%
	Interest on Loan Annualised	59.22	50.11	41.00	31.89	22.78
5	**HDFC Bank Limited-VII (Drawn on 1.1.2020) (Repayment in nine installments 11.06.2026)**					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	111.11	222.22
	Net loan - Opening	1000.00	1000.00	1000.00	888.89	777.78
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00

	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1000.00	1000.00	1000.00	888.89	777.78
	Repayments of Loans during the period	0.00	0.00	111.11	111.11	111.11
	Net loan - Closing	1000.00	1000.00	888.89	777.78	666.67
	Average Net Loan	1000.00	1000.00	944.44	833.33	722.22
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on Loan Annualised	79.50	79.50	75.08	66.25	57.42
6	**HDFC X (Drawn on 21.3.2022) (Repayment in 12 instalments wef 24.11.2025)**					
	Gross loan - Opening	300.00	300.00	300.00	300.00	300.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	25.00	50.00	75.00
	Net loan - Opening	300.00	300.00	275.00	250.00	225.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	300.00	300.00	275.00	250.00	225.00
	Repayments of Loans during the period	0.00	25.00	25.00	25.00	25.00
	Net loan - Closing	300.00	275.00	250.00	225.00	200.00
	Average Net Loan	300.00	287.50	262.50	237.50	212.50
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on Loan Annualised	23.85	22.86	20.87	18.88	16.89
7	**HDFC X (Drawn on 12.5.22) (Repayment in 12 instalments wef 24.11.2025)**					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	83.33	166.67	250.00
	Net loan - Opening	1000.00	1000.00	916.67	833.33	750.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1000.00	1000.00	916.67	833.33	750.00
	Repayments of Loans during the period	0.00	83.33	83.33	83.33	83.33
	Net loan - Closing	1000.00	916.67	833.33	750.00	666.67
	Average Net Loan	1000.00	958.33	875.00	791.67	708.33
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on Loan Annualised	79.50	76.19	69.56	62.94	56.31
8	**HDFC Bank Limited-IX (Drawn on 18.11.2020)**					
	Gross loan - Opening	1600.00	1600.00	1600.00	1600.00	1600.00
	Cumulative repayments of Loans upto previous period	0.00	133.33	266.67	400.00	533.33
	Net loan - Opening	1600.00	1466.67	1333.33	1200.00	1066.67
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1600.00	1466.67	1333.33	1200.00	1066.67
	Repayments of Loans during the period	133.33	133.33	133.33	133.33	133.33
	Net loan - Closing	1466.67	1333.33	1200.00	1066.67	933.33
	Average Net Loan	1533.33	1400.00	1266.67	1133.33	1000.00
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on Loan Annualised	121.90	111.30	100.70	90.10	79.50
9	**Bonds Series - 54**					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans upto previous period	1200.00	2000.00	2000.00	2000.00	2000.00
	Net loan - Opening	800.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	800.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the period	800.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	400.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on Loan Annualised	34.08	0.00	0.00	0.00	0.00
10	**Bonds Series - 57**					
	Gross loan - Opening	500.00	500.00	500.00	500.00	500.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	500.00	500.00	500.00
	Net loan - Opening	500.00	500.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	500.00	500.00	0.00	0.00	0.00
	Repayments of Loans during the period	0.00	500.00	0.00	0.00	0.00
	Net loan - Closing	500.00	0.00	0.00	0.00	0.00
	Average Net Loan	500.00	250.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.2200%	8.2200%	8.2200%	8.2200%	8.2200%

	Interest on Loan Annualised	41.10	20.55	0.00	0.00	0.00
11	**Bonds Series - 73**					
	Gross loan - Opening	600.00	600.00	600.00	600.00	600.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	600.00	600.00	600.00	600.00	600.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	600.00	600.00	600.00	600.00	600.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	600.00	600.00	600.00	600.00	600.00
	Average Net Loan	600.00	600.00	600.00	600.00	600.00
	Rate of Interest on Loan	6.4600%	6.4600%	6.4600%	6.4600%	6.4600%
	Interest on Loan Annualised	38.76	38.76	38.76	38.76	38.76
12	**Bonds Series - 74**					
	Gross loan - Opening	1200.00	1200.00	1200.00	1200.00	1200.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	1200.00	1200.00	1200.00	1200.00	1200.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1200.00	1200.00	1200.00	1200.00	1200.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	1200.00	1200.00	1200.00	1200.00	1200.00
	Average Net Loan	1200.00	1200.00	1200.00	1200.00	1200.00
	Rate of Interest on Loan	6.9000%	6.9000%	6.9000%	6.9000%	6.9000%
	Interest on Loan Annualised	82.80	82.80	82.80	82.80	82.80
13	**Bonds Series - 75**					
	Gross loan - Opening	2620.00	2620.00	2620.00	2620.00	2620.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	2620.00	2620.00	2620.00	2620.00	2620.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	2620.00	2620.00	2620.00	2620.00	2620.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	2620.00	2620.00	2620.00	2620.00	2620.00
	Average Net Loan	2620.00	2620.00	2620.00	2620.00	2620.00
	Rate of Interest on Loan	6.7200%	6.7200%	6.7200%	6.7200%	6.7200%
	Interest on Loan Annualised	176.06	176.06	176.06	176.06	176.06
	Grand Total					
	Gross loan - Opening	17320.00	17320.00	17320.00	17320.00	17320.00
	Cumulative repayments of Loans upto previous period	3477.78	5133.33	6597.22	7672.22	8747.22
	Net loan - Opening	13842.22	12186.67	10722.78	9647.78	8572.78
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	13842.22	12186.67	10722.78	9647.78	8572.78
	Repayments of Loans during the period	1655.56	1463.89	1075.00	1075.00	1075.00
	Net loan - Closing	12186.67	10722.78	9647.78	8572.78	7497.78
	Average Net Loan	13014.44	11454.72	10185.28	9110.28	8035.28
	Rate of Interest on Loan	**7.6037%**	**7.5223%**	**7.4528%**	**7.3835%**	**7.2956%**
	Interest on Loan Annualised	989.58	861.66	759.09	672.65	586.22

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Apr-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	432269		82535	20749
2	Value of stock	(Rs)	1656795494		290543121	320170455
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	550379	447040	3567	10801
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0	0	0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	550379	447040	3567	10801
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1101	3576	29	22
7	Net coal / Lignite Supplied (5-6)	(MT)	**549278**	**443464**	**3538**	**10779**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3155766673		8697856	148225430
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0	0
10	Handling Sampling and such other similar charges	(Rs.)	62730310		152183	0
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3218496983**		**8850039**	**148225430**
12	Transportation charges by rail/ship/road transport	(Rs.)	362026382		3850627	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)			0	0
14	Demurrage Charges, if any	(Rs.)			0	0
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	18683246		0	0
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	380709628		3850627	0
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3599206611**		**1,27,00,666.00**	**14,82,25,430.00**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3688.39**		**3,523.11**	**14,856.43**
19	Blending Ratio (Domestic/Imported)		97.66%		0.84%	1.50%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3854.45**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3854.45**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4261		**4601**	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4315		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5151
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5131
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4314**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3356		3911	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3282		3996	
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5151
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5131
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3337.00**			

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			May-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	464570		77773	16778
2	Value of stock	(Rs)	1713521126		274001973	249263542
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	453563	443250		34872
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0		0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	453563	443250		34872
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	907	3546		70
7	Net coal / Lignite Supplied (5-6)	(MT)	**4,52,656**	**4,39,704**	**-**	**34,802**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2778353016			493263135
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0			0
10	Handling Sampling and such other similar charges	(Rs.)	63713326			0
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2842066342**			**493263135**
12	Transportation charges by rail/ship/road transport	(Rs.)	311725615			0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	15838717			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	327564332			
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3169630674**			**49,32,63,135**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3598.68**		**3,523.11**	**14,395.66**
19	Blending Ratio (Domestic/Imported)		96.340%		0.970%	2.690%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3888.47**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3888.47**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4299		**4601**	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4234			
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5144
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5039
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4281**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3304		3915	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3292			
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5144
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5039
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3350.00**			

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Jun-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	436518		68593	25880
2	Value of stock	(Rs)	1570883544		241659823	372558215
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	369133	434263	40429	11107
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	-1002	0	0	0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	368132	434263	40429	11107
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	738	3474	323	22
7	Net coal / Lignite Supplied (5-6)	(MT)	**3,67,394**	**4,30,789**	**40,106**	**11,085**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2704650408		102343425	124279326
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0	
10	Handling Sampling and such other similar charges	(Rs.)	56920426		2293072	
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2761570834**		**104636498**	**124279326**
12	Transportation charges by rail/ship/road transport	(Rs.)	285418237		42452871	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	14017941			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	299436178		42452871	0
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3061007012**		**14,70,89,369**	**12,42,79,326**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3751.43**		**3,576.41**	**13,440.83**
19	Blending Ratio (Domestic/Imported)		94.760%		3.940%	1.300%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3870.52**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3870.52**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4256		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4378		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5073
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5174
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4355**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3296		3915	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3296		3511	
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5073
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5174
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3338.00**			

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Jul-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	251458		67818	23480
2	Value of stock	(Rs)	943323268		242545551	315587948
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	500729	440209	64051	8160
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0	0	0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	500729	440209	64051	8160
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,001	3,522	512	16
7	Net coal / Lignite Supplied (5-6)	(MT)	**4,99,728**	**4,36,687**	**63,539**	**8,144**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3011020764		169546124	116808098
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0	0
10	Handling Sampling and such other similar charges	(Rs.)	51479502		2687949	**0**
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3062500266**		**172234073**	**116808098**
12	Transportation charges by rail/ship/road transport	(Rs.)	273029782		58159017	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	16776230			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	289806012		5,81,59,017	
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3352306278**		**23,03,93,090**	**11,68,08,098**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3616.24**		**3600.41**	**13673.22**
19	Blending Ratio (Domestic/Imported)		89.14%		9.700%	1.160%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3731.28**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3731.28**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4335		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4209		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5103
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5081
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4281**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3296		3764	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3326		3356	5103
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5081
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3364**			

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Aug-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	374689		42872	21044
2	Value of stock	(Rs)	1354961038		154356362	287733378
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	440379	323630	11271	46300
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0	0	0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	440379	323630	11271	46300
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	881	2,589	90	93
7	Net coal / Lignite Supplied (5-6)	(MT)	**4,39,499**	**3,21,041**	**11,181**	**46,207**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2400163417		31748777	657959872
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0	
10	Handling Sampling and such other similar charges	(Rs.)	45244433		502060	
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2445407850**		**32250837**	**657959872**
12	Transportation charges by rail/ship/road transport	(Rs.)	219629690		8324458	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	16759211			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	236388901		83,24,458	-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**2681796751**		**4,05,75,295**	**65,79,59,872**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3555.90**		**3606.33**	**14062.17**
19	Blending Ratio (Domestic/Imported)		93.52%		2.850%	3.630%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3938.77**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3938.77**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4236		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4230		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5097
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5034
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4272**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3320		3566	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3275		3343	
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5097
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5034
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3360**			

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Sep-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	Month	Unit	Supply by MGR	Supply by Rail	Supply by Rail	Supply by Rail
1	Opening quantity of coal	(MT)	169757		24633	29776
2	Value of stock	(Rs)	603639460		88833429	418713429
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	533700	388100	18902	55765
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0	0	0
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	533700	388100	18902	55765
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,067	3,105	151	112
7	Net coal / Lignite Supplied (5-6)	(MT)	**5,32,632**	**3,84,995**	**18,751**	**55,653**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2671239272		51665803	800272255
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0	
10	Handling Sampling and such other similar charges	(Rs.)	51733780		901013	
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2722973052**		**52566817**	**800272255**
12	Transportation charges by rail/ship/road transport	(Rs.)	260924634		15850908	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	16751680			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	277676314		1,58,50,908	-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3000649366**		**6,84,17,725**	**80,02,72,255**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3314.64**		**3624.69**	**14268.94**
19	Blending Ratio (Domestic/Imported)		91.58%		3.17%	5.25%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3899.54**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3899.54**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4232		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4057		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5054
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5085
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4152**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3290		3519	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3171		3604	
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5054
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5085
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3300**			

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Details of Source wise Fuel for Computation Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Oct-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	162447		11368	32409
2	Value of stock	(Rs)	538452334		41203703	462446485
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	486268	450400	37066	24058
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0		
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	486268	450400	37066	24058
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	973	3,603	297	48
7	Net coal / Lignite Supplied (5-6)	(MT)	**4,85,296**	**4,46,797**	**36,769**	**24,010**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2844454345		97393724	285901248
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0			0
10	Handling Sampling and such other similar charges	(Rs.)	39500947		1183556	
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2883955292**		**98577280**	**285901248**
12	Transportation charges by rail/ship/road transport	(Rs.)	283030038		34749990	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	13733525			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	296763563		3,47,49,990	-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3180718855**		**13,33,27,270**	**28,59,01,248**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3397.93**		**3625.74**	**13263.96**
19	Blending Ratio (Domestic/Imported)		90.49%		7.98%	1.53%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3567.29**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3567.29**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4084		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4279		4601	
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5074
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5169
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**4291**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3189		3556	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3273		3921	
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5074
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5169
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3335**			

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Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Nov-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	177898		16857	26902
2	Value of stock	(Rs)	604489236		61120826	356821867
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	778342	308279	0	34411
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	0	0		
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	778342	308279	0	34411
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,557	2,466		69
7	Net coal / Lignite Supplied (5-6)	(MT)	**7,76,785**	**3,05,812**	**-**	**34,342**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3090551720			429493406
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0			0
10	Handling Sampling and such other similar charges	(Rs.)	26959916			
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3117511636**		**0**	**429493406**
12	Transportation charges by rail/ship/road transport	(Rs.)	145000741			
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	19252753			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	164253494		-	-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3281765130**		**-**	**42,94,93,406**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**3083.12**		**3625.75**	**12839.17**
19	Blending Ratio (Domestic/Imported)		94.19%		3.64%	2.17%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3314.42**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3314.42**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	4250		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	3812			
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5115
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5163
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**3927**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3261		3837	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	2949			
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5115
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5163
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3070**			

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Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Dec-23			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR**	**Supply by Rail**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	343159		1857	32543
2	Value of stock	(Rs)	1057994314		6734576	417831380
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	873631	324175	0	68480
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	-1164	0		
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	872467	324175	0	68480
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,747	2,593		137
7	Net coal / Lignite Supplied (5-6)	(MT)	**8,70,720**	**3,21,582**	**-**	**68,343**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3101958627			865317078
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0			0
10	Handling Sampling and such other similar charges	(Rs.)	47779148			
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3149737775**			**865317078**
12	Transportation charges by rail/ship/road transport	(Rs.)	147443184			
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	19270140			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	166713324		-	-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3316451099**		**-**	**86,53,17,078**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**2848.95**		**3625.71**	**12718.69**
19	Blending Ratio (Domestic/Imported)		94.15%		0.24%	5.60%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3403.88**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3403.88**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	3873		4601	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	3826			
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5142
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5053
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**3909**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	2993		3837	
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	3106			
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5142
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5053
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3193**			

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Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Jan-24			
			Domestic Coal (CIL)		NTPC Coal	Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR (Pit head)**	**Supply by Rail (Non Pit Head)**	**Supply by Rail**	**Supply by Rail**
1	Opening quantity of coal	(MT)	583302			44227
2	Value of stock	(Rs)	1661794879			562507483
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	875204.2	247196.49		51386
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)				
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	875204.2	247196.49		51386
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,750.41	1,977.57		103
7	Net coal / Lignite Supplied (5-6)	(MT)	**8,73,454**	**2,45,219**		**51,283**
8	Amount charged by the Coal /Lignite Company	(Rs.)	2801082751			645990577
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0			0
10	Handling Sampling and such other similar charges	(Rs.)	47173272			
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**2848256023**			**645990577**
12	Transportation charges by rail/ship/road transport	(Rs.)	38439787			
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)				
14	Demurrage Charges, if any	(Rs.)	0			
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	19011229			
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	57451016			-
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**2905707039**			**64,59,90,577**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**2683.65**			**12653.07**
19	Blending Ratio (Domestic/Imported)		95.11%			4.89%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3170.76**			
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3170.76**			
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	3842			
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	3624			
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)				5082
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)				5112
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**3767**			
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3079			
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	2933			
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)				5082
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)				5112
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**3086**			

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Details of Source wise Fuel for Computation Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

			Feb-24		
			Domestic Coal (CIL)		Imported Coal
S. No.	**Month**	**Unit**	**Supply by MGR (Pit head)**	**Supply by Rail (Non Pit Head)**	**Supply by Rail**
1	Opening quantity of coal	(MT)	586551		38210
2	Value of stock	(Rs)	1574096940		483476862.2
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	995674.76	254529.57	124966.67
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)			
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	995674.76	254529.57	124966.67
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	1,991.35	2,036.24	250
7	Net coal / Lignite Supplied (5-6)	(MT)	**9,93,683**	**2,52,493**	**1,24,717**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3083026237		1559003062
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		
10	Handling Sampling and such other similar charges	(Rs.)	49335736		
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3132361973**		**1559003062**
12	Transportation charges by rail/ship/road transport	(Rs.)	42188673		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)	0		
14	Demurrage Charges, if any	(Rs.)	0		
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	19235421		
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	61424094		
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3193786067**		**1,55,90,03,062**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**2601.52**		**12536.17**
19	Blending Ratio (Domestic/Imported)		94.21%		5.79%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3176.72**		
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3176.72**		
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	3699		
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	3555		
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	0		5098
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)	0		5073
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**3687**		
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	2984		
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	2815		
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)	0		5098
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)	0		5073
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**2997**		

Form-15

Details of Source wise Fuel for Computation
Energy Charges

Name of the Company :NTPC Limited					
Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)					
			Mar-24		
			Domestic Coal (CIL)		**Imported Coal**
S. No.	**Month**	**Unit**	**Supply by MGR (Pit head)**	**Supply by Rail (Non Pit Head)**	**Supply by Rail**
1	Opening quantity of coal	(MT)	676277		91847
2	Value of stock	(Rs)	1759350288		1151409032
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MT)	1057064.28	346546.43	65100.33
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MT)	-3116.3		
5	Coal supplied by Coal/Lignite Company (3+/-4)	(MT)	1400494.41		65100.33
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MT)	2,107.90	2,772.37	130
7	Net coal / Lignite Supplied (5-6)	(MT)	**13,95,614**		**64,970**
8	Amount charged by the Coal /Lignite Company	(Rs.)	3696119616		832566323
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		
10	Handling Sampling and such other similar charges	(Rs.)	68736336		
11	**Total amount Charged (8+9+10)**	**(Rs.)**	**3764855952**		**832566323**
12	Transportation charges by rail/ship/road transport	(Rs.)	49624330		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)	0		
14	Demurrage Charges, if any	(Rs.)	0		
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	24165785		
16	Total Transportation Charges (12+-13-14+15)	(Rs.)	73790115		
17	**Total amount Charged for coal/lignite supplied including Transportation (11+16)**	**(Rs.)**	**3838646067**		**83,25,66,323**
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	**2701.88**		**12651.52**
19	Blending Ratio (Domestic/Imported)		95.73%		4.27%
20	**Weighted average cost of coal or lignite(including Biomass)**	Rs./MT	**3126.70**		
20a	**Weighted average cost of coal or lignite(excluding Biomass)**	Rs./MT	**3126.70**		
21	GCV of domestic coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	3601		
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	3615		
23	GCV of Imported coal of the opening coal stock as per Bill of coal company	(kCal/Kg)	0		5079
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)	0		5004
25	Weighted average GCV of coal/ Lignite as Billed (including Biomass)	(kCal/Kg)	**3672**		
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	2869		
27	GCV of Domestic Coal Supplied / Biomass as received at Station	(kCal/Kg)	2846		
28	GCV of Imported Coal of the opening stock as received at Station	(kCal/Kg)	0		5079
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)	0		5004
30	Weighted average GCV of coal as Received (including Biomass)	(kCal/Kg)	**2947**		

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Apr-23	
			HFO	LDO
1	Opening Stock of Oil	KL	4129.03	113.33
2	Value of Opening Stock	(Rs)	23,92,92,892.00	85,67,335.00
3	Quantity of Oil supplied by Oil Company	KL		
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL		
5	Oil supplied by Oil Company (3+4)	KL		
6	Normative Transit & Handling Losses	KL		
7	Net Oil Supplied (5-6)	KL		
8	Amount charged by the Oil Company	(Rs)		
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)		
10	Handling, Sampling and such other similar charges			
11	Total amount charged (8+9+10)	(Rs)		
12	Transportation charges by rail / ship / road transport	(Rs)		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		
14	Demurrage Charges, if any	(Rs)		
15	Total Transportation Charges (12+13+14+15)	(Rs)		
16	Other Charges			
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)		
18	Landed cost of Oil	Rs/KL	57953.79	75593.69
19	Blending Ratio(Quantity)		155.35	0.00
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57953.79	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9802	9121
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9802	9121
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9802	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	May-23	
			HFO	LDO
1	Opening Stock of Oil	KL	3846.92	101.71
2	Value of Opening Stock	(Rs)	22,29,43,780.00	76,88,936
3	Quantity of Oil supplied by Oil Company	KL	2879	
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	
5	Oil supplied by Oil Company (3+4)	KL	2879	
6	Normative Transit & Handling Losses	KL	0	
7	Net Oil Supplied (5-6)	KL	2879	
8	Amount charged by the Oil Company	(Rs)	162036417	
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	
10	Handling, Sampling and such other similar charges		0	
11	Total amount charged (8+9+10)	(Rs)	162036417	
12	Transportation charges by rail / ship / road transport	(Rs)		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		
14	Demurrage Charges, if any	(Rs)		
15	Total Transportation Charges (12+13+14+15)	(Rs)		0.00
16	Other Charges			0.00
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	162036417	0.00
18	Landed cost of Oil	Rs/KL	57236.40	75593.69
19	Blending Ratio(Quantity)		407.42	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57236.40	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9731	9075
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9731	9075
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9731	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited	
Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)	

Sl.No.	Month	Unit	Jun-23	
			HFO	LDO
1	Opening Stock of Oil	KL	6157.45	93.74
2	Value of Opening Stock	(Rs)	35,24,30,429.00	70,86,454.00
3	Quantity of Oil supplied by Oil Company	KL	0	0.00
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0.00
5	Oil supplied by Oil Company (3+4)	KL	0	0.00
6	Normative Transit & Handling Losses	KL	0	0.00
7	Net Oil Supplied (5-6)	KL	0	0.00
8	Amount charged by the Oil Company	(Rs)	0	0.00
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0.00
10	Handling, Sampling and such other similar charges		0	0.00
11	Total amount charged (8+9+10)	(Rs)	0	0.00
12	Transportation charges by rail / ship / road transport	(Rs)	0	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0.00
14	Demurrage Charges, if any	(Rs)	0	0.00
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0.00
16	Other Charges		0	0.00
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0.00
18	Landed cost of Oil	Rs/KL	57236.40	75593.68
19	Blending Ratio(Quantity)		61.00	0.00
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57236.40	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9725	9725
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9725	9725
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9725	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Jul-23	
			HFO	LDO
1	Opening Stock of Oil	KL	6096.45	93.74
2	Value of Opening Stock	(Rs)	34,89,39,008.00	7086454
3	Quantity of Oil supplied by Oil Company	KL	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	0	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	0	0
8	Amount charged by the Oil Company	(Rs)	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	0	0
12	Transportation charges by rail / ship / road transport	(Rs)	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0
14	Demurrage Charges, if any	(Rs)	0	0
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0
16	Other Charges		0	0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0
18	Landed cost of Oil	Rs/KL	57236.40	75593.68
19	Blending Ratio(Quantity)		213.48	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57236.4	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9738	9075
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	9075
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738.00	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Aug-23	
			HFO	LDO
1	Opening Stock of Oil	KL	5450.01	74.8
2	Value of Opening Stock	(Rs)	311939110	5654710
3	Quantity of Oil supplied by Oil Company	KL	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	0	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	0	0
8	Amount charged by the Oil Company	(Rs)	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	0	0
12	Transportation charges by rail / ship / road transport	(Rs)	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0
14	Demurrage Charges, if any	(Rs)	0	0
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0
16	Other Charges		0	0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0
18	Landed cost of Oil	Rs/KL	57236.40	75593.69
19	Blending Ratio(Quantity)		540.59	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57236.4	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9738	9060
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	9060
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Sep-23	
			HFO	LDO
1	Opening Stock of Oil	KL	4737.39	57.54
2	Value of Opening Stock	(Rs)	271151306	4349963.00
3	Quantity of Oil supplied by Oil Company	KL	0	
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL		
5	Oil supplied by Oil Company (3+4)	KL		
6	Normative Transit & Handling Losses	KL		
7	Net Oil Supplied (5-6)	KL		
8	Amount charged by the Oil Company	(Rs)		
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)		
10	Handling, Sampling and such other similar charges			
11	Total amount charged (8+9+10)	(Rs)		
12	Transportation charges by rail / ship / road transport	(Rs)		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		
14	Demurrage Charges, if any	(Rs)		
15	Total Transportation Charges (12+13+14+15)	(Rs)		
16	Other Charges			
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)		
18	Landed cost of Oil	Rs/KL	57236.40	75593.68
19	Blending Ratio(Quantity)		403.9	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	57236.4	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9738	9075
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	9075
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL		
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Oct-23	
			HFO	LDO
1	Opening Stock of Oil	KL	4139.3	25.99
2	Value of Opening Stock	(Rs)	236918788	1964982.00
3	Quantity of Oil supplied by Oil Company	KL	2933.6	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	2933.6	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	2933.6	0
8	Amount charged by the Oil Company	(Rs)	212005880	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	212005880	0
12	Transportation charges by rail / ship / road transport	(Rs)		0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		0
14	Demurrage Charges, if any	(Rs)		0
15	Total Transportation Charges (12+13+14+15)	(Rs)		0
16	Other Charges			0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	212005880	0
18	Landed cost of Oil	Rs/KL	63471.06	75593.69
19	Blending Ratio(Quantity)		545.77	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.06	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9744	9197
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9744	9197
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9744	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Nov-23	
			HFO	LDO
1	Opening Stock of Oil	KL	6206.13	17.36
2	Value of Opening Stock	(Rs)	393909857	1312609.00
3	Quantity of Oil supplied by Oil Company	KL	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	0	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	0	0
8	Amount charged by the Oil Company	(Rs)	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	0	0
12	Transportation charges by rail / ship / road transport	(Rs)	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0
14	Demurrage Charges, if any	(Rs)	0	0
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0
16	Other Charges		0	0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0
18	Landed cost of Oil	Rs/KL	63471.06	75593.69
19	Blending Ratio(Quantity)		60	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.06	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9782	9168
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9782	9168
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	0	0
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9782	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Dec-23	
			HFO	LDO
1	Opening Stock of Oil	KL	5351.13	17.36
2	Value of Opening Stock	(Rs)	339642101	1312609
3	Quantity of Oil supplied by Oil Company	KL	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	0	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	0	0
8	Amount charged by the Oil Company	(Rs)	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	0	0
12	Transportation charges by rail / ship / road transport	(Rs)	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0
14	Demurrage Charges, if any	(Rs)	0	0
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0
16	Other Charges		0	0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0
18	Landed cost of Oil	Rs/KL	63471.06	75593.69
19	Blending Ratio(Quantity)		168.64	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.06	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9738	9175
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	9175
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL		
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9738	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Jan-24	
			HFO	LDO
1	Opening Stock of Oil	KL	4530.85	17.36
2	Value of Opening Stock	(Rs)	287578060	1312609.00
3	Quantity of Oil supplied by Oil Company	KL	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0	0
5	Oil supplied by Oil Company (3+4)	KL	0	0
6	Normative Transit & Handling Losses	KL	0	0
7	Net Oil Supplied (5-6)	KL	0	0
8	Amount charged by the Oil Company	(Rs)	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	0	0
10	Handling, Sampling and such other similar charges		0	0
11	Total amount charged (8+9+10)	(Rs)	0	0
12	Transportation charges by rail / ship / road transport	(Rs)	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0	0
14	Demurrage Charges, if any	(Rs)	0	0
15	Total Transportation Charges (12+13+14+15)	(Rs)	0	0
16	Other Charges		0	0
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)	0	0
18	Landed cost of Oil	Rs/KL	63471.06	75593.69
19	Blending Ratio(Quantity)		585.29	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.06	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL	9686	9168
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9686	9168
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL		
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9686	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Feb-24	
			HFO	LDO
1	Opening Stock of Oil	KL	3392.4	17.36
2	Value of Opening Stock	(Rs)	215319432	1312609
3	Quantity of Oil supplied by Oil Company	KL		
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL		
5	Oil supplied by Oil Company (3+4)	KL		
6	Normative Transit & Handling Losses	KL		
7	Net Oil Supplied (5-6)	KL		
8	Amount charged by the Oil Company	(Rs)		
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)		
10	Handling, Sampling and such other similar charges			
11	Total amount charged (8+9+10)	(Rs)		
12	Transportation charges by rail / ship / road transport	(Rs)		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		
14	Demurrage Charges, if any	(Rs)		
15	Total Transportation Charges (12+13+14+15)	(Rs)		
16	Other Charges			
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)		
18	Landed cost of Oil	Rs/KL	63471.12	75611.12
19	Blending Ratio(Quantity)		100%	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.12	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL		
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL		
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	9659	9197
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9659	

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :NTPC Limited

Name of the Power Station :Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)

Sl.No.	Month	Unit	Mar-24	
			HFO	LDO
1	Opening Stock of Oil	KL	3106.38	17.36
2	Value of Opening Stock	(Rs)	197165436	1312609.00
3	Quantity of Oil supplied by Oil Company	KL		
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL		
5	Oil supplied by Oil Company (3+4)	KL		
6	Normative Transit & Handling Losses	KL		
7	Net Oil Supplied (5-6)	KL		
8	Amount charged by the Oil Company	(Rs)		
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)		
10	Handling, Sampling and such other similar charges			
11	Total amount charged (8+9+10)	(Rs)		
12	Transportation charges by rail / ship / road transport	(Rs)		
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)		
14	Demurrage Charges, if any	(Rs)		
15	Total Transportation Charges (12+13+14+15)	(Rs)		
16	Other Charges			
17	Total amount Charged for fuel supplied including Transportation (11+15+16)	(Rs)		
18	Landed cost of Oil	Rs/KL	63471.13	75611.12
19	Blending Ratio(Quantity)		100%	0
20	Weighted Average Cost of Secondary Fuel/ For the month	Rs/KL	63471.13	
21	GCV of Domestic Secondary Fuel of the opening oil stock	Kcal/KL		
22	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL		
23	GCV of Domestic Secondary Fuel supplied as received at Station	Kcal/KL	9679	
24	Weighted average GCV of Secondary Fuel/ as Received	Kcal/KL	9679	

PETITIONER

PART 1

Non Tariff Income

Name of the Petitioner: NTPC Ltd

Name of the Generating Station: KAHALGAON SUPER THERMAL POWER STATION STAGE-I

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Income from rent of land or buildings	Shall be provided at the time of truing up				
Income from sale of scrap					
Income from advertisements					
Total					

Petitioner

PART 1
Form-19

Details of Water Charges

Name of the Petitioner: **NTPC Ltd**
Name of the Generating **KAHALGAON SUPER THERMAL POWER STATION STAGE-I**

S. No.	Details of Water charges (excluding water cess)		Quantity allocated	Normative consumption at 100% PLF	Rate specified (as per govt. notification or agreement)	Spillage of water (in percentage)	Amount Claimed For Station
	Name of source and quantity	Amount					
1	Shall be provided at the time of truing up						

(Petitioner)

Signature Not Verified
Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

			PART 1
			Form-20
Details of Statutory Charges			
Name of the Petitioner : **NTPC Limited**			
Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)			
Particulars	**Unit Rate**	**No of Units**	**Amount Claimed**
Electricity Duty	Details to be furnished during Truing Up exercise		
Water Cess			
…			
…			
…			
			(Petitioner)

Signature Not Verified

Digitally signed by PRASHANT CHATURVEDI
Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

Form-L

Name of the Petitioner	**NTPC Ltd**		
Name of the Generating Station	**Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**		

Statement of Capital cost

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on 01.04.2024		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per	256440.17	3135.91	253304.26
	b) Amount of IDC in A(a) above	55.49	0.00	55.49
	c) Amount of FC in A(a) above	0.00	0.00	0.00
	d) Amount of FERV in A(a) above	18.76	0.00	18.76
	e) Amount of Hedging Cost in A(a) above	0.00	0.00	0.00
	f) Amount of IEDC in A(a) above	0.00	0.00	0.00
B	a) Addition in Gross Block Amount during			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

(Petitioner)

PART 1
FORM- M

Name of the Petitioner: **NTPC Ltd**

Name of the Generating Station: **Kahalgaon Super Thermal Power Station Stage-I (4x210 MW)**

Statement of Capital Woks in Progress

(To be given for relevant dates and year wise) **Rs. In Lakh**

S. No.	Particulars	As on 01.04.2024		
		Accrual Basis	Un-discharged	Cash Basis
A	a) Opening CWIP as per books	77168.00	11767.32	65400.69
	b) Amount of IDC in A(a) above	4575.22		4575.22
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

(Petitioner)

PART-I
FORM- N

Calculation of Interest on Normative Loan

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

(Amount in Rs Lakh)

S. No.	Particulars	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	Gross Normative loan – Opening	1,14,544.90	1,17,949.07	1,17,949.07	1,18,299.07	1,27,959.07	1,34,889.07
2	Cumulative repayment of Normative loan up to previous year	1,14,544.90	1,16,552.36	1,17,949.07	1,17,983.42	1,19,177.23	1,22,715.00
3	**Net Normative loan – Opening**	**-**	**1,396.72**	**-**	**315.65**	**8,781.84**	**12,174.07**
4	Add: Increase due to addition during the year / period	3,570.99	-	350.00	9,660.00	6,930.00	17,276.70
5	Less: Decrease due to de-capitalisation during the year / period	-252.35	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	85.59	0.00	0.00	0.00	0.00	0.00
8	Net addition during the period *	**3404.24**	**0.00**	**350.00**	**9660.00**	**6930.00**	**17276.70**
9	Addition in Loan due to Net add cap *	3404.24	0.00	350.00	9660.00	6930.00	17276.70
10	Less: Repayment of Loan	2252.8	1396.72	34.35	1193.81	3537.77	7921.27
11	Repayment adjustment on account of de capitalisation	245.33					
12	Repayment adjustment on account of discharges/reversals corresponding to un discharged liabilities deducted as on 1.4.2009						
13	Net Normative loan - Closing	**1396.79**	**0.00**	**315.65**	**8781.84**	**12174.07**	**21529.50**
14	**Average Normative loan**	698.39	698.36	157.82	4,548.74	10,477.95	16,851.78
15	Weighted average rate of interest	7.6716%	7.6037%	7.5223%	7.4528%	7.3835%	7.2956%
16	**Interest on Loan**	**53.58**	**53.10**	**11.87**	**339.01**	**773.64**	**1229.44**

(Petitioner)

PART 1
FORM- O

Calculation of Interest on Working Capital

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Kahalgaon Super Thermal Power Station, Stage-I (4X210 MW)**

(Amount in Rs Lakh)

S. No.	Particulars	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2						
1	Cost of Coal/Lignite	23212.59	18800.91	18800.91	18800.91	18358.53	18358.53
2	Cost of Main Secondary Fuel Oil	302.89	629.77	629.77	629.77	616.64	614.96
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	2973.37	3823.82	4013.27	4188.33	4373.47	4568.86
6	Maintenance Spares	7136.08	9177.16	9631.85	10051.98	10496.32	10965.26
7	Receivables	33549.47	30081.88	30059.01	30559.51	30716.94	31765.72
8	Total Working Capital	67174.41	62513.55	63134.81	64230.50	64561.90	66273.33
9	Rate of Interest	12.00	11.90	11.90	11.90	11.90	11.90
10	**Interest on Working Capital**	**8060.93**	**7439.11**	**7513.04**	**7643.43**	**7682.87**	**7886.53**

Petitioner

Computation of Energy Charges

Form-O(i)
ADDITIONAL FORM

Name of the Company	**NTPC Limited**
Name of the Power Station	**Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)**

Computation of Energy Charges

1	Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh)	$(REC)_s$	$= (Q_s)_n \times P_s$	6.041
2	Heat Contribution from SFO / Alternate Fuel	(H_s)	$= (Qs)_n \times (GCV)_s$	9.730
3	Heat Contribution from coal	$(H_p)_s$	$= GHR - H_s$	2405.27
4	Specific Primary Fuel Consumption	$(Qp)_n$	$= H_p / (GCV)_p$	0.766
5	Rate of Energy charge from Primary Fuel (p/kwh)	$(REC)_p$		274.290
6	Rate of Energy charge ex-bus (p/kWh)	(REC)	$= ((REC)_s + (REC)_p / (1-(AUX))$	311.064

		2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	Days	365	365	365	366	365
Sp. Oil consumption	ml/kwh	1	1	1	1	1
Auxiliary consumption	%	9.88	9.88	9.88	9.88	9.88
Heat Rate	Kcal/Kwh	2,415.00	2,415.00	2,415.00	2,415.00	2,415.00
Computation of Variable Charges						
Variable Charge (Coal)	p/kwh	304.360	304.360	304.360	304.360	304.360
Variable Charge (Oil)	p/kwh	6.704	6.704	6.704	6.704	6.704
Total	p/kwh	311.064	311.064	311.064	311.064	311.064
Price of fuel from Form-15/15A						
Coal Cost	(Rs./MT)	3578.57	3578.57	3578.57	3578.57	3578.57
Oil Cost	(Rs./KL)	60413.52	60413.52	60413.52	60413.52	60413.52
Computation of Fuel Expenses for Calculation of IWC:						
ESO in a year	(MUs)	5636.68	5636.68	5636.68	5519.13	5504.054
ESO for 40 days	(MUs)	617.719	617.719	617.72	603.18	603.184
Cost of coal for 40 Days	(Rs. Lakh)	18800.91	18800.91	18800.91	18358.53	18358.53
Cost of oil for 2 months	(Rs. Lakh)	629.77	629.77	629.77	616.64	614.96
Energy Expenses for 45 days	(Rs. Lakh)	21616.88	21616.88	21616.88	21108.25	21108.25

Coal		April '23	May'23	June'23	July'23	Aug'23	Sep'23	Oct'23	Nov'23	Dec'23	Jan'24	Feb'24	Mar'24	Wtd. Avg.
Wtd. Avg. Price of Coal	Rs./MT	3854.45	3888.47	3870.52	3731.28	3938.77	3899.54	3567.29	3314.42	3403.88	3170.76	3176.72	3126.70	**3578.57**
Wtd. Avg. GCV of Coal as received	kCal/Kg	3337.00	3350.00	3338.00	3364.00	3360.00	3300.00	3335.00	3070.00	3193.00	3086.00	2997.00	2947.00	**3,223**
Wtd. Avg. GCV of Coal as received after adjustement of 85 kcal/kg	kCal/Kg	3252	3265	3253	3279	3275	3215	3250	2985	3108	3001	2912	2862	**3,138.08**
Secondary Oil														
Wtd. Avg. Price of Secondary Fuel	Rs/KL	57953.79	57236.40	57236.40	57236.40	57236.40	57236.40	63471.06	63471.06	63471.06	63471.06	63471.12	63471.13	**60,413.52**
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9802.00	9731.00	9725.00	9738.00	9738.00	9738.00	9744.00	9782.00	9738.00	9686.00	9659.00	9679.00	**9,730.00**

Petitioner

PART 1
FORM-T

Summary of issue involved in the petition

Name of the Company :		**NTPC Limited**	
Name of the Power Station :		**Kahalgaon Super Thermal Power Sation Stage - I (4x210 MW)**	
1	**Petitioner:**	**NTPC Limited**	
2	**Subject**	**DETERMINATION OF TARIFF FOR THE PERIOD 2024-29**	
3	i) Approve tariff of Kahalgaon Super Thermal Power Station Stage-I (4x210 MW) for the tariff period 01.04.2024 to 31.03.2029. ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publicatio expenses from the beneficiaries. iii) Allow an Additional APC of 0.88% for Kahalgaon Stage-I for the 2024-29 period over the normative 9.0%. iv) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries on monthly basis, subject to true up. v) Grant liberty to approach the Hon'ble Commission to allow for the recovery of pay/wag revision due in 2024-29 period as additional O&M over and above the normative O&M. vi)Pass any other order as it may deem fit in the circumstances mentioned above.		
4	**Respondents:**		
	Name of Respondents :		
	Jharkhand Bijli Vitaran Nigam Limited		
	West Bengal State Electricity Distribution Company Limited		
	Tamil Nadu Generation & Distribution Corporation Limited,		
	Gujarat Urja Vikas Nigam Limited		
	Uttar Pradesh Power Corp. Limited		
	Haryana Power Purchase Centre Ltd.		
	Jaipur Vidyut Vitran Nigam Ltd (JVVN)		
	Ajmer Vidyut Vitran Nigam Ltd (AVVN)		
	Jodhpur Vidyut Vitran Nigam Ltd (JdVVN)		
	Power Development Department(J&K)		
	BSES Rajdhani Power Ltd.		
	BSES Yamuna Power Ltd.		
	Tata Power Delhi Distribution Ltd.		
	Assam Power Distribution Company Limited,		
5	**Project Scope**	**(4x210) MW Super Thermal Power Station**	
	COD	**01.08.1996**	
		(Rs Cr)	
	Claim		
	2024-25		**Refer Form 9A**
	2025-26		
	2026-27		
	2027-28		
	2028-29		
	AFC	**Refer Form-1**	
	Capital cost as on 01.04.2024	**Refer Form-1(1)**	
	NAPAF (Gen)	**85%/83%**	
	Any Specific		

ADDITIONAL POWER CONSUMPTION OF STAGE - I			
No.	**Details of Equipments**	**Unit**	**Power Cosumption**
1	ESP Power Consumption after R&M (Data brought from ESP Load Details sheet)	kW	915.45
2	DAETP System Unit # 3 and 4 (As per OEM Data Sheet)	kW	1125
3	DAETP System Unit # 1 and 2 (As per OEM Data Sheet)	kW	1125
4	ZLD Scheme power consumptions + AWRS + Toe Drain Pump House Power Consumption	kW	850
5	Additional 5th Mill power Consumption due to poor coal quality (4x840x0.33) = 1110 kW	kW	3360
6	Additional APC of Stage - I	kW	7375
7	Normative Power Cosumption	kW	75600
8	New Calculated normative APC Stage - I	kW	82975
9	New Calculated normative APC Stage - I	%	9.88

1. TOTAL INSTALLED/CONNECTED ESP LOAD				
		MODIFIED ESP PASS	NEW ESP-E	
A	TR Set Load/Boiler (Modified ESP)(95kV/800mA) (83KVA x 24 No's)	1992		KVA
B	TR Set Load/Boiler (NEW ESP)(95kV/1200mA) (118KVA x 6No's)		708	KVA
C	Total TR Set Load/Boiler (A+B)	2700		KVA
D	Auxiliary Load for Modified ESP/Boiler	644		KVA
E	Auxiliary Load for New ESP/Boiler		204	KVA
F	Total Auxiliary Load (D+E)	848		KVA
G	Other Loads (EOH,Gates&Damper for Modified & New ESP)/Boiler	47		KVA
TOTAL INSTALLED/CONNECTED LOAD(C+F+G)		**3595**		**KVA**
2. LOAD AT 100% STEADY STATE CONDITION				
A	Corona Power/Boiler @20% (1992KVA + 708KVA=2700KVA x 20%)	540		KVA
B	Total Auxiliary load @ 60% (848 x 60%)	509		KVA
C	Other Loads @60% (EOH,Gates&Damper for Modified & New ESP)/Boiler	28		KVA
TOTAL LOAD AT 100% STEADY STATE CONDITION (A+B+C)		**1077**		**KVA**
	System Power factor	**0.85**		
	Auxiliary Consumption (KW = 0.85 X KVA)	**915.45**		**KW**

Auxiliary Load(ACP) Break up for Modified ESP(A/B/C/D)				
Sl.No	Description of feeder	No.of feeder/ACP	Feeder rating(K	Total KW
1	Rapping motor For GD Screen	1	0.37	0.37
2	Rapping motor For Collecting Electrode	6	0.37	2.22
3	Rapping motor For Emitting Electrode	6	0.37	2.22
4	Hopper heater	6	16	96
5	Support heater	1	24	24
6	Shaft heater	1	6	6
7	Opacity Monitor	1	1.1	1.1
8	Control Supply Transformer	2	2.4	4.8
TOTAL				136.71
Number of ACP per Boiler for Modified ESP= 4				
Total load = 137Kw x 4 = 548 KW				
Total load in kVA = 548/0.85 = 644 KVA				

Auxiliary Load(ACP) Break up for NEW ESP-E				
Sl.No	Description of feeder	No.of feeder/ACP	Feeder rating(K	Total KW
1	Rapping motor For GD Screen	1	0.37	0.37
2	Rapping motor For Collecting Electrode	6	0.37	2.22
3	Rapping motor For Emitting Electrode	6	0.37	2.22
4	Hopper heater	6	22	132
5	Support heater	1	24	24
6	Shaft heater	1	6	6
7	Opacity Monitor	1	1.1	1.1
8	Control Supply Transformer	2	2.4	4.8
TOTAL				**172.71**
Number of ACP per Boiler for Modified ESP= 1				
Total load = 173Kw x 1= 173 KW				
Total load in kVA = 173/0.85 = 204 KVA				

Other Load Break up for Modified & NEW ESP-E				
Sl.No	Description of feeder	No.of feeder/ACP	Feeder rating(K	Total KW
1	Electrical Hoist	3	7.5	22.5
2	Louver Damper	5	0.55	2.75
3	Gate Actuator	2	7.5	15
TOTAL				**40.25**
Total load in kVA = 40/0.85 = 47 KVA				

ANNEXURE - I : UPWARD REVISION OF STAGE - I AUXILIARY POWER CONSUMPTION

No.	Details of Added Systems	Equipments as per original design	Equipment added as per need or change of guideline or norms	Additional power consumptions due to added Equipments	Remarks
A	B	C	D	E = D - C	
1	DAETP System Unit # 3 and 4	-	1125 kW	1125 kW	DAETP system as per GOI guideline to increase DFA collection and utilization.
2	DAETP System Unit # 1 and 2	-	1125 kW	1125 KW	
3	ZLD Systems along with toe drain pump house + AWRS Pump House	-	4 x 75 kW + 10 x 55 kW = 850 kW	850 kW	In compliance to the GoI guideline the ZLD System is commissioned in plant area to separate process water from storm drain and prevent it to discharge in nature.
4	Requirement of additional Coal Mill in service	4 x 4 X 840 Kw = 13440 kW	4 x 5 X 840 kW = 16800 kW	3360 kW	Lower GCV coal. Due to this it is necessity to run fifth mill.

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : NTPC Ltd

Name of Generating Station : Kahalgaon Super Thermal Power Station - Stage - I

Sl no	Particulars	Unit	Apr-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**432269**		**82535**	**20749**	**0.00**
2	Value of Opening Stock	Rs	**1656795494**		**290543121**	**320170455**	**0.00**
B)	**QUANTITY**		Suppl.by MGR	Suppl.by Rail	Suppl.by Rail	Suppl.by Rail	
3	Quantity of Coal supplied made by Coal Co.	MT	550379	447040	3567	10801	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	550379	447040	3567	10801	0
6	Normative transit & handling losses	MT	1101	3576	29	22	0
7	Net coal supplied (5-6)	MT	549278	443464	3538	10779	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	3155766673		8697856	148225430	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	62730310		152183	0	0
11	Total amount charged (8+9+10)	Rs	3218496983		8850039	148225430	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	362026382		3850627	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	18683246		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	380709628		3850627	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3599206611		12700666	148225430	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3688.39**		**3523.11**	**14856.43**	**0**
19	Blending Ratio		97.66%		0.84%	1.50%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3854.45**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3854.45**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4261		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4315		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5151	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5131	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4314				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3356		3911	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3282		3996	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5151	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5131	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3337				

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AMIT BISWAS — Digitally signed by AMIT BISWAS Date: 2024.09.14 13:56:38 +05'30'

For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Apr-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**4,129.03**	**113.33**
2	Value of Opening Stock	Rs	**23,92,92,892**	**85,67,335**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57953.79**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9802	9121
20	Weighted average GCV of Oil as Received	KCal/Litr	9802	9121
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		HFO	LDO
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57953.79**	**75593.69**
2	Usage Quantity for the month	KL	155.35	-
3	Weighted average rate	Rs/KL	**57953.79**	
4	Weighted average GCV of Oil	KCal/Litr	**9802**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57953.79**	**75593.69**
2	Usage Quantity for the month	KL	126.75	11.62
3	Weighted average rate	Rs/KL	**59435.11**	
4	Weighted average GCV of Oil	KCal/Litr	**9745**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	May-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**464570**		**77773**	**16778**	**0.00**
2	Value of Opening Stock	Rs	**1713521126**		**274001973**	**249263542**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	453563	443250	0	34872	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	453563	443250	0	34872	0
6	Normative transit & handling losses	MT	907	3546	0	70	0
7	Net coal supplied (5-6)	MT	452656	439704	0	34802	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	2778353016		0	493263135	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	63713326		0	0	0
11	Total amount charged (8+9+10)	Rs	2842066342		0	493263135	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	311725615		0	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	15838717		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	327564332		0	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3169630674		0	493263135	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3598.68**		**3523.11**	**14395.66**	**0**
19	Blending Ratio		96.34%		0.97%	2.69%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3888.47**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3888.47**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4299		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4234		0	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5144	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5039	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4281				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3304		3915	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3292		0	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5144	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5039	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3350				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	May-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**3,846.92**	**101.71**
2	Value of Opening Stock	Rs	**22,29,43,780**	**76,88,936**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	2,879.22	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	2,879.22	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	2,879.22	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	16,20,36,417	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	16,20,36,417	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	16,20,36,417	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57236.40**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9731	9075
20	Weighted average GCV of Oil as Received	KCal/Litr	9731	9075
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.69**
2	Usage Quantity for the month	KL	407.42	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9731**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.69**
2	Usage Quantity for the month	KL	161.27	7.97
3	Weighted average rate	Rs/KL	**58100.90**	
4	Weighted average GCV of Oil	KCal/Litr	**9700**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Jun-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**436518**		**68593**	**25880**	**0.00**
2	Value of Opening Stock	Rs	**1570883544**		**241659823**	**372558215**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	369133	434263	40429	11107	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	-1002	0			
5	Coal supplied by Coal Company (3+4)	MT	368132	434263	40429	11107	0
6	Normative transit & handling losses	MT	738	3474	323	22	0
7	Net coal supplied (5-6)	MT	367394	430789	40106	11085	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	2704650408		102343425	124279326	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	56920426		2293072	0	0
11	Total amount charged (8+9+10)	Rs	2761570834		104636498	124279326	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	285418237		42452871	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	14017941		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	299436179		42452871	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3061007012		147089369	124279326	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3751.43**		**3576.41**	**13440.83**	**0**
19	Blending Ratio		94.76%		3.94%	1.30%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3870.52**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3870.52**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4256		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4378		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5073	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5174	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4355				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3296		3915	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3296		3511	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5073	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5174	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3338				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Jun-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**6,157.45**	**93.74**
2	Value of Opening Stock	Rs	**35,24,30,429**	**70,86,454**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57236.40**	**75593.68**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9725	9725
20	Weighted average GCV of Oil as Received	KCal/Litr	9725	9725
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		HFO	LDO
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	61.00	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9725**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	-	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9725**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Jul-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**251458**		**67818**	**23480**	**0.00**
2	Value of Opening Stock	Rs	**943323268**		**242545551**	**315587948**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	500729.10	440208.72	64051.02	8160.10	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	500729	440209	64051	8160	0
6	Normative transit & handling losses	MT	1001.46	3521.67	512.41	16.32	0
7	Net coal supplied (5-6)	MT	499728	436687	63539	8144	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	3011020764		169546124	116808098	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	51479502		2687949	0	0
11	Total amount charged (8+9+10)	Rs	3062500266		172234073	116808098	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	273029782		58159017	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	16776230		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	289806012		58159017	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3352306278		230393090	116808098	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3616.24**		**3600.41**	**13673.22**	**0**
19	Blending Ratio		89.14%		9.70%	1.16%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3731.28**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3731.28**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4335		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4209		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5103	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5081	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4281				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3296		3764	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3326		3356	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5103	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5081	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3364				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Jul-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**6,096.45**	**93.74**
2	Value of Opening Stock	Rs	**34,89,39,008**	**70,86,454**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57236.40**	**75593.68**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9738	9075
20	Weighted average GCV of Oil as Received	KCal/Litr	9738	9075
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	213.48	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9738**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	432.96	18.94
3	Weighted average rate	Rs/KL	**58005.79**	
4	Weighted average GCV of Oil	KCal/Litr	**9710**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Aug-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**374689**		**42872**	**21044**	**0.00**
2	Value of Opening Stock	Rs	**1354961038**		**154356362**	**287733378**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	440379.42	323629.72	11270.95	46299.88	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	440379	323630	11271	46300	0
6	Normative transit & handling losses	MT	880.76	2589.04	90.17	92.60	0
7	Net coal supplied (5-6)	MT	439499	321041	11181	46207	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	2400163417		31748777	657959872	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	45244433		502060	0	0
11	Total amount charged (8+9+10)	Rs	2445407850		32250837	657959872	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	219629690		8324458	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	16759211		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	236388901		8324458	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	2681796751		40575295	657959872	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3555.9**		**3606.33**	**14062.17**	**0**
19	Blending Ratio		93.52%		2.85%	3.63%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3938.77**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3938.77**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4236		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4230		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5097	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5034	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4272				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3320		3566	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3275		3343	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5097	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5034	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3360				

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For M.C. Bhandari & Co.
Chartered Accountants

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Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Aug-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**5,450.01**	**74.80**
2	Value of Opening Stock	Rs	**31,19,39,110**	**56,54,710**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57236.40**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9738	9060
20	Weighted average GCV of Oil as Received	KCal/Litr	9738	9060
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		HFO	LDO
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.69**
2	Usage Quantity for the month	KL	540.59	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9738**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.69**
2	Usage Quantity for the month	KL	172.03	17.26
3	Weighted average rate	Rs/KL	**58910.27**	
4	Weighted average GCV of Oil	KCal/Litr	**9676**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Sep-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**169757**		**24633**	**29776**	**0.00**
2	Value of Opening Stock	Rs	**603639460**		**88833429**	**418713429**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	533699.56	388100.08	18901.85	55765.00	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	533700	388100	18902	55765	0
6	Normative transit & handling losses	MT	1067.40	3104.80	151.21	111.53	0
7	Net coal supplied (5-6)	MT	532632	384995	18751	55653	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	2671239272		51665803	800272255	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	51733780		901013	0	0
11	Total amount charged (8+9+10)	Rs	2722973052		52566817	800272255	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	260924634		15850908	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	16751680		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	277676314		15850908	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3000649366		68417725	800272255	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3314.64**		**3624.69**	**14268.94**	**0**
19	Blending Ratio		91.58%		3.17%	5.25%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3899.54**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3899.54**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4232		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4057		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5054	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5085	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4152				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3290		3519	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3171		3604	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5054	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5085	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3300				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Sep-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**4,737.39**	**57.54**
2	Value of Opening Stock	Rs	**27,11,51,306**	**43,49,963**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**57236.40**	**75593.68**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9738	9075
20	Weighted average GCV of Oil as Received	KCal/Litr	9738	9075
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	403.90	-
3	Weighted average rate	Rs/KL	**57236.40**	
4	Weighted average GCV of Oil	KCal/Litr	**9738**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**57236.40**	**75593.68**
2	Usage Quantity for the month	KL	194.19	31.55
3	Weighted average rate	Rs/KL	**59802.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9645**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Oct-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**162447**		**11368**	**32409**	**0.00**
2	Value of Opening Stock	Rs	**538452334**		**41206703**	**462446485**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	486268.44	450400.00	37065.67	24058.40	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	486268	450400	37066	24058	0
6	Normative transit & handling losses	MT	972.54	3603.20	296.53	48.12	0
7	Net coal supplied (5-6)	MT	485296	446797	36769	24010	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	2844454345		97393724	285901248	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	39500947		1183556	0	0
11	Total amount charged (8+9+10)	Rs	2883955292		98577280	285901248	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	283030038		34749990	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	13733525		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	296763563		34749990	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3180718855		133327270	285901248	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3397.93**		**3625.74**	**13263.96**	**0**
19	Blending Ratio		90.49%		7.98%	1.53%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3567.29**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3567.29**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4084		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	4279		4601	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5074	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5169	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	4291				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3189		3556	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3273		3921	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5074	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5169	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3335				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Oct-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**4,139.30**	**25.99**
2	Value of Opening Stock	Rs	**23,69,18,788**	**19,64,982**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	2,933.60	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	2,933.60	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	2,933.60	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	21,20,05,880	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	21,20,05,880	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	21,20,05,880	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**63471.06**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9744	9197
20	Weighted average GCV of Oil as Received	KCal/Litr	9744	9197
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		HFO	LDO
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	545.77	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9744**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	321.00	8.63
3	Weighted average rate	Rs/KL	**63788.44**	
4	Weighted average GCV of Oil	KCal/Litr	**9730**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Nov-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**177898**		**16857**	**26902**	**0.00**
2	Value of Opening Stock	Rs	**604489236**		**61120826**	**356821867**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	778342.10	308278.54	0.00	34410.70	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	0	0			
5	Coal supplied by Coal Company (3+4)	MT	778342	308279	0	34411	0
6	Normative transit & handling losses	MT	1556.68	2466.23	0.00	68.82	0
7	Net coal supplied (5-6)	MT	776785	305812	0	34342	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	3090551720		0	429493406	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	26959916		0	0	0
11	Total amount charged (8+9+10)	Rs	3117511636		0	429493406	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	145000741		0	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	19252753		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	164253494		0	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3281765130		0	429493406	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**3083.12**		**3625.75**	**12839.17**	**0**
19	Blending Ratio		94.19%		3.64%	2.17%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3314.42**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3314.42**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	4250		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	3812		0	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5115	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5163	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	3927				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	3261		3837	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	2949		0	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5115	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5163	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3070				

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Nov-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**6,206.13**	**17.36**
2	Value of Opening Stock	Rs	**39,39,09,857**	**13,12,609**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**63471.06**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9782	9168
20	Weighted average GCV of Oil as Received	KCal/Litr	9782	9168
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	60.00	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9782**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	795.00	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9782**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station - Stage - I**

Sl no	Particulars	Unit	Dec-23				
			Domestic Coal (CIL)		NTPC Coal	Import Coal	Bio-Mass Pellets
A)	**OPENING QUANTITY**						
1	Opening Stock of Coal	MT	**343159**		**1857**	**32543**	**0.00**
2	Value of Opening Stock	Rs	**1057994314**		**6734576**	**417831380**	**0.00**
B)	**QUANTITY**		**Suppl.by MGR**	**Suppl.by Rail**	**Suppl.by Rail**	**Suppl.by Rail**	
3	Quantity of Coal supplied made by Coal Co.	MT	873631.22	324174.91	0.00	68480.30	0
4	Adjustment (+/-) in quantity supplied made Coal Co.	MT	-1164	0			
5	Coal supplied by Coal Company (3+4)	MT	872467	324175	0	68480	0
6	Normative transit & handling losses	MT	1747.26	2593.40	0.00	136.96	0
7	Net coal supplied (5-6)	MT	870720	321582	0	68343	0
C)	**PRICE**						
8	Amount charged by the Coal Co.	Rs	3101958627		0	865317078	0
9	Adjustment (+/-) in amount Charged by Coal Co.	Rs	0		0	0	0
10	Handling, Sampling and such other similar charges	Rs	47779148		0	0	0
11	Total amount charged (8+9+10)	Rs	3149737775		0	865317078	0
D)	**TRANSPORTATION**						
12	Tranportation charges by rail/ship/road transport	Rs	147443184		0	0	0
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs	0		0	0	0
14	Demurrage charges if any	Rs	0		0	0	0
15	Cost of diesel in tpt coal through mgr system,if applicable	Rs	19270140		0	0	0
16	Total TPT charges (11+/-12-13+14+15)	Rs	166713324		0	0	0
17	Total amount charged for Coal supplied including transportation (11+16)	Rs	3316451099		0	865317078	0
E)	**TOTAL COST**						
18	Landed cost of coal (2+17)/(1+7)	Rs/MT	**2848.95**		**3625.71**	**12718.69**	**0**
19	Blending Ratio		94.15%		0.24%	5.60%	0
20	Weighted average cost of coal (Incl Biomass)	Rs/MT	**3403.88**				
20A	Weighted average cost of coal (Excl Biomass)	Rs/MT	**3403.88**				
F)	**QUALITY**						
21	GCV of Dom. Coal of the opening coal stock as per bill of Coal Co	KCal/Kg	3873		4601	0	0
22	GCV of Dom. Coal supplied as per bill of CoalCo.	KCal/Kg	3826		0	0	0
23	GCV of Imp. Coal of the opening stock as per bill Coal Co.	KCal/Kg	0		0	5142	
24	GCV of Imp. Coal supplied as per bill Coal Co.	KCal/Kg	0		0	5053	
25	Weighted average GCV of coal/ Lignite as Billed (Incl Biomass)	KCal/Kg	3909				
26	GCV of Dom. Coal of the opening stock as received at Station	KCal/Kg	2993		3837	0	
27	GCV of Domestic Coal supplied as received at Station	KCal/Kg	3106		0	0	0
28	GCV of Imp. Coal of opening stock as received at Station	KCal/Kg	0		0	5142	
29	GCV of Imp. Coal supplied as received at the station	KCal/Kg	0		0	5053	
30	Weighted average GCV of coal/ Lignite as Received (Incl Biomass)	KCal/Kg	3193				

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For M.C. Bhandari & Co.
Chartered Accountants

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Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Dec-23	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**5,351.13**	**17.36**
2	Value of Opening Stock	Rs	**33,96,42,101**	**13,12,609**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**63471.06**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9738	9175
20	Weighted average GCV of Oil as Received	KCal/Litr	9738	9175
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	168.64	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9738**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	651.64	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9738**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

Details of Sourcewise fuel for computation of Energy Charges

Part 1
Form - 15 version: 1

Company	**NTPC Limited**
Name of the generating Station	**Kahalgaon Super Thermal Power-STAGE 01**
Month	**January-2024**

SL	Particulars	Unit	COAL DOMESTIC (NTPC MINES)	COAL-DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**				
1	Opening Stock of coal	MT	0.00	583302.00	44227.00
2	Value of Stock	Rs.	0.00	1661794879.00	562507483.00
B)	**QUANTITY**				
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	0.00	1122400.69	51386.00
3.01	- Qty Received (Pit Head)	MT	0.00	875204.20	51386.00
3.02	- Qty Received (Non Pit Head)	MT	0.00	247196.49	0.00
4	Adjustment (+/-) in quantity supplied made by Coal / Lignite Company	MT	0.00	0.00	0.00
5	Coal supplied by Coal/Lignite Company (3+4)	MT	0.00	1122400.69	51386.00
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	0.00	3727.98	102.77
6.01	- Normative Loss (Pit Head)	MT	0.00	1750.41	102.77
6.02	- Normative Loss (Non Pit Head)	MT	0.00	1977.57	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	0.00	1118672.71	51283.23
C)	**PRICE**				
8	Amount charged by the Coal / Lignite Company	Rs.	0.00	2801082751.12	645990577.00
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	0.00	0.00	0.00
10	Handling,Sampling and such other Similar charges	Rs.	0.00	47173271.91	0.00
11	Total Amount charged (8 +9+10)	Rs.	0.00	2848256023.03	645990577.00
D)	**TRANSPORTATION**				
12	Transportation charges by Rail / Ship / Road Transport	Rs.	0.00	38439787.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs.	0.00	0.00	0.00
14	Demurrage charges, if any	Rs.	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs.	0.00	19011228.62	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	0.00	57451015.62	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	0.00	2905707038.65	645990577.00
E)	**TOTAL COST**				
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	0.00	2683.65	12653.07
19	Blending Ratio (Domestic/Imported)	%	0.00	95.11	4.89
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	3170.76		
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	3170.76	3170.76	3170.76
F)	**QUALITY**				
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	0	3842	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	0	3624	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	0	5082
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	0	5112
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	3767		
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	3767	3767	3767
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	0	3079	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	0	2933	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	0	5082
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	0	5112
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	3086		
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	3086	3086	3086

Submitted On :13.04.2024

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For M.C. Bhandari & Co.
Chartered Accountants

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Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 : DETAILS OF FUEL FOR COMPUTATION OF ENERGY CHARGES (SECONDARY FUEL)

Name of Petitioner : **NTPC Ltd**

Name of Generating Station : **Kahalgaon Super Thermal Power Station**

Sl no	Particulars	Unit	Jan-24	
			HFO	LDO
A)	**OPENING QUANTITY**			
1	Opening Stock of Oil	KL	**4,530.85**	**17.36**
2	Value of Opening Stock	Rs	**28,75,78,060**	**13,12,609**
B)	**QUANTITY**			
3	Quantity of Oil supplied made by Oil Company	KL	-	-
4	Adjustment (+/-) in quantity supplied made Oil Company	KL	-	-
5	Oil supplied by Oil Company (3+4)	KL	-	-
6	Normative transit & handling losses	KL	-	-
7	Net Oil supplied (5-6)	KL	-	-
C)	**PRICE**			
8	Amount charged by the Oil Company	Rs	-	-
9	Adjustment (+/-) in amount Charged by Oil Company	Rs	-	**-**
10	Handling, Sampling and such other similar charges	Rs	-	**-**
11	Total amount charged (8+9+10)	Rs	-	-
D)	**TRANSPORTATION**			
12	Tranportation charges by rail/ship/road transport	Rs	**INCLUSIVE**	**INCLUSIVE**
13	Adjustment(+/-) in amount charged by railways/transport Co	Rs		
14	Demurrage charges if any	Rs		
15	Cost of diesel in tpt Oil through mgr system,if applicable	Rs		
16	Total TPT charges (11+/-12-13+14+15)	Rs		
17	Total amount charged for Oil supplied including transportation (11+16)	Rs	-	-
E)	**TOTAL COST**			
18	Landed cost of Oil (2+17)/(1+7)	Rs/KL	**63471.06**	**75593.69**
F)	**QUALITY**			
19	GCV of Oil of the opening Oil stock	KCal/Litr	9686	9168
20	Weighted average GCV of Oil as Received	KCal/Litr	9686	9168
G)	**Details of information to be submitted in respect of Fuel for Consumption of energy charges**		**HFO**	**LDO**
			STAGE-I	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	585.29	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9686**	
			STAGE-II	
1	Landed Cost of Oil at Sl No 18	Rs/KL	**63471.06**	**75593.69**
2	Usage Quantity for the month	KL	553.16	-
3	Weighted average rate	Rs/KL	**63471.06**	
4	Weighted average GCV of Oil	KCal/Litr	**9686**	

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

Part 1
Form - 15 version: 1

Details of Sourcewise fuel for computation of Energy Charges

Company	NTPC Limited
Name of the generating Station	Kahalgaon Super Thermal Power-STAGE 01
Month	February-2024

SL	Particulars	Unit	COAL-DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**			
1	Opening Stock of coal	MT	586551.28	38210.23
2	Value of Stock	Rs.	1574096939.79	483476862.18
B)	**QUANTITY**			
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	1250204.33	124966.67
3.01	- Qty Received (Pit Head)	MT	995674.76	124966.67
3.02	- Qty Received (Non Pit Head)	MT	254529.57	0.00
4	Adjustment (+/-) in quantity supplied made by Coal / Lignite Company	MT	0.00	0.00
5	Coal supplied by Coal/Lignite Company (3+4)	MT	1250204.33	124966.67
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	4027.59	249.93
6.01	- Normative Loss (Pit Head)	MT	1991.35	249.93
6.02	- Normative Loss (Non Pit Head)	MT	2036.24	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	1246176.74	124716.74
C)	**PRICE**			
8	Amount charged by the Coal / Lignite Company	Rs.	3083026236.87	1559003061.96
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	0.00	0.00
10	Handling,Sampling and such other Similar charges	Rs.	49335736.00	0.00
11	Total Amount charged (8 +9+10)	Rs.	3132361972.87	1559003061.96
D)	**TRANSPORTATION**			
12	Transportation charges by Rail / Ship / Road Transport	Rs.	42188672.80	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs.	0.00	0.00
14	Demurrage charges, if any	Rs.	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs.	19235420.88	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	61424093.68	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	3193786066.55	1559003061.96
E)	**TOTAL COST**			
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	2601.52	12536.17
19	Blending Ratio (Domestic/Imported)	%	94.21	5.79
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	3176.72	
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	3176.72	3176.72
F)	**QUALITY**			
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	3699	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	3555	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	5098
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	5073
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	3687	
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	3687	3687
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	2984	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	2815	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	5098
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	5073
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	2997	
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	2997	2997

Submitted On :13.04.2024

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For M.C. Bhandari & Co.
Chartered Accountants

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Date: 2024.11.27 19:49:10 IST
Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 Ver- 0

Details of Sourcewise fuel for computation of Energy Charges

Company	**NTPC Limited**
Name of the generating Station	**Kahalgaon Super Thermal Power(STAGE 01)**
Month	**February-2024**

SL	Particulars	Unit	LDO	HFO	HSD
A)	**OPENING QUANTITY**				
1	Opening Stock Of Oil	KL	17.360	3392.400	0.000
2	Value Of Stock	Rs.	1312609.00	215319432.00	0.00
B)	**QUANTITY**				
3	Quantity Of Oil Supplied By Oil Company	KL	0.000	0.000	0.000
4	Adjustment (+/-) In Quantity Supplied Made By Oil Company	KL	0.000	0.000	0.000
5	Oil Supplied By Oil Company (3+4)	KL	0.000	0.000	0.000
6	Normative Transit & Handling Losses	KL	0.000	0.000	0.000
7	Net Oil Supplied (5 - 6)	KL	0.000	0.000	0.000
C)	**PRICE**				
8	Amount Charged By The Oil Company	Rs.	0.00	0.00	0.00
9	Adjustment (+ / -) In Amount Charged By Oil Company	Rs.	0.00	0.00	0.00
10	Handling,Sampling And Such Other Similar Charges	Rs.	0.00	0.00	0.00
11	**Total Amount Charged (8 +9+10)**	**Rs.**	**0.00**	**0.00**	**0.00**
D)	**TRANSPORTATION**				
12	Transportation Charges By Rail / Ship / Road Transport	Rs.	0.00	0.00	0.00
13	Adjustment (+/-) In Amount Charged By Railways/Transport	Rs.	0.00	0.00	0.00
14	Demurrage Charges, If Any	Rs.	0.00	0.00	0.00
15	Cost Of Diesel InTransporting Coal Through MGR System	Rs.	0.00	0.00	0.00
16	Total Transportation Charges (12+/- 13 - 14 + 15)	Rs.	0.00	0.00	0.00
17	Total Amount Charged For Oil Supplied Incl Transportation (11+16)	Rs.	0.00	0.00	0.00
E)	**TOTAL COST**				
18	Landed Cost Of Oil (LDO/HFO) (2+17) / (1+7)	Rs.	75611.12	63471.12	0.00
19	Blending Ratio		0.000	1.000	0.000
20	**Weighted Average Cost Of Oil**	**Rs.**		**63471.12**	
F)	**QUALITY**				
21	GCV Of Oil Of The Opening Stock As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
22	GCV Of Oil Supplied As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
23	GCV Of Imported Oil Of The Op Stock As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
24	GCV Of Imported Oil Supplied As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
25	Weighted Average GCV Of Oil As Billed	Kcal/Ltr	0	0	0
26	GCV Of Oil Of The Opening Stock As Received At Station	Kcal/Ltr	0	0	0
27	GCV Of Oil Supplied	Kcal/Ltr	9197	9659	0
28	GCV Of Imported Oil Of The Opening Stock As Received At Station	Kcal/Ltr	0	0	0
29	GCV Of Imported Oil Supplied As Received At Station	Kcal/Ltr	0	0	0
30	**Weighted Average GCV Of Oil**	**Kcal/Ltr**		**9659**	

Submitted on : 01.03.2024

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For M.C. Bhandari & Co.
Chartered Accountants

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Reason: AGM (Commercial)
Location: NTPC Limited

Part 1
Form - 15 version: 1

Details of Sourcewise fuel for computation of Energy Charges

Company	NTPC Limited
Name of the generating Station	Kahalgaon Super Thermal Power-STAGE 01
Month	March-2024

SL	Particulars	Unit	COAL-DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**			
1	Opening Stock of coal	MT	676277.02	91846.97
2	Value of Stock	Rs.	1759350287.92	1151409031.62
B)	**QUANTITY**			
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	1403610.71	65100.33
3.01	- Qty Received (Pit Head)	MT	1057064.28	65100.33
3.02	- Qty Received (Non Pit Head)	MT	346546.43	0.00
4	Adjustment (+/-) in quantity supplied made by Coal / Lignite Company	MT	3116.30-	0.00
5	Coal supplied by Coal/Lignite Company (3+4)	MT	1400494.41	65100.33
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	4880.27	130.20
6.01	- Normative Loss (Pit Head)	MT	2107.90	130.20
6.02	- Normative Loss (Non Pit Head)	MT	2772.37	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	1395614.14	64970.13
C)	**PRICE**			
8	Amount charged by the Coal / Lignite Company	Rs.	3696119616.35	832566322.62
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	0.00	0.00
10	Handling,Sampling and such other Similar charges	Rs.	68736336.00	0.00
11	Total Amount charged (8 +9+10)	Rs.	3764855952.35	832566322.62
D)	**TRANSPORTATION**			
12	Transportation charges by Rail / Ship / Road Transport	Rs.	49624329.85	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs.	0.00	0.00
14	Demurrage charges, if any	Rs.	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs.	24165784.87	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	73790114.72	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	3838646067.07	832566322.62
E)	**TOTAL COST**			
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	2701.88	12651.52
19	Blending Ratio (Domestic/Imported)	%	95.73	4.27
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	3126.76	
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	3126.76	3126.76
F)	**QUALITY**			
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	3601	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	3615	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	5079
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	5004
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	3672	
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	3672	3672
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	2869	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	2846	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	5079
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	5004
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	2947	
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	2947	2947

Submitted On :13.04.2024

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For M.C. Bhandari & Co.
Chartered Accountants

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Reason: AGM (Commercial)
Location: NTPC Limited

FORM-15 Ver- 0

Details of Sourcewise fuel for computation of Energy Charges

Company	**NTPC Limited**
Name of the generating Station	**Kahalgaon Super Thermal Power(STAGE 01)**
Month	**March-2024**

SL	Particulars	Unit	LDO	HFO	HSD
A)	**OPENING QUANTITY**				
1	Opening Stock Of Oil	KL	17.360	3106.380	0.000
2	Value Of Stock	Rs.	1312609.00	197165436.00	0.00
B)	**QUANTITY**				
3	Quantity Of Oil Supplied By Oil Company	KL	0.000	0.000	0.000
4	Adjustment (+/-) In Quantity Supplied Made By Oil Company	KL	0.000	0.000	0.000
5	Oil Supplied By Oil Company (3+4)	KL	0.000	0.000	0.000
6	Normative Transit & Handling Losses	KL	0.000	0.000	0.000
7	Net Oil Supplied (5 - 6)	KL	0.000	0.000	0.000
C)	**PRICE**				
8	Amount Charged By The Oil Company	Rs.	0.00	0.00	0.00
9	Adjustment (+ / -) In Amount Charged By Oil Company	Rs.	0.00	0.00	0.00
10	Handling,Sampling And Such Other Similar Charges	Rs.	0.00	0.00	0.00
11	**Total Amount Charged (8 +9+10)**	**Rs.**	**0.00**	**0.00**	**0.00**
D)	**TRANSPORTATION**				
12	Transportation Charges By Rail / Ship / Road Transport	Rs.	0.00	0.00	0.00
13	Adjustment (+/-) In Amount Charged By Railways/Transport	Rs.	0.00	0.00	0.00
14	Demurrage Charges, If Any	Rs.	0.00	0.00	0.00
15	Cost Of Diesel InTransporting Oil Through MGR System	Rs.	0.00	0.00	0.00
16	Total Transportation Charges (12+/- 13 - 14 + 15)	Rs.	0.00	0.00	0.00
17	Total Amount Charged For Oil Supplied Incl Transportation (11+16)	Rs.	0.00	0.00	0.00
E)	**TOTAL COST**				
18	Landed Cost Of Oil (LDO/HFO) (2+17) / (1+7)	Rs.	75611.12	63471.13	0.00
19	Blending Ratio		0.000	1.000	0.000
20	**Weighted Average Cost Of Oil**	**Rs.**		**63471.13**	
F)	**QUALITY**				
21	GCV Of Oil Of The Opening Stock As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
22	GCV Of Oil Supplied As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
23	GCV Of Imported Oil Of The Op Stock As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
24	GCV Of Imported Oil Supplied As Per Bill Of Oil Company	Kcal/Ltr	0	0	0
25	Weighted Average GCV Of Oil As Billed	Kcal/Ltr	0	0	0
26	GCV Of Oil Of The Opening Stock As Received At Station	Kcal/Ltr	0	0	0
27	GCV Of Oil Supplied	Kcal/Ltr	0	9679	0
28	GCV Of Imported Oil Of The Opening Stock As Received At Station	Kcal/Ltr	0	0	0
29	GCV Of Imported Oil Supplied As Received At Station	Kcal/Ltr	0	0	0
30	**Weighted Average GCV Of Oil**	**Kcal/Ltr**		**9679**	

Submitted on 01.04.2024

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For M.C. Bhandari & Co.
Chartered Accountants

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Location: NTPC Limited

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		(च) प्रधान सचिव, सार्वजनिक स्वास्थ्य इंजीनियरिंग विभाग, राज्य सरकार (नाम) सदस्य, पदेन
		(छ) अध्यक्ष (नाम) राज्य प्रदूषण नियंत्रण बोर्ड -सदस्य, पदेन
		(झ) (नाम) राज्य में कार्यान्वयन एजेंसी के चीफ ऐक्जीक्यूटिव अधिकारी- सदस्य, पदेन
		(ञ) वनों के प्रधान मुख्य संरक्षक, राज्य सरकार (नाम) -सदस्य, पदेन
		(ट) सरकार (नाम) द्वारा संबंधित क्षेत्रों से पांच विशेषज्ञों से अधिक मनोनीत नहीं किए जाएंगे।-सदस्य

[फा. सं. स्था.-01/2016-17/111/एनएमसीजी]

संजय कुंडू, संयुक्त सचिव

MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT, AND GANGA REJUVENATION

NOTIFICATION

New Delhi, the 7th October, 2016

S.O. 3187(E).—Whereas it is necessary to constitute authorities at Central, State and District levels to take measures for prevention, control and abatement of environmental pollution in River Ganga and to ensure continuous adequate flow of water so as to rejuvenate the River Ganga to its natural and pristine condition and for matters connected therewith or incidental thereto;

And whereas the River Ganga is of unique importance ascribed to reasons that are geographical, historical, socio-cultural and economic giving it the status of a National River;

And whereas the River Ganga has been facing serious threat due to discharge of increasing quantities of sewage, trade effluents and other pollutants on account of rapid urbanisation and industrialisation;

And whereas, the demand for water of River Ganga is growing for irrigation, drinking water supplies, industrial use and hydro-power due to increase in population, urbanisation, industrialisation, infrastructural development and taking into account the need to meet competing demands;

And whereas there is an urgent need-

(a) to ensure effective abatement of pollution and rejuvenation of the River Ganga by adopting a river basin approach to promote inter-State and inter-sectoral co-ordination for comprehensive planning and management;

(b) to maintain ecological flows in the River Ganga with the aim of ensuring continuous flows throughout its length so as to restore its ecological integrity that enables it to self rejuvenate;

(c) for imposing restrictions in areas abutting the River Ganga in which industries, operations or processes, or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;

(d) to make provision for inspection of any premises, plants, equipment, machineries, manufacturing or other processes, materials or substances and giving direction to the authorities, officers and persons as may be necessary to take steps, for prevention, control and abatement of environmental pollution in the River Ganga;

(e) for carrying out and sponsoring investigations and research relating to problems of environmental pollution in the River Ganga and examination of such manufacturing processes, material and substance as are likely to cause environmental pollution;

(f) for collection and dissemination of information in respect of matters relating to environmental pollution in the River Ganga and preparation of manual, codes or guide relating to the prevention, control and abatement of environmental pollution;

And whereas the State Governments concerned, being equally responsible for Ganga rejuvenation, are required to co-ordinate and implement the river conservation activities at the State level, and to take steps for comprehensive management of the River Ganga in their States;

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And whereas it is required to have planning, financing, monitoring and coordinating authorities for strengthening the collective efforts of the Central Government and the State Governments and authorities under this Order for effective abatement of pollution and rejuvenation, protection and management of the River Ganga;

Now, therefore, in exercise of the powers conferred by sub-section (1), read with clauses (i), (ii), (v), (vi), (vii), (viii), (ix), (x), (xii) and (xiii) of sub-section (2) and (3) of section 3 and sections 4,5,9,10,11, 19, 20 and 23 of the Environment (Protection) Act, 1986 (29 of 1986) (hereinafter referred to as the Act) and in supersession of the notifications of the Government of India in the erstwhile Ministry of Environment and Forests numbers S.O.1111(E), dated the 30th September, 2009, S.O. 2493 (E), dated the 30th September, 2009, S.O. 2494 (E), dated the 30th September 2009, S.O. 2495 (E), dated the 30th September 2009, S.O. 287 (E) dated the 8th February, 2010 and in the Ministry of Water Resources, River Development and Ganga Rejuvenation No. S.O. 2539 (E), dated the 29th September 2014, except as respects things done or omitted to be done before such supersession, the Central Government hereby------

(i)constitutes the authorities by the names mentioned in this Order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under section 5 of the Act and for taking measures with respect to the matters as mentioned in this Order;

(ii))directs, subject to the supervision and control of the Central Government and the provisions of this Order, such authority or authorities as specified in this Order that shall exercise the powers or perform the functions or take the measures so mentioned in this Order as if such authorities had been empowered by the Act to exercise those powers, perform those functions, or take such measures;

(iii)directs that all its powers and functions (except the power to constitute any authority under sub-section (3) of section 3 and to make rules under the sections 6 and 25 of the Act) under any provision of the Act shall, in relation to River Ganga and matters connected therewith, be exercisable and discharged also by the authorities constituted by this Order and by the officers specified in this Order, subject to such conditions and limitations and to the extent as specified in this Order.

1.Short title and commencement. – (1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. Applicability.- This Order shall apply to the States comprising River Ganga Basin, namely, Himanchal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as the National Council for Rejuvenation, Protection and Management of River Ganga may decide for the purpose of effective abatement of pollution and rejuvenation, protection and management of the River Ganga.

3.Definitions.- **(1)** In this Order, unless the context otherwise requires, -

(a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);

(b)"Basin" means the entire catchment of a water body or water course including the soil, water, vegetation and other natural resources in the area and includes land, water, vegetation and other natural resources on a catchment basis;

(c)"Buffer Area" means an area which extends beyond the flood plain of a stream;

(d)"catchment" or ""catchment area "includes the entire land area whose runoff from rain, snow or ice drains into a water body or a water course, before the water course joins River Ganga or its tributaries or discharges water into River Ganga or its tributaries;

(e)"commercial fishing" means large scale fishing for commercial purposes by nets, poisoning, or other modern fishing gear or methods in River Ganga or its tributaries;

(f) Competent authority means "Central Government"

(g)"deforestation" means removal or reduction of forest cover, especially when caused by anthropogenic activities or removal of trees and other vegetation of a forest excluding a planned clearance for scientific management of forest in particular in the catchment area of River Ganga;

(h)"degraded forest" means a forest having loss or reduction of native forest cover or vegetation density in the catchment area abutting River Ganga or its tributaries;

(i)"direction" shall mean direction issued under section 5 of the Act and the expression "direct" shall be construed accordingly;

(j) "District Ganga Committee" means the District Ganga Protection Committee mentioned in paragraph 53;

(k)"engineered diversion" means a structure or device constructed or installed to transfer the water of River Ganga or its tributaries into canals or other engineering structures;

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(l)"flood plain" means such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years;

(m)"Ghat" means sloping part at Bank of River Ganga or its tributaries with artificially constructed steps or sloping piece of land used for providing easy human access to water of River Ganga or its tributaries and includes usage of such parts for religious or other related purposes;

(n)"local authority" includes Panchayati raj institutions, municipalities, a district board, cantonment board, town planning authority or Zila Parishad or any other body or authority, by whatever name called, for the time being invested by law, for rendering essential services or with the control and management of civic services, within a specified local area;

(o)"National Mission for Clean Ganga" means the authority mentioned in paragraph 31.

(p) "notification" means a notification published in the Official Gazette and the expression 'notifying' shall be construed accordingly;

(q)"offensive matter" consists of solid waste which includes animal carcasses, kitchen or stable refuse, dung, dirt, putrid or putrefying substances and filth of any kind which is not included in the sewage;

(r)"person" include ----

(i)an individual or group or association of individuals whether incorporated or not;

(ii)a company established under the Companies Act, 2013 (18 of 2013);

(iii)any corporation established by or under any Central or State Act;

(iv)a local authority;

(v) every juridical person not falling within any of the preceding sub-clauses;

(s)"River Bed" means the dried portion of the area of River Ganga or its tributaries and includes the place where the River Ganga or its tributaries run its course when it fills with water and includes the land by the side of River Ganga or its tributaries which retains the water in its natural channel, when there is the greatest flow of water;

(t) "River Bed Farming" includes seasonal agriculture or farming on the River Bed of River Ganga or its tributaries during low flows of water;

(u)"River Ganga" means the entire length of six head-streams in the State of Uttarakhand namely, Rivers Alakananda, Dhauli Ganga, Nandakini, Pinder, Mandakini and Bhagirathi starting from their originating glaciers up to their respective confluences at Vishnu Prayag, Nand Prayag, Karn Prayag, Rudra Prayag, and Dev Prayag as also the main stem of the river thereafter up to Ganga Sagar including Prayag Raj and includes all its tributaries;

(v) "rubbish" means ashes, broken brick, mortar, broken glass, dust or refuse of any kind and includes filth;

(w) "sand mining" means large scale removal of river sand from the dried channel belt, flood plain or a part of River Ganga or its tributaries;

(x) "sewage effluent" means effluent from any sewerage system or sewage disposal works and includes sewage from open drains;

(y) "sewerage scheme" means any scheme which a local authority may introduce for removal of sewage by flushing with water through underground closed sewers;

(z) "Schedule" means Schedule appended to this Order;

(za) "specified District" means an area of every District abutting the River Ganga, being within a radius of fifteen kilometers of the Ganga River Bank or its tributaries in the States of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as referred to in this Order;

(zb) "State Ganga Committee" means the State Ganga Rejuvenation, Protection and Management Committee constituted under this Order for each of the States mentioned in paragraph 2.

(zc) State Ganga River Conservation Authority means an authority earlier constituted in each State under the Act as follows, namely:-

(i) the Bihar State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O287 (E), dated 8th February 2010;

(ii) the Jharkhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2495(E), dated 30th September 2009;

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(iii) the Uttarakhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O 1111 (E), dated 30th September 2009;

(iv) the Uttar Pradesh State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2493 (E), dated 30th September 2009; and

(v) the West Bengal State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2494 (E), dated 30th September 2009.

(zd) "stream" includes river, water course (whether flowing or for the time being dry), inland water (whether natural or artificial) and sub-terrain waters;

(ze) "tributaries of River Ganga" means those rivers or streams which flow into River Ganga and includes Yamuna River, Son River, Mahananda River, Kosi River, Gandak River, Ghaghara River and Mahakali River and their tributaries or such other rivers which National Council for Rejuvenation Protection and Management of River Ganga may, by notification, specify for the purposes of this Order.

2. The words and expressions used herein and not defined but defined in the Environment (Protection) Act, 1986 (29 of 1986) shall have the meanings respectively assigned to them in the Act.

4. Principles to be followed for rejuvenation, protection and management of River Ganga. – (1) The following principles shall be followed in taking measures for the rejuvenation, protection and management of River Ganga, namely:-

(i) the River Ganga shall be managed as a single system;

(ii) the restoration and maintenance of the chemical, physical, and biological quality of the waters of River Ganga shall be achieved in a time bound manner;

(iii) the River Ganga shall be managed in an ecologically sustainable manner;

(iv) the continuity of flow in the River Ganga shall be maintained without altering the natural seasonal variations;

(v) the longitudinal, lateral and vertical dimensions (connectivities) of River Ganga shall be incorporated into river management processes and practices;

(vi) the integral relationship between the surface flow and sub-surface water (ground water) shall be restored and maintained;

(vii) the lost natural vegetation in catchment area shall be regenerated and maintained;

(viii) the aquatic and riparian biodiversity in River Ganga Basin shall be regenerated and conserved;

(ix) the bank of River Ganga and its flood plain shall be construction free Zone to reduce pollution sources, pressures and to maintain its natural ground water recharge functions;

(x) the public participation in rejuvenation, protection and management,revision and enforcement of any regulation, standard, effluent limitation plan, or programme for rejuvenation, protection and management shallbe encouraged and made an integral part of processes and practices of

River Ganga rejuvenation, protection and management.

(2)National Mission for Clean Ganga may, having regard to the needs of the people of the country, advances in technology and socio economic conditions of the people and to preserve the rich heritage of national composite culture, specify additional principles in addition to the principles specified under sub-paragraph (1).

5.Ecological flow of water in River Ganga to be maintained. – (1) Every State Government, shall endeavor to ensure that uninterrupted flows of water are maintained at all times in River Ganga as required under clause (iv) of paragraph (4).

(2) Every State Government shall also endeavor to maintain adequate flow of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal, all concerned authorities shall take suitable actions in a time bound manner.

(3) For the purposes of this paragraph, the average flow of water shall be determined by such Hydrology Observation Stations at such points of the River Ganga, as may be specified by the National Mission for Clean Ganga:

Provided that the average flow of water in River Ganga may, having regard to ecology, be determined by the National Mission for Clean Ganga for different points of River Ganga.

6. Prevention, control and abatement of environmental pollution in River Ganga and its tributaries.- (1) No person shall discharge, directly or indirectly, any untreated or treated sewage or sewage sludge into the River Ganga or its tributaries or its banks:

Provided that where a local authority does not have, on the date of commencement of this Order, sewerage scheme or infrastructure for collection, storage, transportation and disposal of sewage or sewage sludge or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such local authority shall, within a period, specified by National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of sewage in the territorial area of the local authority.

(2) No person shall discharge, directly or indirectly, any untreated or treated trade effluent and industrial waste, bio-medical waste, or other hazardous substance into the River Ganga or its tributaries or on their banks:

Provided further that where an industry or industrial area management does not have, on the date of commencement of this Order, industrial effluent treatment scheme or infrastructure for collection, storage, transportation and disposal of trade effluents industrial waste, bio-medical waste, or other hazardous substance, etc. or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such industry or industrial area management shall, within a period so specified by the National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of trade effluent and industrial waste, bio-medical waste, or other hazardous substance in the jurisdiction of the industry or industrial area management.

(3) No person shall construct any structure, whether permanent or temporary for residential or commercial or industrial or any other purposes in the River Ganga, Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries:

Provided that in exceptional circumstances like natural calamities or religious events at traditional locations, temporary structures can be raised after prior permission of the National Mission for Clean Ganga acting through the State Ganga Committee and the District Ganga Committee:

Provided further that in case any such construction has been completed, before the commencement of this Order, in the River Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries, the National Mission for Clean Ganga shall review such constructions so as to examine as to whether such constructions are causing interruption in the continuous flow of water or pollution in River Ganga or its tributaries, and if that be so, it shall cause for removing them.

(4) No person shall do any act or carry on any project or process or activity which, notwithstanding whether such act has been mentioned in this Order or not, has the effect of causing pollution in the River Ganga.

(5) It shall be the duty of the National Mission for Clean Ganga, every Specified State Ganga Committee or specified District Ganga Protection Committee, local authority and all other authorities and persons to disseminate widely and bring to public notice, using various means, information captured in reports and the aforesaid measures in the local language in every village, town, city and other areas abutting River Ganga and its tributaries.

7. Emergency measures in case of pollution of River Ganga or its tributaries --- If any poisonous, noxious or polluting matter is present or has entered into the River Ganga due to any accident or other unforeseen act or event, and it is necessary or expedient to take immediate action, the National Mission for Clean Ganga shall take immediate action for carrying out such operations or direct for carrying out such operations by the specified State Ganga Committee or specified District Ganga Committee or local authority or any other authority or Board or Corporation, as it may consider necessary for all or any of the following purposes, namely; -

(a)the manner of removing the matter from River Ganga and disposing it off in such a manner as it may specify, as also, for carrying out such operations as is considered appropriate for mitigation or removal of any pollution caused by such matter;

(b) issuing directions restraining or prohibiting any person concerned from discharging any poisonous, noxious or polluting matter in the River Ganga;

(c) undertaking any additional work or functions as may be necessary to address such emergency.

8. Power to issue directions. - The National Mission for Clean Ganga shall, in the exercise of its powers and performance or its functions under this Order, issue such directions in writing as it may consider necessary for abatement of pollution and rejuvenation, protection and management of the River Ganga to the concerned authority or local authority or other authorities or Board or Corporation or person and they shall be bound to comply with such directions.

9. Ganga safety audit.- Every District Ganga Committee shall cause the Ganga safety audit to be carried out by such Ganga Safety Auditors within such time frame and in accordance with such protocols as may be specified by the

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रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 7 दिसम्बर, 2015

का.आ. 3305(अ).— केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात् :—

1.(1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण) संशोधन नियम, 2015 है।

(2) ये उनके राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 की अनुसूची 1 में,—

(क) क्रम सं. 5 और उससे संबंधित प्रविष्टियों के स्थान पर निम्नलिखित क्रम सं. और प्रविष्टियां अंत:स्थापित की जाएंगी, अर्थात् :—

क्रम सं.	उद्योग	मापदंड	मानक
1	2	3	4
5क	ताप विद्युत संयंत्र (जल उपभोग सीमा)	जल उपभोग	I. एक बार शीतलन (ओटीसी) के माध्यम से सभी संयंत्र शीतलन टावरों (सीटी) को प्रतिष्ठापित करेंगे और अधिसूचना की तारीख से दो वर्ष की अवधि के भीतर अधिकतम 3.5m^3/MWh के विनिर्दिष्ट जल उपभोग को हासिल करेंगे।

			II. सभी विद्यमान सीटी-आधारित संयंत्र 3.5m^3/MWh इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर अधिकतम 3.5m^3/MWh तक के विनिर्दिष्ट जल उपभोग को कम करेंगे। III. जनवरी, 2017 के पश्चात् प्रतिष्ठापित किए जाने वाले नए संयंत्र अधिकतम 2.5 m^3/MWh तक के विनिदिष्ट जल उपभोग को पूरा करेंगे और शून्य जल दुर्व्यय को हासिल करेंगे।

(ख) क्रम सं. 25 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम सं. और प्रविष्टियां रखी जाएंगी, अर्थात् :—

क्रम सं.	उद्योग	मापदंड	मानक
1	2	3	4
		विवक्त पदार्थ	100 mg/Nm^3
		सल्फर डायोक्साइड(SO_2)	600 mg/Nm^3 (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां) 200 mg/Nm^3 (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		नाइट्रोजन के आक्साइड (NOx)	300 mg/Nm^3
		पारा (Hg)	0.03 mg/Nm^3 (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		1 जनवरी, 2003 के पश्चात् 31 दिसंबर, 2016* तक प्रतिष्ठापित टीपीपी (इकाईयां)	
		विवक्त पदार्थ	50 mg/Nm^3
		सल्फर डायोक्साइड (SO_2)	600 mg/Nm^3 (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां) 200 mg/Nm^3 (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		नाइट्रोजन के आक्साइड (NOx)	300 mg/Nm^3
		पारा (Hg)	0.03 mg/Nm^3
		1 जनवरी, 2017** से प्रतिष्ठापित टीपीपी (इकाईयां)	
		विवक्त पदार्थ	30 mg/Nm^3
		सल्फर डायोक्साइड (SO_2)	100 mg/Nm^3
		नाइट्रोजन के आक्साइड	100 mg/Nm^3

		(NOx)	
		पारा (Hg)	0.03 mg/Nm^3

* टीपीपी (इकाईयां) इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर परिसीमाओं को पूरा करेंगी।

** इसके अंतर्गत सभी टीपीपी (इकाईयां) हैं, जिन्हें पर्यावरणीय निकासी प्रदान की गई है और संनिर्माण के अधीन है।

[फा. सं. क्यू-15017/40/2007-सीपीडब्ल्यू]

डा. राशिद हसन, सलाहकार

टिप्पण :- मूल नियम भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (ii) में सं. का.आ. 844(अ) 19 नवंबर, 1986 द्वारा प्रकाशित किए गए थे और उनका पश्चातवर्ती का.आ. 433(अ) तारीख 18 अप्रैल, 1987 ; सा.का.नि 176(अ) तारीख 2 अप्रैल, 1996; सा.का.नि. 97 (अ), तारीख 18 फ़रवरी, 2009 ; सा.का.नि 149(अ) तारीख 4 मार्च, 2009 ; सा.का.नि. 543(अ) तारीख 22 जुलाई, 2009 ; सा.का.नि. 739(अ) तारीख 9 सितम्बर, 2010 ; सा.का.नि. 809(अ) तारीख 4 अक्टूबर, 2010, सा.का.नि. 215(अ) तारीख 15 मार्च, 2011 ; सा.का.नि. 221(अ) तारीख 18 मार्च, 2011 ; सा.का.नि. 354(अ) तारीख 2 मई, 2011 ; सा.का.नि. 424(अ) तारीख 1 जून, 2011 ; सा.का.नि. 446(अ) तारीख 13 जून, 2011 ; सा.का.नि. 152(अ) तारीख 16 मार्च, 2012 ; सा.का.नि. 266(अ) तारीख 30 मार्च, 2012 ; सा.का.नि. 277(अ) तारीख 31 मार्च, 2012; सा.का.नि. 820(अ) तारीख 9 नवम्बर, 2012 ; सा.का.नि. 176(अ) तारीख 18 मार्च, 2013 ; सा.का.नि. 535(अ) तारीख 7 अगस्त, 2013 ; सा.का.नि. 771(अ) तारीख 11 दिसम्बर, 2013 ; सा.का.नि. 2(अ) तारीख 2 जनवरी, 2014 ; सा.का.नि. 229(अ) तारीख 28 मार्च, 2014 ; सा.का.नि. 232(अ) तारीख 31 मार्च, 2014 ; सा.का.नि. 325(अ) तारीख 7 मई, 2014, सा.का.नि. 612(अ) तारीख 25 अगस्त, 2014 और अन्तिम संशोधन सा.का.नि. 789(अ) तारीख 11 नवम्बर, 2014 किया गया था।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 7th December, 2015

S.O. 3305(E).— In exercise of the powers conferred by sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:–

1. (1) These rules may be called the Environment (Protection) Amendment Rules, 2015.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986, in Schedule – I, -

(a) after serial number 5 and entries relating thereto, the following serial number and entries shall be inserted, namely:–

Sr. No.	Industry	Parameter	Standards
1	2	3	4
"5A.	**Thermal Power Plant (Water consumption limit)**	**Water consumption**	I. All plants with Once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption upto maximum of 3.5m^3/MWh within a period

			of two years from the date of publication of this notification. II. All existing CT-based plants reduce specific water consumption upto maximum of 3.5m^3/MWh within a period of two years from the date of publication of this notification. III. New plants to be installed after 1st January, 2017 shall have to meet specific water consumption upto maximum of 2.5 m^3/MWh and achieve zero waste water discharged";

(b) for serial number 25, and the entries related thereto, the following serial number and entries shall be substituted, namely:-

Sr. No.	Industry	Parameter	Standards
1	2	3	4
"25.	Thermal Power Plant	**TPPs (units) installed before 31st December, 2003***	
		Particulate Matter	100 mg/Nm^3
		Sulphur Dioxide (SO_2)	600 mg/Nm^3 (Units Smaller than 500MW capacity units) 200 mg/Nm^3 (for units having capacity of 500MW and above)
		Oxides of Nitrogen (NOx)	600 mg/Nm^3
		Mercury (Hg)	0.03 mg/Nm^3(for units having capacity of 500MW and above)
		TPPs (units) installed after 1st January,2003, upto 31st December, 2016*	
		Particulate Matter	50 mg/Nm^3
		Sulphur Dioxide (SO_2)	600 mg/Nm^3 (Units Smaller than 500MW capacity units) 200 mg/Nm^3 (for units having capacity of 500MW and above)
		Oxides of Nitrogen (NOx)	300 mg/Nm^3
		Mercury (Hg)	0.03 mg/Nm^3
		TPPs (units) to be installed from 1st January, 2017**	
		Particulate Matter	30 mg/Nm^3
		Sulphur Dioxide (SO_2)	100 mg/Nm^3
		Oxides of Nitrogen (NOx)	100 mg/Nm^3
		Mercury (Hg)	0.03 mg/Nm^3

*TPPs (units) shall meet the limits within two years from date of publication of this notification.

**Includes all the TPPs (units) which have been accorded environmental clearance and are under construction".

[F. No. Q-15017/40/2007-CPW]

Dr. RASHID HASAN, Advisor

Note: - The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) *vide* number S.O. 844(E), dated the 19th November, 1986 and subsequently amended *vide* the following notifications:—
S.O. 433(E), dated 18th April 1987; G.S.R. 176(E) dated 2nd April, 1996; G.S.R. 97(E), dated the 18th February, 2009; G.S.R. 149(E), dated the 4th March , 2009; G.S.R. 543(E), dated 22nd July, 2009; G.S.R. 739(E), dated the 9th September, 2010; G.S.R. 809(E), dated, the 4th October, 2010, G.S.R. 215(E), dated the 15th March, 2011; G.S.R. 221(E), dated the 18th March, 2011; G.S.R. 354(E), dated the 2nd May, 2011; G.S.R. 424(E), dated the 1st June, 2011; G.S.R. 446(E), dated the 13th June, 2011; G.S.R. 152(E), dated the 16th March, 2012; G.S.R. 266(E), dated the 30th March, 2012; and G.S.R. 277(E), dated the 31st March, 2012; and G.S.R. 820(E), dated the 9th November, 2012; G.S.R. 176(E), dated the 18th March, 2013; G.S.R. 535(E), dated the 7th August, 2013; G.S.R. 771(E), dated the 11th December, 2013; G.S.R. 2(E), dated the 2nd January, 2014; G.S.R. 229(E), dated the 28th March, 2014; G.S.R. 232(E), dated the 31st March, 2014; G.S.R. 325(E), dated the 07th May, 2014, G.S.R. 612,(E), dated the 25th August, 2014 and lastly amended vide notification G.S.R. 789(E), dated 11th November, 2014.

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असाधारण
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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

शुद्धिपत्र

नई दिल्ली, 7 मार्च, 2016

का.आ. 682(अ).—भारत के राजपत्र में प्रकाशित पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना सा.का.नि. 3305(अ) तारीख 7 दिसंबर, 2015 द्वारा अधिसूचित पर्यावरण (संरक्षण) संशोधन नियम, 2015 के अंतर्गत आने वाली नीचे उल्लिखित प्रविष्टियों को निम्न पढ़ें:

1. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 2 के नीचे सारणी में स्तम्भ 3 और 4 में "31 **दिसंबर**, 2003 **से पहले संस्थापित टीपीपी (इकाईयां)**"

2. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 6 की सारणी के स्तम्भ 4 में "300 mg/Nm^3" के स्थान पर "600 mg/Nm^3" पढ़ें

3. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 8 की सारणी के स्तम्भ 3 और 4 में "1 जनवरी, 2003" के स्थान पर "1 **जनवरी**, 2004" पढ़ें

[फा.सं. क्यू.15017/40/2007-सीपीडब्ल्यू]

डा. राशिद हसन, सलाहकार

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

CORRIGENDUM

New Delhi, the 7th March, 2016

S.O. 682(E).—In the notification of the Government of India in the Ministry of Environment, Forest and Climate Change vide number S.O. 3305(E), dated the 7th December, 2015, published in the Gazette of India, Part II, Section 3, Sub-section (ii), in page 4, in the Table, against serial number 25, for "1st January, 2003" substitute "1st January, 2004".

[F.No. Q-15017/40/2007-CPW]

Dr. RASHID HASAN, Advisor

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ANNEXURE-E

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
सूचना प्रौद्योगिकी एवं साइबर सुरक्षा प्रभाग
Information Technology & Cyber Security Division
****

विषय : CEA (Cyber Security in Power Sector) Guidelines, 2021.

CEA is mandated to prepare 'Guidelines on Cyber Security' in Power Sector under the provision of regulation (10) of the Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019. Guidelines on Cyber Security in Power Sector incorporating the cardinal principles has been prepared by CEA. In compliance to the provision of the above regulation, **CEA (Cyber Security in Power Sector) Guidelines, 2021** are issued for compliance by all entities listed in the clause 2.3 (Applicability of the Guidelines) of the guidelines.

Encl: Guidelines on Cyber Security

07/10/21
(V.K Mishra)
Secretary CEA

CEA (Cyber Security in Power Sector) Guidelines, 2021

1.0 Background

1.1 Cyber intrusion attempts and Cyber-attacks in any critical sector are carried out with a malicious intent. In Power Sector it's either to compromise the Power Supply System or to render the grid operation in-secure. Any such compromise, may result in mal-operations of equipments, equipment damages or even in a cascading grid brownout/blackout. The much hyped air gap myth between IT and OT Systems now stands shattered. The artificial air gap created by deploying firewalls between any IT and OT System can be jumped by any insider or an outsider through social engineering. Cyber-attacks are staged through tactics & techniques of Initial Access, Execution, Persistence, Privilege Escalation, Defence Evasion, Command and Control, Exfiltration. After gaining the entry inside the system through privilege escalation, the control of IT network and operations of OT systems can be taken over even remotely by any cyber adversary. The gain of sensitive operational data through such intrusions may help the Nation/State sponsored or non-sponsored adversaries and cyber attackers to design more sinister and advanced cyber-attacks.

1.2 Government of India has set up the Indian Computer Emergency Response Team (CERT-In) for Early Warning and Response to cyber security incidents and to have collaboration at National and International level for information sharing on mitigation of cyber threats. CERT-In regularly issues advisories on safeguarding computer systems and publishes Security Guidelines which are widely circulated for compliances. All Central Government Ministries/ Departments and State/Union Territory Governments have been advised to conduct cyber security audit of their entire Cyber Infrastructure including websites at regular interval through CERT-In empanelled Auditors so as to identify gaps and appropriate corrective actions to be taken in cyber security practices. CERT-In extends supports to enable Responsible Entity in conducting cyber security mock drills and in assessment of their preparation to withstand cyber-attacks. The Responsible Entity must submit Reports of Cyber Audit of cyber security controls, architecture, vulnerability management, network security and periodic cyber security drills to sectoral CERT as well as CERT-In. Team of experts shall review these reports and shortcomings if any in the compliances shall be flagged by them. CERT-In on regular basis also conducts workshops and training programs to enhance Cyber awareness of all Stakeholders.

1.3 Ministry of Power has created 6(six) sectoral CERTs namely Thermal, Hydro, Transmission, Grid Operation, RE and Distribution for ensuring cyber security in Indian Power Sector. Each Sectoral CERT has prepared their sub-sector specific model Cyber Crisis Management Plan(C-CMP) for countering cyber-attacks and cyber terrorism. Each Sectoral CERT has circulated their model C-CMPs for preparation and implementation of organization specific C-CMP by each of their Constituent Utility.

1.4 All Responsible Entities, Service Providers, Equipment Suppliers/Vendors and Consultants engaged in Power Sector are equally responsible for ensuring cyber security of the Indian Power Supply System. They are to act timely upon each threat intelligence,

advisories and other inputs received from authenticated sources, for continuous improvement in their cyber security posture.

1.5 In the current Indian scenario though many cyber security directives and guidelines exists, but none of them are power sector specific. Ministry of Power has directed CEA to prepare Regulation on Cyber Security in Power Sector. And as an interim measures CEA has been directed to issue Guideline on Cyber Security in Power Sector, under the provision of Regulation 10 on Cyber Security in the "Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019".

1.6 The Guidelines on Cyber Security, in the form of Articles written below, requires mandatory Compliance by all Responsible Entities. The Guidelines shall come into effect from the date of issue by Central Electricity Authority, New Delhi.

2.0 Hereby the Guidelines on Cyber Security are drawn in the form of Articles for compliance by the Requester as well as User under the following provision of Regulation 10 on Cyber Security, in the "Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019".

"The requester and the user shall comply with cyber security guidelines issued by the Central Government, from time to time, and the technical standards for communication system in Power Sector laid down by the Authority."

2.1 **Objective of issuing Guideline**:

a) Creating cyber security awareness
b) Creating a secure cyber ecosystem,
c) Creating a cyber-assurance framework,
d) Strengthening the regulatory framework,
e) Creating mechanisms for security threat early warning, vulnerability management and response to security threats,
f) Securing remote operations and services,
g) Protection and resilience of critical information infrastructure,
h) Reducing cyber supply chain risks,
i) Encouraging use of open standards,
j) Promotion of research and development in cyber security,
k) Human resource development in the domain of Cyber Security,
l) Developing effective public private partnerships,
m) Information sharing and cooperation
n) Operationalization of the National Cyber Security Policy

2.2 Within the text of these Articles, '**Responsible Entity'** shall mean all:

a) Transmission Utilities as well as Transmission Licensees,
b) Load despatch centres (State, Regional and National),
c) Generation utilities (Hydro, Thermal, Nuclear, RE),
d) Distribution Utilities
e) Generation Aggregators,
f) Trading Exchanges,
g) Regional Power Committees, and
h) Regulatory Commissions.

2.3 **Applicability:**

All Responsible Entities as well as System Integrators, Equipment Manufacturers, Suppliers/Vendors, Service Providers, IT Hardware and Software OEMs engaged in the Indian Power Supply System.

2.4 **Scope:**

2.4.1 **Control Systems for System Operation and Operation Management.**

a) Grid Control and Management Systems,
b) Power Plant Control Systems,
c) Central Systems used to monitor and control of distributed generation and loads e.g. virtual power plants, storage management, central control rooms for hydroelectric plants, photovoltaic/wind power installations,
d) Systems for fault management and work force management,
e) Metering and measurement management systems,
f) Data archiving systems,
g) Parameterisation, configuration and programming systems,
h) Supporting systems required for operation of the above mentioned systems,

2.4.2 **Communication System.**

a) Routers switches and firewalls,
b) Communication technology-related network components,
c) Wireless digital systems.
d) Control Centre to Control Centre Communications for data exchange on ICCP. **(IEC 61850/60850-5/TASE.2/)**

2.4.3 **Secondary, Automation and Tele control technologies**

a) Control and Automation components,
b) Control and field devices,
c) Tele control devices,
d) Programmable logic controllers / Remote Terminal Units, including digital sensor and actuators elements,
e) Protection devices,
f) Safety components,
g) Digital measurement and metering installations,
h) Synchronisation devices,
i) Excitation Systems,

3.0 Definition of Terms:

1. **Access Management**: shall mean set of policies and procedures of the Responsible Entity for allowing Personnel, devices and IoT to securely perform a broad range of operational, maintenance, and asset management tasks either on site or remotely as laid down in Clause 5.2.5 of IS 16335.
2. **Accreditation:** shall mean the process of verifying that an organisation is capable of conducting the tests and assessments against a product/process that are required to be certified.

3. **Accreditation Body:** shall mean an organisation that has been accredited to verify the credentials and capabilities of the organisations that wish to become a certification body.
4. **Act:** shall mean the Information Technology Act, 2000 (21 of 2000)
5. **Asset**: shall mean anything that has value to the organization.
6. **Certification:** shall mean the process of verifying that a product has been manufactured in conformance with a set of predefined standards and/or regulations by an organisation, that is accredited to conduct the certification process
7. **Certification Body:** shall mean an organisation that has been accredited by an accreditation body to certify products / process against a certification scheme.
8. **Certification Scheme:** shall mean the processes, paperwork, tools, and documentation that define how a product or manufacturer is certified
9. **Chief Information Security Officer:** shall means the designated employee of Senior management level directly reporting to Managing Director/Chief Executive Officer/Secretary of the Responsible Entity, having knowledge of Information Security and related issues, responsible for cyber security efforts and initiatives including planning, developing, maintaining, reviewing and implementation of Information Security Policies
10. **Critical Assets:** shall mean the facilities, systems and equipment which, if destroyed, degraded or otherwise declared unavailable, would affect the reliability or operability of the Power Supply System.
11. **Critical System:** shall mean cyber assets essential to the reliable operation of critical asset. Critical System consists of those cyber assets that have at least one of the following characteristics:
    a) The cyber asset uses a routable protocol to communicate outside the electronic security perimeter.
    b) The cyber asset uses a routable protocol within a control centre.
    c) The cyber asset is dial-up accessible.
12. **Critical Information Infrastructure*:*** shall mean Critical Information Infrastructure as defined in explanation of sub-section (1) of Section 70 of the Act.
13. **Cyber Assets**: shall mean the programmable electronic devices, including the hardware, software and data in those devices that are connected over a network, such as LAN, WAN and HAN.
14. **Cyber Crisis Management Plan:** shall mean a framework for dealing with cyber related incidents for a coordinated, multi-disciplinary and broad-based approach for rapid identification, information exchange, swift response and remedial actions to mitigate and recover from malicious cyber related incidents impacting critical processes.
15. **Cyber Security Breach**: shall mean any cyber incident or cyber security violation that results in unauthorized or illegitimate access or use by a person as well as an entity, of data, applications, services, networks and/or devices through bypass of the underlying cyber security protocols, policies and mechanisms resulting in the compromise of the confidentiality, integrity or availability of data/information maintained in a computer resource or cyber asset.
16. **Cyber Security Incident:** shall mean any real or suspected adverse cyber security event that violates, explicitly or implicitly, cyber security policy of Responsible Entity resulting in unauthorized access, denial of service or disruption, unauthorized use of computer resource for processing or storage of information or changes to data or information

without authorization, leading to harm to the power grid or its critical sub-sectoral elements Generation, Transmission and Distribution.

17. **Cyber Security Policy:** shall mean documented set of business rules and processes for protecting information, computer resources, networks, devices, Industrial Control Systems and other OT resources.
18. **Electronic Security Perimeter:** shall mean the logical border surrounding a network to which the Cyber Systems of Power Supply System are connected using a routable protocol.
19. **Information Security Division:** shall mean a division accountable for cyber security and protection of the Critical System of the Responsible Entity.
20. **Protected System:** shall mean any computer, computer system or computer network of the Responsible Entity notified under section 70 of the Act, in the official gazette by appropriate Government.
21. **Security Architecture:** shall mean a framework and guidance to implement and operate a system using the appropriate security controls with the goal to maintain the system's quality attributes like confidentiality, integrity, availability, accountability and assurance.
22. **Vulnerability:** shall mean intrinsic properties of something resulting in susceptibility to a risk source that can lead to an event with a consequence
23. **Vulnerability Assessment:** shall mean a process of identifying and quantifying vulnerabilities

4.0 Standards

Reference	Description
ISO/IEC 15408	Common Criteria Certification Standard
ISO/IEC 17011	General requirements for accreditation bodies accrediting conformity assessment bodies
ISO/IEC 17025	General requirements for the competence of testing and calibration laboratories
ISO/IEC 21827	Systems Security Engineering - Capability Maturity Model (SSE-CMM)
ISO/IEC 24748-1	Systems and software engineering — Life cycle management — Part 1: Guidelines for life cycle management.
ISO 27001/2	Information Security Management
ISO/ IEC 27019	Information technology — Security techniques — Information Security controls for the energy utility industry
ISO/IEC 61508	Functional Safety of Electrical / Electronic / Programmable Electronic Safety-related Systems
IEC 61850	Communication networks and systems for power utility automation
IEC 62351	Standards for Securing Power System Communications
IEC 62443	Cyber Security for Industrial Control Systems
IS 16335	Power Control Systems – Security Requirements.

5.0 Abbreviations

Abbreviations		Description
a)	BES	Bulk Electric System

b)	CDAC	Centre for Development of Advanced Computing
c)	CEA	Central Electricity Authority
d)	CERC	Central Electricity Regulatory Commission
e)	CERT	Computer Emergency Response Team
f)	CERT-In	Indian Computer Emergency Response Team
g)	CII	Critical Information Infrastructure
h)	CISO	Chief Information Security Officer
i)	CSK	Cyber Swachhta Kendra
j)	COTS	Commercial off-the Shelf
k)	ESP	Electronic Security perimeter
l)	ICS	Industrial Control Systems
m)	ICT	Information and Communications Technology
n)	IEC	International Electro Technical Commission
o)	ISAC	Information Sharing and Analysis Centre
p)	ISD	Information Security Division
q)	ISO	International Organization for Standardization
r)	ISMS	Information Security Management System
s)	IT	Information Technology
t)	FAT	Factory Acceptance Test
u)	NABL	National Accreditation Board for Testing and Calibration Laboratories
v)	NCIIPC	National Critical Information Infrastructure Protection Centre
w)	NLDC	National Load Dispatch Centre
x)	NPTI	National Power Training Institute
y)	NSCS	National Security Council Secretariat
z)	OEM	Original Equipment Manufacturer
aa)	OT	Operational Technology
bb)	RLDC	Regional Load Dispatch Centres
cc)	SAT	Site Acceptance Test
dd)	SERC	State Electricity Regulatory Commission
ee)	SCADA	Supervisory Control and Data Acquisition Systems
ff)	SIEM	Security Information and Event Management
gg)	SLA	Service Level Agreement
hh)	SLDC	State Load Dispatch Centre
ii)	QCI	Quality Council of India

CEA (Cyber Security in Power Sector) Guidelines, 2021

Article 1. Cyber Security Policy.

a. Cardinal Principles: The Responsible entity will strictly adhere to following cardinal principles while framing cyber security policy:

i. There is hard isolation of their OT Systems from any internet facing IT system.
ii. May keep only one of their IT systems with internet facing at any of their site/location if required which is isolated from all OT zones and kept in a separate room under the security and control of CISO.
iii. Downloading/Uploading of any data/information from their internet facing IT system is done only through an identifiable whitelisted device followed by scanning of both for any vulnerability/malware as per the SOP laid down and for all such activities digital logs are maintained and retained under the custody of CISO for at least 6 months. The log shall be readily to carry out the forensic analysis if asked by investigation agency.
iv. List of whitelisted IP addresses for each firewall is maintained by CISO and each firewall is configured for allowing communication with the whitelisted IP addresses only.
v. Communication between OT equipment/systems is done through the secure channel preferably of POWERTEL through the fibre optic cable. Security configuration of the communication channel is also to be ensured.
vi. All ICT based equipment/system deployed in infrastructure/system mandatorily CII are sourced from the list of the "Trusted Sources" as and when drawn by MoP/CEA.

b. The Responsible Entity shall be ISO/IEC 27001 certified (including sector specific controls as per ISO/IEC 27019).
c. The Responsible Entity shall have a Cyber Security Policy drawn upon the guidelines issued by NCIIPC.
d. The Responsible Entity shall ensure annual review of their Cyber Security Policy by subject matter expert and changes shall be made therein only after obtaining the due approval from Board of Directors.
e. The process of Access Management for all Cyber Assets owned or under control of the Responsible Entity shall be detailed in the Cyber Security Policy.
f. The Cyber Security Policy shall leverage state-of-art cyber security technologies and relevant processes at multiple layers to mitigate the cyber security risks.
g. The Responsible Entity shall be solely responsible to get Cyber Security Policy implemented through its Information Security Division (ISD).
h. The CISO shall record the reason(s) for exemption required, if any, in case, unable to comply with any of the provision(s) of the Cyber Security Policy. Any exception shall be allowed only after an approval of provisions of compensatory control(s) to mitigate residual cyber security risks.

i. The CISO shall record the exemptions sought in statement of applicability controls, while getting the ISO 27001 certified. All exemptions and its justification need to be in conformance with Cyber Security Policy of the Responsible Entity.
j. The Responsible Entity shall allocate sufficient Annual budget for enhancing cyber security posture, enhanced year over year.
k. The Responsible Entity shall work in collaboration with other Industry Stakeholders as well as Academia to promote R&D activity in the domain of cyber security.
l. The Responsible Entity shall ensure that cyber security issues are taken up as agenda items in their Board meetings once in every three months.

Article 2 Appointment of CISO.

a) The Responsible Entity shall mandatorily appoint a CISO and shall confirm to qualification, if any, **laid** by Quality Council of India (QCI). In absence, the work of CISO shall be looked upon by Alternate CISO. In case qualification for appointment of Alternate CISO has been relaxed for reasons recorded thereof, Alternate CISO has to mandatorily acquire the minimum required cyber security skill sets within six months from the date of his appointment.
b) The Responsible Entity shall regularly update details of CISO and Alternate CISO, with the Sectoral CERT, as well as on ISAC-Power Portal.
c) Roles and Responsibility of CISOs shall be as laid by CERT-In and ring-fenced to ensure cyber security of the Cyber Assets of the Responsible Entity.

Article 3: Identification of Critical Information Infrastructure (CII).

a) The Responsible Entity shall submit to NCIIPC through Sectoral CERT, details of Cyber Assets which uses a routable protocol to communicate outside the Electronic Security Perimeter drawn by the Responsible Entity or a routable protocol within a control centre and dial-up accessible Cyber Assets, within 30 days from the date of their commissioning in the System.
b) The Responsible Entity shall submit details of Critical Business Processes and underlying information infrastructure along with mapped impact and Risk Profile to NCIIPC and shall get their CIIs identified in consultation with NCIIPC. The process of the notification/declaration by Appropriate Government shall follow thereafter.
c) The Responsible Entity shall review their declared/notified CIIs at least once a year to examine changes if any in the functional dependencies, protocols and technologies or upon any change in security architecture. The Responsible Entity shall review their declared/notified CIIs once in every 6 months, in case if NCIIPC has directed them to constitute an Information Security Steering Committee.
d) The Responsible Entity shall ensure that all cyber assets of their identified/notified CIIs are recorded in the asset register and considered for risk assessment as well as for finalization of controls in statement of applicability.

Article 4. Electronic Security Perimeter

a) The Responsible Entity shall identify and document the Electronic Security Perimeter(s) and all Access Points to the perimeter(s).

b) The Responsible Entity shall follow procedure of identifying "Electronic Security Perimeter" in case of distributed and/or hybrid information infrastructure, as per IEC 62443 / IS16335 (as amended from time to time).
c) The Responsible Entity shall ensure that every Critical System resides within an Electronic Security Perimeter.
d) The Responsible Entity shall perform a cyber-Vulnerability Assessment of each electronic Access Points to the Electronic Security Perimeter(s) at least once in every 6 (six) months and/or after any change in Security Architecture.
e) The Responsible Entity shall ensure that all critical, high and medium vulnerabilities identified as a result of cyber Vulnerability Assessment shall be closed and verified for the effective closure.

Article 5. Cyber Security Requirements

a) The Responsible Entity shall have an Information Security Division (ISD), headed by CISO.
b) The Responsible Entity shall ensure that the ISD must be functional on 24x7x365 basis and is manned by sufficient numbers of Engineers having valid certificate of successful completion of course on cyber security of Power Sector from the Training Institutes designated by CEA.
c) The Responsible Entity shall ensure that ISD
   1) has on-boarded Cyber Swachhta Kendra(CSK) of CERT-In, if they have public IPs.
   2) has timely acted upon the advisories, guidelines and directive of NCIIPC, CSK, CERT-In and Sectoral CERTs,
   3) has deployed an Intrusion Detection System and Intrusion Prevention System capable of identifying behavioural anomaly in both IT as well as OT Systems.
   4) shares reports on incident response and targeted malware samples with CERT-In,
   5) updates the firmware/software with the digitally signed OEM validated patches only.
   6) enables only those ports and services that are required for normal operations. In case of any emergency the procedure as laid in Access management be followed.
   7) maintains firewall logs for the last 6 months duration. Firewall logs shall be analysed and all critical and high severity comments shall be addressed for effective closure.
   8) retains document of FAT, SAT test results and report/ certificate of cyber tests carried out for compliance of Government Orders and Cyber Security Audit.*
   9) maintains all cyber logs and cyber forensic records of any incident for at least** 90 days.

      * FAT, SAT must include comprehensive cyber security tests of the component/equipment/system to be delivered/delivered at site.
      ** 90 days from date of the commissioning of the system/recovery from any incident, whichever is later.

d) The Responsible Entity shall routinely audit and test security properties of the Critical System and must act upon, in case if any new vulnerabilities is identified through testing or by the equipment manufacturer.

e) The Responsible Entity shall design a secure architecture for control system appropriate for their process control environment*.
f) All State Load Dispatch Centres(SLDCs) shall comply with the directions issued by the National Load Dispatch Centre(NLDC) as well as Regional Load Dispatch Centres(RLDCs) U/s 29 (1) of the Electricity Act, 2003 to ensure stability and cyber security of grid operation and achieve efficiency in the grid operation. In case of any non-compliance, the Head of SLDC shall be responsible and shall be liable for Penalty as per the provision of CERC/SERC.

*There are so many different types of systems in existence and so many possible solutions, it is important that the selection process ensures that the level of protection is commensurate with the business risk and the Responsible Entity shall not rely on one single security measure for its defence. *(Reference IEC/TR62351-10* Edition1.0 2012-10 *Power systems management and associated information exchange –Data and communications security – Part 10: Security architecture guidelines).*

Article 6 Cyber Risk Assessment and Mitigation Plan

a) The Responsible Entity shall document in their Cyber Security Policy a Cyber Risk Assessment and Mitigation Plans drawn upon the best practises being followed in the Power Sector, and the same shall be approved by Board of Directors.
b) The Cyber Risk Assessment and Mitigation Plans shall clearly define the matrix for assessing the cyber risk of both IT and OT environment and risk acceptance criteria.
c) The Cyber Risk Assessment Plan shall be capable to demonstrate that repeated cyber security risk assessment delivers consistent, valid and comparable results.
d) The review of cyber risk assessment shall be carried out at least once in a Quarter. The actionable of risk treatment and mitigation shall be tracked in this review for their effectiveness.
e) The CISO shall be responsible for implementation and regular review, on the basis of internal and external feedbacks, of the Cyber Risk Assessment and Mitigation Plans.

Article 7 Phasing out of Legacy System

a) As the life cycle of the Power System Equipment/System is longer than that of IT Systems deployed therein, the Responsible Entity shall ensure that all IT technologies in the Power System Equipment/System should have the ability to be upgraded.
b) The Responsible Entity shall ensure that the Information Security Division shall draw the list of all communicable equipments/systems nearing end life or are left without support from OEM. Thereafter CISO shall identify equipment/systems to be phased out from the list drawn, firm up their replacement plan and put up the replacement plan for approval before the Board of Directors.
c) The CISO shall ensure that till equipments/systems nearing end life or left without support from OEM are not replaced, their cyber security is hardened and ensured through additional controls provisioned in consultation with the OEM or alternate Supplier(s)*.
*e.g. Use of CDAC developed AppSamvid and whitelisting of applications installed may be explored across all legacy systems.
d) The Responsible Entity shall document in their Cyber Security Policy a Standard Operating Procedure for safe and secure disposal of outlived or legacy systems.

Article 8. Cyber Security Training.

a) The Responsible Entity shall establish, document, implement, and maintain an annual cyber security training program for personnel having authorized cyber or authorized physical access (unescorted or escorted) to their Critical Systems.
b) The Responsible Entity shall review annually their cyber security training program and shall update it whenever necessary. Annual Review shall record evaluation of the effectiveness of the trainings held.
c) The Responsible Entity shall ensure that Cyber Security training program designed for their IT as well as OT O&M Personnel must include following topics and as per their functional requirements and security concerns additional topics shall be added:
   1) User authentication and authorization.
   2) Cyber Security and Protection mechanisms of IT/OT/ICS Systems.
   3) Introduction to various standards i.e. ISO/IEC:15408, ISO/IEC:24748-1, ISO: 27001, ISO: 27002, ISO 27019, IS 16335, IEC/ISO:62443.
   4) Training on implementation of ISO/IEC 27001 and awareness on IEC 62443.
   5) Vulnerability Assessment in the Critical System.
   6) Monitoring and preserving of electronic logs of access of Critical Assets.
   7) Detecting cyber-attacks on SCADA and ICS systems
   8) The handling of Critical System during cyber crisis.
   9) Action plans and procedures to recover or re-establish normal functioning of Critical Assets and access thereto following a Cyber Security Incident.
   10) Hands on SCADA operation at any of the Regional Load Dispatch Centre.
   11) Handling of risks involved in the procurement of COTS Products.

d) All Personnel engaged in O&M of IT & OT Systems shall mandatorily undergo courses on cyber security of Power Sector from any of the training institute designated by CEA, immediately within 90 days from the notification of CEA Guidelines on Cyber Security in Power Sector.
e) The Responsible Entity shall ensure that none of their newly hired or the current Personnel have access to the Critical System, prior to the satisfactory completion of cyber security training programme from the Training Institutes designated in India, except in specified circumstances such as cyber crisis or an emergency.
f) NPTI in consultation with CEA shall identify and design domain specific courses on Cyber Security for different target groups. The "Governing Board for PSO Training and Certification" shall approve the content, duration etc of these courses and shall review it Annually. NPTI shall conduct these courses at all of their branches on regular basis and shall maintain the list of the Participants successfully completing the course.

Article 9 Cyber Supply Chain Risk Management

a) The Responsible Entity shall ensure that, as and when Ministry of Power, Government of India notifies the Model Contractual Clauses on cyber security, these clauses are included in their every Bid invited for procurement of any ICT based components/equipments/System to be used for Power System.
b) The Responsible Entity shall ensure that all the Communicable Intelligent Equipments and the Service Level Agreements (SLAs) for their Critical Systems shall be sourced from the list of the "Trusted Sources" as and when drawn by MoP/CEA.

c) The Responsible Entity shall ensure that, in case, for the any Communicable Intelligent Devices, if no Trusted Source has been identified, then the successful bidder in compliance with the provisions made in MoP order dated 2.7.2020 and any other relevant MoP order has got the product cyber tested for any kind of embedded malware/Trojan/cyber threat and for adherence to Indian Standards at the designated lab.

d) The Responsible Entity shall ensure that the essential cyber security tests are carried out successfully during FAT, SAT as detailed in **Annexure A.** The equipment/System besides for functionality shall also be tested in the factory for vulnerabilities, design flaws, parts being counterfeit or tainted, so as to minimize problems during on-site-testing and installation. Cyber Security Conformance Testing are to be carried out in the designated Lab as listed in **Annexure-I of MoP Order No. 12/13/2020-T&R dt. 8th June, 2021(Order at Annexure-B).**

e) The Responsible Entity shall ensure that the Equipment/System supplied by the successful bidder shall accompany with a certificate[$, #] obtained by OEM from a certification body accredited to assess devices and process for conformances to IEC 62443-4 standards during design and manufacture. The Responsible Entity shall accept the certificate submitted along with the supplied Equipment/System only if it's in line with the Testing Protocol as notified by Ministry of Power, Government of India, from time to time.

f) The Responsible Entity in compliance to the requirement of Article 9(e) shall also accept, till the setting up of an adequate certification facility in the India, a digitally signed self-declaration of conformance to the IEC 62443-4 standards during design and manufacture of the equipment/system, if submitted by the OEM.

g) The Responsible Entity shall dispose all unserviceable or obsolete Communicable Intelligent Devices as per the procedure laid in their Cyber Risk Assessment and Mitigation Plans which shall be in line with the prevailing best practices.

$ The National & International certification may be specified in the tender for critical systems/sub-systems being procured by the Responsible Entity.

Certification Schemes:
Embedded Device Security Assurance Certification is for an individual product,
System Security Assurance Certification is for a set of products in a system (possibly from different vendors)
Security Development Lifecycle Assurance Certification is for the development processes that a manufacturer uses for developing products.

Article 10 Cyber Security Incident Report and Response Plan

a) The CISO of the Responsible Entity shall report in the formats prescribed by CERT-In, all Cyber Security Incidents, classified as reportable events.

b) Root cause analysis for all reportable events shall be carried out and corrective action taken, so as to ensure that any re-occurrence of such event can be managed with ease.

c) The Responsible Entity shall mandatorily define in their Cyber Security Policy, criteria(s) identified on the basis of impact analysis, for declaring the occurrence of

Cyber Security Incident(s) as a Cyber Crisis in the System owned or controlled by them.

d) The Responsible Entity shall mandatorily designate an Officer along with his/her standby by name and designation and empower them to declare an occurrence of the incident(s) as "Cyber Crisis". The contact details of these Officers shall be updated in the C-CMP within 15 days of changes if any due to transfer or superannuation etc.
e) The CISO shall ensure that during any Cyber Security Incident, ISD monitors and minutely records every details of cyber security events and incidents in both IT as well as the OT System owned or controlled by the Responsible Entity.
f) The CISO shall ensure that each cyber incident is handled strictly as per Cyber Security Incident Response Plan detailed in the latest C-CMP approved by the Board of Directors.
g) The Responsible Entity shall ensure that the efficacy of the Cyber Security Incident Response Plan is tested annually through mock drill(s) carried out, if feasible, as simulation exercise(s) or as table top exercise(s) with wider participation of their employees, in consultation with CERT-In and sectoral CERT. In case if any shortcoming is observed in the Cyber Security Incident Response Plan suitable changes shall be made in it.
h) The Responsible Entity shall ensure that the CISO compiles details of incident detection, incident handling, learnings from each incident and damage claims made if any and shall report to CERT-In as well as upload information on ISAC-Power Portal.

Article 11 Cyber Crisis Management Plan(C-CMP)

a) The Responsible Entity shall prepare a Cyber Crisis Management Plan and submit to their sectoral-CERT for review with intimation to Ministry of Power/CISO-MoP. Responsible Entity shall update their C-CMP on the basis of comments made by sectoral-CERT and then submit for vetting to CERT-In. The C-CMP shall be updated once again to include the observations made by CERT-In before seeking approval of Board of Directors for implementation of C-CMP.
b) The Responsible Entity shall ensure that the C-CMP is reviewed at least annually. The CISO shall ensure that all changes are made in C-CMP only with the due approval of Board of Directors and the changes made in C-CMP have been communicated through a verifiable means to all the concerned Personnel of the Responsible Entity.
c) The CISOs shall be the custodian of all the cyber security related documents including Cyber Crisis Management Plan, Risk Treatment Plan, Statement of Applicability of controls, and compliance to regulator's requirement.
d) The CISO shall be accountable for ensuring enforcement of C-CMP by Information Security Division of the Responsible Entity, during a cyber-crisis, as and when declared by the designated Officer. (refer Article 10(d))

Article 12: Sabotage Reporting%

a) The Responsible Entity shall incorporate procedure for identifying and reporting of sabotage in their Cyber Security Policy within 30 days from issue of the Guidelines, or grant of licence under the appropriate legal provisions to the Responsible Entity.
b) The CISO shall be held liable for non-reporting of identified sabotage(s) as per procedure laid for identifying and reporting of sabotage in the Cyber Security Policy of the Responsible Entity.

c) The CISO shall prepare a detailed report on disturbances or unusual occurrences, identified, suspected or determined to be caused by sabotage in the Critical System of the Responsible Entity, and shall submit the report to the Sectoral CERT as well as to CERT-In within 24 hours of its occurrence.
d) The CISO shall submit to NCIIPC within 24 hours of occurrence the report on every sabotage classified as cyber incidents(s) on "Protected System".
e) The CISO upon occurrence on every sabotage shall take custody of all log records as well as digital forensic records of affected Cyber Assets, Intrusion Detection System, Intrusion Protection System, SIEM and shall preserve them for at least 90 days and shall make them available as and when called upon for investigation by the concerned Agencies.

%Disturbances or unusual occurrences, suspected or determined to be caused by sabotage.
Sabotage e.g. can be a forced intrusion in un-manned/manned facility and taking control of operation of Critical System through a communicating device.

Article 13 Security and Testing of Cyber Assets

a) The Responsible Entity shall ensure security of all in-service phase as well as standby Cyber Assets through regular firmware/Software updates and patching, Vulnerability management, Penetration testing (of combined installations), securing configuration, supplementing security controls. CISO shall maintain details of update version of each firmware and software and their certification if received from OEMs.
b) The Responsible Entity shall carry out regularly Vulnerability Assessment of all Cyber Assets owned or under their control. If a Cyber Asset is found vulnerable to any exploits or upon any patch updates or major configuration changes, then further Penetration Testing may be carried out offline or in a suitably configured laboratory test-bed to determine other vulnerabilities that may have not been identified so far.
c) The Responsible Entity shall specify security requirement and evaluation criteria during each phase of their procurement Process.
d) The Responsible Entity shall ensure that all Cyber Assets being procured shall conform to the type tests as mentioned in the specification for type testing listed in the bid document. Type test reports of tests conducted in NABL accredited Labs or internationally accredited labs (with in last 5 years from the date of bid opening) shall be mandated to be submitted along with bid. In case, the submitted Type Test reports are not as per specification, the re-tests shall be conducted without any cost implication to the Responsible Entity.
e) The Responsible Entity shall ensure that all Communicable devices are tested for communication protocol as per the ISO/IEC/IS standards listed in **MoP Order No. 12/13/2020-T&R dated 8th June, 2021(Annexure-B).**
f) The Responsible Entity shall ensure that all Critical Systems designed with Open Source Software are adequately cyber secured.
g) The Responsible Entity as a best practise upon any incidence of Cyber Security Breach shall carry out cyber security tests at any lab designated for cyber testing by Ministry of Power. These tests shall be similar to Pre Commissioning Security Test and those essential for carrying out Post Incident Forensics Analysis.

Article 14 Cyber Security Audit

a) The Responsible Entity shall implement Information Security Management System (ISMS) covering all its Critical Systems.
b) The Responsible Entity shall through a CERT-In Empanelled Cyber Security OT Auditor shall get their IT as well as OT System audited at least once in every 6 (six) months and shall close all critical and high vulnerabilities within a period of one month and medium as well as low non-conformity before the next audit. Effective closure of all non-conformities shall be verified during the next audit.
c) The Cyber Security Audit shall be as per ISO/IEC 27001 along with sector specific standard ISO/IEC 27019, IS 16335 and other guidelines issued by appropriate Authority if any. These mentioned standards shall be current with all amendments if any and in case if any standard is superseded, the new standard shall be applicable. CISO shall ensure immediate closure of non-conformance, based on the criticality and by means all non-conformances are to be closed before the next audit.
d) The Responsible Entity shall ensure that CISO has all the required systems and documents in place, as mandated by NSCS for base line cyber security audit.

FAT & SAT

1. During FAT stage, the customer has to verify all types test reports / certificates including Communication protocol and security conformance tests of the devices offered for FAT.
2. FAT of SCADA involves testing as a whole system in the integrated scale down set up. For SCADA, Indian standard IS 15953: 2011 "SCADA System for Power System Applications" provides definition and guidelines for the specification, performance analysis and application of SCADA systems for use in electrical utilities (for transmission & Distribution) including guidance on Tests and inspections.
3. The SAT will be done at customer site as per the SAT document mutually agreed by buyer and supplier. For SAT also, guidance from IS 15953: 2011need to be applied.
4. IEC 61850-10-3 Communication Networks and Systems For Power Utility Automation-Functional testing of IEC 61850 systems (in draft stage - CDTR) covers testing of applications within substations covering

    a. A methodical approach to the verification and validation of a substation solution
    b. The use of IEC 61850 resources for testing in Edition 2.1
    c. Recommended testing practices for different use cases
    d. Definition of the process for testing of IEC 61850 based devices and systems using communications instead of hard wired system interfaces (ex. GOOSE and SV instead of hardwired interfaces)
    e. Use cases related to protection and control functions verification and testing.

    This standard may be used as a guidelines for FAT & SAT for Substation Automation System (SAS) based on IEC 61850.

Annexure - B

Annexure – 1

List of designated laboratories for cyber security conformance testing

Table -A. Field Equipment /Operational Technology (OT)

Sl. No.	Equipment	Communication Protocol Conformance Standards	Protocol Security Conformance Standards	Designated Laboratories
1	Remote Terminal Units (RTUs) & PLCs with IEC communications protocols	IEC 60870-5 -101 / IEC 60870-5 -104 (Test Details Annexure 2)	IEC 60870-5- 7 Security extension & IEC 62351 series (specifically IEC 62351-100 parts 1 & 3) (Test Details Annexure-2	Central Power Research Institute (CPRI), Prof Sir C V Raman Road, Sadashivanagar P O, Bengaluru – 560080, Karnataka
2	Intelligent Electronic Equipment / Numerical Protection Relays / Bay Control Units / Bay Protection Units, Gateways, Transformer Tap controller/ changer, etc. with IEC 61850 communication protocol	IEC 61850 – 5 to IEC 61850 – 10 (Test Details Annexure 2)		CPRI
3	Smart meters with IEC 62056 communication protocols	IEC 62056 series / DLMS & IS 15959 series and IS 16444 series (Test details Annexure 2)	IEC 62056 series / DLMS & IS 15959 series and IS 16444 series (Test Details Annexure 2)	1. CPRI 2. Electrical Research and Development Association (ERDA), ERDA Road, GIDC, Makarpura, Vadodara - 390 010 Gujarat 3. Yadav Measurements Pvt. Ltd. (YMPL) 373-375, RIICO Bhamashah Industrial Area Kaladwas 313003 Udaipur – Rajasthan

Information Technology (IT) Equipment (Main / Backup / Disaster recovery (DR) Control Centre / Substation control centre IT equipment)

All IT products procured /supplied shall have a valid Certificate of Common Criteria as per ISO/IEC 15408 issued by signatories of the Common Criteria Recognition Agreement (CCRA) (www.commoncriteriaportal.org).

Import/procurement/supplied from vendors sourcing from prior reference countries, the Certificate for Common Criteria shall be from Government Laboratories in India according to the IC3S scheme operated by Ministry of Electronics and Information Technology, which is a signatory to CCRA.

https://www.commoncriteria-india.gov.in/

Annexure - 2

Details of tests for various identified products

Remote Terminal Units (RTUs) (Sl. No. 1 of Table – A of Annexure – 1)

Test protocol:

Utilities / manufacturers will submit the sample along with all the required technical documentation for taking up testing to the designated laboratory.

Reference standards

1) IEC 60870-5-101 & IEC 60870-5-104 as applicable

2) IEC 60870-5-7 Telecontrol equipment and systems - Part 5-7: Transmission protocols - Security extensions to IEC 60870-5-101 and IEC 60870-5-104 protocols (applying IEC 62351)

3) IEC 62351-100-1 & IEC 62351-100-3 and other cross referenced standards.

Test cases

Extract from standard (IEC 62351-100-1)

The conformance test cases are divided into four clauses:

- Clause 5: Verification of configuration parameters. This clause contains the configuration parameters affecting the message contents and/or the protocol behaviour.
- Clause 6: Verification of communication. The goal of this clause is to verify that Device Under Test (DUT) is able to implement the security extension messages as described in IEC TS 60870-5-7.
- Clause 7: Verification of procedures. The goal of this clause is to verify that DUT is able to execute the security extension procedures as described in IEC TS 62351-5.
- Clause 8: Test result chart. This clause contains the results of the test cases listed in Clauses 6 and 7 for each supported value of the configuration parameters listed in Clause 5.

The test cases are organized in tables. They are numbered; their numbering syntax is: Subclause number (where the Table is located) + test case number.

In the column ‘reference’ each test case has a direct reference to IEC TS 62351-5 or IEC TS 60870-5-7 where the clause under test is defined.

Test cases are mandatory depending on the description in the column ‘Required’. The following situations are possible:

M= Mandatory test case. The test is referencing a clause that is mandatory in IEC TS 62351-5 or IEC TS 60870-5-7.

Protocol Information Conformance Statement (PICS) x, x = Mandatory test case if the functionality is enabled in the PICS (by marking the applicable check box), with a reference to the section number of the PICS (x.x).

Conformance testing of security extension procedures

The security extension procedures can be summarized as follows:

- User management
- Update key maintenance
- Session key maintenance
- Challenge/Reply authentication
- Aggressive Mode authentication

Extract from standard (IEC 62351-100-3)

IEC 62351-3 defines the requirements related to the authentication/encryption protocol, procedures and methods to be implemented at TCP/IP (transport) level.

The conformance test cases are divided into three clauses:

- Clause 5: Verification of configuration parameters. This clause contains the parameters specified by the standards referencing IEC 62351-3 (see IEC 62351-3:2014/AMD1:2018, Clause 7) and affecting the protocol behaviour.
- Clause 6: Verification of IEC 62351-3 requirements. The goal of this clause is to verify that DUT is conformant to the requirements of the IEC 62351-3.
- Clause 7: Test result chart. This clause contains the results of the test cases listed in Clause 6 for each supported value of the configuration parameters listed in Clause 5.

The test cases are organized in tables. They are numbered, their numbering syntax is: Subclause number (where the table is located) + test case number.

In the column ‘Reference’ each test case has a direct reference to IEC 62351-3 where the clause under test is defined. PICS or Protocol Implementation eXtra Information for Testing (PIXIT) could be found in the “Reference” column for some test cases whenever the execution of the test case shall take into account specific parameter values declared in the PICS or PIXIT of the DUT.

Test cases are mandatory depending on the description in the column ‘Required’. The following situations are possible:

M = Mandatory test case. The test is referencing to a clause that is mandatory in IEC 62351-3.

PICS

or

PIXIT = Mandatory test case if the functionality is enabled in the PICS or PIXIT by marking the applicable check box or declaring the applicable value.

Intelligent Electronic Devices (IEDs) (Sl. No. 2 of Table – A of Annexure – 1)

Utilities / manufacturers will submit the sample along with all the required technical documentation for taking up testing to the designated laboratory.

Reference standards

IEC 61850 series

Specifically IEC 61850-5, IEC 61850-6, IEC 61850-7, IEC 61850-8, IEC 61850-9 and IEC 61850-10

Test cases

Communication protocol conformance as per IEC 61850 -10. This part of standard defines methods and abstract test cases for conformance testing of client, server and sampled values devices used in power utility automation systems, the methods and abstract test cases for conformance testing of engineering tools used in power utility automation systems, and the metrics to be measured within devices according to the requirements defined in IEC 61850-5. Further this part of standard specifies standard techniques for testing of conformance of client, server and sampled value devices and engineering tools, as well as specific measurement techniques to be applied when declaring performance parameters. The use of these techniques will enhance the ability of the system integrator to integrate IEDs easily, operate IEDs correctly, and support the applications as intended.

Smart Meters (Sl. No. 3 of Table – A of Annexure – 1)

Utilities / manufacturers will submit the sample along with all the required technical documentation for taking up testing to the designated laboratory.

IEC 62056 series of standards (Electricity metering data exchange – The DLMS/COSEM suite) specifies details of communication protocol requirements, conformance testing and security requirements. The Part 5-3 (DLMS/COSEM application layer) specifies the DLMS/COSEM application layer in terms of structure, services and protocols for DLMS/COSEM clients and servers, and defines rules to specify the DLMS/COSEM communication profiles. It defines services for establishing and releasing application associations, and data communication services for accessing the methods and attributes of COSEM interface objects, defined in IEC 62056-6-2 using either logical name (LN) or short name (SN) referencing.

Clause 5 and sub clauses specifies security requirements. It cover security concepts, Identification and authentication, Cryptographic algorithms, Cryptographic keys – overview, Key used with symmetric key algorithms, Keys used with public key algorithms and Applying cryptographic protection.

Note: All above referred standards shall be latest with amendments if any at the time of submission of sample(s) for testing.

Annexure – 3

Testing Criteria

1) Supply from Trusted Sources

The sample size shall be as specified by CEA as per the approved criteria for Trusted Vendors

2) Supply from other than trusted vendors

The sample size shall be shall be 5% of the supply lot / ordered quantity (minimum one). The manufacturer shall submit request to the Nodal agency along with vendor's / manufacturer's certifications for supply chain management system practices and secure product development process implementations based on any one or more of standards ISO / IEC 27036, ISO / IEC 20243, IEC 62443 for verification.

After scrutiny of vendor's / manufacturer's certifications the supplier / utilities shall be asked to submit product to the designated laboratory for communication and cyber security conformance testing.

The supply lot shall stand rejected on failure to comply with the test requirements.

3) Supply from prior reference countries

The utility shall obtain prior permission from the Government of India for importing the product / system from prior reference countries.

The sample size shall be shall be 10 % of the supply lot / ordered quantity (minimum one). The manufacturer shall submit request to the Nodal agency along with vendor's / manufacturer's certifications for supply chain management system practices and secure product development process implementations based on any one or more of standards ISO / IEC 27036, ISO / IEC 20243, IEC 62443 for verification.

After scrutiny of vendor's / manufacturer's certifications the supplier / utilities shall be asked to submit product to the designated Government / Government controlled Autonomous laboratory for type tests (Annexure – 4) and communication & cyber security conformance testing.

The supply lot shall stand rejected on failure to comply with the test requirements.

Type Tests

Products imported from prior reference countries shall also undergo type testing as per following standards in addition to communication protocol and security conformance testing at the designated Government / Government controlled Autonomous laboratory:

Type test standards for RTUs

1. IEC 60870-1-2:1989 Telecontrol equipment and systems. Part 1: General considerations. Section Two: Guide for specifications.
2. IEC 60870-2-1:1995 Telecontrol equipment and systems - Part 2: Operating conditions - Section 1: Power supply and electromagnetic compatibility.
3. EC 60870-2-2:1996 Telecontrol equipment and systems - Part 2: Operating conditions -Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences).
4. IEC 60870-3:1989 Telecontrol equipment and systems. Part 3: Interfaces (electrical characteristics)

Type test standard for IEDs / Numerical Protection Relays / Bay controls units

1. IEC 61850-3: 2013, Ed. 2 Communication networks and systems for power utility automation – Part 3: General requirements.

Type test standards for Smart meters

1. IS 16444: 2015 AC static direct connected watthour smart meter class 1 and 2 – Specification.
2. IS 16444 Part 2: 2017 AC static transformer operated watthour and var - Hour smart meters, class 0.2 S, 0.5 S and 1.0 S: Part 2 specification transformer operated smart meters.

Note:

1. All above referred standards shall be latest with amendments if any at the time of submission of sample(s) for testing.
2. Type tests generally covers functionality, environmental, mechanical, EMI/ EMC and electrical safety related tests.