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 **Korba Super Thermal Power Station Stage-I&II (2100 MW) for the period from 01.04.2024 to 31.03.2029**.

INDEX

Summary of Issues: Determination of Tariff of Korba Super Thermal Power Station Stage-I&II (2100 MW) for the period 2024-29

(In compliance with CERC notice dated 07.06.2024)

The major highlights of the Tariff Petition for Korba Super Thermal Power Station Stage-I&II (2100 MW) for determination of tariff for the period 2024-29 are as follows:

1. The present petition is being 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 determination of tariff of Korba Super Thermal Power Station Stage-I&II(2100 MW) (hereinafter referred as "Korba-I&II") for the 2024-29 based on projected expenditures for the said period.
2. Korba-I&II is located at district Korba of Chhattisgarh. The dates of commercial operation (COD) of the different units of the generating station are as under:

Unit	Capacity (MW)	COD
Unit-I	200	1.8.1983
Unit-II	200	1.1.1984
Unit-III	200	1.6.1984
Unit-IV	500	1.3.1988
Unit-V	500	1.4.1989
Unit-VI	500	1.6.1990

3. The power generated from Korba-I&II is being supplied to various discoms as per MoP allocation and respective PPAs including Madhya Pradesh Power Management Company Limited, Maharashtra State Electricity Distribution Company, Gujarat Urja Vikas Nigam Limited, Chhattisgarh State Power Distribution Co. Ltd., Electricity Department - Government of Goa, Dadra and

Nagar haveli and Daman and Diu Power Distribution Corporation Limited (DNHDDPDCL).

4. The tariff for Korba-I&II for the period 2019-24 was determined by the Hon'ble Commission vide order dated 21.04.2022 in Petition No. 486/GT/2020. Subsequently, the petitioner has filed a separate true up petition for the 2019-24 period for revision of tariff in line with the applicable provisions of Tariff Regulations 2019. Accordingly, the opening capital cost as on 01.04.2024 has been considered the same as closing capital cost as on 31.03.2024 as per the said true-up petition, i.e. Rs 1935.23 Cr.
5. The tariff of Korba-I&II for the tariff period 2024-29 based on projected expenditures for the period 2024-29 is annexed with the petition as per provisions of Regulation 10 of CERC Tariff Regulations 2024.
6. The projected additional capital expenditures on cash basis for FY 24-25, FY 25-26, FY 26-27, FY 27-28 and FY 28-29 are Rs 120.16 Cr, Rs 108.55 Cr, Rs 155.42 Cr, Rs 0.00 Cr and Rs 0.00 Cr respectively amounting to total of Rs 384.13 Cr for the period 2024-29. The same has been depicted year wise in Form 9 of the Appendix-I along with applicable regulations and justification for the claims. Supporting documents wherever applicable have also been annexed in the Petition. It is humbly requested to approve the projected Additional Capital expenditure during the 2024-29 period.
7. The Petitioner has also provided the estimated water charges, security expenses and ash transportation expenses in Form-3A of Appendix-I. The Hon'ble Commission may be pleased to allow the same subject to retrospective adjustment based on actuals at the time of truing up. Further, to avoid the interest payment liability of the beneficiaries, it is prayed that the petitioner may be allowed to recover/ pass on the ash transportation charges on a monthly basis subject to true-up at the end of the 2024-29 period.

In the light of above submissions and as per the Petition being filed by the Petitioner for determination of tariff of Korba Super Thermal Power Station Stage-I&II (2100 MW), the Hon'ble Commission may please determine the tariff for the period 2024-29 as per provisions of Tariff Regulations 2024.

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

PETITION NO……

IN THE MATTER OF	:	Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-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 **Korba Super Thermal Power Station Stage-I&II (2100 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.**	Madhya Pradesh Power Management Company Ltd.(MPPMCL) Shakti Bhawan, Vidyut Nagar, Jabalpur 482 008
	2.	Maharashtra State Electricity Distribution Co Ltd. (MSEDCL) Prakashgad, Bandra (East), Mumbai 400 051
	3.	Gujarat Urja Vikas Nigam Ltd.(GUVNL) Vidyut Bhavan, Race Course Vadodara – 390 007
	4.	Chhattisgarh State Power Distribution Co. Ltd (CSPDCL) P.O. Sundar Nagar, Danganiya, Raipur – 492013

5 Electricity Department
Government of Goa
Vidyut Bhawan, Panaji, Goa

6 Dadra And Nagar Haveli and Daman and
Diu Power Distribution Corporation Limited
(DNHDDPDCL);
1st & 2nd Floor, Vidyut Bhavan, Silvassa-
396230, DNH, India

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. **Korba Super Thermal Power Station Stage-I&II (2100 MW)** (hereinafter referred to as Korba-I&II is one such station located in the State of Chhattisgarh. The power generated from Korba-I&II 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 Korba-I&II for the period from 01.04.2024 to 31.03.2029 as per the Tariff Regulations 2024.

6) The tariff of the Korba-I&II for the tariff period 1.4.2019 to 31.3.2024 was determined by the Hon'ble Commission vide its order dated 21.04.2022 in Petition No.486/GT/2020 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2019. The petitioner vide affidavit dated 18.11.2024 has 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 21.04.2022 in Petition no 486/GT/2020 has allowed a capital cost of Rs 1650.79 Cr 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 foresaid true-up petition as Rs 1935.23 Cr based on the actual expenditure after truing up exercise for the period 2019-24. Accordingly, the Petitioner has adjusted an amount of Rs 284.44 Cr to 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 1935.23 Cr in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2024 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, Regulation 26 and Regulation 102 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 expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water allocation, rate of water charges as applicable for 2023-24 have been furnished below. Further, water charges for 2024-29 period have been claimed on projection basis based on pertinent factors such as annual allocation, rate of water charges, etc. and the same may be allowed in the tariff for the 2024-29 period subject to retrospective adjustment at the time of truing-up based on actual water charges paid.

Description	**Remarks**
Type of Plant	Coal based Thermal Power Plant
Type of cooling water system	Closed Circuit Cooling System
Allocation of Water (for Korba STPS (2600 MW))*	93 Million Cubic Meter (MCM)
Rate of Water charges (Rs/cubic meter)	12.25
Total Water Charges for Korba STPS all stages (2600 MW)	Rs 10170.83 lakh

(For FY 2023-24 as per truing-up petition filed for the instant Station)*

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 beneficiaries on account of the interest payment for the period till the time the tariff petition 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 ash 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 consumption, 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 filing the details of the same in terms of the Regulation 29 of Tariff Regulations 2024.

14) 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.

15) The Petitioner humbly submits that the pay/wage revision for the employees of the Petitioner will be due w.e.f. 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 craves liberty to 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 expenses.

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) It is submitted that the Petitioner has already paid the requisite filing fee vide Transaction Id 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 communication 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 recover filing fee and publication fee directly from the beneficiaries.

23) It is submitted that the Petitioner has uploaded the copy of the Petition at CERC site (Saudamini), the access of which is available to all the Respondents mentioned herein above and therefore the petition stands served to all the respondents. Further, the petitioner has also posted the Petition on the company website i.e. www.ntpc.co.in.

24) In accordance with the 'Conduct of Business Regulations 2023' of the Hon'ble Commission, the Petitioner shall 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 along with the prayer for recovery of Publication Expenses as per Regulation-94 of CERC Tariff Regulations 2024.

25) 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 31.03.2024 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 Korba-I&II 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 reimbursement of Ash Utilization Charges directly from the beneficiaries on monthly basis, subject to true up.

iv) Allow the recovery of pay/wage revision as additional O&M over and above the normative O&M.

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

Petitioner

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 Korba Super Thermal Power Station Stage-I&II (2100 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:		Madhya Pradesh Power Management Company Limited, Shakti Bhawan, Vidyut Nagar, Jabalpur 482 008 **and Others**

AFFIDAVIT

I, Sameer Kumar Aggarwal, Son of Late Shri B K Aggarwal, aged about 51 years, working as Additional General Manager (Commercial) in the office of NTPC Limited, having its registered office at NTPC Bhawan, Scope Complex, Core-7, Lodhi Road, New Delhi-110003 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.

Sk Aggarwal

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

3. That the contents as mentioned in the Petition are true and correct based on the 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)

समीर अग्रवाल/SAMEER AGGARWAL
अपर महाप्रबंधक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201 301 (U.P.)

Verification:

Verified at Noida on this ..... 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)

समीर अग्रवाल/SAMEER AGGARWAL
अपर महाप्रबंधक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201 301 (U.P.)

NOTARY YOGENDRA SINGH G.B. NAGAR GOVT. OF INDIA

ATTESTED
YOGENDRA SINGH
NOTARY NOIDA
G B NAGAR (U.P.) INDIA
12 8 NOV 2024

APPENDIX-I

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Korba-I&II STPS (3x200 MW + 3x500 MW)

(From 01.04.2024 TO 31.03.2029)

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

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM- 4	Details of Foreign loans	**NA**
FORM- 4A	Details of Foreign Equity	**NA**
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM- 6	Financial Package upto COD	**NA**
FORM- 7	Details of Project Specific Loans	**NA**
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	**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- 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**

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	✓
FORM- O(i)**	Computation of Energy Charges	✓
FORM-O	Calculation of Interest on Working Capital	✓
FORM-P	Incidental Expenditure up to SCOD and up to Actual COD	**NA**
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	**NA**
FORM-R	Actual cash expenditure	**NA**
FORM-S^	Statement of Liability flow	**NA**
FORM-T	Summary of issues involved in the petition	✓

**** Additional Forms**

Provided yearwise for the period 2024-29

^ Shall be provided at truing-up

List of supporting documents for tariff filing for Thermal Stations

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

*** Shall be submitted at the time of truing up

PART-I
FORM- 1

Summary of Tariff

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Korba-I&II**
Place (Region/District/State):	**Western Region/ Korba/ Chhattisgarh**

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	4,079.85	7,857.87	10,291.95	11,878.65	6,993.90	-
1.2	Interest on Loan	Rs Lakh	0.00	21.34	21.28	-	-	-
1.3	Return on Equity	Rs Lakh	10,371.11	10,978.34	11,483.44	12,066.40	12,409.64	12,409.64
1.4	Interest on Working Capital	Rs Lakh	10,162.67	12,497.34	12,267.27	12,762.26	12,238.51	12,362.54
1.5	O&M Expenses	Rs Lakh	98,859.16	130072.00	124496.00	133924.00	124758.00	129282.00
1.6	Special Allowance	Rs Lakh	19,950.00	22,575.00	22,575.00	22,575.00	22,575.00	22,575.00
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh						
	Total	Rs Lakh	**143422.79**	**184001.89**	**181134.94**	**193206.31**	**178975.05**	**176629.18**
2.1	Landed Fuel Cost (coal)	Rs/Ton	1,944.78	1,916.01	1,916.01	1,916.01	1,916.01	1,916.01
	(%) of Fuel Quantity	(%)	Details as per Form-15					
2.2	Landed Fuel Cost Imported Coal	Rs/Ton						
	(%) 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.	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.5	Secondary fuel oil cost	Rs/KL	31388.859	86259.274	86259.274	86259.274	86259.274	86259.274
2.6	Energy Charge Rate ex-bus (Rs/kWh)	Rs/Unit	1.472	1.443	1.443	1.443	1.443	1.443

(Petitioner)

PART-I
FORM- 1(I)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Korba-I&II**

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	193523.30	205539.30	216394.30	231936.30	231936.30
2	Add: Addition during the year/period	12016.00	10855.00	15542.00	0.00	0.00
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	205539.30	216394.30	231936.30	231936.30	231936.30
7	**Average Capital Cost**	**199531.30**	**210966.80**	**224165.30**	**231936.30**	**231936.30**

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	177814.33	177814.33	177814.33	177814.33	177814.33
2	Add: Addition during the year / period	0.00	0.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
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	177814.33	177814.33	177814.33	177814.33	177814.33
7	**Average Capital Cost**	**177814.33**	**177814.33**	**177814.33**	**177814.33**	**177814.33**

Statement showing claimed capital cost eligible for RoE at SBI MCLR plus 350 BP (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	15708.97	27724.97	38579.97	54121.97	54121.97
2	Add: Addition during the year / period	12016.00	10855.00	15542.00	0.00	0.00
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	27724.97	38579.97	54121.97	54121.97	54121.97
7	**Average Capital Cost**	**21716.97**	**33152.47**	**46350.97**	**54121.97**	**54121.97**

(Petitioner)

PART-I

FORM- 1(IIA)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Korba-I&II**

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 (@ Normal Rate)					
1	Gross Opening Equity (Normal)	84,162.97	84,162.97	84,162.97	84,162.97	84162.9703
2	Less: Adjustment in Opening Equity	30,818.67	30,818.67	30,818.67	30,818.67	30,818.67
3	Adjustment during the year		-	-	-	-
4	Net Opening Equity (Normal)	53,344.30	53,344.30	53,344.30	53,344.30	53,344.30
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
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)	53,344.30	53,344.30	53,344.30	53,344.30	53,344.30
11	Average Equity (Normal)	53,344.30	53,344.30	53,344.30	53,344.30	53,344.30
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	**10,019.13**	**10,019.13**	**10,019.13**	**10,019.13**	**10,019.13**

(Petitioner)

PART-I
FORM- 1(IIB)

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Korba-I&II**

Statement showing Return on Equity at SBI MCLR plus 350 BP

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 (@ SBI MCLR plus 350 BP)					
1	Gross Opening Equity	4712.69	8317.49	11573.99	16236.59	16236.59
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	4712.69	8317.49	11573.99	16236.59	16236.59
5	Add: Increase in equity due to addition during the year / period	3604.80	3256.50	4662.60	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
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	8317.49	11573.99	16236.59	16236.59	16236.59
11	Average Equity	6515.09	9945.74	13905.29	16236.59	16236.59
12	Rate of ROE - post tax (%)	12.15	12.15	12.15	12.15	12.15
13	Rate of ROE - pre tax (%)	14.723	14.723	14.723	14.723	14.723
14	Total ROE	**959.22**	**1464.31**	**2047.28**	**2390.51**	**2390.51**

(Petitioner)

Plant Characteristics

Name of the Petitioner	**NTPC Ltd.**
Name of the Generating Station	**Korba STPS Stage-I&II**

Unit(s)/Block(s)/Parameters	**Unit-1**	**Unit-2**	**Unit-3**	**Unit-4**	**Unit-5**	**Unit-6**
Installed Capacity (MW)	200	200	200	500	500	500
Schedule COD as per Investment Approval						
Actual COD /Date of Taken Over (as applicable)	1-Aug-83	1-Jan-84	1-Jun-84	1-Mar-88	1-Apr-89	1-Jun-90
Pit Head or Non Pit Head or Integrated Mine	Pit Head	Pit Head	Pit Head	Pit Head	Pit Head	Pit Head
Name of the Boiler Manufacture	BHEL	BHEL	BHEL	BHEL	BHEL	BHEL
Name of Turbine Generator Manufacture	KWU	KWU	KWU	KWU	KWU	KWU
Main Steams Pressure at Turbine inlet (kg/Cm^2) abs[1].	NA					
Main Steam Temperature at Turbine inlet (^{o}C) [1]						
Reheat Steam Pressure at Turbine inlet (kg/Cm$^{2)}$ [1]						
Reheat Steam Temperature at Turbine inlet (^{o}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						
% MCR						
% Makeup Water Consumption						
Design Capacity of Make up Water System						
Design Capacity of Inlet Cooling System						
Design Cooling Water Temperature (^{0}C)						
Back Pressure						
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 / Guaranteed Boiler Efficiency (%)[4]						
Design Fuel with and without Blending of domestic/imported coal						
Type of Cooling Tower	COUNTER	COUNTER	COUNTER	COUNTER	COUNTER	COUNTER
Type of cooling system[5]	CLOSED/ INDUCED	CLOSED/ INDUCED	CLOSED/ INDUCED	CLOSED/ INDUCED	CLOSED/ INDUCED	CLOSED/ INDUCED
Type of Boiler Feed Pump[6]	Motor	Motor	Motor	Steam driven	Steam driven	Steam driven
Fuel Details[7]						
-Primary Fuel	COAL	COAL	COAL	COAL	COAL	COAL
-Secondary Fuel	OIL	OIL	OIL	OIL	OIL	OIL
-Alternate Fuels						
Special Features/Site Specific Features[8]						
Special Technological Features[9]						
Environmental Regulation related features[10]	ESP existing; FGD System being installed					
Any other special features	Station is having Tangential Fired Boilers.					

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:	**Korba-I&II**

(Year Ending March)

Particulars	Unit	Existing 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 (Normal ROE)	%	15.50	15.50	15.50	15.50	15.50	15.50
Return on Equity on Add Cap for ROE @ MCLR plus 350 BP	%	-	12.150	12.150	12.150	12.150	12.150
Effective Tax Rate	%	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability (Peak Hours)	%	85.00	83.00	83.00	83.00	83.00	83.00
Target Availability (Off-peak Hours)	%	85.00	83.00	83.00	83.00	83.00	83.00
Auxiliary Energy Consumption	%	7.04	6.68	6.68	6.68	6.68	6.68
Gross Station Heat Rate	kCal/kWh	2401.43	2386.43	2386.43	2386.43	2386.43	2386.43
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC1	in Days	40	40	40	40	40	40
Cost of Main Secondary Fuel Oil for WC1	in Months	2	2	2	2	2	2
Fuel Cost for WC2	in Months						
Liquid Fuel Stock for WC2	in Months						
O&M Expenses	Rs lakh/MW	29.27	31.10	32.73	34.45	36.26	38.16
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	Lakh MT	7.07	7.07				
SBI 1 Year MCLR plus 350 basis points	%	12.00	11.90	11.90	11.90	11.90	11.90
ß- Average Monthly Frequency Response Performance*	0-1	-	-	-		-	-
Blending ratio of domestic coal/imported coal		As per Form-15					

Note:
i) The storage capacity of primary fuel as indicated above is for the entire Korba Station (2600 MW).
* Shall be provided at the time of truing-up

Petitioner

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Korba-I&II**

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	65307.00	68742.00	72348.00	76146.00	80136.00
2	**O&M expenses under Reg.36(1)(6)**					
2a	Water Charges^	8305.00	8305.00	8305.00	8305.00	8305.00
2b	Secutiry expenses^	4017.00	4419.00	4861.00	5347.00	5881.00
2c	Capital Spares*					
3	O&M expenses-Ash Transportation^	52443.00	43030.00	48410.00	34960.00	34960.00
	Total O&M Expenses	**130072.00**	**124496.00**	**133924.00**	**124758.00**	**129282.00**

Note:
* Shall be provided at truing-up
^ On projected basis

Petitioner

PART-I
FORM-3B
Additional Form

Computation of Special Allowance

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Korba Super Thermal Power Station Stage-I&II**
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				
				2024-25	2025-26	2026-27	2027-28	2028-29
1	200	1-Aug-83	2008-09	2150.00	2150.00	2150.00	2150.00	2150.00
2	200	1-Jan-84	2008-09	2150.00	2150.00	2150.00	2150.00	2150.00
3	200	1-Jun-84	2009-10	2150.00	2150.00	2150.00	2150.00	2150.00
4	500	1-Mar-88	2012-13	5375.00	5375.00	5375.00	5375.00	5375.00
5	500	1-Apr-89	2014-15	5375.00	5375.00	5375.00	5375.00	5375.00
6	500	1-Jun-90	2015-16	5375.00	5375.00	5375.00	5375.00	5375.00
Year wise Total for the Station				**22575.00**	**22575.00**	**22575.00**	**22575.00**	**22575.00**

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 :	**Korba-I&II**

Last date of order of Commission for the project	**Date (DD-MM-YYYY)**	21.04.2022
Reference of petition no. in which the above order was passed	**Petition no.**	486/GT/2020
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, i.e. as on 31.03.2024, in the above order by the Commission:		(Amount in Rs lakh)
Capital cost	**(Rs. in lakh)**	1,65,079.35
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		84.08
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		185.99
Gross Normative Debt		-
Cumulative Repayment		-
Net Normative Debt		-
Normative Equity		49,523.81
Cumulative Depreciation		1,47,829.73
Freehold land		824.10

(Petitioner)

PART 1
FORM- 5A

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Korba-I&II**

Truing-up petition for 2019-24 period filed vide:	**Affidavit dated**	18.11.2024
Capital Cost as on 31.03.2024 as per Hon'ble Commission's Order dated 21.04.2022	**Rs. Lakhs**	165079.35
Adjustment as per Para (7) of this petition		28443.95
Following details as considered by the Petitioner as on the last date of the period claimed as per 2019-24 truing up petition (i.e. as on 31.03.2024):		(Amount in Rs lakh)
Capital cost	**(Rs. in lakh)**	1,93,523.30
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		45.59
Amount of un-discharged liabilities corresponding to above claimed capital cost (but not forming part of admitted capital cost being allowed on cash basis)		1,881.40
Gross Normative Debt		1,05,086.41
Cumulative Repayment		1,05,086.41
Net Normative Debt		0.00
Normative Equity		58,056.99
Cumulative Depreciation		1,71,133.67
Freehold land		824.10

(Petitioner)

	TRANCHE NO	
BP NO 50500001041	**T00001**	**D00009**
Unsecured Loan From Bank Of India-IV		

Source of Loan :	**Bank Of India-IV**	
Currency :	INR	
Amount of Loan :	22000000000	
Total Drawn amount :	1,94,00,00,000	
Date of Drawal :	30-03-2023	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.15%	
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 :	05.03.2021	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	Yearly	
Repayment Type :	AVG	
First Repayment Date :	07.12.2024	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :		
Project Code	**Project Name**	**Amount**
	NCTPP R&M	50000000
	DADRI GAS R&M	60000000
	SIMHADRI FLOATING	50000000
	RIHAND-R&M	350000000
	KORBA-R&M	320000000
	VSTPS R&M	400000000
	FSTPS R&M	260000000
	RAMAGUNDAM-R&M	450000000
Total Allocated Amount		**1,94,00,00,000**

BP NO 5050000981	**T00001**	**D00005**
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 :	1,90,00,00,000	
Date of drawl	28.09.2020	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	6.30%	
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 :	28.09.2020	
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	50,00,00,000
	KORBA R&M	20,00,00,000
	RAMAGUNDAM I & II R&M	85,00,00,000
	TALAIPALI COAL MINE	20,00,00,000
	KIRENDARI	15,00,00,000
Total Allocated Amount		**1,90,00,00,000**

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		**5,00,00,00,000**

TRANCHE NO		
BP NO 5050000981	**T00001**	**D00010**
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 :	6,83,00,00,000	
Date of drawl	24.12.2020	
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 :	24.12.2020	
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
	TANDA-II	7,50,00,000.00
	BARH I	68,00,00,000.00
	NORTH KARANPURA	50,00,00,000.00
	GADARWARA	50,00,00,000.00
	LARA-I	30,00,00,000.00
	DARLIPALLI	10,00,00,000.00
	KHARGONE	84,00,00,000.00
	TAPOVAN VISHNUGARH	25,00,00,000.00
	RAMMAM	15,00,00,000.00
	BARAUNI-II	3,00,00,000.00
	RAMAGUNDAM FLOATING SOLAR	9,00,00,000.00
	BILHAUR SOLAR 140MW	6,00,00,000.00
	BILHAUR SOLAR 85MW	13,00,00,000.00
	AURAIYA SOLAR 20MW	3,20,00,000.00
	SIMHADRI FLOATING	1,50,00,000.00
	KAYAMKULAM FS (22 MW)	4,00,00,000.00
	JETSAR SOLAR	2,00,00,000.00
	FATEHGARH (296MW)	60,00,00,000.00
	BONGAIGAON	60,00,00,000.00
	SOLAPUR	10,00,00,000.00
	KORBA R&M	10,00,00,000.00
	VINDHYACHAL R&M	5,30,00,000.00
	FARAKKA R&M	2,50,00,000.00
	KIRENDARI	4,00,00,000.00
	PAKRI BARWADIH CMB	1,50,00,00,000.00
Total Allocated Amount		**6,83,00,00,000**

TRANCHE NO

BP NO 5050000791	**T00001**	**D00002**
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 :	5,00,00,00,000	
Date of drawl	21.06.2019	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.40%	
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 :	21.06.2019	
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
	NCPS-FGD	**10,00,00,000**
	FSTPS R&M	**10,00,00,000**
	KORBA-R&M	**10,00,00,000**
	SOLAPUR	**50,00,00,000**
	MOUDA-II	**50,00,00,000**
	TELANGANA	**30,00,00,000**
	Singrauli-R&M	**30,00,00,000**
	Simhadri-R&M	**15,00,00,000**
	Korba-R&M	**10,00,00,000**
	Ramagundam-R&M	**10,00,00,000**
	VSTPS R&M	**10,00,00,000**
	TANDA-II	**30,00,00,000**
	DARLIPALLI	**30,00,00,000**
	NORTH KARANPURA	**30,00,00,000**
	GADARWARA	**40,00,00,000**
	LARA-I	**15,00,00,000**
	BARH-I	**1,20,00,00,000**
Total Allocated Amount		**5,00,00,00,000**

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**

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**

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**

	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 50500001042	**T00001**	D00002
Unsecured Loan From ICICI-VII		
Source of Loan :	**ICICI-VII**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	9,77,21,00,000	
Date of Drawal	05.03.2021	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	6.00%	
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 :	05.03.2021	
Repayment Period (Inc Moratorium) :	15 years	
Repayment Frequency :	12 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	30.12.2024	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	**Project Name**	**Amount**
	THDC	5,06,81,00,000.00
	NEEPCO	2,70,40,00,000.00
	BILHAUR SOLAR 140MW	25,00,00,000.00
	BILHAUR SOLAR 85MW	4,00,00,000.00
	AURAIYA SOLAR 20MW	16,00,00,000.00
	JETSAR SOLAR	5,00,00,000.00
	DEVIKOT SOLAR	23,00,00,000.00
	SAMBHU KI BHURJ	47,00,00,000.00
	KORBA-R&M	5,00,00,000.00
	RAMAGUNDAM-R&M	10,00,00,000.00
	VSTPS R&M	20,00,00,000.00
	CHATTI BARIATU	20,00,00,000.00
	DULANGA CMB	5,00,00,000.00
	TALAIPALI	20,00,00,000.00
Total Allocated Amount		**9,77,21,00,000.00**

TRANCHE NO

BP NO 5050001263	**T00001**	D0001
Unsecured Loan From Indusind Bank		
Source of Loan :	**Indusind Bank**	
Currency :	INR	
Amount of Loan :	15,00,00,00,000	
Total Drawn amount :	2,16,42,00,000	
Date of Drawal:	15.07.2022	
Interest Type :	FLOATING	
Rate of Interest	6.82%	
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 :	15-Jul-22	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	12 Equal annual Instalments	
Repayment Type :	AVG	
First Repayment Date :	15-Jul-26	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	**Project Name**	**Amount**
	ETTAYAPURAM SOLAR(230MW)	14,42,00,000.00
	NORTH KARANPURA	52,00,00,000.00
	DEVIKOT SOLAR-90MW	13,00,00,000.00
	SAMBHU KI BHURJ SOLAR 250	9,00,00,000.00
	FATEHGARH (296MW)	10,00,00,000.00
	KAWAS SOLAR 56MW	5,00,00,000.00
	BARAUNI-II (2X250MW)	8,00,00,000.00
	SINGRAULI R&M	20,00,00,000.00
	KORBA R&M	20,00,00,000.00
	RAMAGUNDAM I & II R&M	20,00,00,000.00
	VINDHYACHAL R&M	11,00,00,000.00
	FARAKKA R&M	7,00,00,000.00
	CHATTI BARIATU CMB	10,00,00,000.00
	TALAIPALI COAL MINE	13,00,00,000.00
	KIRENDARI	4,00,00,000.00
Total Allocated Amount		**2,16,42,00,000.00**

TRANCHE NO

BP NO 5050000571	**T00001**	**D00003**
Unsecured Loan From Punjab National Bank-III		
Source of Loan :	**Punjab National Bank-III**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	13.08.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.05%	
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 :	13.08.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	01.02.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	30,00,00,000.00
	SOLAPUR	20,00,00,000.00
	TANDA-II	20,00,00,000.00
	TALLAIPALLI	50,00,00,000.00
	SINGRAULI R&M	80,00,00,000.00
	FARAKKA R&M	80,00,00,000.00
	RIHAND R&M	50,00,00,000.00
	DADRI GAS R&M	40,00,00,000.00
	KORBA R&M	40,00,00,000.00
	RAMAGUNDAM R&M	40,00,00,000.00
	VINDHAYACHAL R&M	30,00,00,000.00
	UNCHAHAR R&M	20,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

BP NO 5050000571	TRANCHE NO T00001	D00004
Unsecured Loan From Punjab National Bank-III		
Source of Loan :	**Punjab National Bank-III**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	21.08.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.05%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	21.08.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	01.02.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SINGRAULI R&M	1,00,00,00,000.00
	KORBA R&M	1,00,00,00,000.00
	RAMAGUNDAM R&M	1,00,00,00,000.00
	VINDHYACHAL R&M	1,00,00,00,000.00
	TANDA R&M	1,00,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

BP NO 5050000442	TRANCHE NO T00001	D0001
Unsecured Loan From SBI-VIII		
Source of Loan :	**SBI-VIII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	D0001-3-10.10%	
Margin, If Floating Interest :	0.15%	
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 :	21.01.2015	
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**
	BARH-I	1,00,00,00,000
	FARAKKA R&M	25,00,00,000
	TSTPP R&M	40,00,00,000
	SINGRAULI R&M	40,00,00,000
	RAMAGUNDAM R&M	50,00,00,000
	KAWAS R&M	60,00,00,000
	KORBA R&M	60,00,00,000
	GANDHAR R&M	1,25,00,00,000
Total Allocated Amount		**5,00,00,00,000.00**

	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**

FORM-8

(Amount in Rs. Lakhs)

Particulars																			
Source of Loan - Bonds Series	**54**	**55**	**56-1A**	**56-2A**	**56-3A**	**56-1B**	**56-2B**	**56-3B**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**
Currency	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR
Amount of Loan sanctioned (In Lakh)	10,30,683.05	30,000.00	10,837.67	12,904.76	18,257.57	6,596.43	4,829.59	16,573.98	50,000.00	30,000.00	65,500.00	1,00,000.00	1,07,250.00	80,000.00	67,000.00	70,000.00	70,000.00	3,92,500.00	4,00,000.00
Amount of Gross Loan drawn upto COD	10,30,683.05	30,000.00	10,837.67	12,904.76	18,257.57	6,596.43	4,829.59	16,573.98	50,000.00	30,000.00	65,500.00	1,00,000.00	1,07,250.00	80,000.00	67,000.00	70,000.00	70,000.00	3,92,500.00	4,00,000.00
Interest Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	8.49%	7.15%	7.11%	7.28%	7.37%	7.36%	7.53%	7.62%	8.19%	8.18%	8.33%	8.05%	8.10%	7.58%	7.47%	7.49%	6.72%	7.37%	8.30%
Base Rate, if Floating Interest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Margin, if Floating Interest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Are there any Caps/Floor	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
If above is yes,specify caps/floor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moratorium Period (In Years)	8	10	10	15	20	10	15	20	10	5	5	10	5	10	10	15	5	15	10
Moratorium effective from*	25-03-2015	21-08-2015	05-10-2015	05-10-2015	05-10-2015	05-10-2015	05-10-2015	05-10-2015	15-12-2015	31-12-2015	24-02-2016	05-05-2016	27-05-2016	23-08-2016	16-09-2016	07-11-2016	24-11-2016	14-12-2016	15-01-2019
Repayment Period	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Installments Due on 27/05/2021, 27/05/2026 & 27/05/2031	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment effective from	25-03-2023	21-08-2025	05-10-2025	05-10-2030	05-10-2035	05-10-2025	05-10-2030	05-10-2035	15-12-2025	31-12-2020	24-02-2021	05-05-2026	27-05-2021	23-08-2026	16-09-2026	07-11-2031	24-11-2021	14-12-2031	15-01-2029
Repayment Frequency	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Installments Due on 27/05/2021, 27/05/2026 & 27/05/2031	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment Instalment (In Lakh)	Installments 1st - 206,136.61 2nd - 412,273.22 3rd - 412,273.22	30,000.00	10,837.67	12,904.76	18,257.57	6,596.43	4,829.59	16,573.98	50,000.00	30,000.00	65,500.00	1,00,000.00	Installments 1st - 35,750.00 2nd - 35,750.00 3rd - 35,750.00	80,000.00	67,000.00	70,000.00	70,000.00	3,92,500.00	4,00,000.00
Base Exchange Rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Door to Door Maturity (In Years)	10	10	10	15	20	10	15	20	10	5	5	10	15	10	10	15	5	15	10

Name of the Projects	**54**	**55**	**56-1A**	**56-2A**	**56-3A**	**56-1B**	**56-2B**	**56-3B**	**57**	**58**	**59**	**60**	**61**	**62**	**63**	**64**	**65**	**66**	**67**
Korba R & M	4400.00																		

(Amount in Rs. Lakh)

Particulars														
Source of Loan - Bonds Series	68	69	70	71	72	73	74	75	76	77	78	79	80	81
Currency	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR
Amount of Loan sanctioned (In Lakh)	3,05,650	4,30,000	4,37,410	1,00,000	4,00,000	2,50,000	3,99,600	3,00,000	1,17,500	1,50,000	2,00,000	50,000	3,00,000	1,50,000
Amount of Gross Loan drawn upto COD (In L	3,05,650	4,30,000	4,37,410	1,00,000	4,00,000	2,50,000	3,99,600	3,00,000	1,17,500	1,50,000	2,00,000	50,000	3,00,000	1,50,000
Interest Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	7.93%	7.32%	6.55%	6.29%	5.45%	6.43%	6.87%	6.69%	6.74%	5.78%	7.44%	7.44%	7.35%	7.48%
Base Rate, if Floating Interest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Margin, if Floating Interest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Are there any Caps/Floor	No	No	No	No	No	No	No	No	No	No	No	No	No	No
If above is yes,specify caps/floor	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moratorium Period (In Years)	3	10	3	10 Years 8 Months and 11 days	5	10	15 Years and 1 day	10	10 Years 3 Months and 25 Days	2	10	10 Years 3 Months and 30 Days	3	2
Moratorium effective from*	03-05-2019	17-07-2019	16-04-2020	31-07-2020	15-10-2020	27-01-2021	20-04-2021	13-09-2021	20-12-2021	29-04-2022	25-08-2022	16-12-2022	17-04-2023	21-03-2024
Repayment Period	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment effective from	03-05-2022	17-07-2029	17-04-2023	11-04-2031	15-10-2025	27-01-2031	21-04-2036	13-09-2031	14-04-2032	29-04-2024	25-08-2032	15-04-2033	17-04-2026	21-03-2026
Repayment Frequency	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment Instalment (In Lakh)	3,05,650	4,30,000	4,37,410	1,00,000	4,00,000	2,50,000	3,99,600	3,00,000	1,17,500	1,50,000	2,00,000	50,000	3,00,000	1,50,000
Base Exchange Rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Door to Door Maturity (In Years)	3	10	3	10 Years 8 Months and 11 days	5	10	15 Years and 1 day	10	10 Years 3 Months and 25 Days	2	10	10 Years 3 Months and 30 Days	3	2

Name of the Projects	68	69	70	71	72	73	74	75	76	77	78	79	80	81
Anta Solar 90MW								650.00	200.00		900.00	1,000.00		
Auraiya R&M						200.00								
Auraiya Solar 20MW				2,000.00		400.00			425.00					
Auraiya Solar FS 20MW							150.00		2,000.00		586.00	1,240.00		
Barauni-II							1,500.00	8,400.00			500.00			
BARH I		84,200.00			3,866.67	51,100.00	32,900.00	42,800.00	11,050.00		4,511.00	3,051.00		
BARH II		1,400.00			62,500.00									
BONGAIGAON		17,100.00			27,200.00									
CC	3,05,650.00		2,94,350.00							1,50,000.00			3,00,000.00	1,50,000.00
CC - Jhabua Power											60,000.00			
CC - NEEPCO		1,391.30	49,730.00	32,614.00		18,243.00	56,696.00	48,250.00	24,017.00		10,922.00	6,210.00		
CC - THDC		2,608.70	93,330.00	61,151.00		34,207.00	1,06,304.00	90,470.00	45,033.00		20,478.00	11,645.00		
CHATTI BARIATU CMB		3,000.00				825.00	200.00	1,350.00	600.00		211.00	56.00		
DADRI GAS R&M							100.00	200.00						
DARLIPALLI		40,000.00				28,300.00	11,500.00	1,000.00			500.00			
DULANGA COAL		5,000.00				2,700.00	3,400.00	4,100.00						
FARAKKA III					37,900.00									
FARAKKA R&M		1,000.00				1,700.00	1,600.00	1,550.00						
Farakka-I , II & III FGD							1,500.00	550.00						
Faridabad R&M						100.00		700.00						
GADARWARA		47,600.00				19,000.00	7,500.00							
Gandhar 20MW				300.00			3,750.00	90.00	1,395.00			200.00		
KAHALGAON II					3,800.00									
KAHALGAON R&M						600.00	1,200.00	2,620.00						
Kahalgaon-I & II FGD							300.00							
Kawas Solar							2,800.00	5,250.00	4,050.00		800.00	2,630.00		
Kayamkulam FS (22 MW)				1,000.00		170.00	2,000.00	2,195.00			100.00	450.00		
Kayamkulam FS (70 MW)				745.00		1,830.00	2,850.00	1,925.00	4,830.00			1,200.00		
KHARGONE		13,500.00				3,000.00	2,000.00				500.00			
Kirenderi Coal Mine						7,350.00		165.00	1,400.00		1,900.00			
KOLDAM					18,800.00									
KORBA III					9,900.00									
KORBA R&M					1,500.00	2,300.00	1,350.00	4,050.00			2,200.00			
Korba-I, II & III FGD							100.00							
KUDGI		21,500.00												
KUDGI-FGD		2,500.00					2,950.00	1,000.00						
LARA		10,600.00				1,700.00	14,000.00							
MAUDA I		6,000.00			30,500.00		500.00							
MAUDA II		29,000.00					100.00	2,200.00						
Nabinagar											5,664.00			
NCPS-FGD		6,500.00						5,600.00						
NCTPP II					31,733.33									
NCTPP R&M							200.00							
Nokh Solar Plot-I (245MW)											7,500.00	1,650.00		
Nokh Solar Plot-II (245MW)											7,500.00	2,400.00		
Nokh Solar Plot-III (245MW)											7,500.00	5,000.00		
NORTH KARANPURA		15,000.00				9,500.00	11,700.00	11,900.00	6,100.00		3,917.00	44.00		
PAKRI BARWADIH CMB					10,800.00		20,000.00				41,800.00			
RAMAGUNDAM R&M							3,300.00							
Ramagundam Floating Solar-100 MW				1,850.00		3,375.00	3,800.00	8,640.00	3,800.00		1,400.00	4,075.00		
Ramagundam I & II R&M						4,200.00		8,985.00			1,800.00			

Name of the Projects	68	69	70	71	72	73	74	75	76	77	78	79	80	81
RAMAGUNDAM SOLAR		1,000.00												
Ramagundam-I & II FGD								100.00						
Ramagundam-III (1x500 MW)							400.00							
RAMMAM		2,500.00				3,300.00	1,100.00	800.00	1,050.00		311.00	56.00		
Rihand- I FGD								20.00						
Rihand- II & III FGD								130.00						
RIHAND III					31,400.00									
RIHAND R&M					700.00	1,200.00	2,000.00	6,275.00			2,400.00			
Rihand Solar (20MW)				270.00			300.00	510.00			400.00	150.00		
Simhadri Floating				70.00		1,875.00	3,050.00	525.00	1,350.00					
SIMHADRI II					38,700.00									
SIMHADRI R&M								200.00						
Simhadri-II & I (2x500 MW) & (2x500 MW) FGD							7,600.00	1,150.00						
Singrauli R&M		1,000.00				4,200.00	1,700.00	2,725.00			1,300.00			
Singrauli-I & II FGD							8,700.00	150.00						
SIPAT I					34,500.00									
Sipat-I (3x660 MW) FGD							5,600.00	1,100.00			500.00			
SIPAT II					900.00									
SOLAPUR		21,500.00												
Solapur Solar								2,575.00	800.00		200.00	400.00		
Solapur-FGD							2,700.00	3,450.00						
Talaipali Coal Mine		11,500.00				19,400.00	4,800.00	2,160.00	2,600.00		856.00			
TALCHER II					3,400.00									
TALCHER R&M						500.00								
TANDA R&M					1,500.00									
TANDA II		17,000.00				9,500.00	16,700.00	1,000.00						
TAPOVAN VISHNUGAD		16,600.00			10,600.00	6,200.00	8,000.00	1,500.00			166.00	3,027.00		
TELANGANA		37,000.00				9,725.00	20,300.00	9,200.00	6,800.00		8,678.00	266.00		
TSTPP R&M								640.00			700.00			
TSTPS Stage-II & I FGD							9,700.00					5,250.00		
UNCHAHAR IV		14,000.00												
Unchahar R&M					500.00	500.00	900.00	1,050.00			1,500.00			
Unchahar-I, II & III-FGD							5,400.00	5,100.00						
Unchahar-IV-FGD							2,750.00	1,200.00						
VINDHYACHAL IV					39,300.00									
VINDHYACHAL R&M						2,800.00	1,450.00	2,900.00			1,800.00			
Vindhyachal-I &II FGD							200.00	900.00						
TOTAL	**3,05,650.00**	**4,30,000.00**	**4,37,410.00**	**1,00,000.00**	**4,00,000.00**	**2,50,000.00**	**3,99,600.00**	**3,00,000.00**	**1,17,500.00**	**1,50,000.00**	**2,00,000.00**	**50,000.00**	**3,00,000.00**	**1,50,000.00**
	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Moratorium period has been taken as the period from Deemed Date of Allotment till the date of first Redemption.

1. Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.
2. Currency refers to currency of loan such as US$, DM, Yen,Indian Rupee etc.
3. Details are to be submitted as on 31.03.2004 for existing assets and as on COD for the remaining assets.
4. Where the loan has been refinanced, details in the Form is to be given for the loan refinaced. However, the details of the original loan is to be given seperately in the same form.
5. If the Tariff in the petition is claimed seperately for various units, details in the Form is to be given seperately for all the units in the same form.
6. Interest type means whether the interest is fixed or floating.
7. Base rate means the base as PLR, LIBOR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.
8. Margin means the points over and above the floating rate.
9. At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.
10. Moratorium period refers to the period during which loan servicing liability is not required.
11. Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.
12. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.
13. Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayement and its allocation may also be given seperately
14. If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished seperately.
15. In case of Foreign loan,date of each drawal & repayment alongwith exchange rate at that date may be given.
16. Base exchange rate means the exchange rate prevailing as on 31.03.2004 for existing assets and as on COD for the remaining assets.

PART-I
FORM- 9A

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Korba-I&II**
COD	**01-06-1990**
For Financial Year	**2024-29 (Summary)**

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected on cash basis)						Regulation under which claimed
		2024-25	2025-26	2026-27	2027-28	2028-29	Total 2024-29	
A.	**For assets eligible for Normal ROE**							
	Total (A)	-	-	-	-	-		
B.	**For assets eligible for RoE @ MCLR plus 350 basis points**							
1	7th Raising of Dhanras Ash Dyke and associated works	1,158.00	6,460.00	920.00			**8,538.00**	26(1)(b), 26(1)(c)
2	Construction of Cement Concrete Road over dyke to facilitate ash utilization	859.00	1,545.00				**2,404.00**	26(1)(b), 19(3)(d)
3	Seepage Water Pumping System for Dhanras Ash Dyke	577.00					**577.00**	26(1)(b)
4	Wagon Tippler and Associated Railway Works	7,667.00					**7,667.00**	26(1)(b), 26(1)(c)
5	Chlorine Di-oxide System (CLO2) System	1,755.00					**1,755.00**	26(1)(b), 26(1)(d), 26(1)(i), 102 (Power to Relax)
6	Installation of Fly Ash Lime Coarse Aggregate Plant		2,059.00				**2,059.00**	26(1)(b), 19(3)(d)
7	Construction of Ash Bagging Plant and Storage Shed to faciliate Ash Utilization		791.00				**791.00**	26(1)(b), 19(3)(d)
8	Installation of Fly Ash Brick manufacturing Plant			7,122.00			**7,122.00**	26(1)(b), 19(3)(d)
9	Dry Ash Evacuation System (DAES) incl. Silos for Stage-I			7,500.00			**7,500.00**	26(1)(b), 19(3)(d)
	Total (B)	**12,016.00**	**10,855.00**	**15,542.00**	-	-	**38,413.00**	
Total Add. Cap. Claimed (A+B)		**12,016.00**	**10,855.00**	**15,542.00**	-	-	**38,413.00**	

(Petitioner)

PART-I
Form-9
(Amount in Rs Lakh)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2024-25

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A1	**For assets eligible for Normal ROE**							
	Sub total A1	**0.00**	**0.00**	**0.00**	**0.00**			
A2	**For assets eligible for RoE @ MCLR plus 350 basis points**							
1	7th Raising of Dhanras Ash Dyke and associated works	1158.00		1158.00		26(1)(b), 26(1)(c)	It is submitted that the detailed justification along with supporting documents in this regard, attached herewith at **Annexure-A/1**, may be referred.	
2	Construction of Cement Concrete Road over dyke to facilitate ash utilization	859.00		859.00		26(1)(b), 19(3)(d)	Cement concrete road in a length of about 07 Km over the ash dyke embankments is being constructed to facilitate ash utilization. It is submitted that, ash utilization for Korba STPS has been very low/ moderate due to: low demand of ash in the nearby regions, the instant Station being at a remote location and high supply of ash in the area owing to multiple coal based plants in the vicinity. The ash utilization percentage for 2019-20, 2020-21, 2021-22 and 2022-23, excluding ash utilized in raising of ash dyke, was 25%, 35%, 27% and 29% respectively. Subsequently, a cement concrete road connecting the ash dyke to the Bilaspur Highway road was constructed in the period FY 22-23/ FY 23-24 to facilitate the transportation of ash carrying bulkers from ash dyke through Bilaspur Highway. Notably, after construction of this road, ash utilization percentage (excluding ash utilized in raising of ash dyke) in FY 23-24 improved to 62%. However, even after construction of the aforesaid road, there is further scope of enhancing the ash utilization by constructing cement concrete road in strategic stretches (around Lagoon-1A and Lagoon-2) over the ash dyke embankments. Presently during monsoons, the ash dyke embankments top do not remain in a safe/ proper condition for movement of heavy bulkers/ machinery, thereby proving an impediment to adequate utilization of ash during such rainy periods. It is pertinent to note that the MOEF&CC Notification dated 31.12.2021 mandates that every coal or lignite based thermal power plant shall be primarily responsible to ensure 100 per cent utilisation of ash and also provides that Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law. Also, as per the Consent to Operate for Korba STPS (copy attached underneath), granted by the Chhattisgarh Environment Conservation Board (CECB), clause A.6 and B.6 direct the Petitioner that "Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash." A copy of the said Notification dated 31.12.2021 and Consent to Operate are attached herewith at **Annexure-A/2** Further, considering that the present 7th raising of ash dyke being done is the last raising, which will create capacity of dyke to cater to ash disposal requirement for only 02-03 years and after which it might not be technically feasible to further raise the height of dyke, it has become more necessary to undertake all efforts towards 100% utilization of ash. It is envisaged that the instant cement concrete road over the dyke will enable daily movement of over 500 bulkers thereby enhancing ash utilization from the dyke. Further, since the instant Concrete Road will be used for utilization of ash generated from both Korba-I&II and Korba-III, the capitalization claimed in instant Station (Korba-I&II) is based on prorated capitalization based on Station capacity. In view of the above, the Hon'ble Commission may be pleased to allow the instant capitalization.	

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2024-25

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
3	Seepage Water Pumping System for Dhanras Ash Dyke	577.00		577.00		26(1)(b)	Seepage Water Pumping System is being installed at Dhanras Ash Dyke of the instant Station for pumping the seepage of water from the ash dyke along the toe drain and recirculating it for reuse. It is submitted that during construction, to provide safety of ash dyke embankment against internal erosion, an internal drainage system in the form of sand chimeny and blanket are provided to chhanelize the seepage of water from dyke through the rock toe and toe drain. In the recent years, as area of ash dyke of the instant Station is shrinking due to upstream raising of the ash dyke (6 nos. raisings done and 7th in progress), the head of water over the ash dyke lagoons has increased, for the same volume of ash slurry being disposed in the dyke. Due to the same, the seepage of water through the internal drainage system in the ash dyke embankments has increased substantially in the recent years, which at times enters the nearby farm fields thereby damaging the crops and affecting the farming activities. Owing to the same, villagers have written to the Petitioner as well as State Authority regarding the issues arising out of seepage water from ash dyke entering their farmfields (a copy of few communications attached herewith at **Annexure-A/3**.) It is also pertinent to note that Hasdeo River flows close to the Ash Dyke and there are chances of ash dyke seepage water percolating into the river. In view of the above, Sub-Divisional Officer, Korba District, Govt. of Chhattisgarh, vide its letter dated 25.09.2024 (copy attached herewith at **Annexure-A/3**) inter alia has directed the Petitioner to take measures to avoid the damage of crops in nearby fields due to ash dyke water seepage and sough details regarding the steps taken. Also, under the Consent to Operate granted for the instant Station (copy attached herewith at **Annexure-A/3** Chhattisgarh Environment Conservation Board (CECB), under the Water (Prevention and Control of Pollution) Act, 1974, has directed that zero discharge condition shall be maintained at all the time. In view of the same, to arrest the ash dyke seepage water from entering nearby farmfields and avoid its percolation in the nearby River, the Petitioner is installing Seepage Water Pumping System, consisting of 6 nos. of RCC pits, vertical pumps over each pit and pipeline to nearest Overflow Lagoon, complete Electrical and C&I System, etc. at the instant Station. Using the pumping system, the ash dyke seepage water collected in the pits would be pumped to the nearest overflow lagoon thereby reutilizing the water in the process. Further, since the said system will cater to both Korba-I&II and Korba-III, the capitalization claimed in instant Station (Korba-I&II) is based on prorated capitalization based on Station capacity. In view of the above, Hon'ble Commission may be pleased to allow the instant capitalization.	
4	Wagon Tippler and Associated Railway Works	7667.00		7667.00		26(1)(b), 26(1)(c)	It is submitted that the detailed justification along with supporting documents in this regard, attached herewith at **Annexure-A/4**, may be referred.	
5	Chlorine Di-oxide System (CLO2) System	1755.00		1755.00		26(1)(b), 26(1)(d), 26(1)(i), 102 (Power to Relax)	It is submitted that the detailed justification along with supporting documents in this regard, attached herewith at **Annexure-A/5**, may be referred.	
	Sub-total A2	**12016.00**	**0.00**	**12016.00**	**0.00**			
	Total Add Cap (A1+A2)	**12016.00**	**0.00**	**12016.00**	**0.00**			

PART-I
Form-9
(Amount in Rs Lakh)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2025-26

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A1	**For assets eligible for Normal ROE**							
	Sub total A1	**0.00**	**0.00**	**0.00**	**0.00**			
A2	**For assets eligible for RoE @ MCLR plus 350 basis points**							
1	7th Raising of Dhanras Ash Dyke and associated works	6460.00		6460.00		26(1)(c)	PI refer justification provided for this item in Form-9 for FY 24-25.	
2	Construction of Cement Concrete Road over dyke to facilitate ash utilization	1545.00		1545.00		26(1)(b), 19(3)(d)	PI refer justification provided for this item in Form-9 for FY 24-25.	
3	Installation of Fly Ash Lime Coarse Aggregate Plant	2059.00		2059.00		26(1)(b), 19(3)(d)	It is submitted that, ash utilization for Korba STPS has been very low/ moderate due to: low demand of ash in the nearby regions, the instant Station being at a remote location and high supply of ash in the area owing to multiple coal based plants in the vicinity. The ash utilization percentage for 2019-20, 2020-21, 2021-22, 2022-23 and 2023-24, excluding ash utilized in raising of ash dyke, was 25%, 35%, 27%, 29% and 62% respectively. It is pertinent to note that the MOEF&CC Notification dated 31.12.2021 mandates that every coal or lignite based thermal power plant shall be primarily responsible to ensure 100 per cent utilisation of ash and also provides that Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law. Also, as per the Consent to Operate for Korba STPS (copy attached underneath), granted by the Chhattisgarh Environment Conservation Board (CECB), clause A.6 and B.6 direct the Petitioner that "Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash." A copy of the said Notification dated 31.12.2021 and Consent to Operate are attached herewith at **Annexure-A/2**. It is submitted that presently substantial quantum of ash utilization is in road projects and in future as road projects get exhausted, it would be critical for the Petitioner to have alternate mediums for utilization of ash. Therefore, to comply with the aforementioned statutory norm and make efforts to achieve 100% utilization of ash, the Petitioner is impementing following schemes: 1. Fly Ash Lime Coarse Aggregate Plant: The said Plant will utilize fly ash, with lime, for production of about 100 cu.m. per day of coarse aggregate, which has multiple usage in the construction industry. The said capital expenditure is against the installation of the Plant including associated civil, mechanical, electrical works, etc. 2. Ash Bagging Plant and Storage Shed: Ash Bagging Plant enables mechanised packing of ash with integrated facility for electronic weighing, automatic bag removal and dust removal. The ash packed in bags is handy for loading and transportation through various mediums such as trucks, rail, etc. and thus enhances flexibility of utilization of ash. Also, the storage shed for various ash products is required for safe and suitable storage of ash based products such as ash bags, fly ash bricks, etc. for their utilization in the best possible manner. Further, since the said facilities will cater to both Korba-I&II and Korba-III, the capitalization claimed in instant Station (Korba-I&II) is based on prorated capitalization based on Station capacity. In view of the above, Hon'ble Commission may be pleased to allow the said capital expenditure required to comply with the aforementioned statutory norms.	
4	Construction of Ash Bagging Plant and Storage Shed to faciliate Ash Utilization	791.00		791.00		26(1)(b), 19(3)(d)		
	Sub-total A2	**10855.00**	**0.00**	**10855.00**	**0.00**			
	Total Add Cap (A1+A2)	**10855.00**	**0.00**	**10855.00**	**0.00**			

PART-I
Form-9
(Amount in Rs Lakh)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2026-27

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A1	**For assets eligible for Normal ROE**							
	Sub total A1	**0.00**	**0.00**	**0.00**	**0.00**			
A2	**For assets eligible for RoE @ MCLR plus 350 basis points**							
1	7th Raising of Dhanras Ash Dyke and associated works	920.00		920.00		26(1)(c)	Pl refer justification provided for this item in Form-9 for FY 24-25.	
2	Installation of Fly Ash Brick manufacturing Plant	7122.00		7122.00		26(1)(b), 19(3)(d)	It is submitted that, ash utilization for Korba STPS has been very low/ moderate due to: low demand of ash in the nearby regions, the instant Station being at a remote location and high supply of ash in the area owing to multiple coal based plants in the vicinity. The ash utilization percentage for 2019-20, 2020-21, 2021-22, 2022-23 and 2023-24, excluding ash utilized in raising of ash dyke, was 25%, 35%, 27%, 29% and 62% respectively. It is pertinent to note that the MOEF&CC Notification dated 31.12.2021 mandates that every coal or lignite based thermal power plant shall be primarily responsible to ensure 100 per cent utilisation of ash and also provides that Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law. Also, as per the Consent to Operate for Korba STPS (copy attached underneath), granted by the Chhattisgarh Environment Conservation Board (CECB), clause A.6 and B.6 direct the Petitioner that "Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash." A copy of the said Notification dated 31.12.2021 and Consent to Operate are attached herewith at **Annexure-A/2**. It is submitted that presently substantial quantum of ash utilization is in road projects and in future as road projects get exhausted, it would be critical for the Petitioner to have alternate mediums for utilization of ash. Therefore, to comply with the aforementioned statutory norm and make efforts to achieve 100% utilization of ash, the Petitioner is implementing several schemes to enhance ash utilization including the said Fly Ash Brick Plant. The said Plant will be capable of producing about 4,00,000 bricks per day, thereby utilizing significant quantum of ash. The ash bricks/ tiles thus produced have multiple usage in construction industry/ roads/ pavement/ buildings/ embankments/ etc. Further, since the said installation will cater to both Korba-I&II and Korba-III, the capitalization claimed in instant Station (Korba-I&II) is based on prorated capitalization based on Station capacity. In view of the above, Hon'ble Commission may be pleased to allow the said capital expenditure required to comply with the aforementioned statutory norms.	
3	Dry Ash Evacuation System (DAES) incl. Silos for Stage-I	7500.00		7500.00		26(1)(b), 19(3)(d)	It is submitted that the detailed justification along with supporting documents in this regard, attached herewith at **Annexure-A/6** may be referred and accordingly allowed pl.	
	Sub-total A2	**15542.00**	**0.00**	**15542.00**	**0.00**			
	Total Add Cap (A1+A2)	**15542.00**	**0.00**	**15542.00**	**0.00**			

PART-I
Form-9
(Amount in Rs Lakh)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2027-28

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A1	For assets eligible for Normal ROE							
	Sub total A1	0.00	0.00	0.00	0.00			
A2	For assets eligible for RoE @ MCLR plus 350 basis points							
	Sub-total A2	0.00	0.00	0.00	0.00			
	Total Add Cap (A1+A2)	0.00	0.00	0.00	0.00			

PART-I
Form-9
(Amount in Rs Lakh)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner : NTPC Ltd
Name of the Generating Station : Korba-I&II
COD : 01.06.1990
For Financial Year : 2028-29

Sl. No.	Head of Work / Equipment	ACE (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6			
A1	For assets eligible for Normal ROE							
	Sub total A1	0.00	0.00	0.00	0.00			
A2	For assets eligible for RoE @ MCLR plus 350 basis points							
	Sub-total A2	0.00	0.00	0.00	0.00			
	Total Add Cap (A1+A2)	0.00	0.00	0.00	0.00			

PART-I
FORM- 10

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Korba-I&II**
Date of Commercial Operation	**01-06-1990**

Amount in Rs Lakh

Financial Year (Starting from COD)1	Actual				
	2024-25	**2025-26**	**2026-27**	**2027-28**	**2028-29**
1		3	4	5	6
Amount capitalised in Work/ Equipment					
Financing Details	**Add cap is proposed to be financed 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					

PART-I
FORM- 12

Statement of Depreciation

Name of the Company : NTPC Limited

Name of the Power Station : Korba-I&II

(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
1	Opening Capital Cost	1,89,223.11	1,93,523.30	2,05,539.30	2,16,394.30	2,31,936.30	2,31,936.30
2	Closing Capital Cost	1,93,523.30	2,05,539.30	2,16,394.30	2,31,936.30	2,31,936.30	2,31,936.30
3	Average Capital Cost	1,91,373.21	1,99,531.30	2,10,966.80	2,24,165.30	2,31,936.30	2,31,936.30
3a	Opening capital cost of IT/ Software	1,720.88	1,550.55	1,550.55	1,550.55	1,550.55	1,550.55
3b	Addition in capital cost of IT/ Software*	-170.33	0.00	0.00	0.00	0.00	0.00
3c	Closing capital cost of IT/ Software	1,550.55	1,550.55	1,550.55	1,550.55	1,550.55	1,550.55
3d	Average Cost of IT Equipments & Software	1,635.72	1,550.55	1,550.55	1,550.55	1,550.55	1,550.55
4	Freehold land	824.10	824.10	824.10	824.10	824.10	824.10
5	Rate of depreciation (%)	2.13	3.94	4.88	5.30	3.02	-
6	Aggregate Depreciable value	1,71,657.77	1,78,991.54	1,89,283.49	2,01,162.14	2,08,156.04	2,08,156.04
7	Remaining Aggregate Depreciable Value at the beginning of the period	4,079.85	7,857.87	10,291.95	11,878.65	6,993.90	-
8	Balance useful life at the beginning of the period	-	-	-	-	-	-
9	Depreciation (for the period)	4,079.85	7,857.87	10,291.95	11,878.65	6,993.90	-
10	Depreciation (annualised)	4,079.85	7,857.87	10,291.95	11,878.65	6,993.90	-
11	Cumulative depreciation at the end of the period	1,71,657.77	1,78,991.54	1,89,283.49	2,01,162.14	2,08,156.04	2,08,156.04
12	Add: Cumulative depreciation adjustment of discharges/ reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	-	-	-	-	-	-
13	Less: Cumulative depreciation adjustment on account of de-capitalisation	524.10	-	-	-	-	-
14	Net Cumulative depreciation at the end of the period after adjustments	1,71,133.67	1,78,991.54	1,89,283.49	2,01,162.14	2,08,156.04	2,08,156.04

* Shall be provided at the time of truing-up

(Petitioner)

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	**Bank Of India-IV**					
	Gross loan - Opening	3200.00	3200.00	3200.00	3200.00	3200.00
	Cumulative repayments of Loans	0.00	266.67	533.33	800.00	1066.67
	Net loan - Opening	3200.00	2933.33	2666.67	2400.00	2133.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	266.67	266.67	266.67	266.67	266.67
	Net loan - Closing	2933.33	2666.67	2400.00	2133.33	1866.67
	Average Net Loan	3066.67	2800.00	2533.33	2266.67	2000.00
	Rate of Interest on Loan	8.0000%	8.0000%	8.0000%	8.0000%	8.0000%
	Interest on loan	245.33	224.00	202.67	181.33	160.00
2	**HDFC Bank Limited-IX**					
	Gross loan - Opening	4500.00	4500.00	4500.00	4500.00	4500.00
	Cumulative repayments of Loans	0.00	375.00	750.00	1125.00	1500.00
	Net loan - Opening	4500.00	4125.00	3750.00	3375.00	3000.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	375.00	375.00	375.00	375.00	375.00
	Net loan - Closing	4125.00	3750.00	3375.00	3000.00	2625.00
	Average Net Loan	4312.50	3937.50	3562.50	3187.50	2812.50
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	342.84	313.03	283.22	253.41	223.59
3	**HDFC Bank Limited-VII**					
	Gross loan - Opening	4000.00	4000.00	4000.00	4000.00	4000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	444.44	888.89
	Net loan - Opening	4000.00	4000.00	4000.00	3555.56	3111.11
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	444.44	444.44	444.44
	Net loan - Closing	4000.00	4000.00	3555.56	3111.11	2666.67
	Average Net Loan	4000.00	4000.00	3777.78	3333.33	2888.89
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	318.00	318.00	300.33	265.00	229.67
4	**HDFC X**					
	Gross loan - Opening	3500.00	3500.00	3500.00	3500.00	3500.00
	Cumulative repayments of Loans	0.00	0.00	291.67	583.33	875.00
	Net loan - Opening	3500.00	3500.00	3208.33	2916.67	2625.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	291.67	291.67	291.67	291.67
	Net loan - Closing	3500.00	3208.33	2916.67	2625.00	2333.33
	Average Net Loan	3500.00	3354.17	3062.50	2770.83	2479.17
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	278.25	266.66	243.47	220.28	197.09
5	**ICICI BANK-VII**					
	Gross loan - Opening	500.00	500.00	500.00	500.00	500.00
	Cumulative repayments of Loans	0.00	41.67	83.33	125.00	166.67
	Net loan - Opening	500.00	458.33	416.67	375.00	333.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	41.67	41.67	41.67	41.67	41.67

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Net loan - Closing	458.33	416.67	375.00	333.33	291.67
	Average Net Loan	479.17	437.50	395.83	354.17	312.50
	Rate of Interest on Loan	8.0000%	8.0000%	8.0000%	8.0000%	8.0000%
	Interest on loan	38.33	35.00	31.67	28.33	25.00
6	**IndusInd Bank**					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	166.67	333.33
	Net loan - Opening	2000.00	2000.00	2000.00	1833.33	1666.67
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	166.67	166.67	166.67
	Net loan - Closing	2000.00	2000.00	1833.33	1666.67	1500.00
	Average Net Loan	2000.00	2000.00	1916.67	1750.00	1583.33
	Rate of Interest on Loan	8.0500%	8.0500%	8.0500%	8.0500%	8.0500%
	Interest on loan	161.00	161.00	154.29	140.88	127.46
7	**State Bank of India - VIII**					
	Gross loan - Opening	6000.00	6000.00	6000.00	6000.00	6000.00
	Cumulative repayments upto previous year	2000.00	2666.67	3333.33	4000.00	4666.67
	Net loan - Opening	4000.00	3333.33	2666.67	2000.00	1333.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	666.67	666.67	666.67	666.67	666.67
	Net loan - Closing	3333.33	2666.67	2000.00	1333.33	666.67
	Average Net Loan	3666.67	3000.00	2333.33	1666.67	1000.00
	Rate of Interest on Loan with monthly rests	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest on loan	300.67	246.00	191.33	136.67	82.00
8	**PNB III - Total**					
	Gross loan - Opening	14000.00	14000.00	14000.00	14000.00	14000.00
	Cumulative repayments upto previous year	4666.67	6222.22	7777.78	9333.33	10888.89
	Net loan - Opening	9333.33	7777.78	6222.22	4666.67	3111.11
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	1555.56	1555.56	1555.56	1555.56	1555.56
	Net loan - Closing	7777.78	6222.22	4666.67	3111.11	1555.56
	Average Net Loan	8555.56	7000.00	5444.44	3888.89	2333.33
	Rate of Interest on Loan with monthly rests	7.90%	7.90%	7.90%	7.90%	7.90%
	Interest on loan	675.89	553.00	430.11	307.22	184.33
9	**HDFC-IV**					
	Gross loan - Opening	9000.00	9000.00	9000.00	9000.00	9000.00
	Cumulative repayments upto previous year	3000.00	4000.00	5000.00	6000.00	7000.00
	Net loan - Opening	6000.00	5000.00	4000.00	3000.00	2000.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	1000.00	1000.00	1000.00	1000.00	1000.00
	Net loan - Closing	5000.00	4000.00	3000.00	2000.00	1000.00
	Average Net Loan	5500.00	4500.00	3500.00	2500.00	1500.00
	Rate of Interest on Loan with monthly rests	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Interest on loan	437.25	357.75	278.25	198.75	119.25
10	**Bond 54 series**					
	Gross loan - Opening	4400.00	4400.00	4400.00	4400.00	4400.00
	Cumulative repayments upto previous year	2640.00	4400.00	4400.00	4400.00	4400.00
	Net loan - Opening	1760.00	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	1760.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	880.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan with monthly rests	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on loan	74.98	0.00	0.00	0.00	0.00
11	**BOND-72 (Refinancing of PFC V portion)**					
	Gross loan - Opening	781.25	781.25	781.25	781.25	781.25
	Cumulative repayments of Loans	0.00	0.00	781.25	781.25	781.25
	Net loan - Opening	781.25	781.25	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	781.25	0.00	0.00	0.00
	Net loan - Closing	781.25	0.00	0.00	0.00	0.00
	Average Net Loan	781.25	390.63	0.00	0.00	0.00
	Rate of Interest on Loan	6.4260%	6.4260%	6.4260%	6.4260%	6.4260%
	Interest on loan	50.20	25.10	0.00	0.00	0.00
12	**BOND-72**					
	Gross loan - Opening	718.75	718.75	718.75	718.75	718.75
	Cumulative repayments of Loans	0.00	0.00	718.75	718.75	718.75
	Net loan - Opening	718.75	718.75	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	718.75	0.00	0.00	0.00
	Net loan - Closing	718.75	0.00	0.00	0.00	0.00
	Average Net Loan	718.75	359.38	0.00	0.00	0.00
	Rate of Interest on Loan	6.4110%	6.4110%	6.4110%	6.4110%	6.4110%
	Interest on loan	46.08	23.04	0.00	0.00	0.00
13	**BOND-73**					
	Gross loan - Opening	2300.00	2300.00	2300.00	2300.00	2300.00
	Cumulative repayments of Loans	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	2300.00	2300.00	2300.00	2300.00	2300.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	2300.00	2300.00	2300.00	2300.00	2300.00
	Average Net Loan	2300.00	2300.00	2300.00	2300.00	2300.00
	Rate of Interest on Loan	6.4600%	6.4600%	6.4600%	6.4600%	6.4600%
	Interest on loan	148.58	148.58	148.58	148.58	148.58
14	**Bond 74**					
	Gross loan - Opening	1350.00	1350.00	1350.00	1350.00	1350.00

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Cumulative repayments upto previous year	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	1350.00	1350.00	1350.00	1350.00	1350.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	1350.00	1350.00	1350.00	1350.00	1350.00
	Average Net Loan	1350.00	1350.00	1350.00	1350.00	1350.00
	Rate of Interest on Loan with monthly rests	6.9000%	6.9000%	6.9000%	6.9000%	6.9000%
	Interest on loan	93.15	93.15	93.15	93.15	93.15
15	**Bond 75**					
	Gross loan - Opening	4050.00	4050.00	4050.00	4050.00	4050.00
	Cumulative repayments upto previous year	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	4050.00	4050.00	4050.00	4050.00	4050.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	4050.00	4050.00	4050.00	4050.00	4050.00
	Average Net Loan	4050.00	4050.00	4050.00	4050.00	4050.00
	Rate of Interest on Loan with monthly rests	6.72%	6.72%	6.72%	6.72%	6.72%
	Interest on loan	272.16	272.16	272.16	272.16	272.16
	Total					
	Gross loan - Opening	72152.38	72152.38	72152.38	72152.38	72152.38
	Cumulative repayments of Loans upto previous year	5200.00	5200.00	5200.00	5200.00	5200.00
	Net loan - Opening	47993.33	42327.78	36630.56	31822.22	27013.89
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	5665.56	5697.22	4808.33	4808.33	4808.33
	Net loan - Closing	42327.78	36630.56	31822.22	27013.89	22205.56
	Average Net Loan	45160.56	39479.17	34226.39	29418.06	24609.72
	Rate of Interest on Loan	**7.7118%**	**7.6913%**	**7.6819%**	**7.6339%**	**7.5673%**
	Interest on loan	3482.71	3036.47	2629.23	2245.76	1862.29
	HDFC-IX D5					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans	0.00	166.67	333.33	500.00	666.67
	Net loan - Opening	2000.00	1833.33	1666.67	1500.00	1333.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	166.67	166.67	166.67	166.67	166.67
	Net loan - Closing	1833.33	1666.67	1500.00	1333.33	1166.67
	Average Net Loan	1916.67	1750.00	1583.33	1416.67	1250.00
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	152.38	139.13	125.88	112.63	99.38
	HDFC-IX D8					
	Gross loan - Opening	1500.00	1500.00	1500.00	1500.00	1500.00
	Cumulative repayments of Loans	0.00	125.00	250.00	375.00	500.00
	Net loan - Opening	1500.00	1375.00	1250.00	1125.00	1000.00
	Addition	0.00	0.00	0.00	0.00	0.00

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Repayments of Loans during the year	125.00	125.00	125.00	125.00	125.00
	Net loan - Closing	1375.00	1250.00	1125.00	1000.00	875.00
	Average Net Loan	1437.50	1312.50	1187.50	1062.50	937.50
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	114.28	104.34	94.41	84.47	74.53
	HDFC-IX D10					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans	0.00	83.33	166.67	250.00	333.33
	Net loan - Opening	1000.00	916.67	833.33	750.00	666.67
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	83.33	83.33	83.33	83.33	83.33
	Net loan - Closing	916.67	833.33	750.00	666.67	583.33
	Average Net Loan	958.33	875.00	791.67	708.33	625.00
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	76.19	69.56	62.94	56.31	49.69
	HDFC-IX Total					
	Gross loan - Opening	4500.00	4500.00	4500.00	4500.00	4500.00
	Cumulative repayments of Loans	0.00	375.00	750.00	1125.00	1500.00
	Net loan - Opening	4500.00	4125.00	3750.00	3375.00	3000.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	375.00	375.00	375.00	375.00	375.00
	Net loan - Closing	4125.00	3750.00	3375.00	3000.00	2625.00
	Average Net Loan	4312.50	3937.50	3562.50	3187.50	2812.50
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	342.84	313.03	283.22	253.41	223.59
	HDFC-VII D2					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	222.22	444.44
	Net loan - Opening	2000.00	2000.00	2000.00	1777.78	1555.56
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	222.22	222.22	222.22
	Net loan - Closing	2000.00	2000.00	1777.78	1555.56	1333.33
	Average Net Loan	2000.00	2000.00	1888.89	1666.67	1444.44
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	159.00	159.00	150.17	132.50	114.83
	HDFC-VII D3					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	222.22	444.44
	Net loan - Opening	2000.00	2000.00	2000.00	1777.78	1555.56
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	222.22	222.22	222.22
	Net loan - Closing	2000.00	2000.00	1777.78	1555.56	1333.33
	Average Net Loan	2000.00	2000.00	1888.89	1666.67	1444.44
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	159.00	159.00	150.17	132.50	114.83
	HDFC -VII Total					

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Gross loan - Opening	4000.00	4000.00	4000.00	4000.00	4000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	444.44	888.89
	Net loan - Opening	4000.00	4000.00	4000.00	3555.56	3111.11
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	444.44	444.44	444.44
	Net loan - Closing	4000.00	4000.00	3555.56	3111.11	2666.67
	Average Net Loan	4000.00	4000.00	3777.78	3333.33	2888.89
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	318.00	318.00	300.33	265.00	229.67
	HDFC-X-D4					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans	0.00	0.00	83.33	166.67	250.00
	Net loan - Opening	1000.00	1000.00	916.67	833.33	750.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	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	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	79.50	76.19	69.56	62.94	56.31
	HDFC-X-D2					
	Gross loan - Opening	2500.00	2500.00	2500.00	2500.00	2500.00
	Cumulative repayments of Loans	0.00	0.00	208.33	416.67	625.00
	Net loan - Opening	2500.00	2500.00	2291.67	2083.33	1875.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	208.33	208.33	208.33	208.33
	Net loan - Closing	2500.00	2291.67	2083.33	1875.00	1666.67
	Average Net Loan	2500.00	2395.83	2187.50	1979.17	1770.83
	Rate of Interest on Loan	7.95%	7.95%	7.95%	7.95%	7.95%
	Interest on loan	198.75	190.47	173.91	157.34	140.78
	HDFC-X Total					
	Gross loan - Opening	3500.00	3500.00	3500.00	3500.00	3500.00
	Cumulative repayments of Loans	0.00	0.00	291.67	583.33	875.00
	Net loan - Opening	3500.00	3500.00	3208.33	2916.67	2625.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	291.67	291.67	291.67	291.67
	Net loan - Closing	3500.00	3208.33	2916.67	2625.00	2333.33
	Average Net Loan	3500.00	3354.17	3062.50	2770.83	2479.17
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	278.25	266.66	243.47	220.28	197.09
	SBI-VII D-12					
	Gross loan - Opening	1700.00	1700.00	1700.00	1700.00	1700.00
	Cumulative repayments of Loans upto previous year	1700.00	1700.00	1700.00	1700.00	1700.00
	Net loan - Opening	0.00	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Average Net Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.10%	8.10%	8.10%	8.10%	8.10%
	Interest on loan	0.00	0.00	0.00	0.00	0.00

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	SBI-VII D-16					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans upto previous year	2000.00	2000.00	2000.00	2000.00	2000.00
	Net loan - Opening	0.00	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.10%	8.10%	8.10%	8.10%	8.10%
	Interest on loan	0.00	0.00	0.00	0.00	0.00
	SBI-VII Total					
	Gross loan - Opening	3700.00	3700.00	3700.00	3700.00	3700.00
	Cumulative repayments of Loans upto previous year	3700.00	3700.00	3700.00	3700.00	3700.00
	Net loan - Opening	0.00	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0	0	0	0	0
	Interest on loan	0.00	0.00	0.00	0.00	0.00
	SBI VIII - T1 D1					
	Gross loan - Opening	6000.00	6000.00	6000.00	6000.00	6000.00
	Cumulative repayments upto previous year	2000.00	2666.67	3333.33	4000.00	4666.67
	Net loan - Opening	4000.00	3333.33	2666.67	2000.00	1333.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	666.67	666.67	666.67	666.67	666.67
	Net loan - Closing	3333.33	2666.67	2000.00	1333.33	666.67
	Average Net Loan	3666.67	3000.00	2333.33	1666.67	1000.00
	Rate of Interest on Loan with monthly rests	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest on loan	300.67	246.00	191.33	136.67	82.00
	SBI VIII - T1 D18					
	Gross loan - Opening	0.00	0.00	0.00	0.00	0.00
	Cumulative repayments upto previous year	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan with monthly rests	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest on loan	0.00	0.00	0.00	0.00	0.00
	SBI VIII - Total					
	Gross loan - Opening	6000.00	6000.00	6000.00	6000.00	6000.00

PART-I
FORM-13

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **Korba- I&II**

Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
	Cumulative repayments upto previous year	2000.00	2666.67	3333.33	4000.00	4666.67
	Net loan - Opening	4000.00	3333.33	2666.67	2000.00	1333.33
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	666.67	666.67	666.67	666.67	666.67
	Net loan - Closing	3333.33	2666.67	2000.00	1333.33	666.67
	Average Net Loan	3666.67	3000.00	2333.33	1666.67	1000.00
	Rate of Interest on Loan with monthly rests	8.2000%	8.2000%	8.2000%	8.2000%	8.2000%
	Interest on loan	300.67	246.00	191.33	136.67	82.00
	PNB III - T1 D4					
	Gross loan - Opening	10000.00	10000.00	10000.00	10000.00	10000.00
	Cumulative repayments upto previous year	3333.33	4444.44	5555.56	6666.67	7777.78
	Net loan - Opening	6666.67	5555.56	4444.44	3333.33	2222.22
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	1111.11	1111.11	1111.11	1111.11	1111.11
	Net loan - Closing	5555.56	4444.44	3333.33	2222.22	1111.11
	Average Net Loan	6111.11	5000.00	3888.89	2777.78	1666.67
	Rate of Interest on Loan with monthly rests	7.90%	7.90%	7.90%	7.90%	7.90%
	Interest on loan	482.78	395.00	307.22	219.44	131.67
	PNB III - T1 D3					
	Gross loan - Opening	4000.00	4000.00	4000.00	4000.00	4000.00
	Cumulative repayments upto previous year	1333.33	1777.78	2222.22	2666.67	3111.11
	Net loan - Opening	2666.67	2222.22	1777.78	1333.33	888.89
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	444.44	444.44	444.44	444.44	444.44
	Net loan - Closing	2222.22	1777.78	1333.33	888.89	444.44
	Average Net Loan	2444.44	2000.00	1555.56	1111.11	666.67
	Rate of Interest on Loan with monthly rests	7.90%	7.90%	7.90%	7.90%	7.90%
	Interest on loan	193.11	158.00	122.89	87.78	52.67
	PNB III - Total					
	Gross loan - Opening	14000.00	14000.00	14000.00	14000.00	14000.00
	Cumulative repayments upto previous year	4666.67	6222.22	7777.78	9333.33	10888.89
	Net loan - Opening	9333.33	7777.78	6222.22	4666.67	3111.11
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	1555.56	1555.56	1555.56	1555.56	1555.56
	Net loan - Closing	7777.78	6222.22	4666.67	3111.11	1555.56
	Average Net Loan	8555.56	7000.00	5444.44	3888.89	2333.33
	Rate of Interest on Loan with monthly rests	7.9000%	7.9000%	7.9000%	7.9000%	7.9000%
	Interest on loan	675.89	553.00	430.11	307.22	184.33

INTEREST RATE MOVEMENT FY 2023-24

S.NO	BANK	RATE OF INTEREST	From	To	Number of Days	Product	Weighted Average Rate of Interest
1	State Bank of India - VIII	8.00%	01-Apr-23	13-May-23	43.00	3.44	
	State Bank of India - VIII	8.10%	14-May-23	13-Aug-23	92.00	7.45	
	State Bank of India - VIII	8.15%	14-Aug-23	13-Feb-24	184.00	15.00	
	State Bank of India - VIII	8.20%	14-Feb-24	31-Mar-24	47.00	3.85	
					366.00	**29.74**	**8.13%**
2	Punjab National Bank III	7.90%	01-Apr-23	31-Mar-24	366.00	28.91	
					366.00	**28.91**	**7.90%**
3	HDFC Bank Limited-VII	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC Bank Limited-VII	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	**29.13**	**7.96%**
4	HDFC-IX	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC-IX	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	**29.13**	**7.96%**
5	HDFC-X	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC-X	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	**29.13**	**7.96%**
6	ICICI Bank-VII	8.10%	01-Apr-23	02-Sep-23	155.00	12.56	
	ICICI Bank-VII	8.15%	03-Sep-23	12-Sep-23	10.00	0.82	
	ICICI Bank-VII	8.00%	13-Sep-23	31-Mar-24	201.00	16.08	
					366.00	**29.45**	**8.05%**
7	IndusInd Bank	8.00%	01-Apr-23	14-Apr-23	14.00	1.12	
	IndusInd Bank	8.10%	15-Apr-23	14-Jul-23	91.00	7.37	
	IndusInd Bank	8.15%	15-Jul-23	19-Sep-23	67.00	5.46	
	IndusInd Bank	8.00%	20-Sep-23	19-Dec-23	91.00	7.28	
	IndusInd Bank	8.05%	20-Dec-23	31-Mar-24	103.00	8.29	
					366.00	**29.52**	**8.07%**
8	HDFC Bank Limited-IV	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC Bank Limited-IV	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	**29.13**	**7.96%**
9	Bank Of India-IV	8.00%	01-Apr-23	31-Mar-24	366.00	29.28	
					366.00	**29.28**	**8.00%**

Refinancing of Loans during 2019-24

NTPC LTD

Korba I & II

Prepayment of Loans during 2020-21

Sr. No.	Bank	ROI on prepayment date	Date of Prepayment	Replaced with Bank	ROI of relplaced Loan	Prepayment Amount	Saving	Saving shared	saving retained
1	Power Finance Corporation - V	7.34%	15.10.2020	Bonds 72	5.45%	62,00,00,000	1.89%	0.95%	0.95%

Part-I
Form-15

Details of Primary Fuel for Computation of Energy Charges

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Korba STPP Stage-I & II

S. No.	Particular	Unit	Apr-23		May-23		Jun-23		Jul-23	
			Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**									
1	Opening Quantity of Coal	(MT)	3,33,845.07	0.00	3,45,478.68	0.00	2,51,288.91	0.00	3,32,048.86	0.00
2	Value of Stock	(Rs.)	62,33,15,841.13	0.00	65,21,88,636.17	0.00	47,72,81,617.59	0.00	63,03,96,179.06	0.00
B)	**QUANTITY**									
3	Quantity of Coal supplied by Coal Company	(MT)	12,60,197.86	0.00	12,42,013.25	0.00	11,67,675.30	0.00	10,59,413.04	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Compar	(MT)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	12,60,197.86	0.00	12,42,013.25	0.00	11,67,675.30	0.00	10,59,413.04	0.00
6	Normative Transit & Handling Losses (For Coal based Projec	(MT)	2,564.25	0.00	2,484.03	0.00	2,335.35	0.00	2,161.51	0.00
7	Net Coal Supplied (5-6)	(MT)	12,57,633.61	0.00	12,39,529.22	0.00	11,65,339.95	0.00	10,57,251.53	0.00
C)	**PRICE**									
8	**Amount charged by the Coal Company**	(Rs.)	2,31,86,46,702.00	0.00	2,29,01,46,185.00	0.00	2,15,37,39,368.00	0.00	1,95,50,46,864.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Compan	(Rs.)	1,23,19,063.63	0.00	1,74,92,230.98	0.00	64,33,783.73	0.00	-1,15,22,261.70	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	3,68,72,666.01	0.00	3,62,43,459.81	0.00	3,91,96,540.31	0.00	2,88,62,566.65	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2,36,78,38,431.64	0.00	2,34,38,81,875.79	0.00	2,19,93,69,692.04	0.00	1,97,23,87,168.96	0.00
D)	**TRANSPORATION**									
12	Transportation charges by rail/ship/road transport	(Rs.)								
	By Rail		0.00	0.00	0.00	0.00	0.00	0.00	8,78,543.00	0.00
	By Road		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship									
	……..									
13	Adjustment (+/-) in amount charged made by Railways/Tran	(Rs.)								
14	Demurrage Charges, if any	(Rs.)								
15	Cost of fuel in transporting Coal through MGR system, if ap	(Rs.)	1,32,11,436.58	0.00	1,43,89,219.61	0.00	1,28,24,649.08	0.00	1,23,31,766.37	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	1,32,11,436.58	0.00	1,43,89,219.61	0.00	1,28,24,649.08	0.00	1,32,10,309.37	0.00
17	Other Charges	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Total amount Charged for Coal supplied including Transport	(Rs.)	2,38,10,49,868.22	0.00	2,35,82,71,095.40	0.00	2,21,21,94,341.12	0.00	1,98,55,97,478.33	0.00
E)	**TOTAL COST**									
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	1,887.78	0.00	1,899.33	0.00	1,898.50	0.00	1,882.96	0.00
20	Blending Ratios		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
21	**Weighted average cost of Coal**	**Rs./MT**	**1,887.78**		**1,899.33**		**1,898.50**		**1,882.96**	
F)	**QUALITY**									
22	GCV of Domestic Coal of the opening coal stock as per bill o	(kCal/Kg)	4,169.00		4,173.00		3,974.00		4,159.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4,001.00		4,001.00		4,001.00		4,001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal C	(kCal/Kg)		0.00		0.00		0.00		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00		0.00		0.00		0.00
26	Weighted average GCV of coal as Billed	(kCal/Kg)	4,001.00		4,001.00		4,001.00		4,001.00	
27	GCV of Domestic Coal of the opening stock as received at St	(kCal/Kg)	3,166.00		3,337.00		3,266.00		3,571.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3,383.00		3,246.00		3,637.00		3,493.00	
29	GCV of Imported Coal of opening stock as received at Statio	(kCal/Kg)		0.00		0.00		0.00		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00		0.00		0.00		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3,337.00**		**3,266.00**		**3,571.00**		**3,512.00**	

Part-I
Form-15

Details of Primary Fuel for Computation of Energy Charges

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Korba STPP Stage-I & II

S. No.	Particular	Unit	Aug-23		Sep-23		Oct-23		Nov-23	
			Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**									
1	Opening Quantity of Coal	(MT)	3,33,507.38	0.00	2,97,683.34	0.00	2,77,614.27	0.00	2,50,142.70	0.00
2	Value of Stock	(Rs.)	62,79,80,248.45	0.00	56,51,86,010.05	0.00	53,01,43,101.58	0.00	47,62,66,585.60	0.00
B)	**QUANTITY**									
3	Quantity of Coal supplied by Coal Company	(MT)	9,62,273.50	0.00	10,49,032.00	0.00	11,31,735.90	0.00	11,22,128.40	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Compar	(MT)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	9,62,273.50	0.00	10,49,032.00	0.00	11,31,735.90	0.00	11,22,128.40	0.00
6	Normative Transit & Handling Losses (For Coal based Projec	(MT)	1,924.55	0.00	2,098.06	0.00	2,263.47	0.00	2,244.26	0.00
7	Net Coal Supplied (5-6)	(MT)	9,60,348.95	0.00	10,46,933.94	0.00	11,29,472.43	0.00	11,19,884.14	0.00
C)	**PRICE**									
8	**Amount charged by the Coal Company**	(Rs.)	1,77,48,30,339.99	0.00	1,93,48,48,889.01	0.00	2,08,73,89,095.00	0.00	2,08,14,51,229.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Compan	(Rs.)	1,67,88,178.37	0.00	2,71,10,391.93	0.00	2,15,32,074.12	0.00	8,34,43,555.96	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	2,47,01,092.61	0.00	2,76,07,598.77	0.00	2,78,49,310.37	0.00	1,62,72,377.34	0.00
11	Total amount Charged (8+9+10)	(Rs.)	1,81,63,19,610.97	0.00	1,98,95,66,879.70	0.00	2,13,67,70,479.49	0.00	2,18,11,67,162.30	0.00
D)	**TRANSPORATION**									
12	Transportation charges by rail/ship/road transport	(Rs.)								
	By Rail		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Road		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship									
	……..									
13	Adjustment (+/-) in amount charged made by Railways/Tran	(Rs.)								
14	Demurrage Charges, if any	(Rs.)								
15	Cost of fuel in transporting Coal through MGR system, if ap	(Rs.)	1,22,35,024.00	0.00	1,29,80,983.50	0.00	1,21,50,715.50	0.00	1,29,37,594.60	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	1,22,35,024.00	0.00	1,29,80,983.50	0.00	1,21,50,715.50	0.00	1,29,37,594.60	0.00
17	Other Charges	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Total amount Charged for Coal supplied including Transport	(Rs.)	1,82,85,54,634.97	0.00	2,00,25,47,863.20	0.00	2,14,89,21,194.99	0.00	2,19,41,04,756.90	0.00
E)	**TOTAL COST**									
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	1,898.61	0.00	1,909.64	0.00	1,903.98	0.00	1,949.14	0.00
20	Blending Ratios		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
21	**Weighted average cost of Coal**	**Rs./MT**	**1,898.61**		**1,909.64**		**1,903.98**		**1,949.14**	
F)	**QUALITY**									
22	GCV of Domestic Coal of the opening coal stock as per bill o	(kCal/Kg)	4,206.00		4,368.00		4,503.00		4,395.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4,001.00		4,001.00		4,001.00		4,001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal C	(kCal/Kg)		0.00		0.00		0.00		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00		0.00		0.00		0.00
26	Weighted average GCV of coal as Billed	(kCal/Kg)	4,001.00		4,001.00		4,001.00		4,398.00	
27	GCV of Domestic Coal of the opening stock as received at St	(kCal/Kg)	3,512.00		3,701.00		3,921.00		3,917.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3,767.00		3,983.00		3,916.00		3,681.00	
29	GCV of Imported Coal of opening stock as received at Statio	(kCal/Kg)		0.00		0.00		0.00		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00		0.00		0.00		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3,701.00**		**3,921.00**		**3,917.00**		**3,724.00**	

Part-I
Form-15

Details of Primary Fuel for Computation of Energy Charges

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Korba STPP Stage-I & II

S. No.	Particular	Unit	Dec-23		Jan-24		Feb-24		Mar-24	
			Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal	Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**									
1	Opening Quantity of Coal	(MT)	1,94,129.84	0.00	71,653.32	0.00	1,77,719.05	0.00	3,08,095.50	0.00
2	Value of Stock	(Rs.)	37,83,85,850.08	0.00	13,87,84,579.00	0.00	34,53,96,915.43	0.00	59,81,27,313.52	0.00
B)	**QUANTITY**									
3	Quantity of Coal supplied by Coal Company	(MT)	11,69,977.68	0.00	12,51,773.20	0.00	10,83,126.70	0.00	11,38,103.80	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Compar	(MT)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	11,69,977.68	0.00	12,51,773.20	0.00	10,83,126.70	0.00	11,38,103.80	0.00
6	Normative Transit & Handling Losses (For Coal based Projec	(MT)	2,384.20	0.00	2,594.47	0.00	2,166.25	0.00	2,276.21	0.00
7	Net Coal Supplied (5-6)	(MT)	11,67,593.48	0.00	12,49,178.73	0.00	10,80,960.45	0.00	11,35,827.59	0.00
C)	**PRICE**									
8	**Amount charged by the Coal Company**	(Rs.)	2,17,19,44,282.00	0.00	2,32,55,79,957.00	0.00	2,00,91,06,451.00	0.00	2,11,10,84,219.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Compan	(Rs.)	6,07,54,573.84	0.00	7,03,24,378.09	0.00	6,08,49,849.76	0.00	6,39,38,421.36	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	1,25,34,946.14	0.00	1,85,99,239.10	0.00	1,56,18,193.61	0.00	1,66,25,641.52	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2,24,52,33,801.98	0.00	2,41,45,03,574.19	0.00	2,08,55,74,494.37	0.00	2,19,16,48,281.88	0.00
D)	**TRANSPORATION**									
12	Transportation charges by rail/ship/road transport	(Rs.)								
	By Rail		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Road		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship									
	……..									
13	Adjustment (+/-) in amount charged made by Railways/Tran	(Rs.)								
14	Demurrage Charges, if any	(Rs.)								
15	Cost of fuel in transporting Coal through MGR system, if ap	(Rs.)	1,38,88,147.74	0.00	1,37,47,734.63	0.00	1,25,90,213.22	0.00	1,19,69,790.56	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	1,38,88,147.74	0.00	1,37,47,734.63	0.00	1,25,90,213.22	0.00	1,19,69,790.56	0.00
17	Other Charges	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Total amount Charged for Coal supplied including Transport	(Rs.)	2,25,91,21,949.72	0.00	2,42,82,51,308.82	0.00	2,09,81,64,707.59	0.00	2,20,36,18,072.44	0.00
E)	**TOTAL COST**									
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	1,936.89	0.00	1,943.50	0.00	1,941.37	0.00	1,940.37	0.00
20	Blending Ratios		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
21	**Weighted average cost of Coal**	**Rs./MT**	**1,936.89**		**1,943.50**		**1,941.37**		**1,940.37**	
F)	**QUALITY**									
22	GCV of Domestic Coal of the opening coal stock as per bill o	(kCal/Kg)	4,399.00		4,147.00		3,931.00		4,141.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4,001.00		4,001.00		4,001.00		4,001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal C	(kCal/Kg)		0.00		0.00		0.00		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00		0.00		0.00		0.00
26	Weighted average GCV of coal as Billed	(kCal/Kg)	4,058.00		4,009.00		3,991.00		4,031.00	
27	GCV of Domestic Coal of the opening stock as received at St	(kCal/Kg)	3,724.00		3,445.00		3,503.00		3,540.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3,395.00		3,506.00		3,546.00		3,606.00	
29	GCV of Imported Coal of opening stock as received at Statio	(kCal/Kg)		0.00		0.00		0.00		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00		0.00		0.00		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3,442.00**		**3,503.00**		**3,540.00**		**3,592.00**	

FORM- 15A: Details of Secondary Fuel for Computation of Energy Charges

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
			HFO	LDO	LDO	LDO	LDO	LDO	LDO	LDO	LDO	LDO	LDO	LDO
A)	OPENING QUANTITY													
1	Opening Stock of Oil	(KL)	250.62	3,433.57	3,412.57	3,222.57	2,558.57	2,202.57	1,897.57	2,640.55	2,748.55	2,849.55	3,395.55	2,676.55
2	Value of Opening Stock	(Rs.)	78,66,650.05	32,34,88,344.50	32,15,09,862.85	30,36,09,314.60	23,98,95,008.42	19,92,14,953.03	17,32,42,991.97	24,28,14,496.43	25,26,61,931.30	25,88,62,648.67	30,35,61,384.71	23,84,15,017.94
B)	QUANTITY													
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	0.00	82.00	632.00	383.00	742.98	257.00	341.00	570.00	487.00	683.00
4	Adjustment(+/-) in qnty.supplied made by Oil Cor	(KL)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	0.00	82.00	632.00	383.00	742.98	257.00	341.00	570.00	487.00	683.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	0.00	82.00	632.00	383.00	742.98	257.00	341.00	570.00	487.00	683.00
C)	PRICE													
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	0.00	62,31,670.00	4,86,81,178.80	3,68,40,572.06	6,95,71,504.46	2,35,44,364.62	2,80,03,158.00	4,68,44,330.50	4,22,78,680.20	5,24,87,307.80
9	Adjustment (+/-) in amount charged by Oil Comp	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Handling, Sampling and such other similar charge	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Total amount Charged (8+9+10)	(Rs.)	0.00	0.00	0.00	62,31,670.00	4,86,81,178.80	3,68,40,572.06	6,95,71,504.46	2,35,44,364.62	2,80,03,158.00	4,68,44,330.50	4,22,78,680.20	5,24,87,307.80
D)	TRANSPORATION													
12	Transportation charges by rail/ship/road transpo	(Rs.)												
	By Rail													
	By Road													
	By Ship													
	.....													
13	Adjustment(+/-) in amount made byRailways/ Tra	(Rs.)												
14	Demurrage Charges, if any	(Rs.)												
15	Total Transportation Charges (12+13+14+15)	(Rs.)												
16	Other Charges	(Rs.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including t	(Rs.)	0.00	0.00	0.00	62,31,670.00	4,86,81,178.80	3,68,40,572.06	6,95,71,504.46	2,35,44,364.62	2,80,03,158.00	4,68,44,330.50	4,22,78,680.20	5,24,87,307.80
E)	TOTAL COST													
18	Weighted average cost of Oil	(Rs./KL)	31,388.88	94,213.41	94,213.41	93,761.36	90,446.59	91,297.29	91,956.20	91,925.70	90,843.50	89,399.77	89,075.50	86,589.67
19	Blending Ratio		0.81	1.00	0.98	0.98	1.00	1.00	0.00	0.97	0.96	0.96	1.00	0.99
20	**Weighted Average Cost of Secondary fuel For the month**		**31,388.88**	**94,213.41**	**94,213.41**	**93,761.36**	**90,446.59**	**91,297.29**	**91,956.20**	**91,925.70**	**90,843.50**	**89,399.77**	**89,075.50**	**86,589.67**
F)	QUALITY													
21	GCV of Domestic Secondary fuel of the opening S	Kcal/KL	10,117.00	9,408.00	9,280.00	9,280.00	9,241.00	9,280.00	9,280.00	9,224.00	9,224.00	9,224.00	9,224.00	9,280.00
22	GCV of Domestic Secondary fuel supplied as per l	Kcal/KL	0.00	0.00	0.00	9,241.00	9,280.00	9,280.00	9,224.00	9,224.00	9,224.00	9,224.00	9,280.00	9,224.00
23	GCV of Imported Secondary fuel of the opening s	Kcal/KL	-	-	-	-	-	-	-	-	-	-	-	-
24	GCV of Imported Secondary fuel supplied as per l	Kcal/KL	-	-	-	-	-	-	-	-	-	-	-	-
25	Weighted average GCV of Secondary fuel as Bille	Kcal/KL	10,117.00	9,408.00	9,280.00	9,279.03	9,248.73	9,280.00	9,264.24	9,224.00	9,224.00	9,224.00	9,231.02	9,268.62
26	GCV of Domestic Secondary fuel of the opening s	Kcal/KL	10,117.00	9,408.00	9,280.00	9,280.00	9,241.00	9,280.00	9,280.00	9,224.00	9,224.00	9,224.00	9,224.00	9,280.00
27	GCV of Domestic Secondary fuel supplied as rece	Kcal/KL	0.00	0.00	0.00	9,241.00	9,280.00	9,280.00	9,224.00	9,224.00	9,224.00	9,224.00	9,280.00	9,224.00
28	GCV of Imported Secondary fuel of opening stock	Kcal/KL	-	-	-	-	-	-	-	-	-	-	-	-
29	GCV of Imported Secondary fuel supplied as rece	Kcal/KL	-	-	-	-	-	-	-	-	-	-	-	-
30	**Weighted average GCV of Secondary fuel as Rec**	**Kcal/KL**	**10,117.00**	**9,408.00**	**9,280.00**	**9,279.03**	**9,248.73**	**9,280.00**	**9,264.24**	**9,224.00**	**9,224.00**	**9,224.00**	**9,231.02**	**9,268.62**

Form-O(i)
Additional Form

Name of Petitioner: NTPC Ltd
Name of Station: Korba-I&II

Computation of Energy Charges

Parameter	Unit	2024-25	2025-26	2026-27	2027-28	2028-29
No of Days in the year	Days	365.00	365.00	365.00	366.00	365.00
Sp. Oil consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
Auxiliary consumption	%	6.68	6.68	6.68	6.68	6.68
Heat Rate	kCal/kWh	2386.43	2386.43	2386.43	2386.43	2386.43
Coal & Oil Parameters						
Wtd. Avg. Price of Coal	Rs./MT	1916.01	1916.01	1916.01	1916.01	1916.01
Wtd. Avg. GCV of Coal as received	kCal/kg	3585.50	3585.50	3585.50	3585.50	3585.50
Wtd. Avg. GCV of Coal as received after adj of 85 kcal/kg	kCal/kg	3500.50	3500.50	3500.50	3500.50	3500.50
Wtd. Avg. Price of Secondary Fuel	Rs/KL	86259.27	86259.27	86259.27	86259.27	86259.27
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9337.39	9337.39	9337.39	9337.39	9337.39
Computation of Variable Charges						
Heat Contribution from SFO/ Alternate Fuel	kCal/kWh	4.67	4.67	4.67	4.67	4.67
Heat Contribution from coal	kCal/kWh	2,381.76	2,381.76	2,381.76	2,381.76	2,381.76
Specific Primary Fuel Consumption	kg/kWh	0.680	0.680	0.680	0.680	0.680
Variable Charge (Coal)	paise/kWh	139.696	139.696	139.696	139.696	139.696
Variable Charge (Oil)	paise/kWh	4.622	4.622	4.622	4.622	4.622
Total Variable Charges	paise/kWh	144.317	144.317	144.317	144.317	144.317
Computation of Fuel Expenses for Calculation of IOWC:						
ESO in a year	(MUs)	14248.95	14248.95	14248.95	14287.99	14248.95
ESO for 40 days	(MUs)	1561.529	1561.529	1561.529	1561.529	1561.529
ESO for 45 days	(MUs)	1756.720	1756.720	1756.720	1756.720	1756.720
Cost of coal for 40 Days	(Rs. Lakh)	21813.901	21813.901	21813.901	21813.901	21813.901
Cost of oil for 2 months	(Rs. Lakh)	1097.55	1097.55	1097.55	1100.56	1097.55
Energy Expenses for 45 days	(Rs. Lakh)	25352.53	25352.53	25352.53	25352.53	25352.53

PETITIONER

PART-I
FORM- L

Statement of Capital cost

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Korba-I&II**
COD	**01-06-1990**

Sl. No.	Particulars	2024-25		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	3,51,037.20	4,825.25	3,46,211.95
	b) Amount of IDC in A(a) above	6,289.46	0.00	6,289.46
	c) Amount of FC in A(a) above	0.00	0.00	0.00
	d) Amount of FERV in A(a) above	2,934.93	0.00	2,934.93
	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 the period (Direct purchases)	Shall be provided at truing-up for 2024-29		
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

PART-I
FORM- M

Statement of Capital Works in Progress

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Korba-I&II**
COD	**01-06-1990**

(Amount in Rs Lakh)

Sl. No.	Particulars	2024-25		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	17,962.42	2,428.59	15,533.84
	b) Amount of IDC in A(a) above	331.81	-	331.81
	c) Amount of FC in A(a) above	-	-	-
	d) Amount of FERV in A(a) above	-0.65	-	-0.65
	e) Amount of Hedging Cost in A(a) above	-	-	-
	f) Amount of IEDC in A(a) above	-	-	-
				-
B	a) Addition in CWIP during the period	Shall be provided at truing-up for 2024-29		
	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			

PART-I
FORM- N

Calculation of Interest on Normative Loan

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Korba-I&II**

(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
1	Gross Normative loan – Opening	1,01,959.68	1,05,086.41	1,13,497.61	1,21,096.11	1,31,975.51	1,31,975.51
2	Cumulative repayment of Normative loan up to previous year	1,01,959.68	1,05,086.41	1,12,944.28	1,21,096.11	1,31,975.51	1,31,975.51
3	**Net Normative loan – Opening**	-	-	553.33	-	-	-
4	Add: Increase due to addition during the year / period	3002.19	8411.20	7598.50	10879.40	0.00	0.00
5	Less: Decrease due to de-capitalisation during the year / period	291.51	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	416.05	0.00	0.00	0.00	0.00	0.00
8	Repayment during the year	3418.25	7857.87	8151.83	10879.40	0.00	0.00
9	Repayment adj on account of Decap	291.51	0.00	0.00	0.00	0.00	0.00
10	Repayment adj for discharges upto 01.04.09	0.00	0.00	0.00	0.00	0.00	0.00
11	Less: Net repayment of loan	3126.74	7857.87	8151.83	10879.40	0.00	0.00
12	**Net Normative loan - Closing**	-	553.33	-	-	-	-
13	**Average Normative loan**	-	276.67	276.67	-	-	-
14	Weighted average rate of interest (%)	7.7055	7.7118	7.6913	7.6819	7.6339	7.5673
15	**Interest on Loan**	**0.00**	**21.34**	**21.28**	**0.00**	**0.00**	**0.00**

(Petitioner)

PART 1
FORM- O

Calculation of Interest on Working Capital

Name of the Company :	**NTPC Limited**
Name of the Power Station :	**Korba-I&II**

(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**
1	Cost of Coal/Lignite	23,183.94	21813.90	21813.90	21813.90	21813.90	21813.90
2	Cost of Main Secondary Fuel Oil	410.13	1097.55	1097.55	1097.55	1100.56	1097.55
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	6,498.75	10839.33	10374.67	11160.33	10396.50	10773.50
6	Maintenance Spares	15,597.00	26014.40	24899.20	26784.80	24951.60	25856.40
7	Receivables	38,999.08	45254.47	44901.01	46389.27	44582.04	44345.51
8	Total Working Capital	84688.91	105019.66	103086.34	107245.85	102844.60	103886.86
9	Rate of Interest	12.00	11.90	11.90	11.90	11.90	11.90
10	**Interest on Working Capital**	**10162.67**	**12497.34**	**12267.27**	**12762.26**	**12238.51**	**12362.54**

Petitioner

PART 1
FORM-T

Summary of issue involved in the petition

Name of the Company :		**NTPC Limited**		
Name of the Power Station :		**Korba STPS Stage-I&II**		
1	**Petitioner:**	**NTPC Limited**		
2	**Subject**	**APPROVAL OF TARIFF FOR THE PERIOD 2024-29**		
3	i)Approve tariff of Korba-I&II 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 reimbursement of Ash Utilization Charges directly from the beneficiaries on monthly basis, subject to true up. iv)Allow the recovery of pay/wage revision as additional O&M over and above the normative O&M. v)Pass any other order as it may deem fit in the circumstances mentioned above.			
4	**Respondents: 6**			
	Name of Respondents			
	1.Madhya Pradesh Power Management Company Limited Shakti Bhawan, Vidyut Nagar, Rampur, Jabalpur – 110003	2.Maharashtra State Electricity Distribution Company Limited Prakashgad, Bandra (East), Mumbai – 400051.		
	3.Gujarat Urja Vikas Nigam Limited 2nd Floor, Sardar Patel Vidyut Bhawan, Race Course, Vadodara – 390007.	4. Chattisgarh State Power Distribution Co. Ltd., P.O. Sundar Nagar, Danganiya, Raipur – 492013		
	5.Electricity Department Government of Goa, 3rd Floor, Vidyut Bhawan, Panaji, Goa – 403001.	6.Dadra and Nagar haveli and Daman and Diu Power Distribution Corporation Limited (DNHDDPCL) 1st & 2nd floor, Vidyut Bhavan, 66 kV Road Dadra and Nagar haveli and Daman and Diu - 396230		
6	**Project Scope**	**2100 MW Coal based Station**		
7	**COD**	**01.06.1990**		
8	**Claim: Add Cap**	**(Rs Lakh)**		
	2024-25	**12,016.00**		
	2025-26	**10,855.00**		
	2026-27	**15,542.00**		
	2027-28	**-**		
	2028-29	**-**		
9	**AFC (2028-29)**	**1,76,629.18**		
10	**Capital cost as on 31.03.29**	**2,31,936.30**		
11	**NAPAF (Gen)**	**83%**		
12	**Any Specific**	**-**		

Justification for 7th raising of Dhanras Ash Dyke of Korba STPS

Raising of Ash Dyke is required in coal based thermal stations to have sufficient dyke capacity available for disposal of ash being generated on continuous basis due to Plant operation. It is submitted that since Korba STPS is a pit head station, with relatively low energy charges, it is scheduled on sustained basis by beneficiaries leading to high PLF and thus resulting into huge quantity of ash being generated on continuous basis. Notably, about 45 lakh cubic metre of ash is generated on annual basis from Korba STPS and to ensure that Plant is operated on sustained basis, it is absolute must to have simultaneous facilities for disposal of ash being generated on continuous basis.

It is also pertinent to note that the instant Station is located in Korba district of Chhattisgarh, which has a number of other coal-based thermal power stations apart from the instant station. However, the number of cement industries, which are foremost consumers of fly ash, are not commensurate with the coal-based power plants in the region. Also, since Plant is located at remote location, bulk consumers of ash do not prefer the instant Station considering large transportation distance involved. Therefore, due to low demand of ash in the nearby regions and high supply of ash owing to multiple coal-based plants in the vicinity, the ash utilization from the instant station has remained low. Therefore, the Petitioner has actively explored various other options of ash utilization and has been utilizing ash in road projects, mine void filling, low lying area filling, etc. However, in spite of best efforts of the Petitioner, the ash utilization percentage has remained low/ moderate since demand of ash and avenues for utilization of ash are largely dependent on external factors and market-based forces which are not within the control of the Petitioner. The details of ash utilization in the last 05 years for the instant Station are depicted below:

FY	Ash Generated (cu.m.)	Ash utilized in raising of ash dyke (cu.m)	Ash Utilized other than in raising of dyke (cu.m.)	Total ash utilization (cu.m.)	Ash Utilization (%)		
					On account of ash utilized in raising dyke	On account of ash utilized other than in raising	Total
2019-20	41,64,673	17,42,583	10,48,000	27,90,583	42%	25%	67%
2020-21	39,93,928	14,97,088	13,88,356	28,85,443	37%	35%	72%
2021-22	43,05,609	12,21,425	11,66,348	23,87,773	28%	27%	55%
2022-23	45,47,732	9,96,826	13,34,413	23,31,239	22%	29%	51%
2023-24	43,29,622	8,76,740	26,58,903	35,35,643	20%	62%	82%

Form the above table, it is evident that ash utilization percentage of the instant station has been low/ moderate and in fact, significant percentage of ash has been utilized in raising of ash dyke. Also, importantly, a considerable percentage of ash was utilized in road projects, availability of which as an avenue for ash utilization is dependent on road projects coming up. It is also pertinent to note that within a year, ash utilization percentage varies form season to season with relatively lower utilization during monsoons. However, since Plant is operated and ash is generated on continuous basis, there is always a requirement to have sufficient capacity of dyke for disposal of ash since utilization of ash is staggered and may not simultaneously coincide with generation of ash. Also, bottom ash generated is mixed with water and has to be mandatorily first disposed of in dyke, from where its subsequent utilization takes place. Therefore, it is mandatory for the Petitioner to have adequate capacity of dyke for ensuring generation from the Station.

It is also pertinent to note that in the past, regular raising of ash dyke has been carried out which has led to creation of adequate space for disposal of ash. Till now, 6 nos. of raisings along with strengthening and buttressing have been done in the Dhanras Ash Dyke, with dyke raised up to Elevation 360 m. after the 6th raising. As on 31.03.2024, about 29 lakh cu.m. of capacity was available in dyke, which was enough to cater for disposal of ash for next 8-9 months only. Envisaging criticality of adequate ash dyke capacity, the Petitioner had approached IIT Roorkee for feasibility study of 7th raising of ash dyke and a report regarding the same was submitted by IIT Roorkee after carrying out site visit and necessary technical assessment in April 2023. As per the said report (**copy attached underneath**), IIT Roorkee recommended that it is feasible to carry out 7th raising of Dhanras Ash Dyke in a limited height of 3 m. with upstream raising. Accordingly, the Petitioner has taken up 7th raising of Dhanras Ash Dyke. It is envisaged that 7th raising of ash dyke will lead to capacity creation of about 100 lakh cu.m. (90 lakh cu.m. due to raising of height and 10 lakh cu.m. due to ash utilized in embankment construction for raising height), which would be sufficient to cater to requirement of disposal of ash in dyke, after accounting for ash utilization, for about 02-03 years. Further, since the capacity created due to ash dyke raising as detailed above will be used for disposal of ash generated from Korba-I&II as well as Kobra-III, the capital expenditure projected to be incurred in ash dyke raising & associated works has been allocated in the proportion of capacity amongst Korba-I&II (2100 MW) and Korba-III (500 MW).

In view of the above, it is evident that ash utilization is mainly dependent on external factors and market-based forces, which are not within the control of the Petitioner. In spite of best efforts of the Petitioner and engaging multiple avenues for utilization of ash, the ash utilization percentage of the Station has remained low/ moderate. Also, bottom ash generated is to be mandatorily first disposed in dyke. Therefore, it is submitted that the same are force majeure event for the Petitioner, which prevent the Petitioner from operating the Station until adequate capacity in ash dyke is created by raising the height of dyke to ensure disposal of ash generated on continuous basis. Also, as per environmental norms, it is necessary for the Petitioner to have adequate capacity of dyke for safe disposal of ash.

In view of the aforementioned, the Hon'ble Commission may be pleased to allow the projected additional capitalization for 7th raising of ash dyke & associated works of the instant Station under Regulation 26(1)(b) and 26(1)(c) of Tariff Regulations 2024, as claimed in Form-9 of Appendix-I of the instant Petition.

For Limited Circulation

REPORT ON SITE VISIT AND TECHNICAL ASSESSMENT ON FEASIBILITY OF 7TH RAISING OF DHANRAS ASH DYKE OF KORBA SUPER THERMAL POWER STATION NTPC KORBA

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Roorkee – 247 667

April , 2023

REPORT ON SITE VISIT AND TECHNICAL ASSESSMENT ON FEASIBILITY OF 7TH RAISING OF DHANRAS ASH DYKE OF KORBA SUPER THERMAL POWER STATION NTPC KORBA

1.0 INTRODUCTION

Er. Alok Dubey, Sr Manager(O&M-ADM),Korba Super Thermal Power Station NTPC Korba vide e-mail dated January 11, 2022 requested Prof N K Samadhiya, Department of Civil Engineering, Indian Institute of Technology (IIT) Roorkee regarding site visit and carrying out feasibility study of 7th raising of Dhanras ash dyke in all three lagoons of Korba Super Thermal Power Station. The proposal was given by Dr. N.K. Samadhiya, Professor, Department of Civil Engineering, IIT Roorkee vide letter No. CED/GTE/NKS/1101 dated January, 2022. The acceptance of the proposal was communicated by NTPC Korba, vide Purchase Order No. 4000279642-060-1017 dated June 21, 2022. Prof N K Samadhiya visited the site and its surroundings on August 14, 2022. Another visit was undertaken by Prof. V. A. Sawant on November 25, 2022. During the site visit, technical discussions were held with NTPC Ltd. Korba Officials. This report is based on the observations and discussions held during the site visits and stability analyses of the dykes including proposed 7th raising.

The opinion in this report is the personal and professional opinion of the project investigators involved in this project and should not be considered as an opinion of IIT Roorkee.

2.0 BRIEF ABOUT DYKES

The Korba Super Thermal Power Station (KSTPS), NTPC Limited, which was originally commissioned in the year 1983 is of 2600 MW capacity. The existing ash dyke is located 15 km away from plant and is in service since 2000. The total area of the ash disposal pond is approximately 1500 acres which is divided in to three lagoons namely 1, 2 and 3. The total approximate height of ash filling in the Dhanras Ash dyke is in the range of 25 to 35m including all raisings.

The NTPC Korba officials have shared the drawings of the ash ponds. Figure 1 shows the typical layout plan of lagoons 1, 2 and 3. Figures 2a and 2b show typical cross sections of buttressing of Lagoon 2 and 3 of dyke Dhanras dyke (Drawing No.

Samadhiya

KS/FES/CD-709). Figure 3 shows typical cross-sectional details of sixth raising of Lagoon 1 of Dhanras dyke where base width is more than 51m (Drawing No. KS/FES/CD-669). Figure 4 shows typical cross-sectional details of sixth raising of Lagoon 1 of Dhanras dyke where base width is less than 51m (Drawing No. KS/FES/CD-669). In the starter dyke of Lagoon – I & III, an impervious core is provided and there is no sand chimney and blanket. Figure 5 shows typical cross-sectional details of starter dyke with clay core (Drawing No. 2140-331(R)-POC-C002). Figure 6 shows typical cross section of buttressing and D/S raising between alignment A-B (Drawing KS/FES/CD-751)

3.0 SITE OBSERVATIONS

Following observations were made during site Visits.

1. As reported by the KSTPP engineers, no breaching or slip failure of the existing dykes has occurred in the recent past and all the dykes have been constructed with the structural fill material compacted to at least 95% Standard Proctor Dry Density.
2. Distress was not observed anywhere in all the lagoons. The dykes are said to be in good condition.
3. Seepage was coming out of the rock toes of the dyke. It may therefore be concluded that the drainage system is working satisfactorily. It is suggested to monitor the seeping water periodically coming out of all the rock toes.
4. In general, the free board of the 1.5m is maintained. However, at few places it was less than 1.5m.
5. Rain-cuts were observed at some places of buttressed portion of Lagoon - 3B - Part - II, where earth cover was not completed.

4.0 STABILITY OF DYKES

For each slope composed of homogeneous soils a safety factor of at least 1.5 is commonly employed (IS:7894:2020) for static loading in dry and seepage conditions. For seismic analysis, the recommended value should be more 1.0.

4.1 Geotechnical Parameters

For stability analysis, strength and other geotechnical properties of the material

are established based on field and laboratory tests. A detailed geotechnical investigation was undertaken by M/S K.C.T. Consultancy Services, Ahmedabad to obtain the required subsurface information to study and to indicate the nature and behavior of soil/rock under the application of load of proposed enhancement of ash dyke lagoons 1, 2 and 3. 26 number of Boreholes were advanced. Standard penetration tests were performed at 1.5m interval in the borehole. The boreholes were distributed in natural ground, starter dyke, existing raisings and settled ash areas. Physical and mechanical parameters were obtained from disturbed/undisturbed soil samples (as the case may be) collected from different depths of the boreholes. Soils have been classified as per IS: 1498-1970. The strength parameters have been obtained from laboratory direct shear tests. The stratification may be summarized as follows:

a) The foundation soil consists of clayey to silty sand (SC/SM)
b) The soil in the starter dyke also consists of clayey to silty sand (SC/SM)
c) The soil in the raisings is classified as sand mixed with nonplastic fines (SM). Basically it is pond ash/bottom ash.
d) The soil in the settled ash pond is also classified as sand mixed with nonplastic fines (SM). Basically it is pond ash/bottom ash.

The geotechnical properties of all the material used in the stability analysis, based on the test results presented in the report and general properties of the material, have been judiciously chosen and are Presented in Table 1.

Table 1: Geotechnical Properties of Soil and Ash Materials

Material	Cohesion (kPa)	Angle of Friction ϕ	Unit Weight (kN/m^3)
Foundation (below NGL)	5	33°	18
Starter dyke	5	28°	18
Clay core of Starter dyke	100	5°	18
Compacted Ash	1	29°	15
Pond Ash	2	26°	14

In the static and seismic analyses of the critical sections, the water level was to be 1.5m below the maximum crest elevation of the raisings. A surcharge of 10.0 kN/m^2 on all benches and 25.0 kN/m^2 on raisings has been considered for traffic load.

4.2 Earthquake Loading

The seismic stability analysis is performed for pseudo-static condition assuming suitable earthquake loading. The recommendations published by the Indian Standard (IS: 1893: 1984) suggest that Korba lies in earthquake zones II. Therefore, the strengthening of the existing Ash dyke and subsequent raising of the containment dyke has been considered to withstand the earthquake force applicable for zone III for the condition of long term factor of Safety. In the present case, the ash embankment has been considered to provide a minimum long term factor of safety (FS) of 1.5 for dry static condition and F.S. of 1.0 for earthquake loading associated with the zone II.

The following coefficients have been considered in the analysis:

Horizontal coefficient of earthquake acceleration , α_h= 0.12

Vertical coefficient of earthquake acceleration , α_v= 0.06

4.3 Results

The stability of the dykes has been checked for static and dynamic conditions using the Slide2 software from Rocscience, as per IS:7894:2020. The analysis of Lagoon 1 including buttressing up to fourth raising, subsequent fifth and sixth raising and proposed seventh raising has been carried out for the minimum cross section. The effective height of the VII raising is 3.0m. However, the top width of buttressing is greater than that assumed for the analysis, at many places. The analysis considers pseudo static analysis for dynamic behavior due to earthquake loading. The analyses have been carried out for embankment slopes in dry-static, seepage-static and seepage-dynamic conditions.

As informed by the NTPC officials, the buttressing of the dykes starts from the NGL away from the existing D/S toe, if about 10m space is available beyond the toe. If the space beyond the D/S toe is not available, then in those portions the buttressing is starting either from the top of the starter dyke or from the top of the 1st raising (in case starter dyke does not exist). Therefore, two models have been considered for the analyses. Model 1 and Model 2 are presented in Figs. 7 and 11 representing above mentioned cases. In both these models chimney and filter are considered in starter dyke. Further, in Model 1, the proposed VII raising is considered on the top of VI raising such that chimneys of V, VI and VII raisings are in

vertical alignment whereas in Model 2, The VII raising is considered upstream of VI raising. Model-3 has been considered for stability analysis of dykes with chimney and filter where buttressing is starting from D/S of starter dyke (Lagoon 2) for a typical situation shown in Fig 6. Model-4 considers for stability analysis of dykes with chimney and filter for Model 3 along with over flow lagoon. As informed by the NTPC officials that in the starter dyke of Lagoon – I & III, an impervious core is provided and there is no sand chimney and blanket. Therefore, impervious core has also been considered while analyzing phreatic line. Models 5 and 7 consider clay core in place of chimney and filter of Models 1 and 2. Models 6 and 8 consider clay core along with OFL. All these models represent different possible situations in the ash dykes of KSTPP.

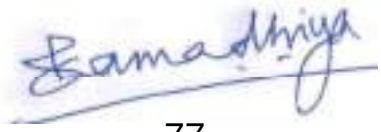
To justify the assumption on the seepage line considered in the analysis for chimney and filter, a typical seepage analysis (not for Korba dyke) has also been performed with SEEP/W module of GeoStudio 2021. It may be seen that the phreatic line obtained from the SLOPE/W (Fig 6a) is lower than that considered in the analysis. Similar exercise has been carried out to justify the assumption on the seepage line considered in the analysis for clay core in the starter dyke. The results are shown in Fig 6b. Therefore, the assumptions on seepage lines used in the analysis are on the conservative side.

In the stability analysis of ash dyke, 500 thick earth cover, 750 mm/ 1000 mm sand layers along slopes in buttressing have not been incorporated in the model as all these will add to the stability of the ash dyke.

Figures 7 to 35 show the results of stability analyses for different cases. The factors of safety for the different cases analyzed are presented in Table as follows.

As can be seen from the table, the factors of safety for static dry and seepage cases are greater than 1.5 and for seepage dynamic conditions are greater than 1.0. Therefore, the dyke is said to be stable along with the proposed seventh raising.

Model	Case	Factor of Safety
Model 1 Starter dyke with sand chimney and horizontal filter	dyke with buttressing, fifth, Sixth and proposed seventh raisings – static dry	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.192
Model 2 Starter dyke with sand chimney and horizontal filter	dyke with buttressing, fifth, Sixth and proposed seventh raisings – static dry	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.157
Model 3 Lagoon 2 AB	dyke with buttressing, fifth, Sixth and proposed seventh raisings – static dry	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.606
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.231
Model 4 (Model 3 plus OFL Lagoon 2 AB)	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.520
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.045
Model 5 Starter dyke with Clay core and horizontal filter	dyke with buttressing, fifth, Sixth and proposed seventh raisings – static dry	1.657
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.657
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.127
Model 6 Starter dyke with Clay core and horizontal filter and OFL	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.647
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.035
Model 7 Starter dyke with Clay core and horizontal filter	dyke with buttressing, fifth, Sixth and proposed seventh raisings – static dry	1.618
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.617
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.086
Model 8 Starter dyke with Clay core and horizontal filter and OFL	dyke with buttressing, fifth, Sixth and proposed seventh raisings – – static seepage	1.672
	dyke with buttressing, fifth, Sixth and proposed seventh raisings – - dynamic seepage	1.044

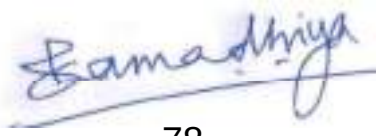


5.0 RECOMMENDATIONS

Based on the above analyses, following recommendations are made:

i. The seventh raising of limited height of 3m with upstream raising is feasible.

ii. The areas in which there is constraint of space (Lagoon 3B), the decision on the raising may be taken by the NTPC officials at site.



रजिस्ट्री सं. डी.एल.- 33004/99 REGD. No. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 5075] नई दिल्ली, शुक्रवार, दिसम्बर 31, 2021/पौष 10, 1943
No. 5075] NEW DELHI, FRIDAY, DECEMBER 31, 2021/PAUSHA 10, 1943

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 31 दिसम्बर, 2021

का.आ. 5481(अ).—केन्द्रीय सरकार ने भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से तीन सौ किलोमीटर के विनिर्दिष्ट व्यास के भीतर ईंटों के विनिर्माण के लिए उपजाऊ मिट्टी के उत्खनन को प्रतिबंधित करने के लिए और भवन निर्माण सामग्री के विनिर्माण में और संनिर्माण क्रियाकलाप में फ्लाई-राख के उपयोग को बढ़ावा देने के लिए निदेश जारी किए हैं;

और, प्रदूषणकर्ता भुगतान सिद्धांत (पीपीपी) के आधार पर, ऐसा करके कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा फ्लाई-राख का 100 प्रतिशत उपयोग सुनिश्चित करते हुए और फ्लाई-राख प्रबंधन प्रणाली की संधारणीयता के लिए पूर्वोक्त अधिसूचना को और अधिक प्रभावकारी ढंग से कार्यान्वित करने हेतु, केंद्रीय सरकार ने मौजूदा अधिसूचना की समीक्षा की;

और प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर पर्यावरणीय प्रतिकर निर्धारित किए जाने की आवश्यकता है;

और, विनिर्माण को बढ़ावा देकर तथा निर्माण कार्य के क्षेत्र में राख आधारित उत्पादों तथा भवन निर्माण सामग्रियों के प्रयोग को अनिवार्य करके उपजाऊ मिट्टी को संरक्षित करने की आवश्यकता है;

	सीमेंट शीट या पाइप या बोर्ड या पैनल): ii. सीमेंट विनिर्माण: iii. रेडी मिक्स कंक्रीट: iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री: v. सिंटर्ड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण: vi. सड़कों, सड़क और फ्लाई ओवर के पुश्तों का निर्माण: vii. बांधों का निर्माण: viii. निम्न भू-क्षेत्र का भराव: ix. खनिज क्षेत्रों का भराव: x. अधिभार वाले डम्पों में उपयोग: xi. कृषि: xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण: xiii. अन्य देशों को राख का निर्यात xiv. अन्य (कृपया विनिर्दिष्ट करें):	

20.	**सार :**			
	ब्यौरा	सृजित मात्रा (एमटीपी)	उपयोग की गई मात्रा (एमटीपी) और (%)	शेष मात्रा (एमटीपी)
	रिपोर्टिंग की अवधि के दौरान राख			
	पुरानी राख			
	कुल			
21.	कोई अन्य सूचना : वार्षिक अनुपालन रिपोर्ट, और विद्युत संयंत्रों और राख कुण्डों की शेप फाइलों की सॉफ्ट कॉपी ई-मेल:- moefcc-coalash@gov.in पर भेजी जाए।			
22.	प्राधिकृत हस्ताक्षरकर्ता के हस्ताक्षर			

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 31st December, 2021

S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;

And whereas, to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification; and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector;

And whereas, there is a need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials;

And whereas, it is necessary to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And whereas, in the said notification the phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants;

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) *vide* S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), *vide* G.S.R. 285(E), dated the 22nd April, 2021 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft provisions were made available to the public;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.—

(1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);

(2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-

(i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;

(ii) Cement manufacturing, ready mix concrete;

(iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;

(iv) Construction of dam;

(v) Filling up of low lying area;

(vi) Filling of mine voids;

(vii) Manufacturing of sintered or cold bonded ash aggregate;

(viii) Agriculture in a controlled manner based on soil testing;

(ix) Construction of shoreline protection structures in coastal districts;

(x) Export of ash to other countries;

(xi) Any other eco-friendly purpose as notified from time to time.

(3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Sub-paragraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.

(4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance cycle onwards, to meet 100 per cent utilisation
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and <60 per cent, respectively.

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

(5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1st	2nd	3rd -10th
Utilisation of legacy ash (in percentage of Annual ash)	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

(6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.

(7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.

(8) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.

(9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).

(10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. **For the purpose of utilisation of ash, the subsequent sub-paras shall apply.—**

(1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

(2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government Agencies.

(3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost or transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

(4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.

(5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.

(ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.

(6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.

(7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

(8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.

(9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance.—

(1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

(2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.

(3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.

(4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 or per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

(7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any

particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

(1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.

(2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

(1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.

(2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.

(3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

(4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.

(5) The compliance audit for ash disposal by the thermal power plants and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Jt. Secy.

Annexure

Ash Compliance Report (for the period 1st April-31st March) to be submitted on or before 31st May.

Sl. No.	Details	
1.	Name of Power Plant	
2.	Name of the company	
3.	District	
4.	State	
5.	Postal address for communication:	
6.	E-mail:	
7.	Power Plant installed capacity (MW):	
8.	Plant Load Factor (PLF):	
9.	No. of units generated (MWh):	
10.	Total area under power plant (ha): (including area under ash ponds)	
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	
12	Average ash content in percentage (per cent):	
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	
15	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing:	

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
Paryavas Bhawan, North Block, Sector - 19,
Nava Raipur Atal Nagar, District - Raipur (C.G.)
e-mail - hocecb@gmail.com

No. **4184** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur Dated **29/08/2023**

To,

General Manager,
M/s Korba Super Thermal Power Project,
National Thermal Power Corporation Limited,
P.O.-Vikash Bhawan Jamnipali,
District - Korba (C.G.) 495 450

Sub: - Renewal of the consent of the Board under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

Ref: -

1. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 7498, dated: 25/07/1989. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 7500, dated: 25/07/1989.
2. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 4796, dated: 25/11/2010. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 4798, dated: 25/11/2010.
3. Last renewal of consent issued under section 25 of the Water (Prevention and Control of Pollution) Act and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 5092, Nava Raipur Atal Nagar, Raipur dated: 31/10/2022.
4. Your online application no. 13010255, dated: 25/07/2023.

--:: oo ::--

With reference to your above application, consents under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 are hereby renewed for a period of **one year from 01/11/2023 to 31/10/2024**, subject to the fulfillment of the terms and conditions incorporated in the water consent letter no. **7498, dated: 25/07/1989 and 4796, dated: 25/11/2010** and air consent letter no. **7500, dated: 25/07/1989 and 4798, dated: 25/11/2010** and subsequent renewal(s)/amendment(s) issued by the Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of: -

Product	Production Capacity
Electricity Generation By Thermal Power Plant (Stage-I, II & III)	2600 Megawatt {Two Thousand Six Hundred Megawatt}

Additional Conditions

A. Water (Prevention and Control of Pollution) Act, 1974

1. Industry shall operate the effluent treatment arrangement regularly and maintain them properly. Industry shall ensure treated effluent quality meets the standard prescribed by the Board. Zero discharge condition shall be maintained all the time.
2. Industry shall ensure maximum reuse of non-potable water.
3. Industry shall ensure continuous running of PTZ Cameras with online connectivity at out lets of premises. Real time data of EQMS shall be made available in CECB/CPCB Server.
4. Industry shall ensure transportation of coal through mechanically covered vehicles. (If applicable)
5. Industry shall comply the provisions of notification issued by MoEF & CC regarding specific water consumption.
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall enhance the capacity of rain water harvesting structures to recharge ground water.
9. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
10. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
11. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
12. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. B. Ramachandra Rao, CGM (Korba) of M/s Korba Super Thermal Power Project, National Thermal Power Corporation Limited, Village-Jamnipali, Tehsil- Katghora, District - Korba (C.G.).

13. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
14. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
15. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

B. Air (Prevention and Control of Pollution) Act, 1981

1. Industry shall operate and maintain the existing air pollution control equipments regularly and effectively so as to ensure the particulate matter emission level below 50 mg/Nm^3. Emission of air pollutants and ambient air quality shall be ensured within the limits prescribed by Board all the time.
2. Ambient air quality within premises shall be within latest prescribed limit.
3. Industry shall comply with the emission norms for SO_2 and NOx within time limit as prescribed by MoEF & CC/CPCB.
4. Calabration and data validation shall be carried out off all CEMS and CAAQMS and availability of real time data shall be ensured in CECB / CPCB sever.
5. Industry shall ensure transportation of raw material through mechanically covered vehicles. (If applicable)
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
9. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
10. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
11. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. B. Ramachandra Rao, CGM (Korba) of M/s Korba Super Thermal Power Project, National Thermal Power Corporation Limited, Village-Jamnipali, Tehsil- Katghora, District - Korba (C.G.).

12. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
13. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
14. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Endt. No. **4185** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur, Dated **29/08/2023**

Copy to: -

Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Korba (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.

Sd/-
Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Signature Not Verified

Digitally Signed by :P Arun Prasad MS

Date: 2023.09.04 12:51:20 IST

कार्यालय अनुविभागीय अधिकारी (राजस्व) कटघोरा, जिला कोरबा (छ.ग.)

क्रमांक/2108 /अविअ/भू–अर्जन/2023 कटघोरा, दिनांक 03/08/2023

प्रति,

CGM (Korba)

महाप्रबंधक
एन.टी.पी.सी. जमनीपाली कोरबा

विषय :– **NTPC राखड़ बांध से संबंधित सीपेज मुआवजा दिलाने बाबत्।**

उक्त विषयांतर्गत लेख है कि आवेदक श्री छत्रपालसिंह कंवर एवं 06 अन्य, ग्राम धनरास, तहसील दर्री, जिला कोरबा (छ.ग.) के द्वारा NTPC राखड़ बांध से संबंधित सीपेज मुआवजा दिलाने बाबत आवेदन इस कार्यालय में दिया गया है। प्राप्त आवेदन की छायाप्रति संलग्न कर प्रेषित है।

अतः उक्त आवेदन के संबंध में तत्काल आवश्यक कार्यवाही करते हुए इस कार्यालय को अवगत कराना सुनिश्चित करें।

संलग्न :– उपरोक्तानुसार।

अनुविभागीय अधिकारी (रा.)
कटघोरा

पृ.क्रमांक/2109 /अविअ/भू–अर्जन/2023 कटघोरा, दिनांक 03/08/2023

प्रतिलिपि :–

1. तहसीलदार दर्री को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।
2. आवेदक श्री छत्रपालसिंह कंवर एवं 06 अन्य, ग्राम धनरास, तहसील दर्री, जिला कोरबा (छ.ग.) को सूचनार्थ प्रेषित।

अनुविभागीय अधिकारी (रा.)
कटघोरा

472

123

प्रति,

श्रीमान वरिष्ठ प्रबंधक महोदय,
ऐश डाईक धनरास,
एन टी पी सी कोरबा, (छ.ग.)

विषय :- खराब पानी सिपेज रोकने बाबत।

महोदय,

सादर निवेदन है कि मेरे नौकरी उपजाऊ कृषियोग्य खेतिहर जमीन लगभग 08 एकड़ खेतिहर जमीन में विगत पाँच वर्षों से लगातार खराब पानी सिपेज बना हुआ है। लगातार सिपेज बने रहने के कारण मुझे प्रति एकड़ लागत कार अधिक निवेश करना पड़ रहा है। सिपेज कारण कृषि योग्य भूमि दलदल में परिवर्तित हो गया है जिससे फसल उत्पादन 70% गिरावट आ गया है। जिससे मेरी आर्थिक स्थिति खराब हो रहा है। परिवार का भरण पोषण में भी दिक्कतों का सामना करना पड़ रहा है।

खेती ही मेरा एक मात्र परिवार चलन का साधन है। एन.टी.पी.सी के द्वारा रोजगार हेतु कोई साधन मुहैया कराया जाता है अगर उचित विचार कर मेरे ही सीपेज युक्त भीजी खेत में पानी पंप बैठाकर खराब पानी सिपेज को रोका जा सकता है एवं मुझे रोजगार भी उपलब्ध हो सकेगा जिससे मेरी आर्थिक स्थिति में सुधार होगा।

अतः श्रीमान जी से करबद्ध प्रार्थना है कि संलग्न समस्या-खसरा का उचित मुआयना कर इस गंभीर समस्या का निराकरण करने की दया करें। धन्यवाद

दिनांक - 28/03/2023

प्रार्थी [signature] 28/03/2023
सुशीला बाई आश्रित
विनोद कुमार
ग्राम चुईमुड़ी
मो. 9770189552

[signature] 21/03/2023

Received [signature] 29/03/2023

→ HDHR
GM(ADM)

For urgent n a p l.

न्यायालय अनुविभागीय अधिकारी (राजस्व) कटघोरा, जिला कोरबा (छ.ग.)

क्रमांक/6730 /अविअ/भू-अर्जन/2024 कटघोरा, दिनांक 25/09/2024

1/10/24 प्रति,

महाप्रबंधक
एन.टी.पी.सी. जमनीपाली
कोरबा (छ.ग.)

विषय :- एन.टी.पी.सी. जमनीपाली कोरबा के राखड़ बांध के संबंध में जानकारी उपलब्ध कराने बाबत्।

उपरोक्त विषयांतर्गत लेख है कि आपके एन.टी.पी.सी. जमनीपाली कोरबा के राखड़ बांध से राखड़ पानी सीपेज होने के कारण फसल नुकसान एवं राखड़ को खुले जगह में कहीं भी डम्प करने तथा वाहनों द्वारा ओव्हरलोड राखड़ के परिवहन से सड़क राखड़ गिरने से आम जनता/राहगीरों को भारी समस्या होने के संबंध में निम्नांकित जानकारी 03 दिवस के भीतर इस कार्यालय को उपलब्ध कराना सुनिश्चित करें-

1. एन.टी.पी.सी. जमनीपाली कोरबा के राखड़ बांध हेतु किन-किन ग्रामों की निजी/शासकीय भूमि का अधिग्रहण किया गया है। अवार्ड/आबंटन आदेश की प्रति इस कार्यालय को उपलब्ध करावें।
2. राखड़ बांध हेतु अधिग्रहित भूमि के एवज में कितने भू-स्वामियों को रोजगार, पुनर्वास, बसाहट एवं अन्य सुविधा दिया जा चुका है तथा कितना शेष है? का दस्तावेज सहित जानकारी उपलब्ध करावें।
3. राखड़ बांध के समीपस्थ ग्रामों में राखड़ उड़ने की समस्या के रोकथाम एवं उनके स्वास्थ्य के संबंध में आपके द्वारा क्या कार्यवाही की जा रही है तथा प्रभावितों को क्या-क्या सुविधाएं दी जा रही है? दस्तावेज सहित जानकारी उपलब्ध करावें।
4. आपके एन.टी.पी.सी. राखड़ डेम के सीपेज से किसानों के फसल नुकसान न हो पाये इस हेतु क्या कार्यवाही किया जा रहा है? अभी तक कितने किसानों/प्रभावितों को कब से फसल क्षतिपूर्ति राशि दिया जा चुका है वर्षवार, ग्रामवार जानकारी दस्तावेज सहित उपलब्ध करावें।
5. आपके द्वारा सड़क में ओव्हरलोड वाहनों से राखड़ गिरने तथा कहीं भी खुले जगहों में राखड़ डम्प करने संबंध में राखड़ के सुव्यवस्थित परिवालन/डम्पींग हेतु की गई कार्यवाही की जानकारी सहित दस्तावेज उपलब्ध करावें।

उपरोक्त चाही गई जानकारी निर्धारित अवधि में इस कार्यालय को उपलब्ध नहीं कराये जाने पर आपके विरूद्ध भारतीय नागरिक सुरक्षा संहिता 2023 की धारा 152 के तहत् कार्यवाही किया जा सकेगा।

25/09/2024
अनुविभागीय अधिकारी (रा.)
अनुविभागीय अधिकारी (रा.)
कटघोरा (छ.ग.)

पृ. क्रमांक/ 6731/अविअ/भू-अर्जन/2024 कटघोरा, दिनांक 25/09/2024
प्रतिलिपि :-

1. कलेक्टर एवं जिलादण्डाधिकारी कोरबा को सूचनार्थ सादर सम्प्रेषित।
2. अपर कलेक्टर एवं अतिरिक्त जिलादण्डाधिकारी कटघोरा को सूचनार्थ सादर सम्प्रेषित।
3. तहसीलदार दर्री को सूचनार्थ कर लेख है कि उक्त के संबंध में अपना प्रतिवेदन तथा मुआवजा लंबित होने की दशा में विधि अनुसार कार्यवाही करें।
4. थाना प्रभारी कटघोरा/दर्री को सूचनार्थ कर लेख है कि एन.टी.पी.सी. के राखड से रिसाव और राखड़ उड़ने से नजदीकी ग्रामों के निवासियों के लोक स्वास्थ्य पर पड़ने वाले प्रभाव के संबंध में भारतीय नागरिक सुरक्षा संहिता 2023 की धारा 152 के संबंध में प्रतिवेदन दे।

25/09/2024
अनुविभागीय अधिकारी (रा.)
अनुविभागीय अधिकारी (रा.)
कटघोरा (छ.ग.)

R
01/10/24

Received on
1/10/24 through Wall

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
Paryavas Bhawan, North Block, Sector - 19,
Nava Raipur Atal Nagar, District - Raipur (C.G.)
e-mail - hocecb@gmail.com

No. **4184** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur Dated **29/08/2023**

To,

General Manager,
M/s Korba Super Thermal Power Project,
National Thermal Power Corporation Limited,
P.O.-Vikash Bhawan Jamnipali,
District - Korba (C.G.) 495 450

Sub: - Renewal of the consent of the Board under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

Ref: -

1. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 7498, dated: 25/07/1989. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 7500, dated: 25/07/1989.
2. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 4796, dated: 25/11/2010. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 4798, dated: 25/11/2010.
3. Last renewal of consent issued under section 25 of the Water (Prevention and Control of Pollution) Act and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 5092, Nava Raipur Atal Nagar, Raipur dated: 31/10/2022.
4. Your online application no. 13010255, dated: 25/07/2023.

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With reference to your above application, consents under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 are hereby renewed for a period of **one year from 01/11/2023 to 31/10/2024**, subject to the fulfillment of the terms and conditions incorporated in the water consent letter no. **7498, dated: 25/07/1989 and 4796, dated: 25/11/2010** and air consent letter no. **7500, dated: 25/07/1989 and 4798, dated: 25/11/2010** and subsequent renewal(s)/amendment(s) issued by the Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of: -

Product	Production Capacity
Electricity Generation By Thermal Power Plant (Stage-I, II & III)	2600 Megawatt {Two Thousand Six Hundred Megawatt}

Additional Conditions

A. Water (Prevention and Control of Pollution) Act, 1974

1. Industry shall operate the effluent treatment arrangement regularly and maintain them properly. Industry shall ensure treated effluent quality meets the standard prescribed by the Board. Zero discharge condition shall be maintained all the time.
2. Industry shall ensure maximum reuse of non-potable water.
3. Industry shall ensure continuous running of PTZ Cameras with online connectivity at out lets of premises. Real time data of EQMS shall be made available in CECB/CPCB Server.
4. Industry shall ensure transportation of coal through mechanically covered vehicles. (If applicable)
5. Industry shall comply the provisions of notification issued by MoEF & CC regarding specific water consumption.
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall enhance the capacity of rain water harvesting structures to recharge ground water.
9. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
10. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
11. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
12. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. B. Ramachandra Rao, CGM (Korba) of M/s Korba Super Thermal Power Project, National Thermal Power Corporation Limited, Village-Jamnipali, Tehsil- Katghora, District - Korba (C.G.).

13. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
14. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
15. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

B. Air (Prevention and Control of Pollution) Act, 1981

1. Industry shall operate and maintain the existing air pollution control equipments regularly and effectively so as to ensure the particulate matter emission level below 50 mg/Nm^3. Emission of air pollutants and ambient air quality shall be ensured within the limits prescribed by Board all the time.
2. Ambient air quality within premises shall be within latest prescribed limit.
3. Industry shall comply with the emission norms for SO_2 and NOx within time limit as prescribed by MoEF & CC/CPCB.
4. Calabration and data validation shall be carried out off all CEMS and CAAQMS and availability of real time data shall be ensured in CECB / CPCB sever.
5. Industry shall ensure transportation of raw material through mechanically covered vehicles. (If applicable)
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
9. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
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14. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Endt. No. **4185** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur, Dated **29/08/2023**

Copy to: -

Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Korba (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.

Sd/-
Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Signature Not Verified

Digitally Signed by :P Arun Prasad MS

Date: 2023.09.04 12:51:20 IST

Justification for Wagon Tippler and associated Railway Works for Korba STPS

It is submitted that Korba STPS (2600 MW), i.e. Korba-I&II (2100 MW) and Korba-III (500 MW), is not having facility of Wagon Tippler, which is necessary for unloading of coal received through BoX-N wagons.

The linked mine for Korba STPS is Gevra Coal Mine, SECL, through which Korba STPS receives coal mostly in BOBR wagons. However, the Petitioner in the past, on a number of occasions including during monsoons, has been regularly facing issues in adequate supply of coal from the linked mine. In fact, in the period from 2013 to 2023, the Petitioner had to face partial loss of about 1172 Million Units (MUs) due to coal related issues from the linked mine.

It is also pertinent to note that in the recent past, coal-based stations across the country including the instant Station have faced shortage of domestic coal due to production related issues with coal companies and logistical constraints of Indian Railway. Taking note of the surge in demand of power experienced on regular basis and non-commensurate production of domestic coal, the Ministry of Power, GoI, from time to time has issued directives to all Gencos including the Petitioner to import coal for blending varying from at 4% to 10-15%. A copy of some of such directives dated 27.06.2024, 04.04.2024, 25.10.2023, 18.05.2022 is **attached underneath**. It is submitted that to meet the shortfall of domestic coal, Korba STPS also had to procure imported coal from time to time, which is received through BoX-N wagons.

It is also relevant to mention that CEA, MoP, GoI, with effect from 06.12.2021, issued revised coal stocking norms (**copy attached underneath**) as per which pit head stations have to maintain stock of coal for 12 to 17 number of days. However, due to issues with the linked mine, the Korba STPS has faced difficulty on various occasions to meet the required norms and had to procure coal from alternate sources through Indian Railways that are supplied in BoX-N wagons.

Form the aforementioned, it is evident that due to various statutory directions/ norms, the Petitioner is forced to procure coal through alternate sources, which is delivered to Korba STPS through Indian Railway in BoX-N wagons and thus it is imperative for the Station to have necessary facility for unloading of BoX-N wagons. Till now, the Petitioner, in the absence of Wagon Tippler for automated handling of BoX-N wagons, has been unloading the Box-N wagons manually, which is highly unsafe, inefficient and time consuming. It is notable that the Petitioner has also suffered demurrage charges from Railways on regular basis due to significant time taken in manual unloading of Box-N wagons.

It is submitted that to handle BoX-N wagons, it is necessary for the Petitioner to have Wagon Tippler system. The hazards and inefficiencies involved in manually unloading BoX-N wagons significantly escalate operational risks and expenses. In contrast, the installation of a Wagon Tippler is a pivotal one-time investment that not only expedites coal unloading in a safe manner but also enhances operational flexibility in managing railway rakes, thereby

significantly addressing issues related to shortage of coal including unloading of imported coal rakes.

Therefore, the Petitioner is installing Wagon Tippler and associated Railway works at Korba STPS, which is estimated to be put to use and capitalized in FY 24-25 at an estimated capital expenditure of Rs 9465 lakh for Korba STPS (2600 MW). Since the said System will be used for handling coal rakes for both Korba-I&II (2100 MW) and Korba-III (500 MW), the proportionate cost based on capacity has been claimed in each of Korba-I&II and Korba-III.

It is also pertinent to note that the Hon'ble Tribunal vide Judgment dated 01.02.2022 inter alia in Appeal No 311 of 2017 (copy attached underneath) has allowed capital expenditure on account of Wagon Tippler, holding the same necessary for handling of BoX-N wagons and has observed as follows:

"103. Undisputedly, the automated facilities cannot be compared with the manual unloading of coal, therefore, the reason considered that only because the Plant Availability Factor is getting achieved by the generator even through manual unloading of coal from BOXN wagons is highly unsafe. The only safe & reliable mechanism for unloading coal from BOXN wagons is through Wagon Tippler."

In view of the above, the Hon'ble Commission may be pleased to allow the capital expenditure for works of Wagon Tippler and associated railway works under provisions of Tariff Regulations 2024.

File No.FU-21/2020-FSC (Vol-IV)
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi, the 27th June, 2024

To,

I. **Principal Secretaries/Secretary (Power/Energy) of all State Governments/ UTs**
II. **CMDs, Thermal Generating Stations (Central, State GENCOs/IPPs)**

Subject: Advisory to all GENCOs including Independent Power Producers (IPPs) for timely Import of Coal for blending purposes and maximizing production in captive coal mines reg.

Sir/Madam,

As you are already aware, Ministry of Power issued an advisory dated 04.03.2024 regarding blending of imported coal @ 6% (by weight) till June' 2024 (copy enclosed).

2. The position of coal stocks at the domestic coal based (DCB) plants was reviewed in the meeting dated 13.06.2024 under the chairmanship of Hon'ble Minister of Power and Housing & Urban Affairs. It was observed that power demand in the country is witnessing a robust growth and recently the highest ever peak demand of 250 GW has been touched in the month of May'24. Further, although there is a significant improvement in rake loading as well as receipt of domestic coal in Q1 of FY 25 compared to Q1 of FY 24, there is still a gap between receipt and consumption of coal at the level of domestic coal based (DCB) plants of around 130,000 tonnes per day. This gap is partly made up with import of coal.

3. It is also pertinent to note here that historically, due to various logistical issues, the domestic coal supply declines during monsoons. This year also, while the average rake loading in Q1 till date is around 432 rakes per day, Railways have informed about the likely availability of around 403 rakes per day in Q2.

4. In order to meet the power demand during the crucial monsoon months and to ensure un-interrupted power supply across the country, adequate coal reserves in domestic coal based plants (DCBs) need to be maintained by all the Central/State GENCOs and IPPs. The Ministry of Power has therefore decided to extend the advisory dated 04.03.2024 (copy enclosed) by modifying the blending requirement to 4% (by weight) till 15.10.2024. **The said advisory will not be applicable to domestic coal based (DCB) plants located within a radius of 200 kms from the linked mine/ coal source.**

5. Accordingly, all the GENCOs (Central/State and IPPs) are to firm up their imported coal contracts for ensuring supplies till 15 Oct'2024. Further, GENCOs must also continuously review the stock positions of their domestic coal based (DCBs) plants and opt for blending as per the requirements so that the adequate coal stocks are maintained at the thermal power plants.

6. This issues with approval of Hon'ble Minister of Power and Housing & Urban Affairs.

(Anoop Singh Bisht)
Deputy Secretary to the Government of India
Ph 011-23752497
Email: anoopsingh.bisht@nic.in

Copy to:

1. Chairman, Railway Board
2. Secretary, Ministry of Coal
3. Chairman, Central Electricity Authority
4. Secretary (CERC)/ All SERCs

(Anoop Singh Bisht)
Deputy Secretary to the Government of India
Ph 011-23752497
Email: anoopsingh.bisht@nic.in

Copy also to: NIC with the request to upload the same on MoP Portal

File No.FU-21/2020-FSC (Vol-IV)
Government of India
(भारतसरकार)
Ministry of Power
(विद्युतमंत्रालय)

Shram Shakti Bhawan, Rafi Marg,
New Delhi, the 4th March, 2024

To,

I. Principal Secretaries/Secretary (Power/Energy) of all State Governments/ UTs
II. CMDs, Thermal Generating Stations (Central, State GENCOs/IPPs)

Subject: Advisory to all GENCOs including Independent Power Producers (IPPs) for timely Import of Coal for blending purposes and maximizing production in captive coal mines — reg.

Sir/Madam,

As you are already aware, Ministry of Power issued an advisory dated 25.10.2023 regarding blending of imported coal @ 6% (by weight) till March' 2024(copy enclosed).

2. The status of Power Supply position has been reviewed by Ministry and as per the projections, the peak demand is likely to reach upto 250 GW in summer season (April-June'2024). It has been further observed that despite the increase in loading of domestic coal rakes, the supplies of domestic coal will remain constrained due to various logistical issues associated with railway network.

3. In order to meet the power demand during the crucial summer months and to ensure un-interrupted power supply across the country, adequate coal reserves in domestic coal based plants (DCBs) need to be maintained by all the Central/State GENCOs and IPPs. **The Ministry of Power has therefore decided to extend the advisory dated 25.10.2023 till June'2024.**

4. Accordingly, all the GENCOs (Central/State and IPPs) are to firm up their imported coal contracts for ensuring supplies till June'2024. Further, GENCOs must also continuously review the stock positions of their domestic coal based (DCBs) plants and opt for blending as per the requirements so that the adequate coal stocks are maintained at the thermal power plant level.

5. This issues with the approval of Hon'ble Minister of Power & New and Renewable Energy.

(Anoop Singh Bisht/ अनूप सिंह बिष्ट)
Deputy Secretary to the Government of India
उपसचिव, भारतसरकार
Ph. 011-23752497
Email: anoopsingh.bisht@nic.in

Copy to:

1. Secretary, Ministry of Coal,
2. Chairman, Railway Board,
3. Chairman, Central Electricity Authority,
4. Secretary (CERC)/ All SERCs

(Anoop Singh Bisht/ अनूपसिंहबिष्ट)
Deputy Secretary to the Government of India
उपसचिव, भारतसरकार
Ph. 011-23752497
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Copy also to: NIC with the request to upload the same on MoP Portal

File No. FU-21/2020-FSC (Vol-IV)
Government of India
(भारत सरकार)
Ministry of Power
(विद्युत मंत्रालय)

नई दिल्ली, दिनांक 25 अक्टूबर, २०२३
New Delhi, dated the 25th October, 2023

To

I. Principal Secretaries/Secretary (Power/Energy) of all State Governments/ UTs
II. CMDs, Thermal Generating Stations (Central, State GENCOs/IPPs)

Subject: Direction to all GENCOs including Independent Power Producers (IPPs) for timely Import of Coal for blending purposes and maximizing production in captive coal mines — reg.

Sir/Madam,

As you are already aware, Ministry of Power issued an advisory dated 01.09.2023 regarding blending of imported coal @ 4% by weight till March, 2024.

2. The status of Power Supply position has been reviewed by Govt and it has been observed that there is consistent rising trend in the Power demand in the country coupled with inadequate supply of domestic coal which has resulted in rapid depletion of coal stocks at Domestic Coal Based (DCB) Plants across the country. The gap between receipt of domestic coal and consumption of coal (domestic + equivalent domestic of imported coal) during 01st September to 09th October, 2023 was to the tune of 12 MT.

3. About 11% fall of Hydro Generation has been recorded in H1 of FY 24 compared to the corresponding period of FY 23 due to variable monsoon rainfall. Approximately 2 GW of hydro capacity is out because of recent floods in Sikkim. The Reservoir levels in Northern, Eastern and Southern regions are less compared to the previous year as on 9th Oct' 2023, which has resulted in lower reservoir energy content at pan India level.This has put additional burden on Coal Based Thermal Generation.

4. Therefore, in order to ensure uninterrupted power supply across the country, after careful consideration and in consultation with Central Electricity Authority (CEA) and Grid India, it has been decided blending of imported coal @ 6% (by weight) minimum

Contd/-

may be continued till March 2024. The Gencos may continuously review their stock position and opt for blending as per the requirements if the shortfall in domestic coal supply is more than 6 per cent.

5. The other conditions mentioned at Para 3 & 4 of advisory dated 01.09.2023 will remain the same.

6. This issues with the approval of Hon'ble Minister of Power & NRE.

Yours Faithfully,

(Anoop Singh Bisht)
Deputy Secretary to the Government of India
Ph. 011-23752497
Email: anoopsingh.bisht@nic.in

@Endorsement
No. FU-21/2020-FSC (Vol-IV)

Copy to,

1. **Secretary, Ministry of Coal**
2. **Chairman, Railway Board**
3. **Chairman, Central Electricity Authority**
4. **Secretary (CERC)/All SERCs**

(Anoop Singh Bisht)
Deputy Secretary to the Government of India
Ph. 011-23752497
Email: anoopsingh.bisht@nic.in

Copy also to: NIC with the request to upload the same on MoP Portal

Annexure - IV

No. FU-21/2020-FSC
Government of India
Ministry of Power
****

Shram Shakti Bhawan, Rafi Marg,
New Delhi, dated 18.05.2022

To,

1. Principal Secretaries / Secretaries (Power / Energy) of State Governments and UTs

2. CMDs, Thermal Generating Stations (State GENCOs/IPPs) (As per the list)

Sub: Direction to all Gencos including Independent Power Producers (IPPs) for timely Import of Coal for blending purposes and maximising production in captive coal mines – reg.

Ministry of Power (MoP) on 07.12.2021 had issued advisory to all domestic coal based power plants to import coal to meet their requirements by blending with imported coal to the extent of 4 % by State Gencos & Independent Power Producers (IPPs). Further, taking into consideration the circumstances and increased demand of electricity while coal supplies from domestic coal companies were not commensurate with the increased consumption of coal, MoP had issued the revised advisory on 28.04.2022 for importing coal for blending purpose to meet the requirement at 10% of the total requirement by 31.10.2022. The requirement for blending for each Genco and IPPs at 10% was also intimated and it was advised to place the awards for import of coal (for blending) by 31.05.2022 in order to ensure that 50% quantity is received by 30.06.2022, 40 % quantity by 31.08.2022 and 10% quantity by 31.10.2022.

2. Due to the recent surge in power demand, the domestic coal supply is not able to match the consumption, resulting in depletion of stocks at thermal power plants. In the light of the emergent situation, it is essential that the imported coal based plants run and the State import coal for blending, as in the previous years. Ministry of Power have issued directions u/s 11 of the Electricity Act that all the imported coal based plants start running and most of them have started running. However, the import by States of coal for blending is not satisfactory. In 2018-19 a total of 21.4 Million Tonnes of coal were imported for blending. In 2019-20, the total import for blending was 23.8 Million Tonnes whereas in 2021-22, it was only 8.3 Million Tonnes. This is the cause of the stress in the availability of coal.

3. In view of the above, it has been decided that if the orders for import of coal for blending are not placed by Gencos by 31.05.2022 and if the imported coal for blending purpose do not start arriving at the power plants by 15.06.2022, all the defaulter Gencos would have to import coal for blending purpose to the extent of 15% (in order to meet shortfall of imported coal for blending purpose in Quarter1 i.e. Apr-June 2022) in the remaining period upto 31.10.2022.

3.1 Since, not much blending has taken place in the months of April and May 2022, the power plants (who have not yet started blending by imported coal) will ensure that they blend coal at the rate of 15 % upto Oct 2022 and thereafter at the rate of 10% from November 2022 to March 2023.

4. Keeping in view the likely less materialization of coal supply from domestic sources as compared with the requirement to meet power demand, it has been decided that domestic coal will be allocated proportionately to all Gencos based on likely availability from 01.06.2022 (**as per Annexure attached**) and the balance requirement will need to be met from imported coal for blending purpose and target set for production in captive coal mines. If blending with domestic coal is not started by 15.06.2022 then the domestic allocation of the concerned defaulter thermal power plants will be further reduced by 5%. Any additional domestic coal supply available in June 22 will be allocated for stock building to those Gencos which prove commendable level of blending of coal in the month of June 22. Accordingly, revised allocation of domestic coal for the month of July,2022 onwards will be conveyed based on the above methodology.

5. All Gencos are hereby advised to take action accordingly and ensure adequate stocks at their power plants for smooth operation until Oct,2022.

6. This issues with the approval of Hon'ble Minister of Power, New & Renewable Energy.

(S.Majumdar)
Under Secretary to the Govt. of India
Tel – 2335-6938
Emai: suman.m@nic.in

Copy to:

1. Secretary, Ministry of Coal
2. Chairman, Railway Board
3. Chairman, Central Electricity Authority
4. DG, Association of Power Producers(APP)

Distribution for June-2022

	Capacity (MW)	Coal Requirement based on GT(TT)	Target of Import for blending-2022-23 (TT)	Import target for June-22 (TT)	Eqv. Domestic Coal (TT)	Likely availability from Captive Mines (TT)	Balance to be supplied from CIL + SCCL
NTPC	48110	16769	16032	1336	2004	1980	12785
NTPC-JV	8190	2324	2533	211	317	0	2008
NTPC and its JVs	56300	19094	18565	1547	2321	1980	14793
DVC	6750	2281	2235	186	279	0	2002
NTPL	1000	385	0	0	0	400	0
Total-Central Gencos	64050	21760	20799	1733	2600	2380	16795
HPGCL	2510	729	904	75	113	0	616
PSPCL	1760	374	594	49	74	0	300
RRVUNL	7580	2304	966	81	121	1300	1168
UPRVUNL	6129	2163	1896	158	237	0	1925
CSPGCL	2840	1095	1063	89	133	349	659
GSECL	4010	1137	1345	112	168	0	969
MPPGCL	5400	1690	1943	162	243	0	1447
MAHAGENCO	9540	3665	3464	289	433	0	3232
APGENCO	5010	2394	1818	151	227	0	2167
KPCL	5020	1559	1591	133	199	208	1153
TANGEDCO	4320	1643	2194	183	274	0	1369
TSGENCO	5243	2039	1472	123	184	459	1396
TVUNL	420	147	156	13	20	0	128
OPGCL	1740	875	721	60	90	500	285
WBPDCL	4810	1705	1766	147	221	1534	92
Total-State Gencos	66332	23521	21894	1824	2737	4350	16906
IPP	53342	17634	15936	1328	1992	2052	13751
TOTAL	183724	62915	58629	4886	7329	8782	47451

Methodology:

1. Coal Requirement for June-2022 is based on Generation Target (62.9 MT)
2. Expected Import for blending during June-2022 has been calculated from the target for 2022-23 (4.9 MT)
3. Equivalent domestic coal (1.5 x Import = 7.3 MT) and availability from captive mines (8.8 MT) have been reduced from requirement.
4. Balance requirement from CIL and SCCL is about 47.5 MT

REVISED COAL STOCKING NORMS FOR COAL BASED THERMAL POWER PLANTS

CENTRAL ELECTRICITY AUTHORITY

06th December 2021

1. Present Coal Stocking Norms of CEA:

Present coal stocking norms of CEA is based on the distance of the plant from the mine-head as detailed below:

Distance of Power Plant	Number of Days of Stock
Pit-head Station	15
Upto 500 km away from coal mine	20
Upto 1,000 km away from coal mine	25
Beyond 1,000 km away from coal mine	30

In the Daily Coal Report (DCR) prepared by CEA, normative coal stock (in days) to be maintained by individual power plant is shown as indicated above, so that in case of any interruption in supply of coal or during high demand period, the coal stock available at the plant may be utilized. As, these norms are advisory in nature, at times, power plants do not maintain coal stock as per the above norms.

2. Need to Review Coal Stocking Norms

i. Current norms of CEA (in days) are uniform throughout the year. However, it is a fact that coal based generation/consumption as well as coal despatch varies during the course of the year. Further, power plants are not able to maintain high stock during rainy season due to less coal despatch by coal companies. Therefore, there is a need to revise the present coal stocking norms of CEA to bring it in line with month-wise coal despatch and coal consumption trends during various months in a year.

ii. At present, daily coal requirement of a plant is estimated based on the consumption pattern of the plant during preceding one week (subject to a minimum daily requirement at 55% PLF), which is used to calculate stock in number of days. However, if the plant/unit is under shutdown due to any reason such as scheduled maintenance, outage due to coal shortage etc., daily requirement will be automatically reduced. Thus, stock in number of days may reflect more number of days, even though stock is less. Thus, instead of showing normative stock in number of days, the same can be shown in terms of quantum (Thousand Tonnes) and the actual stock may be compared with it.

iii. Current Coal Stocking norms are advisory in nature. Therefore, the power plants generally do not maintain coal stock as per norms. The coal stock which was about 29 MT as on 30.06.2021 depleted to about 8 MT as on 30.09.2021 due to lower coal supply by coal companies during rainy season, which may be seen from the trend given at Fig

2.1. Thus, there is also a need to have some penalty/incentive provision in the norms in terms of priority loading for supply of coal by CIL/SCCL.

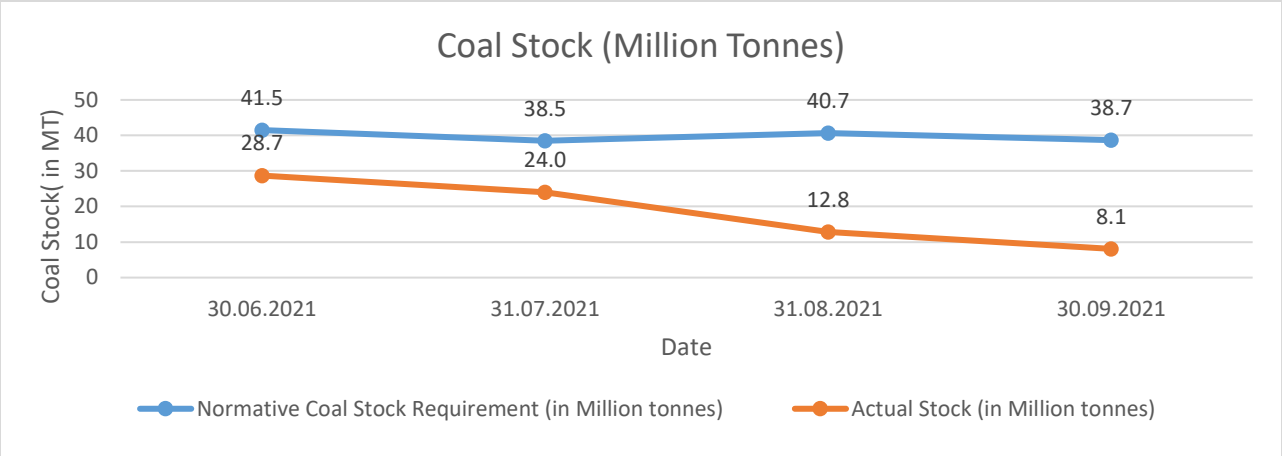

Fig. 2.1

3. Revised Coal Stocking Norms:

i. Daily coal requirement for both Pithead and Non-Pithead plants would be estimated @85% PLF and number of days for which stock needs to be maintained would vary from 12 to 17 days for Pithead plants and 20 to 26 days for Non-Pithead plants with month-wise variation based on coal despatch/coal consumption pattern during the year.

ii. Accordingly, the new coal stocking norms would be as under:

a. For Pithead Plants: Coal required at 85% PLF for 'N1' number of days (in thousand tonnes)

b. For Non-Pithead Plants: Coal required at 85% PLF for 'N2' number of days (in thousand tonnes)

Where N1 and N2 are No. of days as given below:

Month	Coal Stock to be maintained by the power plant during the month (in no. of days)	
	PITHEAD (N1)	NON-PITHEAD (N2)
April	17	26
May	17	26
June	17	26

July	14	22
August	13	21
September	12	20
October	13	21
November	14	22
December	15	23
January	16	24
February	17	26
March	17	26

The coal stock has been kept minimum during rainy season (Q2) and based on increase in dispatch pattern during Q3 & Q4; the plants have been mandated to keep adequate stock especially during Q4 when supply is maximum. The stock maintained at the end of Q4 may be utilised during rainy season.

4. Grading of Gencos:

i) **Grading of Gencos/IPPs:** Grading of a Genco/IPP will be done on monthly basis based on the performance of the Genco/IPP during the previous month as well as payment status, as per the following criteria:

Zone	Criteria
Red Zone	1. Genco/IPP of which any power plant maintains average coal stock during the preceding month of less than 65% of the mandatory coal stock prescribed in the norms of that month; **OR** 2. Having undisputed outstanding dues with coal companies equivalent to more than one (1) month coal value, as per MSQ (Monthly Scheduled Quantity).
Yellow Zone	1. Genco/IPP of which any power plant maintains average coal stock during the preceding month in the range of 65% to 85% of the mandatory coal stock prescribed in the norms of that month; **AND**

	2. Having undisputed outstanding dues with coal companies equivalent to coal value of less than one (1) month, as per MSQ.
Green Zone	1. If all the power plants of a Genco/IPP maintain average coal stock during the preceding month of more than 85 % of the mandatory coal stock prescribed in the norms of that month ; **AND** 2. Having no outstanding dues with coal companies.

Exceptions: In case the Central/State Genco or IPP submits programme as per the MSQ (as per FSA) of the individual plant, but still not able to maintain coal stock due to reasons such as less coal supply by CIL, less rakes availability, running at very high PLF etc.(>= 85% PLF) , then such plant(s) will be kept in Green Zone.

ii) Grading of Gencos/IPPs will be reflected in the Daily Coal Report.

iii) The recommendation by CEA/MoP for enhancing coal supply will be made according to grading of Gencos/IPPs as above. The Gencos/IPPs in Red Zone will be given least priority in supply of coal by Coal Companies and rakes allotment by Railways, followed by Gencos/IPPs in Yellow Zone. The Gencos/IPPs in Green Zone will be given highest priority in terms of rakes loading and supply of coal.

5. Penalty for non-maintenance of coal stock:

(i) In the event that availability by any power plant is less than the Normative availability (as per prevailing regulatory norms of CERC/SERC - as applicable) due to less coal stock maintained by the plant, the penalty shall be determined as detailed below:

a) Power plant designed on domestic coal:

In the event the availability is less by 5% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction below the Normative Availability shall be multiplied by a factor of 0.2 (i.e levy of additional 20% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

b) Power plant designed on imported coal:

In the event the availability is less by 5% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction below the

Normative Availability shall be multiplied by a factor of 0.5 (i.e levy of additional 50% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

Further, in case the availability is less by 25% or more from the Normative Availability (as applicable) on quarterly basis, the fixed charge shall be reduced to the extent of shortfall in Normative Availability and in addition, the reduction beyond 25% below the Normative Availability shall be multiplied by a factor of 1 (one) (i.e levy of additional 100% due to reduced availability) to determine the penalty for non-maintenance of coal stock on quarterly basis.

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IN THE APPELLATE TRIBUNAL FOR ELECTRICITY
(Appellate Jurisdiction)

APPEAL NO. 25 OF 2017
APPEAL NO. 178 OF 2017
APPEAL NO. 180 OF 2017
APPEAL NO. 240 OF 2017
AND
APPEAL NO. 311 OF 2017

Dated: **01.12.2022**

Present: **Hon'ble Mr. Justice R.K. Gauba, Officiating Chairperson**
Hon'ble Mr. Sandesh Kumar Sharma, Technical Member

APPEAL NO. 25 OF 2017

In the matter of:

NTPC Limited
NTPC Bhavan, Core – 7,
Institutional Area, Lodhi Road,
New Delhi – 110003. **…APPELLANT**

VERSUS

1. Chairperson,
Central Electricity Regulatory Commission
3rd & 4thFloor, Chanderlok Building,
36, Janpath,
New Delhi- 110001.

2. Chairman and Managing Director,
Andhra Pradesh Power Coordination Committee,
APTRANSCO, Vidyut Soudha,
Khairatabad, Hyderabad-500 082.

3. Chairman and Managing Director,
Andhra Pradesh Eastern Power Distribution Company Ltd
Corporate Office P&T Colony,
Seethammadhara, Visakhapatnam-530013-(AP).

4. Chairman and Managing Director,
Andhra Pradesh Southern Power Distribution Company Ltd,
Corporate Office,

Back side Srinivasa Kalyana Mandapam
Tiruchhanur Road, Kesavayana Gunta,
Tirupati-517503-(AP).

5. Chairman and Managing Director,
Telengana Northern Power Distribution Company Ltd,
H. No. 2-5-31/2 Vidyut Bhavan,
Naralacutta, Hanamkonda,
Warangal-506001.

6. Chairman and Managing Director,
Telengana Southern Power Distribution Company Ltd,
Mint Compound, Corporate Office,
Hyderabad -500063

7. Chairman and Managing Director,
Tamil Nadu Generation & Distribution Corporation Ltd,
144, Anna Salai,
Chennai-600002

8. Managing Director,
Power Company of Karnataka Limited
KPTCL Complex, K.G Road,
Kaveri Bhawan, Bangalore-560009

9. Managing Director,
Bangalore Electricity Supply Company Ltd (BESCOM),
Krishna Rajendra Circle,
Bangalore-560009

10. Chairman,
Mangalore Electricity Supply Company Ltd (MESCOM)
MESCOM Bhavana,
Corporate Office, Bejai Kevai Cross Road,
Mangalore-575004.

11. President,
Chamundeshwari Electricity Supply Corp. Ltd,
CESC, Corporate Office, No 29, Ground Floor,
Kaveri Grameena Bank Road,
Vijayanagar 2nd Stage, Mysore – 570017

12. Managing Director,
Gulbarga Electricity Supply Company Ltd
Main Road, Gulbarga,
Karnataka – 585102.

13. Chairman
Hubli Electricity Supply Company Ltd.,
Corporate Office, P.B Road
Navannagar, Hubli-580025

14. Chairman and Managing Director
Kerala State Electricity Board,
Vaidyuthi Bhavanam, Pattom,
Thriruvanathapuram-695004.

15. Secretary to Government (Power),
Electricity Department,
Govt. of Puducherry
137, NSC Bose Salai,
Puducherry-605001 **…RESPONDENT(S)**

APPEAL NO. 178 OF 2017

In the matter of:

NTPC Limited
NTPC Bhavan, Core – 7, Scope Complex,
Institutional Area, Lodhi Road,
New Delhi – 110003. **…APPELLANT**

VERSUS

1. The Secretary,
Central Electricity Regulatory Commission
3rd& 4thFloor, Chanderlok Building,
36, Janpath, New Delhi- 110001.

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

3. The General Managing Director,
Bihar State Power Holding Company Limited

(erstwhile Bihar State Electricity Board)
Vidyut Bhawan, Bailey Road,
Patna – 800001.

4. The Director,
Jharkhand State Electricity Board,
Engineering Building,
HEC, Dhurwa, Ranchi-834004.

5. The Chairman,
GRIDCO Limited,
24, Janpath,
Bhubaneswar – 751007.

6. The Director,
Damodar Valley Corporation
DVC Towers, VIP Road,
Kolkata-700054. **…RESPONDENT(S)**

APPEAL NO. 180 OF 2017

In the matter of:

NTPC Limited
NTPC Bhavan, Core – 7,
Scope Complex, Institutional Area,
Lodhi Road, New Delhi – 110003. **…APPELLANT**

VERSUS

1. The Secretary,
Central Electricity Regulatory Commission
3rd & 4thFloor, Chanderlok Building,
36, Janpath, New Delhi- 110001.

2. The Managing Director,
Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar,
Rampur, Jabalpur – 482008.

3. The Chairman & Managing Director,
Maharashtra State Electricity Distribution Company Ltd.,
'Prakashgard', Bandra (East),
Mumbai- 400 051.

4. The Chairman,
Gujarat Urja Vikas Nigam Limited,
Sardar Patel, Vidyut Bhavan, Race Course,
Vadodra, Gujarat – 390 007.

5. The Managing Director,
Chhattisgarh State Power Distribution Company Ltd.,
Dhangania, Raipur-492013.

6. The Executive Engineer,
Electricity Department,
Department of Goa, Vidyut Bhawan,
Panaji, Goa – 403001.

7. The Assistant Engineer
Electricity Department,
Administration of Daman & Diu,
Daman – 396 210

8. The Executive Engineer,
Electricity Department,
Administration of Dadra and Nagar Haveli
Silvassa – 396230. **…RESPONDENT(S)**

APPEAL NO. 240 OF 2017

In the matter of:
NTPC Limited
NTPC Bhavan, Core – 7,
Institutional Area, Lodhi Road,
New Delhi – 110003 **…APPELLANT**

VERSUS

1. The Secretary,
Central Electricity Regulatory Commission,
3rd & 4thFloor, Chanderlok Building,
36, Janpath, New Delhi- 110001.

2. The Managing Director,
Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur-482008.

3. The Chairman and Managing Director,
Maharashtra State Electricity Distribution Company Ltd.,
'Prakashgard', Bandra (East), Mumbai- 400051.

4. The Managing Director,
Gujarat Urja Vikas Nigam Limited (GUVNL),
Vidyut Bhavan, Race Course,
Vadodra, Gujarat – 390007.

5. The Executive Engineer
Electricity Department,
Govt. of Goa, Vidyut Bhawan,
Panaji, Goa – 403001.

6. The Secretary (Power)
Electricity Department,
Administration of Daman & Diu,
Daman – 396210.

7. The Executive Engineer,
Electricity Department
Administration of Dadar & Nagar Haveli,
Silvassa – 396230.

8. The Managing Director,
Chhattisgarh State Power Distribution Co. Ltd.,
Dangania, Raipur – 492013. **…RESPONDENT(S)**

APPEAL NO. 311 OF 2017

In the matter of:

NTPC Limited,
NTPC Bhavan, Core – 7,
Scope Complex, Institutional Area,
Lodhi Road, New Delhi – 110003. **…APPELLANT**

VERSUS

1. Central Electricity Regulatory Commission
3rd & 4thFloor, Chanderlok Building,
36, Janpath, New Delhi- 110001.

2. The Chief General Manager (Regulatory),

Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar, Rampur,
Jabalpur-482008.

3. The Chairman and Managing Director
Maharashtra State Electricity Distribution Company Ltd.,
'Prakashgard', Bandra (East), Mumbai- 400051.

4. The Chairman
Gujarat Urja Vikas Nigam Limited,
Sardar Patel, Vidyut Bhava, Race Course,
Vadodra, Gujarat – 390007.

5. The Chairman,
Chhattisgarh State Power Distribution Company Ltd.,
Dhagania, Raipur – 492013.

6. The Principal Secretary (Power)
Electricity Department,
Department of Goa, Vidyut Bhawan,
Panaji, Goa – 403001.

7. The Secretary (Power)
Electricity Department,
Administration of Daman & Diu,
Daman – 396 210

8. The Executive Engineer
Electricity Department,
Administration of Dadra and Nagar Haveli
Silvassa – 396230. **…RESPONDENT(S)**

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Ms. S. Mali for R-7

In APL No.178 of 2017
Mr. Raj Kumar Mehta
Ms. Himanshi Andley for R-5

In APL Nos. 180 & 240 of 2017
Mr. Ravin Dubey
Mr. Ravi Sharma
Mr. Kashij Khan
Mr. Sarthak

Mr. Dilip Singh
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In APL No. 311 of of 2017
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Ms. R. Mekhala
Mr. Anurag Naik for R-2

J U D G M E N T

PER HON'BLE MR SANDESH KUMAR SHARMA, TECHNICAL MEMBER

1. The instant batch of appeals has been filed by the by M/s NTPC Limited ("Appellant" or "NTPC"), being aggrieved by the various tariff orders issued by the Central Electricity Regulatory Commission (in short "CERC" or the "Central Commission") pertaining to Financial Years (in short "FY") 2014-19 on various issues.

2. The issues which are assailed by these captioned Appeals are summarised as follows:

S.N.	Appeal No.	T.P.S.	Tariff Period	Issue
1	25 of 2017	Simhadri-II	2014-19	O&M Expenses
				Extension of cut-off date
				Projected Additional Capital Expenditure for -Main Plant & Offsite including roads and Residential Quarters, and -Construction of railway siding
2	178 of 2017	Farakka-III	2014-19	O&M Expenses
				Extension of cut-off date

				Projected Additional Capital Expenditure for Construction of Bridge over Ganga-Feeder Canal
3	180 of 2017	Korba-III	2009-14	O&M Expenses
			2014-19	O&M Expenses
			2014-19	Normative Heat Rate
			2014-19	Capitalization of additional capital expenditure for Simulator Package
4	240 of 2017	Vindhyanchal-IV	2014-19	O&M Expenses
			2014-19	Normative Heat Rate
5	311 of 2017	Sipat-I	2009-14	O&M Expenses
			2014-19	O&M Expenses
				Additional Capital Expenditure relating to wagon tippler and associated system

3. The first captioned Appeal No. 25 of 2017 has challenged the Order dated 29.07.2016 (in short “Impugned Order-25”) in Petition No. 294/GT/2014 for issues as mentioned under paragraph to in relation to Simhadri Super Thermal Power Station Stage-II (hereinafter referred to as “Simhadri II”).

4. The second captioned Appeal No. 178 of 2017 has challenged the Order dated 03.03.2017 (in short “Impugned Order-178”) in Petition No. 280/GT/2014 for issues as mentioned under paragraph to in relation to Farakka Super Thermal Power Station-Stage III (herein after referred as “Farakka-III”).

5. The third captioned Appeal No. 180 of 2017 has challenged the Order dated 03.03.2017 (in short “Impugned Order-180”) in Petition No. 340/GT/2014 for issues as mentioned under paragraph to in relation to Korba Super Thermal Power Station-Stage III (hereinafter referred to as “Korba-III”).

6. The fourth captioned Appeal No. 240 of 2017 has challenged the Order dated 10.03.2017 (in short "Impugned Order-240") in Petition No. 339/GT/2014 for issues as mentioned under paragraph to in relation to Vindhyachal STPS Stage-IV (hereinafter referred to as "Vindhyachal Stage IV").

7. The fifth captioned Appeal No. 311 of 2017 has challenged the Order dated 29.03.2017 (in short "Impugned Order-311") in Petition No. 337/GT/2014 for issues as mentioned under paragraph to in relation to Sipat Super Thermal Power Station Stage-I (hereinafter referred as **"**Sipat-I").

DESCRIPTION OF PARTIES: -

8. The Appellant in batch of captioned Appeals i.e. M/s NTPC Limited is a Government Company engaged in the business of Generation of Electricity, having power stations/projects at different regions and places in the country.

9. Central Electricity Regulatory Commission is Respondent No.1, is a statutory body function under Section 76 of the Electricity Act, 2003. Other respondents are distribution companies having supply of power from the above-mentioned Thermal Power Stations (in short "TPSs") owned by the Appellant.

10. In the circumstances and aggrieved by the aforementioned Impugned Orders passed by the Central Commission, the Appellant has filed the present captioned appeals.

11. The various issues as assailed by the captioned Appeals are analysed issue-wise in the succeeding paragraphs.

A. ISSUE- O&M EXPENSES FOR THE TARIFF PERIOD 2014-19

12. Considering that the issue of Operation & Maintenance (in short "O&M") expenses for the Financial Years 2014-19 was common in seven Appeals filed by NTPC including the five captioned Appeals along with Appeal No. 101 of 2017 and 110 of 2017, these Appeals were tagged together in one batch, however, Appeal no. 101 of 2017 and Appeal No. 110 of 2017 were taken out from the batch to be heard together as a separate batch having only the O&M expenses issue, the common issue, vide interim order dated 23.11.2021 in IA No. 1814 of 2021 as under:

> "*A request has been made for early hearing on these appeals, the submission of the learned counsel for the appellant being that the Central Electricity Regulatory Commission is in the midst of an exercise for passing true-up order for the corresponding control period which, if passed, might perpetuate, what is perceived by the appellant, an unfair and unjust determination by the impugned order.*
>
> *We have heard learned counsel on all sides. Some of the parties to these matters are common, some beneficiaries not being a party respondent in some of them. The O&M expense is the issue which is common in all these appeals, the request for urgent hearing being connected thereto.*
>
> *After some hearing, a consensus has emerged amongst the learned counsel for all the stakeholders, parties to these seven appeals, that two of these appeals i.e. Appeal nos. 101 of 2017 and 110 of 2017 wherein the issue of O&M expenses is the only issue requiring to be addressed, may be taken up separately, ahead of the others, though opportunity being given to the learned counsel for such parties as well who are not parties to these appeals but party respondents in other five appeals, to address us on the said issue, the determination whereof on the two appeals would regulate the questions raised in that regard in the other five appeals which would come up in due course.*
>
> *We appreciate the sense of urgency expressed by the learned counsel for the appellant seeking early hearing. It has been fairly conceded by the learned counsel for all parties that the issue of O&M expenses is narrow and can be taken up under the category of "short matters" which can be covered by all sides in one session.*
>
> *In the foregoing facts and circumstances, we direct that the Appeal nos. 101 of 2017 and 110 of 2017 be segregated from this batch of appeals and to be listed before us for hearing under the category of "short matters" on* ***13.12.2021****.*
>
> *In view of above, we further clarify that the learned counsel for such parties as are not party respondents in the abovementioned two appeals (Appeal nos.*

101 of 2017 and 110 of 2017), but are parties in other five appeals, shall also have the liberty to appear and address us on the issue of O&M expenses during the hearing as scheduled above. But, in order to fully comprehend and understand their perspective, it would be advisable that each of them sets out briefly the factual matrix, if any, required to be quoted in their written submissions which must be circulated by one and all in advance. The rest of the appeals shall retain their present position in Court-II VC final hearing list.

IA no. 1814 of 2021 is disposed of with above observations."

13. The issue on O&M expenses for the tariff period of 2014-19 was since been heard and final decision was rendered by judgment dated 11.01.2022. Therefore, the issue stands settled by the said judgment rendered in Appeals Nos. 101 of 2017 and 110 of 2017, the relevant extract is quoted as under:

"8. Our observations and Findings:

8.1The "Explanatory Memorandum to Draft Terms and Conditions of Tariff for 2014-2019" provides the basic methodology for determining the Normative O&M charges. It provides that:

(a) *The Normative O&M charges for 2014-19 control period are determined on the basis of O&M charges incurred during the 2009-2014 control period.*

"12.1.1The Commission in its Tariff Regulations, 2001 specified that the O&M Expenses for stations in operation for five or more than five years shall be derived on the basis of past five year actual O&M expenses excluding the abnormal O&M expenses."

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*"12.4.2.1**The Commission through its Order dated June 07, 2013 directed various Central Generating Stations to submit details of actual annual O&M expenses incurred for FY 2008-09 to FY 2012-13.** In response the generating stations submitted the O&M expenses which has been analysed as discussed below."*

"12.5.3The Commission based on the actual O&M expenses for FY 2008-09 to FY 2012-13 has re-computed the O&M expenses for FY 2012-13 by taking average of five year O&M expenses after escalating annual normalised O&M expenses by 6.35% per annum. O&M expenses thus computed for FY 2012-13 has been escalated further considering 6.35% to arrive at the O&M expenses for FY 2014-15 to FY 2018-19."

"12.5.4The Commission proposes to approve the norms based on the actual O&M expenses incurred after normalisation."

[Emphasis supplied]

(b) *Further, the O&M charges for the past years are collected as consolidated charges for the complete project /generating station*

irrespective of new /additional units during that period or existing units. As may be seen from the Explanatory Memorandum:

> ***"In view of above, it is proposed that the tariff of the units or elements commissioned prior to 1.4.2014 shall be determined on consolidated basis only and accordingly, the generating company or transmission licensee shall have to file a petition."***
>
> *[Emphasis supplied]*

(c) *Further, the Statement of Reasons also reiterated that Normative O&M charges are determined on the basis of past years data:*

> *"29.2 The Commission in its Explanatory Memorandum to* ***the draft Regulations discussed the approach considered for arriving at O&M expenses for various generating stations, which was based on the actual O&M expenses for the period from FY 2008-09 to FY 2012-13."***
>
> *[Emphasis supplied]*

8.2 From the above, it is crystal clear that the Normative O&M charges are determined based on the actual consolidated O&M charges for the past five years for a specific project having similar unit sizes.

8.3 Also, the Normative O&M charges are determined for the complete Generating Station including all the units which achieve COD prior to 1.4.2014. The multiplication factor is to be applied for new units which achieve COD after 1.4.2014 and during the control period 2014-19.

8.4 Further, the Tariff Regulations, 2014 provides that:

> ***"(22) 'Existing Project'** means a project which has been declared under commercial operation on a date prior to 1.4.2014;"*

As such, any project or unit commissioned prior to 1.4.2014 is an existing unit/ project and the consolidated actual O&M charges for such project is considered for determining the Normative O&M charges, irrespective of the fact whether such unit/ project is new /additional during the past five years.

8.5 The Regulation 55 provides that:

> *"55. Power to Remove Difficulty: If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations."*

The provision should be invoked only if some difficulty arises in the implementation of the said Regulations. However, we do not find any reason for which the provisions of Tariff Regulations, 2014 cannot be implemented in its true spirit.

*8.6 Mr. Sanjay Sen, Learned Counsel for the Appellant (NTPC) has filed the written submission in both the Appeals for our consideration. He has argued that i**n Appeal No. 101 of 2017**: Order dated 21.01.2017 in Petition No. 283/GT/2014 [pertaining to Kahalgaon Super Thermal Power Station Stage II (3X500 MW) ("**KSTPS-II**")]; and **In** Appeal **No. 110 of 2017**: Order dated 06.02.2017 in Petition No. 372/GT/2014 [pertaining to Rihand Super Thermal Power Station Stage III (2 X 500 MW)("**RSTPS-III**")], the Commission has erroneously relied upon it Order dated 27.07.2016 in Petition No. 294/GT/2014 passed in the case of Simhadari Super Thermal Power Station Stage II (subject matter of Appeal No. 25 of 2017) and has:-*

> *i. Exercised its power to remove difficulties under Regulation 55 of CERC (Terms and Conditions of Tariff) Regulations 2014 and has, inter alia, reduced the allowable Operation and Maintenance ("**O&M**") for KSTPS-II and RSTPS-III for the period from 01.04.2014 to 31.03.2019;*
> *ii. This is being done by holding that the proviso under Regulation 29(1)(a) of the Tariff Regulations 2014 also applies to units under Commercial Operation Date ("**COD**") before 01.04.2014 and has resultantly considered KSTPS-II and RSTPS-III as an 'Additional Unit' for computation of O&M Expenses.*

8.6.1 For our consideration the following list of dates have been placed on record, differently for the two Appeals, wherein the non-shaded dates pertain to Appeal No. 101 of 2017 and shaded dates pertain Appeal No. 110 of 2017.

SL. NO.	DATES	EVENTS
1.	01.08.2008	First unit of KSTPS-II achieved its Commercial Operation Date ("**COD**").
2.	30.12.2008	Second unit of KSTPS-II achieved its COD.
3.	20.03.2010	Third unit of KSTPS-II achieved its COD.
4.	19.11.2012	Unit 1 of the RSTPS-III achieved COD.
5.	21.02.2014	CERC notified the Tariff Regulations, 2014 to be in effect from 01.04.2014.
6.	27.03.2014	Unit 2 of the RSTPS-III achieved COD.
7.	14.08.2014	NTPC filed Petition No. 283/GT/2014 for determination of Tariff for KSTPS-II for the period 01.04.2014 to 31.03.2019 in terms of the Tariff Regulations, 2014.
8.	14.08.2014	NTPC filed a Petition No. 372/GT/2014 for approval of Tariff of RSTPS-III for the period from 01.04.2014 to 31.03.2019 in terms of the Tariff Regulations 2014.
9.	29.07.2016	CERC vide its Order in Petition No. 294/GT/2014 invoked "Power to Remove Difficulty" under Regulation 55 and reduced the allowable O & M expenses for Simhadri - II for the period from 01.04.2014 to 31.03.2019, by holding that the

		proviso under Regulation 29 (1)(a) of the Tariff Regulations, 2014 also applies to units whose COD occurred on or after 01.04.2009 and before 01.04.2014. ***Note**: The said Order passed in Petition No. 294/GT/2014 has been challenged before this Tribunal in Appeal No. 25 of 2017 and is pending consideration before this Hon'ble Tribunal.*
10.	*27.12.2016*	*CERC vide Order disposed of the Review Petition No. 25/RP/2016 filed by NTPC.*
11.	*21.01.2017*	*CERC vide Order in Petition No. 283/GT/2014 ("**Impugned Order**"), wherein it erroneously relied upon the ratio of the Order passed in Petition No. 294/GT/2014 to reduce the allowable O & M expenses for the KSTPS-II Project of NTPC.*
12.	*06.02.2017*	*CERC vide Order ("**Impugned Order**") in Petition No. 372/GT/2014, wherein it erroneously relied upon the ratio of the Order dated 27.07.2016 passed in Petition No. 294/GT/2014 to reduce the allowable O&M expenses for the RSTPS-III.*
13.	*10.03.2017*	*Hence, aggrieved by the Order dated 21.01.2017, NTPC has filed the instant Appeal No. 101 of 2017*
14.	*22.03.2017*	*Hence, aggrieved by the Order dated 06.02.2017, NTPC has filed the instant Appeal No. 110 of 2017.*

8.6.2 It may, therefore, be seen that all the units of the two projects were commissioned prior to 1.4.2014 and thus are the existing units for the control period 2014-19 as per the definition provided in the Tariff Regulations.
8.6.3 At the outset, it is submitted that the issue involved in both the Appeals (Appeal No. 101/2017 & Appeal No. 110/2017) is the interpretation of Proviso to Regulation 29(1)(a)of the Tariff Regulations, 2014 and its consideration while allowing the O&M Expenses to the Appellant. The Impugned Order has been passed by relying upon the Order dated 29.07.2016 in Petition No. 294/GT/2014,CERC has arbitrarily and erroneously held that the proviso to Regulation 29 (1)(a) of Tariff Regulations, 2014 is also applicable to units whose COD occurred even before 01.04.2014 when as per the plain reading of the said Proviso it is evident that it is limited in its application to Additional Units which achieved COD after 01.04.2014.

i. Regulation 29 (1)(a) of the Tariff Regulations, 2014 as well as the finding of CERC concerning the issue of O&M Expenses is reproduced as follows:-

ii.

(a) Proviso to Regulation 29 (1)(a) of the Tariff Regulations 2014: "Provided that the norms shall be multiplied by the following

*factors for arriving at norms of O&M expenses for additional units in respective unit sizes for the units whose **COD occurs on or after 1.4.2014 in the same station**:*

200/210/250 MW	*Additional 5th& 6th units*	*0.90*
	Additional 7th& more units	*0.85*
300/330/350 MW	*Additional 4th& 5th units*	*0.90*
	Additional 6th& more units	*0.85*
500 MW and above	*Additional 3rd& 4th units*	*0.90*
	Additional 5th& above units	*0.85*

"

(b) The findings of CERC in Petition No. 294/GT/2014 (also challenged in Appeal No. 25 of 2017):

*"52. It is noticed that under the 2009 Tariff Regulations, any generating station having 3rdand 4thunits with a capacity of 500 MW and above, if commissioned on or after 1.4.2009 but before 31.3.2014, shall be entitled to O&M expenses at the rate to be worked out on the basis of normative O&M multiplied by 0.9%. There is no corresponding provision in the 2014 Tariff Regulations for determination of the O&M expenses of the units commissioned on or after 1.4.2009 but before 31.3.2014 during the 2009-14 period. However, in the 2014 Tariff Regulations, the O&M expenses of 3rdand 4thUnit of the generating stations having capacity of 500 MW and above whose COD occurred on or after 1.4.2014 are required to be worked out by multiplying the O&M norms with the factor of 0.9%. This has given rise to a situation where in the restrictions imposed on admissible O&M expenses of the 3rdand 4thunits of the generating station commissioned during 2009-14 period are not continued during 2014-19 period, though the intent is that the O&M expenses of 3rdand 4thunits of a generating station should be rationalized by multiplying with a factor of 0.9 since these units are sharing certain common facilities developed for Units 1 and 2 of the generating station. **In our view, this anomalous situation can be addressed if the provision to Regulation 29(a) of 2014 Tariff Regulations is made applicable in respect of generating stations whose additional units have been commissioned on or after 1.4.2009. This in our view, will balance the interest of the generating station and the beneficiaries and will be in conformity with the objective of section 61(d) of the Act**."*

[Emphasis supplied]

(d) *Findings from the Impugned Order:*

Impugned findings of Order dated 21.01.2017 in	***Impugned findings of Order dated 06.02.2017 in***

283/GT/2014 [Appeal No. 101 of 27]	***372/GT/2014 [Appeal No. 110 of 27]***
"64. The generating station with a capacity of 1500 MW comprises of three units of 500 MW each was declared under commercial operation on 20.3.2010 and is an expansion project. The question of rationalisation of O&M expenses in respect of expansion units commissioned during the period 2009-14 and continued during the tariff period 2014-19 has been addressed by the Commission in order dated 29.7.2016 in Petition No. 294/GT/2014 (determination of tariff of Simhadri Super Thermal Power Station Stage-II for the period 2014-19) as under:… *…65. Accordingly, in line with the above decision, the normative O&M expenses for additional units of the generating station has been worked out and allowed as under:"*	*"34. The generating station with a capacity of 1000 MW comprises of two units of 500 MW each was declared under commercial operation on 27.3.2014 and is an expansion project. The question of rationalization of O&M expenses in respect of expansion units commissioned during the period 2009-14 and continued during the tariff period 2014-19 has been addressed by the Commission in order dated 29.7.2016 in Petition No. 294/GT/2014(determination of tariff of Simhadri Super Thermal Power Station Stage-II for the period 2014-19) as under:…* *…35. Accordingly, in line with the above decision, the normative O&M expenses for additional units of the generating station has been worked out and allowed as under: "*

iii. It is evident from the plain reading to the proviso to Regulation 29 (1)(a) of the Tariff Regulations cannot be made applicable to NTPC's KSTPS-II and RSTPS-III as the said provision is only applicable to those additional units whose COD occurs on or after 01.04.2014. The Appellant Units, having achieved COD of its units in the previous control period of 2009-14 itself, cannot be governed by the aforementioned proviso to Regulation 29(1)(a) of the Tariff Regulations, 2014. Following are the COD dates of the concerned unit for kind convenience of this Tribunal:

*(a) **KSTPS-II**: Unit I (01.08.2008), Unit II (30.12.2008) and Unit III (20.03.2010); and*

*(b) **RSTPS-III**: Unit I (19.11.2012) and Unit II (27.03.2014).*

8.7 We agree with the submissions made by the Appellant that considering the above COD, only the revised O&M norms for units existing as on 01.04.2014, as laid down in Regulation 29 (1) (a) of the 2014 Tariff Regulations are to be

applied in case of the Appellant. As such any other interpretation of the aforesaid regulations is contrary to the plain text and meaning.

8.8 It is now a settled position of law that CERC is bound by its own Regulations and must take action in conformity of with its Regulations. In this regard reliance is placed on the Constitutional Bench Judgment of the Hon'ble Supreme Court in PTC India Limited V CERC & Ors.(2010) 4 SCC 603, the relevant extracts of the Judgment are being reproduced as follows:-

> *"54. As stated above, the 2003 Act has been enacted in furtherance of the policy envisaged under the Electricity Regulatory Commissions Act, 1998 as it mandates establishment of an independent and transparent Regulatory Commission entrusted with wide ranging responsibilities and objectives inter alia including protection of the consumers of electricity. Accordingly, the Central Commission is set up under Section 76(1) to exercise the powers conferred on, and in discharge of the functions assigned to, it under the Act. On reading Sections 76(1) and 79(1) one finds that Central Commission is empowered to take measures/steps in discharge of the functions enumerated in Section 79(1) like to regulate the tariff of generating companies, to regulate the inter-State transmission of electricity, to determine tariff for inter-State transmission of electricity, to issue licenses, to adjudicate upon disputes, to levy fees, to specify the Grid Code, to fix the trading margin in inter-State trading of electricity, if considered necessary, etc.. **These measures, which the Central Commission is empowered to take, have got to be in conformity with the regulations under Section 178, wherever such regulations are applicable**. Measures under Section 79(1), therefore, have got to be in conformity with the regulations under Section 178…*
>
> *56. Similarly, while exercising power to frame the terms and conditions for determination of tariff under Section 178, the commission has been guided with the factors specified in Section 61. It is open for the Central Commission to specify terms and conditions for determination of tariff even in the absence of Regulation under Section 178. **However, if a Regulation is made under Section 178, then, in that event, framing of terms and conditions for determination of tariff under Section 61 has to be in consonance with the Regulations under Section 178."***
>
> *[Emphasis supplied]*

8.9 Therefore, as per the law laid down by the Hon'ble Supreme Court Central Commission is bound to comply with the Regulations notified by it.

8.10 Central Commission vide Tariff Regulations, 2019 further continued with the past practice similar to what has been specified under Regulation 29 of the Tariff Regulations, 2014. If Central Commission has observed some difficulty in implementing such a provision there seems to be no reason for reiterating the same mistake for the Tariff Regulations, 2019. We failed to understand the

*same. If we accept the views of Central Commission that the intent of Central Commission was to apply the Multiplication Factor to all similar Units (irrespective of their date of COD) then in Central Commission (Terms and Conditions of Tariff) Regulations, 2019 the CERC ("**Tariff Regulations, 2019**") Central Commission would have inserted such a Proviso rectifying the earlier mistake. However, from the perusal Proviso of Regulation 35 (1) of the Tariff Regulations, 2019 it is evident that the said Multiplication Factor has again been confined to Additional Units which achieve COD after 01.04.2019. The relevant extract of Tariff Regulations, 2019 is reproduced as follows: -*

> *"35. Operation and Maintenance Expenses:*
> ***(1) Thermal Generating Station**: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:*
>
> *(1) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations or units referred to in clauses (2), (4) and (5) of this Regulation:…*
> *…Provided that where the date of commercial operation of any additional unit(s)of a generating station after first four units occurs on or after 1.4.2019, the O&M expenses of such additional unit(s) shall be admissible at 90% of the operation and maintenance expenses as specified above;"*

8.11 It is a settled principle of law that when a statute provides for a thing to be done in a particular manner, it has to be done only in that manner and no other manner. Reliance in this regard is placed on the following judgments of Hon'ble Supreme Court:—

> *i. Gujarat Urja Vikas Nigam v. Essar Power Ltd., (2008) 4 SCC 755 (**Para 35**)*
> *ii. J. Jayalalitha v. State of Karnataka, (2014) 2 SCC 401 (**Para 34**)*
> *iii. A.R. Antulay v. Ramdas Sriniwas Nayak, (1984) 2 SCC 500 (**Para 22**)*

8.12 Mr. Arijit Maitra, Learned Counsel for the Respondent No.2/GRIDCO, in Appeal no. 101/2017, defended the decision of CERC by submitting that the preamble to the 2003 Act enshrines "rationalization of electricity tariff". The impugned Order dated 21.01.2017 determined the tariff of Kahalgaon Super Thermal Power Station Stage – II for the period 01.04.2014 to 31.03.2019. For one of the items viz. O&M Expenses, the Respondent Commission has rationalized the O&M expenses of the Appellant i.e. Unit III of the said power plant to 90 % of the normative O&M expenses. The reason being that Unit III of the said power plant is an expansion of Unit Nos. I and II. The expansion Unit No.III is sharing the infrastructure of the existing Unit Nos. I and II. The common facilities that are being shared by Unit No. III from Unit Nos. I and II would be in the nature of employees; ash disposal; water treatment; ash pond etc.

8.13 We decline to accept the said contention as the provisions of the Tariff Regulations, 2014 have already been deliberated in the foregoing paras and there is no doubt that the Normative O&M charges are determined by consolidating the actual O&M charges for the past five years (the last control period) thus considering the actual sharing benefits by the additional units for that period and rationalising the expenditure.

*8.14 He further added that the Tariff Policy dated 28.01.2016 notified by the Central Government in terms of Section 3 of the 2003 Act is a statutory policy as held by the Supreme Court in the matter of Energy Watchdog Vs. CERC & Ors. reported in (2017) 14 SCC 80. The first proviso to para 5.2 of the said Policy provides inter alia " ….. Provided that in case of expansion of such project, the benefit of sharing of infrastructure of existing project and efficiency of new technology is passed on to consumer through tariff". Hence, the impugned Order which is passing on to the consumer through tariff the benefit of rationalised O&M expenses of Unit No.III sharing the infrastructure of the existing Unit Nos. I and II, is justified even in terms of the mandate in the Tariff Policy. The wording used in the Tariff Policy, inter alia is "**the Appropriate Commission shall ensure …….".***

8.15 We do not find any relevance to the above submission as the benefit of sharing of resources by the additional units have already been factored in the actual O&M charges considered for the past years.

8.16 He further invited our attention towards the observation of the Central Commission which inter alia provides that –

> *"58. …. The Commission took note of the fact that the generators like NTPC are going for expansion of the existing generating station for optimum utilization of the resources. Since the expansion Unit No.III would be sharing some of the common facilities which are already in place and the normative O&M expenses allowed in the regulation captures the economy scale for a capacity range of 1000 to 1200 MW on an average, the Commission felt that the O&M expenses for the expansion Unit of the same type at the same location should not be of the same order. Accordingly, the Commission provided for multiplying factors to be applied to the normative O&M expenses to arrive at the O&M expenses in respect of future additional Units whose COD would occur on or after 01.04.2009. …*
>
> *59. It is apparent from the above that the intention of providing multiplying factor for determination of the O&M expenses for additional units was to pass on the benefit of economy scale to the consumer. ….."*

8.17 There is no denial that the benefit of sharing of resources by the additional units should be passed on to the consumers, however, once already factored into the actual O&M charges which is the basis for determination of Normative

O&M charges for the next control period, such a benefit becomes the integral part of O&M charges.

8.18 Similar contentions have been raised by the learned Advocates of the other respondents.

8.19 Ms. Rukmani Bobode, Learned Counsel for the Respondent No.5 (MPPMCL) has argued that the Appellant has contended that KhSTPP-Stage II achieved COD on 20.03.2010 i.e. during Tariff Control Period 2009-14 and Proviso to Regulation 19 of Regulation, 2009 could not be made applicable, as it is applicable only to those plants which achieve COD after 01.04.2014. The said submission is wholly untenable. CERC has consistently applied multiplying factor given in the Proviso to Regulation 29(1)(a) of Regulations 2014 to Units commissioned after 01.03.2009 also. Admittedly CERC has been consistently passing Tariff Orders applying the same principle. Further, it is submitted that the provision of applying multiplying factor to the normative O&M expenses for the extension units, so as to capture economy of scale, in an existing Project was introduced by CERC in its Regulations, 2009 through proviso to Regulation 19 (a). Thus the concept of applying multiplying factor to O&M norms for permissible O&M expenses in respect of additional units is to take into account the economy of scale being achieved for a capacity range of 1000 to 1200 MW on an average and to pass on the benefit to the beneficiaries. This provision was made effective for units whose COD occurred on or after 01.04.2009. Further, this provision was retained in Regulations, 2014 providing norms of O&M expenses for additional units in respective unit sizes for the units whose COD occurs on or after 01.04.2014. Thus the object of provision of multiplying factor for determination of O&M charges for additional units was to pass on the benefits of economy of scale to the consumers from 3rd Unit onwards (having Unit size of 500MW) in the existing Project. The said provisions are also in conformity with the provisions Section 61 of Act 2003.

8.20 We have already deliberated on this issue and find no additional merit to reconsider our decision.

8.21 We have heard Mr. Pradeep Misra, Learned Counsel, Mr. R.B. Sharma, Learned Counsel and Mr. Apoorva Misra, Learned Counsel for the Respondents. Similar submissions have been made by them. The issue has already been discussed in detail and we find that their contentions are similar to what we have already discussed. We decline to accept the contentions of the Respondents that the multiplication factor as envisaged for the control period 2009-14 shall continue to be applied for such units during the control period 2014-19.

8.22 The other issue which has been raised before us is the invoking of powers vested with the Central Commission under Regulation 55 of the Tariff Regulations, 2014 for amending the Proviso to Regulation 29(1)(a).

8.23 The Learned Advocate for the Appellant submitted that the settled position of law that power to relax/remove difficulties cannot be employed to alter/amend the statutes. In this regard reliance is placed on the judgment of

the Hon'ble Supreme Court in M.U. Sinai Vs Union of India, (1975) 2 SCR 640 and the relevant extracts of the Judgment are reproduced as follows: -

> *"…….It will be seen that the power given by it is not uncontrolled or unfettered. It is strictly circumscribed, and its use is conditioned and restricted. The existence or arising of a "difficulty" is the sine qua non for the exercise of the power. It this condition precedent is not satisfied as an objective fact, the power under this Clause cannot be invoked at all. Again, the "difficulty" contemplated by the Clause must be a difficulty arising in giving effect to the provisions of the Act and not a difficulty arising aliunde, or an extraneous difficulty**. Further, the Central Government can exercise the power under the Clause only to the extent it is necessary for applying or giving effect to the Act etc. and no further. It may slightly tinker with the Act to round off angularities, and smoothen the joints or remove minor obscurities to make it workable, but it cannot change, disfigure or do violence to the basic structure and primary features of the Act. In no case, can it, under the guise of removing a difficulty, change the scheme and essential provisions of the Act**."*
>
> *[**Emphasis supplied**]*

*8.24 As per the MU Sinai (Supra) the Power to Remove Difficulty cannot be invoked to substantially amend the scheme of the Act. Hence, in the present case the said power cannot be invoked to substantially amend proviso to Regulation 29 (1) read with Proviso to Regulation 1 (2) of the Tariff Regulations, 2014. In fact, this Tribunal at various instances, relying upon the MU Sinai (Supra) has observed that Power to remove difficulty must be exercised in exceptional circumstance where the Regulation could not be implemented. However, in the present case, there was not such recording in the Impugned Order that the said Regulations could not have been applied as it could not have implemented it. [Reference- Tribunal's Judgment dated 25.03.2011 in Appeal No. 130 of 2009 – RGPPL v. CERC & Ors. (**Para 10.3& 10.7**)]*

8.25 Central Commission while finalising the Regulations invited detailed stakeholder consultations and also issued a detailed Approach Paper for the stakeholders. The Proviso, thus, incorporated after prior consultation from the Appellant as well as other Stakeholders. However, in the Impugned Order, CERC has essentially amended Proviso to Regulation 29 (1) (a) of the Tariff Regulations, 2014 without providing an opportunity to the Appellant to make submissions on this issue of Proviso to Regulation 29 (1)(a) of the Tariff Regulations, 2014. It is apposite to mention that in the entire proceedings no party had even whispered that the Proviso to Regulation 29 (1)(a) ought to be made applicable to units achieving COD Prior to 01.04.2014. Hence, there was no occasion for the Appellant to even respond to such a course being adopted by Central Commission. Even Central Commission at no stage indicated that it is seeking to apply to Proviso to Regulation 29 (1)(a) to Units achieving COD before 01.04.2014. Such a course adopted by Central Commission violates the principle of Natural Justice and for this ground alone the Impugned Order is liable to be set aside.

8.26 On the contrary, Mr. Arijit Maitra argued that the Respondent Commission has rightly invoked the power to remove difficulty in accordance with the law settled by the Supreme Court of India. In Madeva Upendra Sinai Vs. Union of India & Ors. (1975) 3 SCC 765, the Hon'ble Supreme Court inter alia held that

> *"39. In order to obviate the necessity of approaching for removal of every difficulty, howsoever trivial, encountered in the enforcement of a statute, by going through the time consuming amendatory process, the legislature sometimes thinks it expedient to invest the executive with a very limited power to make minor adoption and peripheral adjustment in the statute for making its implementation effective, without touching its substance. ……". **{Underlining added}***

8.27 He further added that the Respondent Commission has therefore correctly passed the impugned order inter alia applying the multiplication factor for determining the O&M expenses for the period 2014-2019, since the 2014 Regulations do not specifically state that the O&M expenses for additional Units i.e. for the units whose COD has occurred prior to 01.04.2014 cannot be rationalised by use of the multiplying factor of 0.90.

8.28 We do not find any reason by which the provisions of Regulation 29 cannot be implemented or there is a difficulty in its implementation. As such the above Judgement quoted by Mr. Arijit is not relevant here.

8.29 Differently, the judgment of the Hon'ble Supreme Court in M.U. Sinai Vs Union of India, (1975) 2 SCR 640 is relevant in the present case

8.30 We agree that in the present case the said power cannot be invoked to substantially amend proviso to Regulation 29 (1) read with Proviso to Regulation 1 (2) of the Tariff Regulations, 2014. The Power to Remove Difficulty must be exercised in exceptional circumstance where the Regulation could not be implemented.

ORDER

In light of the above, we are of the considered view that the issues raised in the Batch of Appeals have merit and hence Appeals are allowed. The impugned order dated 21.01.2017 in Petition No. 283/GT/2014 and order dated 06.02.2017 in Petition No. 372/GT/2014 ("Petition 372"), are hereby set aside to the extent of our findings. The matter is remitted back to the Central Commission for passing a reasoned order pursuant to our observations are scrupulously complied with expeditiously and in a time-bound manner.
The appeals are disposed of in above terms. Pending IAs, if any, shall stand disposed of."

14. Thus, the common issue of reduced allowance of Operation & Maintenance (O&M) expenses for the control period from 01.04.2014 to 31.03.2019 for the Appellant's TPS in the five captioned Appeals, is decided

accordingly with the directions that the Impugned Orders passed by CERC as are challenged by these five captioned Appeals are set aside to the extent of our findings in aforesaid judgment dated 11.01.2022.

B. ISSUE- O&M EXPENSES FOR THE TARIFF PERIOD 2009-14

15. The Appellant has assailed the Impugned Orders on Reduction of Normative Operation and Maintenance ("O&M") expenses for the tariff period 2009-14 period by Appeal Nos. 180 of 2017 & 311 of 2017.

16. The Appellant submitted that Central Commission has reduced the normative O&M expenses for 2009-14 period, by treating the units of new stations as expansion unit of already existing stations, the Central Commission applied sub clause (a) of Regulations 29 of Tariff Regulations, 2009 for the new stations of Korba-III and Sipat-I and has proceeded to modify normative O&M expenses of 2009-14 period by invoking Regulation 103(A) of conduct of Business Regulations, 1999 while issuing the impugned orders for respective stations, the relevant extract of the order dated 03.03.2017 (reference is Appeal No. 180 of 2017 as the issue is identical) is reproduced as under:

> *"3. Before we proceed to determine the tariff of the generating station for the period of 2014-19, we intend to rectify an inadvertent error in the computation of O&M expenses of the generating station issued vide order dated 31.8.2015. Korba Super Thermal Power Station Stage-III consisting of one unit of 500 MW, is an expansion project to the existing Korba Super Thermal Power Station Stage-I & II, also consisting of three units of 500 MW each. Accordingly, the O&M expenses of Korba STPS Stage III was required to be determined in accordance with the proviso to Regulation 19(a) of the 2009 Tariff Regulations which provides the following normative O&M expenses for 500 MW coal based and lignite based generating stations, as under: -*

(₹ in lakh/MW) 2009-10	***2010-11***	***2011-12***	***2012-13***	***2013-14***
13.00	*13.74*	*14.53*	*15.36*	*16.24*

> *Provided that the above norms shall be multiplied by the following factors for additional units in respective unit sizes for the units whose COD occurs on or after 1.4.2009 in the same station*

200/210/250 MW	*Additional 5th and 6th units*	*0.90*
	Additional 7th and more units	*0.85*
300/330/350 MW	*Additional 4th and 5th units*	*0.90*
	Additional 6th and more units	*0.85*
500 MW and above	*Additional 3rd and 4th units*	*0.90*
	Additional 5th and more units	*0.85*

4. As per the above provision, the O&M expenses of the units of this generating station which were commissioned after 1.4.2009 were required to be worked out by multiplying the normative O&M expenses with a factor of 0.9. The Commission in its order dated 31.8.2015 had inadvertently omitted to apply the said proviso under Regulation 19(a) while determining O&M expenses of this generating station which has resulted in the allowing O&M expenses in excess of what was admissible under Regulation 19(a) read with proviso thereunder.

5. Regulation 103(A) of the Central Electricity Regulatory Commission (Conduct of Business) Regulation, 1999, as amended from time to time (Conduct of Business Regulation) provides as under: -

"Clerical or arithmetical mistakes in the orders or errors arising therein from any accidental slip or omission may at any time be corrected by the Commission either or its own motion or on the application of any of the parties."

6. The above provision enables the Commission to correct any accidental omission or error in an order at any time on its own motion. Hence, we consider it appropriate to correct the inadvertent omission in computation of O&M expenses of this generating station which was allowed vide orders dated 31.8.2015. Accordingly, in exercise of our power under Regulation 103(A) of Conduct of Business Regulations, the year-wise normative O&M expenses of this generating station for the period from 21.3.2011 to 31.3.2014 is worked out in accordance with the proviso under Regulation 19(a) of the 2009 Tariff Regulations (by multiplying the normative O&M expenses with a factor of 0.9) as allowed as under:

(₹ in lakh/MW) 2010-11 (21.3.2011 to 31.3.2011)	***2011-12***	***2012-13***	***2013-14***
6183.00	*6538.50*	*6912.00*	*7308.00*

7. The O&M expenses worked out as above shall be admissible in respect of the generating station for the period 2009-14 in supersession of the O&M expenses allowed vide orders dated 31.8.2015."

17. Similarly, vide the Impugned Order dated 29.03.2017 for Sipat-I the Central Commission held as under:

> *"4. Before we proceed to determine the tariff of the generating station for the period of 2014-19, we intend to rectify an inadvertent clerical error in the table regarding interest on loan in para 46 and O&M expenses in para 51 approved vide order dated 6.12.2016 in Petition No. 295/GT/2014.*
>
> *5. Regulation 103(A) of the Central Electricity Regulatory Commission (Conduct of Business) Regulation, 1999, as amended from time to time (Conduct of Business Regulation) provides as under: -*
>
> ***"Clerical or arithmetical mistakes in the orders or errors arising therein from any accidental slip or omission may at any time be corrected by the Commission either of its own motion or on the application of any of the parties."***
>
> *6. The above provision enables the Commission to correct any accidental omission or error in an order at any time on its own motion. Hence, we consider it appropriate to correct the inadvertent clerical errors in the interest on loan and depreciation of this generating station as approved in table in para 46 and para 47 of order dated 6.12.2016 in Petition No. 295/GT/2014. Accordingly, in exercise of our power under Regulation 103(A) of Conduct of Business Regulations, table regarding interest on loan in para 46 of order dated 6.12.2016 in Petition No. 295/GT/2014 is revised as under: -*
> *----------*
>
> *8. Further, the O&M expenses approved to this generating station in table in para 51 in order dated 6.12.2016 in Petition No. 295/GT/2014 is revised as under: -*
> *----------"*

18. From the above, it can be seen that the Central Commission has invoked Regulation 103(A) of Conduct of Business Regulations, 1999 for correcting its inadvertent error in determining the O&M expenses of 2009-14 period and treated the new units of Sipat-I (3x660 MW) and Korba-III (1x500 MW) as expansion units of already existing units of Sipat-II (2x500 MW) and Korba-I&II (3x500 MW) respectively.

19. It is important to note the provisions of Tariff Regulations, 2009 and its Statement of Reasons (in short "SoR") regarding O&M expenses of new units

for using multiplication factor while determining normative O&M expenses. The Tariff Regulations, 2009 provide as under:

"19. Operation and Maintenance Expenses. Normative operation and maintenance expenses shall be as follows, namely:

(a) Coal based and lignite fired (including those based on CFBC technology) generating stations, other than the generating stations referred to in clauses (b) and (d):

Year	*200/210/250 MW sets*	*300/330/350 MW sets*	*500 MW sets*	*600 MW and above sets*
2009-10	*18.20*	*16.00*	*13.00*	*11.70*
2010-11	*19.24*	*16.92*	*13.74*	*12.37*
2011-12	*20.34*	*17.88*	*14.53*	*13.08*
2012-13	*21.51*	*18.91*	*15.36*	*13.82*
2013-14	*22.74*	*19.99*	*16.24*	*14.62*

Provided that the above norms shall be multiplied by the following factors for additional units in respective unit sizes for the units whose COD occurs on or after 1.4.2009 in the same station:

200/210/250 MW	*Additional 5th & 6th units*	*0.9*
	Additional 7th & more units	*0.85*
300/330/350 MW	*Additional 4th & 5th units*	*0.9*
	Additional 6th & more units	*0.85*
500 MW and above	*Additional 3rd & 4th units*	*0.9*
	Additional 5th & above units	*0.85"*

20. The Statement of reasons for the Tariff Regulations, 2009 provide as under:

"20.9 For the generating stations having combination of above sets, the weighted average value for operation and maintenance expenses were to be adopted. It is also felt that O&M expenses for the extension units of the same type at the same location should not be of the same order. The above norms capture economy of scale for a capacity range of 1000 to 1200 MW on an average. Commission is therefore, providing for following multiplying factors to be applied to the above O&M norms for permissible O&M expenses in respect of future additional units, in respective unit sizes for the units whose COD occurs on or after 01.04.2009.:

200/210/250 MW	*Additional 5th & 6th units*	*0.9*
	Additional 7th & more units	*0.85*
300/330/350 MW	*Additional 4th & 5th units*	*0.9*
	Additional 6th & more units	*0.85*
500 MW and above	*Additional 3rd & 4th units*	*0.9*
	Additional 5th & above units	*0.85*

20.10 To explain the applicability of above provisions, if a 210 MW unit comes into operation during 2009-10 in a station already having four or more 200/210 MW units, then the norm for the extension unit would be calculated as 0.90x Rs. 18.20 lakh/MW.

If 500 MW units come up in a station having only 200/210 MW units, then admissible O&M norm for the extension unit would be Rs.13.00 lakh/MW during 2009-10."

21. From the above, it can be established that multiplication factor for additional units is to be used for new units added of same type at the same location so that existing infrastructure including the spares can be shared resulting into optimisation of cost.

22. The Appellant submitted that the new units are not identical in capacity as in the case of Sipat-I or the resources of the existing Power Station cannot be extended to the new units as are different, a detailed reason is quoted by the Appellant as under:

	Korba-III	**Sipat-I**
1.	Korba-III is an altogether independent and separate project, the deployment of resources for which are further independent of the resources available for Korba Stage-I&II.	The capacity of Sipat-I units is 660 MW while the units of Sipat-II are of 500 MW.
2	Existing Auxiliaries of Korba-I&II like coal handling plant, ash handling plant, switchyard, unit control room, ash dyke, compressor house etc. have all outlived their useful life and as such the appellant was required to develop separate independent facilities for Korba-III for which new board approval was taken in 2006.	The Sipat-I is LMZ (Russia) Turbo Generator and M/S Doosan (South Korea) for steam generator . Whereas Stage-II was awarded to BHEL. The technology for Sipat-I is supercritical whereas Sipat-II was subcritical.
3	Separate agreement was done with vendors for procurement of equipment for Stage-III which were completely different than those procured for Stage-I&II, which	The Stage-II was declared commercial on 20.06.2009 while the Stage-I was declared commercial on 01.08.2012.

	were put under operation in 01.06.1990, while Korba-III is put under operation in 21.03.2011. The technological obsolescence of spares in Korba-I&II in two decades renders the spares unusable in Korba-III.	
4	The design of Stage-III turbine is from new fleet (2010-11) while the design of Stage-II is old. The design of turbine inlet, blades and stages are different therefore independent fleet of spares are kept for these units.	The Appellant has developed separate independent facilities for this generating station by way of separate investment approval.
5	The control room and location of all plant auxiliaries are separate and as such no benefit on account of shared manpower can be availed.	The station was developed as a green field project and is not an extension of existing generating station.

23. The SoR to the Tariff Regulations, 2009 provides an illustration which clarifies that the multiplication factor is applicable only if same type of power plant unit is commissioned at same station i.e. where 200/210 MW unit is being commissioned at the station already having 200/210 MW unit then only the multiplication factor will be applicable, however, if, in case the new unit commissioned is of different capacity say 500 MW then the multiplication factor is not applicable.

24. Considering the new capacity of 660 MW commissioned at Sipat-I is not identical to the existing unit configuration of Stage-II i.e. 500 MW, therefore, the applicability of the relevant provision fails here.

25. Further, Appellant submitted that Sipat-I has been developed independently with independent facilities as a greenfield project, even the tariff of Sipat-I and Sipat-II is being determined by the Central Commission as tariff for separate stations.

26. Differently, in the case of Korba-III, we find that unit configuration is same i.e. 500 MW, however, units commissioned in the year 1990at Korba-I&II are much older whereas the Korba-I&II units are newer of the year 2011 and there is reason not being identical due to obsolescence and design difference due to long age difference, thus the submission of the Appellant has reason to be agreed to.

27. Additionally, the control room and location of all plant auxiliaries are separate for Korba-I&II and Korba-III as such no benefit on account of shared manpower can be availed, even the Central Commission itself has been treating both the stages of Korba-I&II and Korba-III as independent generating stations and has been determining tariff accordingly in various orders as submitted by the Appellant, also in order dated 20.06.2016 in 26/RP/2016, it has negated the argument of one of the respondent in this regard.

28. The Appellant also invited our attention towards various orders wherein the Central Commission has been determining the normative O&M expenses of Sipat-I as an independent station without treating them as additional units and using multiplying factor and similarly for Korba-III.

29. Further, the Central Commission has invoked Regulation 103A of conduct of Business Regulations 1999 to change its principle in calculation of O&M expenses retrospectively for 2009-14 period, while determining the tariff for 2014-19 period. The Regulation 103A provides as under:

> *"103A. Clerical or arithmetical mistakes in the orders or errors arising therein from any accidental slip or omission may at any time be corrected by the Commission either of its own motion or on the application of any of the parties."*

30. Thus, as per Regulation 103A it is clear that the Regulations 103A can be invoked for correcting clerical or arithmetic mistakes/errors, however in the instant case, the Central Commission has changed the principal of determination of O&M expenses by treating the new station units as additional units of already existing stations, which is not in consonance with the intent of Regulation 103A of Conduct of Business Regulations considering that any other interpretation of the aforesaid regulations is bad in law, we are inclined to accept the prayer of the Appellant.

31. The above principle has already been settled by the judgment rendered by the Hon'ble Supreme Court in *PTC India Limited V Central Commission & Ors. (2010) 4 SCC 603,* thus, Central Commission is bound by its own Regulations and must take action in conformity of with its Regulations.

32. Considering the above, this issue is decided in favour of the Appellant.

C. EXTENSION OF CUT-OFF DATE -PROJECTED ADDITIONAL CAPITAL EXPENDITURE FOR MAIN PLANT & OFFSITE

33. The Appellant in Appeal No. 25 of 2017 is aggrieved by the decision of the Central Commission for rejecting its request for declaring the occurrence of two severe cyclones namely the Phailin in October 2013 and Hud-Hud in October-2014 as Force Majeure/Uncontrollable events for extension of cut-off date for the generating stations beyond 31.03.2015, although similar natural events were considered by the Central Commission while considering condonation of delay in achieving the Commercial Operation Date (COD) by its order dated 26.09.2012 in Petition No 55 of 2011 and order dated 02.11.2015 in Petition No 303/GT/2014.

34. The Central Commission has disallowed additional capitalisation claims on account of Main plant & Offsite, including roads and residential quarters, for 2015-16 while observing that:

> *"Main Plant & Off- site including Plant Road*
>
> *20. The petitioner has claimed projected additional capital expenditure of Rs3752.88 lakh in 2014-15 under Regulation14 (1)(ii) [Works deferred for execution] and Rs900.00 lakh in 2015-16 underRegulation14(1)(ii) read with Regulation 54 of the 2014 Tariff Regulations towards Main Plant &Offsite including Plant Roads and has submitted that the cut-off date of the generating station is 31.3.2015 and all works are within the original scope of work. In justification of the same, the petitioner vide affidavit dated 14.8.2014 has submitted as under:*
>
> *"It is submitted that the work of Main plant & offsite including plant road was awarded to M/s ERA Infra Engg Ltd.for Rs 136.37 crore on 1.8.2007 with a schedule to complete the work in 43 months. However, the work of approxRs9.0 cr consisting of construction of Roads, drains and culverts, service building and balance structural and civil works of main plant off site area awarded under Main plant and off site civil work package got delayed despite regular follow up/meetings with ERA at various levels. It is submitted that despite various communications to M/s ERA vide letters dated 19.3.2013,6.4.2013, 25.4.2013 and 15.10.2013 to expedite the work, agency could complete only 65% of work by Jan"14. To expedite the work, M/s ERA vide letter dated 14.2.2014 was communicated for Cancellation of contract in part & offloading the work.....works package" and the same was then awarded to other party to avoid any further delay.*
>
> *Work of construction of service building was also awarded under Main Plant Offsite civil work package to M/s ERA. As mentioned above, NTPC Simhadri wrote several letters dated 19.3.2013, 6.4.2013, 25.4.2013 and 15.10.2013 to M/s ERA to expedite the work of service building. But despite regular follow ups M/s ERA could complete only 65% of work and finally on 27.3.2014, NTPC wrote a letter to the Chairman of M/s ERA for „Cancellation of contract in part & offloading the work..... package". As stated above, to avoid any further delay, the work has been awarded to other party and the same is expected to be completed during 2015-16.*
>
> *It is submitted that the balance structural and civil works of main plant off site area has also got delayed and NTPC is in the process of offloading the same to other party due to non- execution by original agency M/s ERA. The same shall be awarded shortly and is expected to be capitalised during 2015-16."*
>
> *……..*
>
> *22. In addition to the information submitted vide affidavit dated 14.8.2014, the petitioner vide affidavit dated 3.9.2015 has submitted that in addition to the reason submitted vide affidavit dated 14.8.2014, very severe cyclonic*

storm PHAILIN in October, 2013 and HUD-HUD in October 2014, affected the generating station and also delayed the overall progress of the balance works. The petitioner has submitted that works like Bunker balance structural/sheeting work, pipeline erection, Railway siding, Main plant office, administrative building, Service building, Plant road & drains, Coal Bhawan, fire-fighting, high rise building roof sheeting, concreting etc. got severely affected by the Cyclonic storms followed by rain. The petitioner has further submitted that despite the best efforts to deal with these natural calamities beyond its control, the balance work could not be completed as per the original completion date and got delayed beyond the cut-off date.

Accordingly, the petitioner has submitted that the delay in completion of balance works may be condoned and the cut-off date for the generating station may be relaxed beyond 31.3.2015 in exercise of Power to Relax under Regulation 54 of the 2014 Tariff Regulations.

23. We have examined the matter. It is observed that the projected additional capital expenditure for Rs3752.88 lakh claimed during 2014-15is in respect of deferred works within the cut-off date of the generating station. As the projected expenditure for the year 2014-15 is for planned works relating to the Main plant as per approved scheme under the original scope of work, the same is allowed to be capitalised in 2014-15 under Regulation 14(1)(ii) of the 2014 Tariff Regulations. The petitioner has also claimed projected additional capital expenditure of Rs900.00 lakh in 2015-16 and has prayed for allowing the same in exercise of the „Power to relax" under Regulation 54 of the 2014 Tariff Regulations. As against the scheduled COD (as per Investment approval) of 1.2.2011 (Unit-I) and 1.8.2011 (Unit-II), the actual COD of Unit-I and Unit-II of the generating station is 16.9.2011 and 30.9.2012 respectively. The time overrun of 7.5 months for Unit-I and 14 months for Unit-II was condoned based on the submissions of the petitioner in orders dated 16.9.2012 in Petition No. 55/2011 and 2.11.2015 in Petition No. 303/GT/2014 respectively. Accordingly, the cut-off date of the generating station is 31.3.2015 in terms of the 2009 Tariff Regulations. It is noticed that the additional capital expenditure allowed was Rs5168.88 lakh from COD of Unit-I (16.9.2011) to 31.3.2012 and Rs5861.24 lakh from 1.4.2012 to 29.9.2012 which included deferred liabilities / balance work under the original scope of work relating to Main plant, Initial spares, MGR system and Ash Handling system etc., Moreover, the projected additional capital expenditure allowed from the actual date of commercial operation of the generating station (Unit-II -30.9.2012) till 31.3.2014 wasRs3071.00 lakh (Rs2071.00 lakh from30.9.2012 to 31.3.2013 and Rs1000.00 lakh in 2013-14) towards Buildings and Rs2357.00 lakh in 2013-14 for Plant off-site works in order dated 26.9.2012 in Petition No.55/2011. However, this claim was revised to Rs2330.00 lakh (Rs103 lakh from 30.9.2012 to 31.3.2013 and Rs1300.00 lakh in 2013-14) towards Buildings and Rs1400.00 lakh (Rs150.00 lakh from 30.9.2012 to 31.3.2013 and Rs1250.00 lakh in 2013-14) which was also allowed by order dated 19.3.2015 in Petition No. 226/GT/2013. Against this projected additional capital expenditure allowed for the period from 30.9.2012 to 31.3.2014, the actual additional capital expenditure of Rs3714.74 lakh (Rs2040.81 lakh from 30.9.2012 to

31.3.2013 and Rs1673.93 in 2013-14) towards Plant off-site works was allowed by Commission's order dated 2.11.2015 in Petition No. 303/GT/2014. In our view, the condonation of delay in declaration of COD has necessarily impacted the cut-off date of the generating station by at least one year. Despite this and the additional capital expenditure being allowed in the previous orders towards plant off site works, these works have been deferred to the year 2015-16. It is noticed that the communications made to the agency M/s ERA by the petitioner through its letters are only after the scheduled date of completion of the said works by the said agency. It cannot be said that the cyclone PHALIN in October, 2013 and HUD-HUD in October, 2014 had impacted the said work since the process of cancellation of the contract due to failure of M/s ERA and awarding the contract to other agency had began only during the period from January, 2014 to March 2014. There has been laxity on the part of the petitioner in coordinating with the contractor/agency for completion of the work prior to the scheduled date of completion of the said work by M/s ERA for which the petitioner is responsible. It is evident from the above that delay in completion of the said work is attributable to the petitioner and the question of cyclone affecting the said work after the same was awarded to another contractor cannot be a ground to condone the delay and extend the cut-off date of the generating station beyond 31.3.2015 by exercise of the „Power to relax" under Regulation 54 of the 2014 Tariff Regulations. No case has been made out by the petitioner for relaxing the cut-off date.
In these circumstances, we reject the prayer of the petitioner for extending the cut-off date of the generating station and the claim for capitalization of the additional capital expenditure of Rs900.00 lakh in 2015-16 is not allowed.

Residential Quarters
24. The petitioner has claimed projected additional capital expenditure of Rs3557.32 lakh in 2014-15 under Regulation 14(1)(ii) (Work deferred for execution) and Rs200.00 lakh in 2015-16 under Regulation 14(1)(ii) with Regulation 54 (i.e. power to relax) for the Work of Residential quarters.

The petitioner has submitted that the construction of various types of residential quarters was awarded to M/s Gangotri Enterprise Limited on 14.10.2010 with a scheduled completion date on13.10.2012. It has also submitted that the work got delayed despite various communications and follows ups and finally, the contract was cancelled on 9.7.2012 to avoid any further delay. The petitioner vide affidavit dated 3.9.2015 has also submitted that in addition to above, severe cyclonic storm PHAILIN in October 2013 and cyclonic storm HUD-HUD in October 2014 followed by heavy rainfall had also delayed the overall progress of the balance works. The petitioner further stated that despite the best efforts to deal with these natural calamities, the balance work could not be completed as per original completion date and thus got delayed beyond the cut-off date.

Accordingly, the petitioner had requested the Commission to condone the delay in the completion of balance works by relaxing cut-off date beyond

31.3.2015 under Regulations54 (Power to relax) of the 2014 Tariff Regulations.

25. We have examined the matter. It is noticed that against the projected additional capital expenditure of Rs1410.00 lakh allowed for 2012-14 in order dated 19.3.2015, the petitioner had claimed actual additional capital expenditure of Rs536.75 lakh during 2012-14 which was allowed vide order dated 2.11.2015 in Petition No. 303/GT/2014. Since the expenditure of Rs3557.32 lakh for residential quarters claimed by the petitioner is as per the approved scheme under original scope of work and is within the cut-off date, the same is allowed in terms of Regulation 14(1)(ii) of the 2014Tariff Regulations. In respect of the projected additional capital expenditure of Rs200.00 lakh claimed beyond the cut-off date of the generating station, the petitioner has prayed for condonation of the delay in completion of the balance works by relaxing the cut-off date beyond 31.3.2015 under Regulations 54 (Power to Relax) of the 2014 Tariff Regulations. As per the Order in Petition No. 294/GT/2014 Page 14 of 50 schedule, the work should have been completed by 13.10.2012 and the contract had been cancelled only on 9.7.2012 by the petitioner. In our view, the condonation of delay in declaration of COD has necessarily impacted the cut-off date of the generating station by at least one year. There has been laxity on the part of the petitioner in coordinating with the contractor/agency for completion of the work prior to the scheduled date of completion of the said work for which the petitioner is responsible. It is evident from the above that delay in completion of the said work is attributable to the petitioner and the question of cyclone affecting the said work after the same was awarded to another contractor cannot be a ground to condone the delay and extend the cut-off date of the generating station beyond 31.3.2015 by exercise of the "Power to relax" under Regulation 54 of the 2014 Tariff Regulations. No case has been made out by the petitioner for relaxing the cut-off date. In these circumstances, we reject the prayer of the petitioner for extending the cut-off date of the generating station and the claim for capitalization of the additional capital expenditure of Rs200.00 lakh in 2015-16 is not allowed."

35. Being aggrieved by the above decision, the Appellant filed a Review petition no 50/RP/2016 which was dismissed by the Central Commission vide its order dated 01.05.2017, the relevant extract of the review order is provided below:

"7. The petitioner has submitted that while the Commission had condoned the delay in achieving COD on account of heavy rainfall and cyclones during the year 2010, the relief was denied to the petitioner in the order dated 29.7.2016 when such cyclones had occurred during the years 2013 and 2014 after the COD but prior to the cut-off date. It has also submitted that there was no laxity on part of the petitioner in coordination with its contractors to get the work completed within the scheduled completion period and the Commission has erred in ignoring the various letters placed on record by the petitioner wherein

it had repeatedly request to its contractors to expedite the work at site. This submission of the petitioner is not acceptable.

The extension of cut-off date as considered in order dated 26.9.2012 was based on the facts and circumstances stated by the petitioner therein and cannot be a ground for granting relief in the instant petition. In fact, the Commission in this order dated 29.7.2016 had considered the impact of cyclone Phalin in October 2013 and cyclone Hudhud in October 2014 and had observed that these natural calamities cannot be said to have impacted the work since the process of cancellation of the contract due to failure of the contract M/s ERA and awarding the contract to other agency had begun only during the period from January 2014 to March 2014.

The Commission had also examined the various correspondences between the petitioner and the contractor including the letters referred to by the petitioner and had observed that there has been laxity on the part of the petitioner in coordinating with the contractors/ agency for completion of the said works by M/s ERA for which the petitioner was responsible. Hence the contention of the petitioner that the Commission had not considered the letters between the parties for grant of relief is baseless and arbitrary. Accordingly, the Commission after considering the submissions of the petitioner had by a conscious decision rejected the prayer of the petitioner for extending the cut-off date of the generating station and thereby the claim for capitalization of Rs900.00 lakh in 2015-16 was also not allowed. In these circumstances, we find no reason to review the order dated 29.7.2016 on this ground. The petitioner has sought to reargue the case on merits and the same is not permissible in review. In our considered view, no valid ground exists for review of order dated 29.7.2016 and hence the review sought for by the petitioner on this ground fails."

36. Vide the Impugned Order-25 dated 29.07.2016 passed in Petition No. 294/GT/2014, the Central Commission has denied the extension of cut-off date beyond 31.03.2015 as they had already condoned the delay in achieving COD, due to occurrence of cyclone in 2010, which provided additional one year to Appellant for completing the works beyond originally envisaged cut-off date. Also, the Central Commission has observed that the Appellant did not take-up the delay in execution process of works with contractor and the closure of contract was taken up in Jan-14 to March-14.

37. The Respondent No.7, TANGEDCO in its submission on the issue of cut-off date extension has taken reference to observations of Central

commission in the impugned order 29.07.2016 and the review order dated 01.05.2017 on this issue and has stated that Central Commission has correctly decided the issue against the Appellant, further, submitted that in terms of Regulation 3(11) of the CERC (Terms and Conditions of Tariff) Regulations, 2009 (herein the "Tariff Regulations, 2009"), the cut-off date of the project is 31.03.2014, considering the Scheduled COD as 01.08.2011, however, due to condonation of the delay by the Central Commission in its order dated 16.09.2012 in Petition No. 55/2011 and in order dated 02.11.2015 in Petition No. 303/GT/2014, the cut-off date of the project is determined as 31.03.2015, still the Appellant has deferred the plant off-site works amounting to Rs. 900 lakhs towards the construction of roads, drains and culverts to the year 2015-16.

38. TANGEDCO further contended that the principle of Constructive Res judicata is applicable in this case as this issue was disallowed by the Commission after hearing the Review Petition No. 50/RP/2016 and that the Appellant is seeking to reopen the issues already decided through detailed orders.

39. The Appellant in its defence has placed before us the copies of various letters / documents including letters dated 19.3.2013, 06.4.2013, 25.4.2013 and 15.10.2013 for taking up the issue with contractor for delay in execution of project and directing the contractor to expedite the work, finally vide letter dated 14.2.2014 communicated the initiation of process for cancellation of contract. In the process of closing of contract and re-awarding the work, the delay has occurred beyond original cut-off date of 31.03.2015, further, submitted that one of the cyclones occurred before cancellation of project and the second occurred after the cancellation of the project.

40. The Regulation 13 and Regulation 14(1) of the Tariff Regulations, 2014 notified by the Central Commission, applicable for the period under consideration provide as under:

> *"(13) "Cut-off Date" means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cutoff date shall be 31st March of the year closing after three years of the year of commercial operation:*
>
> *Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;"*
>
> ***"**14. Additional Capitalisation and De-capitalisation:*
> *(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*
> *(i) Undischarged liabilities recognized to be payable at a future date;*
> *(ii) Works deferred for execution;*
> *(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;*
> *(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and*
> ***……..."***

41. Further, the Regulation 54 of Tariff Regulations, 2014 provides "Power to Relax" to the Central Commission, reproduced as under;

> ***"**54. Power to Relax. The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person."*

42. Certainly, the Central Commission is vested with the Regulatory Powers by virtue of Regulation 54 as quoted above, therefore, the Central Commission can extend the cut-off date, if satisfied after examination of the documentary evidence that the capitalisation could not be made within cut-off date for reasons beyond the control of Appellant, we opine that in the instant case, the

said provision should have been invoked as the reasons put forth by the Appellant are beyond its control.

43. The reasons as given by the Central Commission that if once delay in achievement of COD was condoned, there is no scope for further relaxation in cut-off date, even if such an event reoccurred, therefore, in our view the works beyond cut-off date should be looked afresh based on the evidences placed before it for not completing the works in time, *inter-alia* considering that Central Commission while condoning the delay in COD has agreed with the hardship faced in completion of work in case of plant is frequently affected with cyclone and heavy rainfall.

44. Accordingly, in the light of above, we direct the Central Commission to relook at the delay in completing the works beyond cut-off date based on documentary evidence provided by Appellant, thus, the matter is remitted back to the Central Commission to this extent for re-examination and passing the order(s) afresh.

D. DISALLOWANCE OF PROJECTED ADDITIONAL CAPITAL EXPENDITURE WORK TOWARDS CONSTRUCTION OF RAILWAY SIDING FOR THE FY 2015-16

45. The Appellant in Appeal No. 25 of 2017, submitted that railway siding is constructed for the transportation of Fly Ash to the cement manufacturing industries from Simhadri-II in compliance to the MOEFCC Notification dated 03.11.2009 mandating utilization of 100% Fly Ash, accordingly, it had claimed projected additional capital expenditure of Rs. 2431.99 Lacs for FY 2014-15 on account of work deferred for execution under Regulation 14(1)(ii) (as quoted in the foregoing paragraphs) and Rs. 733.51 Lacs in FY 2015-16 for “Balance Work” of Signalling and Telecom system associated with the Railway line taken

up during the year 2015-16 under Regulation 14(3) (ii) &(iv) after completion of the Rail Line work.

46. In the first instance, the Central Commission has disallowed the said work vide the Impugned Order-25, however, against the review petition allowed the capitalisation during FY 2014-15 considering the submissions of the Appellant however, for the FY 2015-16, it has not considered the prayer in the review petition, the relevant extract of the order is quoted as under:

> *"Railway Siding*
>
> *30. The petitioner has claimed projected additional capital expenditure of Rs2431.99 lakh in 2014-15 under Regulation14 (1)(ii) and Rs733.51 lakh in 2015-16 under Regulation14(3)(iii) and 14(3)(iv) for work towards railway siding. In justification of the same, the petitioner has submitted that the work of railway sliding is essential in view of notification dated 3.11.2009 of the Ministry of Environment & Forests, GOI as regards Ash utilization. It has also submitted that site has envisaged bulk transportation of dry ash through Railway rakes to the nearby Cement Industries and this package is being executed through RITES and is a planned work only to be taken up after completion of the dry ash evacuation system and front clearance given by the agency. The petitioner has stated that the balance work of Signalling and Telecom system associated with the Railway line will be taken up during the year 2015-16 after completion of the Rail Line work.*
>
> *31. The matter has been examined. It is also observed that the said notification provides that all coal/lignite based thermal stations would be free to sell the fly ash to user agencies subject to certain conditions as mentioned therein. Moreover, the amount collected from sale of fly ash or fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash until 100% fly ash utilization level is achieved. Since the said notification provides that the money collected from the sale of fly ash or fly ash based products should be utilized for development of infrastructure for use of fly ash, the petitioner is not prevented from utilizing the money for the work of railways siding. Moreover, the income generated from sale of fly ash is not passed on to the beneficiaries. Hence, we are of the view that it would not be prudent to load the said expenditure on railway siding as additional capital expenditure, when such expenditure is neither covered under change in law nor the income from fly ash utilization is shared with the beneficiaries. Based on the above, the projected additional capital expenditure is not allowed."*

47. The relevant observation in the review order dated 01.05.2017 is as follows:

> *"13. It is evident from the above that the Commission had disallowed the additional capital expenditure of Rs2431.99 lakh in 2014-15 and Rs733.51 lakh in 2015-16 towards Railway siding mainly on the ground that the notification of the MoEF dated 3.11.2009 provides for 100% ash utilization and that the money collected from the sale of fly ash or fly ash based products should be utilized for the development of infrastructure for use of fly ash. It also observed that the income generated from the sale of fly ash was not being passed on to the beneficiaries and that the petitioner is not prevented from utilizing the money for the work of Railway siding.*
>
> *The petitioner has submitted that the denial of expenditure of Rs2431.99 lakh in 2014-15 is contrary to the earlier orders as the expenditure on railway siding forms part of the original scope of work and has been deferred for work of execution. It is however noticed from the submissions of the petitioner and the earlier orders of the Commission dated 26.9.2012 in Petition No. 55/2011 and 2.11.2015 in Petition No. 303/GT/2014 that the expenditure towards railway siding had been allowed to the petitioner as it is within the original scope of work of the generating station and within the original cut-off date of 31.3.2015. This aspect was overlooked by the Commission while passing order dated 29.7.2016 wherein the said expenditure was disallowed. This in our view is an error apparent on the face of the order and the same is required to be reviewed. Accordingly, we are inclined to allow the additional capital expenditure of Rs2431.99 lakh in 2014-15 towards railway siding which form part of the original scope of work of the project. Hence review of order dated 29.7.2016 is allowed on this ground.*
>
> *As regards the expenditure of Rs733.51 lakh in 2015-16, it is noticed that the same is for the work of transportation of dry ash through railway rakes to nearby cement industries and hence the money collected from the sale of fly ash and fly ash based products should be utilized by the petitioner towards fulfilling the obligations of 100% ash utilization as per MoEF notification dated 3.11.2009. Accordingly we find no reason to review the order dated 29.7.2016 and allow the additional capital expenditure of Rs733.51 lakh in 2015-16. There exists no sufficient reasons to review the order dated 29.7.2016 on this ground and accordingly the submissions of the petitioner are rejected. As stated above the expenditure of Rs2431.99 lakh is allowed to be capitalized in 2014-15".*

48. TANGEDCO has submitted that MOEF notification dated 03.11.2009 provides that amount collected from sale of fly ash based products by coal / or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilised

only for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash unit 100% fly ash utilization is achieved. Therefore, the Appellant should utilise the money earned from sale of fly ash for development of infrastructure for transportation of fly ash through railway rakes. TANGEDCO further submits that said expenditure is neither covered under change in law nor the income from fly ash utilisation is shared with the beneficiaries. Therefore, the claim of the Appellant is not reasonable and is liable to be rejected.

49. However, it is seen from the submissions made by the Appellant that the work of railway siding was claimed under original scope of works in 2014-15 and under change in law in 2015-16 in view of MoEF guidelines regarding 100% utilization of ash, on the contrary we find that the Central Commission overlooked the aspect of work being part of original scope of works and disallowed the full amount vide the Impugned Order and directed to fund the above infrastructure from sale of fly ash.

50. Subsequently, during the proceedings in the review petition, the Central Commission re-examined the issue and considering that the work was covered under the original scope of work, allowed the expenditure for the FY 2014-15 but maintained its stance intact for disallowance in 2015-16 and re-iterated to fund the said amount from sale of fly ash.

51. It cannot be denied that the balance work of Signalling and Telecom system associated with the Railway line during the year 2015-16 after completion of the Rail Line work is part of the main work and is the necessity for operationalisation the main work, therefore, it is part of the original scope of work which was taken-up for meeting the requirement of 100% ash utilisation.

52. Once, in the review order, the Central Commission has taken the conscious decision to allow the work during 2014-15 as it was part of original scope of works, the remaining work of signalling in 2015-16 after railway line work also required consideration to make the facility as functional, however, the Central Commission by allowing the balance work but with the condition that it should be funded from sale of ash, which is the dispute herein.

53. We do not find strength in the decision of the Central Commission, once the original scope works planned for 2014-15 has been allowed, then, its balance work cannot be funded differently, the decision is not harmonious in nature and unreasonable, hence, the complete work should be allowed under the same principle of funding.

54. In view of above, we allow the issue in favour of Appellant.

E. DISALLOWANCE OF PROJECTED ADDITIONAL CAPITAL EXPENDITURE ON ACCOUNT OF DEFERRED WORKS

55. The Appellant in Appeal No. 178 of 2017 has submitted that Central Commission has rejected the Appellant's claim of additional capitalization of original scope works carried beyond cut-off date in 2015-16 by stating that the Appellant has not submitted any reasons / justifications for the delay in completion of the said works and the steps taken by the Appellant to mitigate the delay in the execution of work, further added that the Central Commission has not considered the reasons submitted by the Appellant *vide* its Additional Affidavit dated 07.01.2016.

56. The relevant extract of the order passed by the Central Commission is reproduced as under:

"Deferred Works after the cut-off date

24. The petitioner has claimed total projected additional capital expenditure of Rs 3603.79 lakh in 2015-16 in respect of works indicated SI. No. 31 to 40 and S.No.43 to 48 in the table under para 19 towards Township and colony, Main plant civil works, Offsite civil works, Stores and electrification, Chimney, Condensate polishing unit, Control & Instrumentation, Water pre-treatment system package, CW system, DM plant, Drainage and piping, Air conditioning and ventilation. The petitioner has submitted that these works are within the original scope of work but have got delayed.

Accordingly, the petitioner has claimed the capitalization of these works and has prayed that the same may be allowed under Regulation 14(1) in exercise of Power to relax under Regulation 54 of the 2014 Tariff Regulations.

25. The respondent, GRIDCO has submitted that the Commission may not consider the prayer of petitioner to exercise the 'Power to Relax' as the same can be invoked only for technical and procedural considerations and not for commercial and financial considerations.

26. We have considered the submission of the parties. It is noticed that these works which were approved by order dated 24.8.2016 have been deferred for execution after the cut-off date of the generating station. The petitioner had sufficient time period of three years from the COD of the generating station till the cut-off date (31.3.2015) for execution of these works. It is however noticed that the petitioner has also not submitted any reasons/justifications for the delay in completion of the said works and the steps taken by the petitioner to mitigate the delay in the execution. Accordingly, in our view there is no reason for us to consider the claim of the petitioner in exercise of the power to relax and allow the capitalization. Hence, the claim of the petitioner for capitalization of the said works in 2015-16 is not allowed."

57. The Appellant has claimed that some of the works deferred for execution beyond cut-off date of 31.03.2015, however, these works were also part of the original scope and prayed the Central Commission for invoking power to relax under Regulation 54 of Tariff Regulations, 2014 as quoted in the preceding paragraphs.

58. As seen from the order, the Central Commission rejected the claim as the Appellant has also not submitted any reasons/justifications for the delay in completion of the said works and the steps taken to mitigate the delay in the execution, further, stating that there is, as such, no reason for invoking power

to relax, on the contrary, the Appellant has submitted that it had provided justification/documentation for claiming these works vide affidavit dated 07.01.2016, which was not considered.

59. The Respondent No. 5, GRIDCO also submitted that Appellant has not been able to justify cause of delay for seeking extension beyond cut-off date, therefore, there is no justification for invocation of relaxation of power under Regulation 54 of CERC Tariff Regulations, 2014 for allowing the additional capitalisation since the delay in execution of the work within the cut-off date was solely attributable to NTPC.

60. On the contrary, the Appellant submitted that the reason for delay in execution of works is on account of abandoning of works by one of the contractor: M/S B.P. Constructions and thus, the balance works were offloaded to the other Contractor, which took some time, the justification as provided for delay in execution of the works in 2015-16, even, if otherwise, some more documents were required, the Central Commission could have sought the additional documentation.

61. We find the submissions of the Respondent No. 5 as unreasonable in the light of the above submissions of the Appellant.

62. From the above, it is noticed that the Central Commission has negated the justification provided without going into the details of it, therefore, we opine that the Central Commission ought to have considered the information/ documents provided by the Appellant or directed the Appellant to provide additional documents, if required.

63. We find it just and reasonable to direct the Central Commission to relook afresh on the basis of the justification provided by the Appellant, seeking

additional documentation, if required for the sake of justice and issue necessary order(s), the matter is remitted back to the Central Commission accordingly.

F. PROPORTIONATE ADDITIONAL EXPENDITURE UNDER BY SPECIAL ALLOWANCE FOR FARAKKA STAGE I & II-CONSTRUCTION OF BRIDGE OVER GANGA-FEEDER CANAL

64. The Appellant in 178 of 2017, has contested that the Central Commission has incorrectly considered the proportionate additional capitalisation of Farakka Barrage from special allowance of Farakka Stage-I&II, the relevant extract of the Impugned Order is quoted as under:

> *"Enabling works (Construction of two Lane Bridge on Ganga Feeder Canal)*
> *30. The petitioner has claimed total projected additional capital expenditure of Rs 5700.00 lakh in 2016-17 towards the Construction of two lane bridge on Ganga Feeder Canal under Regulation 14(1) in exercise of Power to relax under Regulation 54 of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that at present only one old (40 years old) narrow public bridge (single lane) exists across the Farakka Feeder Canal owned by Farraka Barrage Projects Authority (FBPA), which connects the Farakka Station and Farakka Township/ NH-34.The petitioner has further submitted that since the existing bridge is very narrow the traffic movement is only in one direction at any instant and the traffic from the opposite direction waits on other side resulting in vehicular queue. It has also submitted that the problem has been aggravated due to increased vehicular movement with time and increase in station capacity and over 600 or more loaded vehicles and private vehicles cross the bridge daily including ash trucks and containers that supply materials for day to day working of generating station. It has further submitted that in the event of breakdown of the bridge, the entire traffic along with the vehicles carrying the material for plant's operation comes to a halt. Accordingly, the petitioner has submitted that in view of these difficulties and increased movement of ash trucks due to increased dry ash evacuation, containers etc. the expenditure towards the bridge across Feeder Canal may be allowed.*
> *……..*
>
> *34. We have considered the matter. It is observed that the construction of the two-lane Bridge over Ganga Feeder Canal is necessary for smooth movement of traffic as well as for the heavy trucks for works related to this generating station. It is also observed that the two-lane Bridge is common to Stages I, II and III of this generating station and accordingly serves all of the stages of this generating station. Considering the fact that the two lane bridge is common to all the stages and is an approach bridge for employees/operating staff/agencies/person from township/, and would contribute to the efficient*

operation of the generation station, we are inclined to allow the additional capital expenditure of Rs 5700.00 lakh claimed by the petitioner. It is noticed that the provision of Regulation 14(1) or 14(3) do not provide for capitalization of additional capital expenditure which have become necessary for successful and efficient plant operation. Since the expenditure of the two-lane Bridge over Ganga Feeder Canal is necessary for smooth operation of the generating station as narrated above, we in exercise of the power under Regulation 54 of the 2014 Tariff Regulation, relax the provision of Regulation 14(3)(viii) and allow the additional capital expenditure incurred in respect of this generation stations. However, out of the total expenditure of Rs 5700.00 lakh claimed, only the proportionate cost of Rs 1357.00 lakh has been allowed in respect of this generating station after apportioning the cost between Stage- I&II and Stage III of Farakka generating station. The remaining cost of Rs 4343.00 lakh shall be considered from special allowance of Stage I and II."

65. The Appellant has made a detailed submission regarding the usability of the bridge in submission dtd 07.01.2016, which has been recorded in the impugned order, the same is reproduced for the sake of interest of all parties effected:

"33. In response to the directions of the Commission vide Record of proceedings of the hearing dated 17.11.2015, the petitioner vide affidavit dated 7.1.2016 has submitted detailed justification for the same claim as under:

"Para 5(a)(i): It is submitted that at present there exists only one very old (about 40 years old) single lane bridge across the Farakka Feeder Canal owned and maintained by Farakka Barrage Authority (FBA). This existing bridge connects the Farakka Station and Farakka Township / NH-34 thereby acting as a life line to the Farakka Station. NTPC personnel, all staff and contract labourers use this bridge to reach the station. Further, as the existing bridge is very narrow (single lane), at any particular time the traffic movement is only in one direction and meanwhile traffic from the opposite direction waits on the other side of the bridge resulting in long vehicular queue. Once the traffic clears in one direction, the vehicle movement starts from the opposite direction and vice versa. The problem has further aggravated due to the increased vehicular movement with time and increase in Station capacity. Further, many loaded vehicles and trucks cross (in both directions) the bridge daily including ash trucks and containers that supply materials for day to day working of plant. If there is a breakdown of one vehicle (four or more wheeler) on the bridge, the traffic comes to the halt. There have been instances, in such cases when NTPC personnel/ contract staff has to park the vehicles on the far end of the bridge and walk over the bridge on foot to reach the Station for its operation/ maintenance requirements. The materials required for smooth running of the Station on daily basis has to wait for the bridge to be cleared off for vehicular movement or travel more distance (approx 30-35 kms via Dhuliyan-Pakur) to reach the Station. The single lane existing bridge was constructed during the same period when the Farakka Barrage was commissioned in the year 1975 i.e. the existing bridge is about 40 years old and is presently in a very

precarious and unsafe condition due to extensive usage/ plying of heavy vehicles over the years. The same being very old also requires lot of repair work for its survival on day to day basis. In such cases the movement of the traffic on the bridge is stopped which leads to traffic jams/ congestion. Due to the poor condition the movement of heavy vehicles on to the bridge is also restricted. In this regard, a snapshot of this existing narrow bridge is attached at Annexure-A. The image also shows a Caution Board at the entry of the bridge reading "BRIDGE IS IN DANGER, HEAVY VEHICLES ARE NOT ALLOWED"

As the movement of material and operating staff (including contract persons) for the Station is from this existing single lane bridge, it is humbly submitted that due to above mentioned difficulties, it became necessary for NTPC to construct a separate new Bridge. In short, this bridge (the new one under construction) will act as a life line for Farakka Station.

Para 5(a)(ii) : It is humbly submitted that the requirement of two lane bridge i.e. one lane for onward and second lane for return traffic, has arisen due to regular problem of traffic jam/ congestion being faced as elaborated in Para-1 due to all round increase in vehicular traffic in the locality including 2 and 4 wheelers compared to time when Farakka Stage-I was constructed. Further with increased plant capacity and dry ash utilization from plant, the movement of ash trucks/containers has also increased causing further traffic congestion. It is further submitted that since the new bridge was required to be constructed from safety point of view also due to the poor condition of existing bridge, the day to day difficulties already being faced were also planned to be mitigated by construction of this new two lane bridge. The execution cost (excluding material cost) of construction of 2 lane bridge/1 lane bridge may not vary much and may be comparable and hence would be always prudent to go for 2 Lane Bridge looking at the current and future requirements.

Therefore, keeping in view of the movement of ash trucks / containers and other vehicles, dilapidated condition of the existing bridge which is susceptible to accident, submissions made at Para (1) above and difficulties faced by NTPC, it became necessary to construct a separate two lane bridge over feeder canal connecting Farakka Station to NTPC Farakka Township/ NH-34 for smooth operation of Station and for safety of Men and Materials. In this regard few letters/ correspondence showing the precarious condition of the bridge is attached at Annexure-B.

Para 5(a)(iii) : It is submitted that NTPC had earlier taken up construction of bridge (at location RD 16.5) on Feeder Canal in 1981 (at the time of Farakka Stage-I implementation) to meet the traffic requirement over Feeder Canal between Farakka Station and NTPC Township/ NH-34. The contract of bridge was awarded to Farakka Barrage Authority (FBA). However, the bridge could not be completed due to arbitration issues by the sub-agency of FBA. Later work was awarded to NPCC, however, NPCC also couldn't execute the work. Subsequently, NTPC took over and issued tenders for undertaking the balance work in 2005 and 2007 but due to non-response of the parties the work could not be awarded. In above circumstances, NTPC approached RITES in 2007

to undertake the completion of balance work of bridge (RD 16.5). Since the existing unfinished structure of the unfinished bridge were old, RITES proposed to first study the viability of the existing structure and thereafter undertake the construction if the structure were proved to be viable. This proposed study was to be carried out in Two Phases with a total duration of 14 months. On 13.10.2009, M/s RITES submitted a report on the study recommending that the structure foundation were grossly inadequate for stability and safety point of view under the present and future loading especially in seismic conditions. Keeping the future increase in functional demands also, high investment would be required towards rehabilitation and strengthening of present structure with less residual life of retained portion and maintenance cost would be more. Considering the safety which is of paramount importance and costs involved, it was recommended by RITES to construct a new bridge instead of completing the balance works of unfinished bridge.

Based on the outcome of the study as brought out by M/s RITES in its reports in October 2009, regular traffic congestion/ jams on the existing single lane bridge, dilapidated condition of the existing bridge and keeping in view the safety of persons/ material, decision was taken to construct this new bridge. Accordingly, permission was sought from Farakka Barrage Authority for construction of New Two Lane Bridge over feeder canal on 09.08.2010.

Further, it is humbly submitted that the work of construction of two lane bridge has been included in the original scope of works under Revised Cost Estimates (RCE) duly approved for Farakka Stage-III. Extracts of RCE is attached at Annexure-C.

Para 5(a)(iv) : It is clarified that the Two Lane Bridge over the Feeder Canal under construction is common for all the stages of Farakka Station. It is further submitted that it is only the approach bridge for the employees/ operating staff including the contract/ agency persons from Field Hostel Complex/ Township (TTS)/ NH-34 side to reach the Farakka Station. Thus this bridge acts as life line to the power station therefore, it may not be considered under CSR. This new bridge connecting the township/ NH-34 and station will also be used by general public living in and around the plant area similar to the existing single lane bridge. Similarly, this new bridge shall be used for all Stages and for local public also.

Although the New Bridge is commonly serving both Stages of Farakka Station i.e. Farakka Stage-I&II and Farakka Stage-III, however, the capital cost has been considered in the instant station as it was included in the original scope of works of Farakka Stage-III. The cost may be apportioned to both the stages of Farakka Station by the petitioner if Hon'ble Commission so directs."

66. From the observations of Central Commission in the impugned order, it is seen that the Central Commission is fully satisfied with the usability of bridge for smooth vehicular traffic movement and smooth functioning of Farakka

station, based on which the Central Commission has invoked its power under Regulation 54 to relax provisions for allowing additional capitalisation under Regulation 14 for allowing the additional capital expenditure for Farakka –III and on the same time denied it in Farakka-I&II allowing it under special allowance.

67. The Appellant has argued that the Additional Capital Expenditure incurred by it falls under Regulation 14 and thus cannot be directed to be met under Special Allowance i.e. Regulation 16 of Tariff Regulations, 2014, it is therefore, important to refer the relevant Regulations of Tariff Regulations, 2014, as under:

> *"14. Additional Capitalisation and De-capitalisation:*
> *(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*
> *(i) Undischarged liabilities recognized to be payable at a future date;*
> *(ii) Works deferred for execution;*
> *(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;*
> *(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and*
> *(v) Change in law or compliance of any existing law:*
> *Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.*
> *.....*
> *(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:*
> *...*
> *(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*
> *.....*
> *Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under O&M expenses and*

Compensation Allowance, same expenditure cannot be claimed under this regulation...."

"15. Renovation and Modernisation:

The generating company or the transmission licensee, as the case may be, for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the originally recognised useful life for the purpose of tariff of the generating station or a unit thereof or the transmission system or an element thereof, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the generating company or the transmission licensee.

……..

(4) Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization expenditure and life extension, and after deducting the accumulated depreciation already recovered from the original project cost, shall form the basis for determination of tariff."

"16. Special Allowance for Coal-based/Lignite fired Thermal Generating station:

In case of coal-based/lignite fired thermal generating station, the generating company, instead of availing R&M may opt to avail a „special allowance" in accordance with the norms specified in this regulation, as compensation for meeting the requirement of expenses including renovation and modernisation beyond the useful life of the generating station or a unit thereof, and in such an event, revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost.

……

(3) In the event of granting special allowance by the Commission, the expenditure incurred or utilized from special allowance shall be maintained separately by the generating station and details of same shall be made available to the Commission as and when directed to furnish details of such expenditure."

68. The Appellant has submitted that the Central Commission while exercising Power to Relax under Regulation 54 of the Tariff Regulations, 2014 has relaxed Regulation 14(3)(viii) of Tariff Regulations, 2014 and allowed proportionate cost of Rs. 1357 Lakhs in Farakka -III, however, disallowed the cost of Rs. 4343 Lakhs, claimed by the Appellant under Additional Capital

Expenditure as per Regulation 14 (1) towards construction of two lane bridge on Ganga Feeder Canal, further arguing that while disallowing the cost of Rs. 4343 Lakhs, the Central Commission directed the Appellant to recover the said cost of Rs. 4343 Lakhs from the Special Allowance granted to Farakka STPS for its Stage I and II.

69. The Appellant further submitted that the Special allowance under Regulation 16 of the Tariff Regulations, 2014 provides for Special Allowance, which is a compensation to a thermal generating station for renovation and modernization beyond its useful life, whereas, the work of construction of two lane bridge over Ganga Feeder Canal was never envisaged under renovation and modernization, it was the compelling reasons that the Appellant has to undertake construction of two lane bridge over Ganga Feeder Canal on account of the precarious condition of the bridge, which fact is also admitted and acknowledged by the Central Commission.

70. The Appellant is agreeable to apportion the total cost of construction i.e. Rs. 5700 Lakhs to both the stages of the project (Stage I& II and Stage III), in case the Central Commission allowed the cost by exercising its power to relax (Regulation 54), as it was necessary for the successful and efficient operation of the plant, however, the Central Commission, while admitting the proportionate cost of Rs. 1357 lakhs apportioned to Stage III, remarked that the remaining cost of Rs. 4343 lakhs shall be realized from the special allowance of Stage I & II.

71. It is seen that the Central Commission has misconstrued the application of Regulation 16 vis-à-vis additional capital expenditure (allowable under Regulation 14), for creation of a separate infrastructure for which the Appellant has evidently incurred an amount of Rs. 5700 Lakhs, additionally the Central

Commission has deviated from the established norm of mandatory capitalization of borrowed funds by providing for a recovery of apportioned cost of Rs. 4343 lakhs, through the special allowance.

72. It cannot be disputed that the Special allowance is a pre-emptive right of the Appellant to be obligatorily allowed for any of its generating unit which has been under commercial operation for over 25 years, whereas Regulation 14 is a provision for seeking expenditure which may be incurred by any 'existing generating station' during the course of its operation, therefore, any co-relation sought to be established by the Central Commission between Regulation 16 and Regulation 14 to deny legitimate expenditure to the Appellant is unjust and unreasonable.

73. On the contrary, the arguments of Respondents were relied upon the Judgement dated 12.05.2015 passed by this Tribunal in Appeal No. 129 of 2012, wherein similar issues were adjudicated, we note here that the said Judgment does not apply to the merits and the facts of the case as in the said Appeal, the Appellant had challenged various Orders passed by the Central Commission disallowing the Additional Capital Expenditure incurred by the Appellant on the premise that the Appellant was availing Special Allowance as per the Regulation 10(4) of the Tariff Regulations, 2009.

74. We find merit in the submissions of the Appellant and directs the Central Commission to re-examine the case and pass fresh order(s) after duly considering the provisions and intent of Regulation 14 and Regulation 16.

G. ADDITIONAL CAPITAL EXPENDITURE IN KORBA-III TOWARDS SIMULATOR PACKAGE UNDER THE HEAD OF O&M EXPENSES

75. The Appellant in Appeal No. 180 of 2017 has challenged the decision of approval of the expenditure for the Simulator Package under corporate expenses allocated to the O&M norms of various other generating stations on the ground that the expenditure to the tune of Rs. 920 Lakhs was part of the original scope of work Korba-III and any disallowance of capitalization of the said expenditure would be contrary to the principles of the Electricity Act, 2003.

76. The Appellant has further submitted that Central Commission has already allowed such expenses under capital cost, vide orders dated 06.12.2016 in Petition No. 295/GT/2014 and 15.03.2017 in Petition No. 344/GT/2014 respectively in case of Sipat-I and Sipat-II, as per the accounting principle, the expenses against this work cannot be booked under O&M expenses, rather the same has to be capitalized in the books of accounts.

77. The relevant observations of the Central Commission are as below:

> *"42. The petitioner has projected additional capital expenditure of ₹920.00 lakh in 2016-17 for Simulator package on cash basis under Regulation 14(1)(ii) and Regulation 54 of the 2014 Tariff Regulations. In justification, the petitioner has submitted that initially, the provision of Simulator package was not there in FR. However, in view of installation of technologically advanced unit of 500 MW in Korba, the simulator training facility for O&M employees was felt necessary for successful operation of the plant ensuring supply of power to beneficiaries on sustainable basis and hence the same has been incorporated in the revised cost estimate of Korba STPS Stage-III. The petitioner has further submitted that the work is expected to be completed in 2016-17*
>
> *43. The Respondent No.1 MPPMCL in its reply dated 1.7.2016 has submitted that the COD of the KSTPS Stage III is 21.03.2011 and accordingly the cut-off date for the plant is 31.03.2014. Thus, the expenditure incurred during 2016-17 on Simulator Package does not comes under the purview of Regulation 14(1) (ii), which is applicable for the expenditures incurred up to the cut-off date. Further, the Respondent has submitted that claim of expenditure of ₹920 lakh on simulator package just for training facility for O&M employees of the plant is appears to be on very much higher side and thus the claim of petitioner is not justifiable and submitted that the expenditure on training facilities of O&M employees has to be catered from the O&M expenses being recovered from the beneficiaries by the petitioner and therefore should not be allowed.*
>
> *44. In response to the above the petitioner in its rejoinder dated 22.7.2016 has submitted that it has already prayed for the extension of cut off date by two (2)*

years under Regulation 54 i.e. 'Power to relax' for the works pertaining to original scope of work spilling beyond the cut-off date. The petitioner has submitted that since the expenditure against the balance works under the original scope of work is less than 1% of the approved project cost, the petitioner has claimed these works under Regulation 14 (1)(ii) and Regulation 54 of the 2014 Tariff Regulations.

45. We have gone through the submissions of the petitioner and respondents. We are of the view that since the simulator training facility could be used for training of personnel of other stations as well, it would be more reasonable that this cost is booked under corporate expenses and is allocated to various other generating stations and form part of O&M expenses. We have therefore not considered the same separately."

78. The Appellant placed before us that the Central Commission has allowed similar relief of Rs 93.34 Lakhs vide order dated 06.12.2016 in Petition No. 295/GT/2014 under original scope of works along with other packages of Sipat-I for project in truing up tariff order for the period 2009-14 period.

79. Undisputedly, the asset is primarily meant for training of personnel working in O&M Department of the Appellant, which will be used for all stations besides Korba-III, however, the asset is of the nature of capital expenditure and does not belong to regular O&M expenditure incurred by Appellant for operating its stations, further, the Central Commission itself has considered this such package as separate package in case of Sipat-I and allowed as part of original scope of works.

80. The Appellant has submitted that the installation was meant for training of personnel on technologically advanced unit of 500 MW in Korba-III, thus, the asset may be used for training of personnel belonging to other stations or personnel belonging to other organisations.

81. Considering the above, the Central Commission is directed to reconsider its decision and passed a reasoned order afresh.

H. DETERMINATION OF NORMATIVE HEAT RATE

82. The Appellant in Appeal No. 180 of 2017 and Appeal No. 240 of 2017 has challenged the decision of the Central Commission considering the boiler efficiency as 85% instead of Design Boiler Efficiency while determining the Design Heat Rate of the units, which resulted in lower Normative Heat Rate, and is contrary to the intent and purpose behind the Regulation 36(C)(c) of Tariff Regulations 2014.

83. It has been submitted that Central Commission has, however, interpreted and applied provisions under Regulation 36(C)(c) differently for other stations, the references are placed as under:

i. Farakka-III (Para 67&68 in order dated 03.03.2017 in Petition No. 280/GT/2014),
ii. Mauda-I (Para 58-62 in order dated 01.02.2017 in Petition No. 328/GT/2014),
iii. Simhadri -II (Para 76 to 78 in order dated 29.07.2016 in Petition No. 294/GT/2014),
iv. Kahalgaon -II (para 72&73 in order dated 21.01.2017 in Petition No. 283/GT/2014),
v. Rihand -III (Para 55&56 in order dated 06.02.2017 in Petition No. 372/GT/2014).

84. The Respondent No.2, MPPMCL has contended that the Tariff Regulations 2014 specifies the normative minimum boiler efficiency of 86.00% in case of sub- Bituminous Indian Coal, whereas, the Central Commission has considered a rate of 85% boiler efficiency for this plant, as this thermal generating station has its COD on or after 01.04.2009 till 31.03.2014, based on the provision contained in Regulation 26(B)(a) which provides for an efficiency of 85% for sub- Bituminous Indian Coal, further, contented that instead of considering the efficiency as provided in the Tariff Regulations, 2009

the Central Commission must have considered the efficiency @ 86% as provided in Regulation 2014, the efficiency and economical use of resources has to be ensured and consumers interest has to be safeguarded in accordance with Section 61 (c) & (d), whereas the plant which were existing as on 01.04.2009 were allowed a GSHR of 2375 kCal/kWh whereas, the Appellant has been allowed a GHSR of 2390.52 kCal/kWh. Thus, the plant which has been commissioned in year 2011 has been less efficient to those which were commissioned before 01.04.2009.

85. The Appellant submitted that the Central Commission has considered the boiler efficiency at 85% instead of guaranteed boiler efficiency of 84.91% as per the Original Equipment Manufacturer (OEM), with a margin on 4.50% as specified in the Tariff Regulations, 2014, for the purpose of computation of Design Heat Rate for the period from FY 2014-19, whereas, the Central Commission considered the boiler efficiency at 84.91% (for Korba Stage III) and 84% (for Vindhyanchal Stage IV) for the same quality of coal, for the tariff period FY 2009-14, in computing the gross station heat rate.

86. The relevant Regulation 36(C)(c) of the Tariff Regulations, 2014 specifies the gross station heat rate, applicable to units/ stations commissioned on or after 01.04.2009 till 31.03.2014, the applicable Regulation as the units for both the Stations were commissioned prior to 31.03.2014, as per the said regulation, design heat rate, inter alia, means the unit heat rate derived from the design turbine cycle heat rate and guaranteed boiler efficiency. The relevant regulation (ref: Page No. 365 of the appeal paperbook) is reproduced hereunder:

> "(C) Gross Station Heat Rate
>
> …

(c) Thermal Generating Station having COD on or after 1.4.2009 till 31.03.2014

(i) Coal-based and lignite-fired Thermal Generating Stations = 1.045 X Design Heat Rate (kCal/kWh) Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:

Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 2009-10 to FY 2013-14."

87. In the present case, the Appellant had submitted that the Guaranteed Design Gross Turbine Cycle Heat Rate is 1944.44 kCal/Kwh and Design/ Guaranteed Boiler Efficiency is 84.91%, which works out the Gross Station Heat Rate of the generating station for FY 2014-19 is 2393.05 kCal/kWh (= 1.045 x 1944.40/0.8491), however, the Central Commission determined Gross Station Heat Rate of the generating station for FY 2014-19 as 2390.52 kCal/kWh by considering the boiler efficiency as 85%, which is not provided under the Tariff Regulations, 2014.

88. Further, as per Regulation 36(C)(c) of Tariff Regulations 2014 as quoted above, the computed heat rate norms shall be limited to or less than the heat rate norms approved during FY 2009-10 to FY 2013-14, in the instant case the claimed gross station heat rate in 2014-19 is 2393.05 kCal/kWh whereas the gross station heat rate approved by the Central Commission for Korba-III for 2009-14 vide Order dated 03.05.2012 in Petition No 247/2010 was 2438.80 kCal/kWh.

89. Considering that the gross station heat rate of 2393.05 kCal/kWh claimed by the Appellant for 2014-19 is less than the gross station heat rate approved during 2009-14 in compliance with the Regulation 36(C)(c) of Tariff Regulations 2014 and thus ought to be allowed.

90. As already noted above, the approach, adopted by the Central Commission, in the Impugned Order is at variance with the practice followed by it in the Orders for 2014-19 period for several other stations, the Central Commission is expected to maintain a consistent stand.

91. Based on above we direct the Central Commission to revise the Heat Rate for Korba-III and Vindhyanchal-IV in 2014-19 period based on actual design boiler efficiency for consistency with its other orders. The issue is decided in favour of appellant.

I. DISALLOWANCE OF THE ADDITIONAL CAPITAL EXPENDITURE TOWARDS WAGON TIPPLER

92. The Appellant in Appeal No. 311 of 2017 has contested that the need for augmentation of fuel receipt system was due to the non-materialization of adequate quantity of coal from coal mines of the Sipat-I, adding Sipat-I was procuring Coal through the MoU route pursuant to which a Fuel Supply Agreement ("FSA") was signed with Coal India Limited ("CIL") after presidential directive thereby assuring coal corresponding to PLF of 68% without any penalty which was lower in comparison to the quantum needed for normative PLF of 85% for fixed cost recovery for Sipat-I.

93. However, due to less supply of coal, the Station is constrained to procure coal from non-linked mines which is supplied through Box N wagons and has to be unloaded by a Wagon Tippler.

94. Further on account of nationwide shortage of coal, the Appellant installed wagon tippler at Sipat-I, however, the Central Commission disallowed the claim of the Appellant considering achievement of Plant Availability Factor ("PAF") for the FY 2012-13 to FY 2015-16, which was more than the NAPAF, ignoring the efforts made by Appellant for procuring balance coal during different years from Box N wagons from different sources.

95. The Appellant has further submitted that Sipat-I, being a new station, is not entitled to any additional allowance such as compensation allowance or special allowance etc, and hence, it may not be possible to recover the Additional expenditure from the Tariff, also added that the Central Commission has not maintained consistency within its stand and has acted in contravention to its own orders passed in the cases of Farakka STPS Stage I and II, Kahalogaon Stage II, VSTSP, wherein it has rightly allowed installation of Wagon Tippler and associated systems due to non-materialization of coal from linked mines.

96. The Central Commission on this issue has observed in impugned order as below:

> *"Wagon Tippler*
> *33. Against the amount of ₹1500.00 lakh allowed towards Wagon tippler in 2013-14 in order dated 22.8.2013 in Petition No. 28/2011, the petitioner has claimed projected additional capital expenditure of ₹2500.00 lakh in 2014-15 and ₹5980.00 lakh in 2015-16 under Regulation 14(3)(ii) & 14(3)(x) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that as per the Presidential directive for New Fuel Security Agreement (FSA), the receipt of coal at the generating station through MGR system is not sufficient to run the plant at PLF/PAF of 85%, necessary for the generator for fixed charge recovery as per the 2014 Tariff Regulations. The petitioner has also submitted that as per the presidential directive, the coal company is bound to supply only upto 80% of the Annual Contracted Quantity (ACQ) without penalty, which does not secure the availability of fuel to the generator even to the extent of generation corresponding to NAPAF required for Fixed Cost recovery of the plant. The petitioner has further submitted that the non availability of coal shall also not ensure the supply of power at sustainable basis to the beneficiaries at higher PLF. The petitioner has submitted that the Wagon Tippler and associated accessories/locos is required to overcome the*

deficiency in coal receipt system so that the quantum of coal being received from non-linked mines through Box-N wagons of Indian Railways, may be unloaded properly at site. Accordingly, the petitioner has submitted that the Commission may allow the expenditure against the augmentation of fuel receipt system under the Regulation 14(3)(x) as well as under the Regulation 14(3)(ii) of the 2014 Tariff Regulations.

34. The respondent, MPPMCL has submitted that the petitioner has not submitted any proper justification for claiming such expenditure even when the petitioner has achieved Target Availability during the years 2013-14, 2014-15 and 2015-16 as noticed from the REA prepared by WRPC. Accordingly, it has submitted that the claim for the year 2014-15 may be disallowed as Regulation 14(3)(x) is applicable only after cut-off date of the generating station. The respondent has further submitted that there is sufficient coal available to the petitioner for the period 2013-14 to 2015-16 and therefore the claim may be disallowed.

35. We have examined the matter. It is noticed that the petitioner in support of its claim for Capitalization of Wagon Tippler had not substantiated the shortage of coal experienced by the generating station and its impact on the Plant Availability Factor for the period 2012-13 to 2014-15. As pointed out by the respondent, MPPMCL the Plant Availability Factor of the generating station has been above the normative availability since 2013-14. The details of the cumulative plant availability factor for the year 2012-13 to 2015-16 is as under:

	Cumulative plant availability factor (%)
2012-13	*83.3533*
2013-14	*89.6247*
2014-15	*89.0274*
2015-16	*87.8533*

36. It is evident from the above that the cumulative Plant Availability Factor for the generating station is well above the normative plant availability factor, except for the year 2012-13. The petitioner has also not substantiated the shortage of coal for the generating station. In this background, we are not inclined to allow the additional capital expenditure of ₹2500 lakh in 2014-15 and ₹5980 lakh in 2015-16 claimed by the petitioner. We direct accordingly."

97. From the above it is understood that the Central Commission did not allow the Wagon tippler as the Appellant did not successfully substantiate its claim of fuel security, as observed by the Central Commission for NAPAF from 2012-13 to 2015-16.

98. However, the Appellant in the instant appeal has submitted that in original scope of scheme, the track hopper system was envisaged for unloading of coal through BOBR wagons from linked mines, however, the

station started facing the fuel shortage from the beginning of its commercial operation and after signing of FSA under the Presidential Directive.

99. There was a need to make the alternate arrangement for unloading the additional coal being arranged from non-linked sources and received in Box-N wagons, the Central Commission has failed to consider the arrangement during different years through Box-N wagons that to from different sources, not only to ensure sustainable supply of power to the beneficiaries, but also to achieve the actual PAF as stated by the Central Commission, rather it would have incurred under-recovery of fixed charges.

100. The Respondent, MPPMCL has contended that the Appellant has modified the fuel receiving system without any proper justification i.e. no proper justification has been provided for claiming such expenditure even when the Station has achieved target availability during the years 2013-14 to 2015-16 and therefore, the same may be disallowed as Regulation 14 (3)(x) is applicable only after cut-off date of the generating station.

101. The Respondent further argued that sufficient coal was available during the period 2013-14 to 2015-16 and therefore, the Central Commission has rightly disallowed the claim of the Appellant and has passed a reasoned order.

102. The Appellant contended that the Central Commission has failed to appreciate the problems of manual unloading of coal from Box-N wagons, which is highly unsafe practice of coal onloading as manual unloading increases the cycle time of the rake by approx. 4 to 5 hours, thereby causing Demurrage charges on the generator for detention of the subsequent rakes, additionally, the mobilisation of manpower during festivals and rainy season for coal unloading is a herculean task.

103. Undisputedly, the automated facilities cannot be compared with the manual unloading of coal, therefore, the reason considered that only because the Plant Availability Factor is getting achieved by the generator even through manual unloading of coal from BOXN wagons is highly unsafe. The only safe & reliable mechanism for unloading coal from BOXN wagons is through Wagon Tippler.

104. It was submitted by the Appellant that Central Commission has not considered the material fact that the decision for installation of Wagon Tippler was taken by it in the scenario of shortage of coal, which was a countrywide problem during the period 2009-14 and was also recognised by the Central Commission also and accordingly, the normative PAF of 83% was allowed for coal stations for fixed charge recovery, subject to mid-period review. In such a scenario, it was highly unpredictable and unlikely to envisage that there will be any improvement in the receipt of coal through BOBR (Bottom Opening Bottom Release) wagons.

105. The Appellant further, submitted the quantum of receipt of coal through Box-N wagon as is still maintain, as shown below:

FY	**Coal receipt thru' Box-N Wagons (LMT)**	**Contribution of Box-N receipt to PAF of Station**
2012-13	12.45	12%
2013-14	22.57	21%
2014-15	21.96	20%
2015-16	14.93	14%
2016-17 (till Dec'16)	10.17	10%

106. From the submissions of Appellant, it is seen that the Appellant has taken up the scheme based on coal shortage situation faced during 2009-14, there

is no denying of the fact that in view of coal shortage situation in the country, the Central Commission itself provided lower availability norms and the manual unloading of BoXN wagons is highly unsafe and inefficient way of unloading the coal.

107. It is pertinent to note here that the Central Commission has recorded the importance of Wagon Tippler, as seen from the order dated 23.05.2012 in Petition No 245/2009, as under:

> *"31. The submissions of the parties have been examined. It is noticed that substantial quantity of coal was being received through the railway system supplied in Box-N wagons. From the submissions made by the petitioner in Petition No.189/2010 (as referred to in the tabular Order in Petition No. 245-2009 Page 16 of 31 statement in Table-I under paragraph 7(b) of the order dated 25.4.2012), it is evident that this generating station was in operation with a Target Availability of 91-92% (approx) during the period 2005-06 to 2007-08 even without Wagon Tippler. However,* ***considering the fact that installation of Wagon tippler would bring about reduction in unloading time of coal rakes and shall give flexibility in overall movement of rakes which would reduce the apprehension of diversion of wagons by the railways, the claim of the petitioner is justified.*** *Also, if the petitioner is unable to arrange coal for generation up to the specified NAPAF of 85%, it would not be able to recover the full fixed charges which include the cost of Wagon tippler. This, according to us, would adequately take care of the concerns raised by the respondent beneficiaries. Moreover, the utilities are resorting to blending of imported coal taking into account the overall shortage of coal in the country. Considering the above factors in totality, we allow the expenditure claimed by the petitioner for Wagon Tippler and its associated works, under Regulation 9 (2) (vii) of the 2009 Tariff Regulations, -----"*

108. We, therefore, opined that the decision of the Central Commission to this extent is not justifiable, as such, the prayer is allowed.

ORDER

For foregoing reasons as stated supra, we are of the considered view that the captioned Appeals being Appeal No. 25 of 2017, Appeal No. 178 of 2017, Appeal No. 180 of 2017, Appeal No. 240 of 2017 and Appeal No. 311 of 2017 filed by NTPC have merit and are allowed.

The Impugned Orders passed by the Central Electricity Regulatory Commission being Order dated 29.07.2016 in Petition No. 294/GT/2014, Order dated 03.03.2017 in Petition No. 280/GT/2014, Order dated 03.03.2017 in Petition No. 340/GT/2014, Order dated 10.03.2017 in Petition No. 339/GT/2014 and Order dated 29.03.2017 in Petition No. 337/GT/2014 are set aside to the extent as concluded in the foregoing paragraphs.

The Central Electricity Regulatory Commission is directed to pass reasoned order expeditiously in strict compliance to the observations and conclusions made by us, expeditiously but not later than four months from the date of this judgment.

The captioned Appeals are disposed of accordingly.

Pronounced in the Open Court on this 1ST DAY OF DECEMBER, 2022.

(Sandesh Kumar Sharma)	**(Justice R. K. Gauba)**
Technical Member	**Officiating Chairperson**

REPORTABLE / ~~NON-REPORTABLE~~

pr/mkj

Justification for Additional Capitalization of "Chlorine Di-oxide (ClO2) System"

1. It is submitted that presently Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes, piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage/ explosion and therefore, handling and storage of same involves risk to the life of public at large. Hence, in the interest of public safety, the chlorine dozing system is being replaced by Chlorine Dioxide (**ClO2**) system, which is much safer and less hazardous than chlorine. In the ClO2 system, ClO2 is produced on site by use of commercial made HCI and sodium chlorite. As ClO2 is generated at site, it avoids handling and storage risk.

2. It is submitted that Ministry of Labour and Employment, GOI, released the "National Policy on Safety, Health and Environment at Workplace" in Feb 2009 (**attached underneath**). The relevant clauses of the policy pertinent to the case of the Petitioner requiring installation of ClO2 to meet the policy provisions are as follows:

   Clause 1.3

   "……..*Government is committed to regulate all economic activities for management of safety and health risks at workplaces and to provide measures so as to ensure safe and healthy working conditions for every working man and woman in the nation. Government recognizes that safety and health of workers has a positive impact on productivity and economic and social development. Prevention is an integral part of economic activities."*

   Clause 1.8:

   " *The increasing use of chemicals, exposure to physical, chemical and biological agents with hazard potential unknown to people; the indiscriminate use of agro-chemicals including pesticides, agricultural machineries and equipment; industries with major accident risks; effects of computer controlled technologies and alarming influence of stress at work in many modern jobs pose serious safety, health and environmental risks."*

Clause 1.9:

"*The fundamental purpose of this National Policy on Safety, Health and Environment at workplace, is not only to eliminate the incidence of work related injuries, diseases, fatalities, disaster and loss of national assets and ensuring achievement of a high level of occupational safety, health and environment performance through proactive approaches but also to enhance the well-being of the employee and society, at large. The necessary changes in this area will be based on a co-ordinated national effort focused on clear national goals and objectives.*"

The Objectives of the policy are as stated below:
"*3.1 The policy seeks to bring the national objectives into focus as a step towards improvement in safety, health and environment at workplace. The objectives are to achieve:-*
a) Continuous reduction in the incidence of work related injuries, fatalities, diseases, disasters and loss of national assets……..”

Further, the Clause 5.3 of the code concludes that:
"5.3 The National Policy and programme envisages total commitment and demonstration by all concerned stake holders such as Government and social partners. Our goals and objectives will be that through dedicated and concerted efforts consistent with the requirements of safety, health and environment at work place and thereby improving the quality of work and working life.”

It is submitted that for NTPC, a Maharatna Company and India's largest power generator operating Power Stations across the country with thosuands of workmen engaged round the clock, it is a constant endeavour to improve the safety practices and mitigate the hazards in line with the statutory provisions on safety, health and environment at workplace. As evident from the above quoted clauses of the said policy, it is submitted that the installation of ClO2 Plant is in accordance to various provisions of the said policy to ensure a safe workplace.

3. It is further submitted that installation of ClO2 system is in line with the duties necessitated for an employer under the clause 6(1)(a) and 6(1)(d) of *“The Occupational Safety, Health and Working Conditions Code, 2020”* notified by Ministry of Law & Justice, GoI vide Gazette Notification dated 29th September 2020. as below”

Quote

"……*DUTIES OF EMPLOYER AND EMPLOYEES, ETC.*

6. (1) Every employer shall:

a) ensure that workplace is free from hazards which cause or are likely to cause injury or occupational disease to the employees;

….

(d) provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of the employees;"

Unquote

A copy of the said Code is **attached underneath.**

4. It is submitted that chlorine gas is very hazardous as mentioned above. In India, chlorine is deemed to be an explosive, when contained in any metal container in a compressed or liquefied state, within the meaning of the Indian Explosives Act, 1884. The leakage or failure in handling of this chlorine gas may result into major accident which may involves loss of property and human life. The National Disaster Management Authority (NDMA), Govt. of India, had released "National Disaster Management Guidelines: Chemical Disasters" in April 2007. In the said guidelines at Annexure-A, following major accidents due to leakage/explosion of Chlorine gas in just a span of six years (from 2002 to 2006) have been documented:
   i. On Sep 5, 2002, Chlorine gas explosion occurred in GACL, Vadodara, Gujarat in which 4 deaths as well as 20 injuries were reported.
   ii. On Dec 20, 2002, Chlorine gas got released in IPCL, Gandhar, Gujarat in which as much as 18 workers were reported to be injured and also 300 villagers in nearby villages were adversely affected.
   iii. On Oct 13, 2003, liquid Chlorine gas was released in Orient Paper Mill, Madhya Pradesh in which 88 injuries were reported.
   iv. On Jul 18, 2004, Chlorine leak happened in Chemplast, Tamil Nadu in which 27 injuries were reported.

v. On Mar 29, 2006, due to the release of Chlorine in Kanoria Chemicals and Industries Ltd, UP, 6 people lost their lives and 23 persons were reported to be injured.

The above clearly illustrates that even the slightest inadvertent error on part of either human or machinery may result in a huge loss to persons or property or both.

Further, Chapter 5 (Guidelines for Industrial (Chemical) Installations and Storages) of the said guidelines by NDMA provides that industrial systems shall be continuously re-engineered (improved and upgraded)/ strengthened for the prevention and management of chemical accidents. The relevant extract from the said guideline is as below:

"5.1 Industrial (Chemical) Installations: A prime area of concern is the strengthening of the industrial systems for the prevention and management of chemical accidents. Such provisions shall be established to continuously reengineer (improve and upgrade) the system. As a part of government policy, it is envisaged that the present regulatory inspection and monitoring framework will evolve measures to encourage self-regulation, public consultation and PPP. These activities would develop credibility at all levels."

Further, clause 5.1.1 of the said guideline provides various engineering methods to control hazards as quoted below:

"*Engineering methods to control hazards include:*
i) Change of processes: to shift to less hazardous processes.
……."

In view of above, it is submitted that the installation of ClO2 Plant taken up by the Petitioner in place of earlier Chlorine dozing system is a *Change of process* taken up for prevention and management of chemical accidents in accordance to the various provisions and objectives of the "National Disaster Management Guidelines – Chemical Disasters" released by the NDMA, GOI in April 2007 (also **attached underneath)**.

5. It is submitted that Chlorine gas is heavier than air and therefore sticks close to the ground and spread horizontally to the ground, thereby it may affect persons in vicinity for a longer duration. Exposure to low levels of chlorine can result in nose, throat, and eye irritation whereas at higher levels, breathing chlorine

gas may result in changes in breathing rate, coughing, and damage to the lungs, toxic pneumonitis and/or acute pulmonary edema which can cause permanent damage to affected persons and also deaths.

Specifically, in Power Plants, any such incident may be more severe because of nature of the plant. It will not only affect numerous workers/staff of the Plant but also nearby communities. Also, the various equipment in the Power Plant need continuous monitoring and in absence of any such monitoring in case of a chemical accident, there will be possibility of serious damage to equipment also which itself is a very high hazard.

6. It is submitted that Tariff Regulations, 2024 under clause 26(1)(d) provides for admittance of Add-Cap works for Security & Safety of Power Stations. It is humbly submitted that Safety is inclusive of safety of the people working within the plant and neighbouring communities. As a responsible corporate entity, safety of workmen and employees is of paramount importance for NTPC. Also, it is the responsibility of NTPC to ensure that neighbouring communities are safe and not affected adversely due to Plant operations.

7. It is submitted that the Hon'ble Commission vide Order dated 08.01.2022 in Petition No 408/GT/2022 has allowed expenditure for safety provisions for workmen/Plant as Add Cap under provisions of Tariff Regulations 2014/ Tariff Regulations 2019 for Change in Law or compliance or any existing law/ need for higher security and safety of the Plant. The relevant extracts of the said Order are quoted below:

"….67*….Keeping in view that the expenditure incurred was in compliance with the IS:3034 standard (which deals with "Fire Stations in Industrial Buildings') and as the same is required for the safety and security of the plant, the additional capital expenditure incurred is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations…."* ….

"..232. *The Petitioner has claimed projected additional capitalization of Rs.350.00 lakh in 2020-21 towards 'Economiser platform for both boilers' under Regulation 26(1)(d) of the 2019 Tariff Regulations and has s ubmitted as under:*

"During annual outage most of the maintenance works are undertaken in the economizer and LTSH region due to maximum erosion of coils.

Due to space and design constraints through inspection, lifting of multiple coils and carrying out repair activity becomes difficult. Moreover, due to multiple activities being carried out simultaneously, it becomes unsafe for the workers and employees. In view of above constraint and safety of the workmen, it is proposed to fabricate permanent structure to create additional space for the coil removal, inspection, immediate repair and replacement of coil in the boiler. Additional space shall enhance safety to the workplace and thereby avoiding any unwanted eventuality. In addition, it will reduce downtime for peak, off-peak availability. This expenditure is admissible in terms of Regulations 26(1)(d) of the 2019 Tariff Regulations and the cost of the work for Rs.350 lakh is proposed to be incurred in 2020-21 and the Commission may kindly approve the same."

233. *The Petitioner has not established through documentary evidence that the additional capital expenditure is required to be incurred based on the advice or direction of any Indian Government Instrumentality or statutory authorities. However, considering the fact that the asset is required for the safe operation of the plant, we allow the projected additional capital expenditure claimed. The Petitioner is directed to furnish, at the time of truing up of tariff, the relevant advice or direction of any Indian Government Instrumentality or statutory authority to substantiate the said claim."*

8. It is also pertinent to mention that at the Petitioner's Power Plant at Kudgi, Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has directed the Petitioner to replace the highly hazardous gas chlorination system with ClO2 system. Also, State pollution Control Board, Odisha while issuing consent to establish in case of Petitioner's Darlipalli Power Station has asked the Petitioner to explore the possibility of installing ClO2 system instead of Chlorine gas system (A copy of the said directions are **attached underneath**).

9. It is also noteworthy that Hon'ble SC vide Judgement dated 20.04.2023 in Civil Appeal No. 11095 of 2018 (GMR Warora vs CERC & Others) and batch of Appeals has held that with reference to Change in Law or Compliance of any existing Law, the term "Law" means all laws including Electricity Laws in force in India and any statute, ordinance, regulation, Notification or code, rule, or any interpretation of any of them by an Indian Governmental Instrumentality and having force of law. Further, the term "Law" shall also include all applicable rules, regulations, orders, Notifications by an Indian Governmental

Instrumentality and shall also include all rules, regulations, decisions and orders of the CERC and the MERC.

10. In view of above submissions, it is submitted that the Petitioner has taken up the replacement of inefficient and highly hazardous chlorine dozing system with ClO2 system, which is much efficient in terms of handling, storage, etc. and also significantly reduces the hazards associated with chlorine dozing. Therefore, Hon'ble Commission may be pleased to allow the additional capitalization for ClO2 works under the ambit of clause 26(1)(b), 26(1)(d) and 26(1)(i) of the Tariff Regulations, 2024 and exercising the *Power to Relax* under the Regulation 102 of Tariff Regulations 2024.

Govt Of Karnataka
Department Of Factories, Boilers, Industrial Security And Health

Office of the Director
Karmika Bhawana, II floor, Bannerghatta Road,
Bengaluru-29, Date: 13.04.2016

Proceedings of the Department of Factories, Boilers, Industrial Security and Health

Read with: Sec 6(1) of Factories Act 1948 and Rule 3 of Karnataka Factories Rules, 1969

Sub: Approval of factory drawings in respect of M/s. Kudgi Super Thermal Power Project (NTPC Limited) as per Factories Act 1948 –Reg.

Ref: 1) Application Form 1 dated 27.01.2016
2) Site Inspection dated 05.02.2016
3) Final Scrutiny dated 07.04.2016

The maps of M/s NTPC Limited, Kudgi Super Thermal Power Project, Vijayapura have been scrutinized as per the Factories Act 1948 and the Rules framed and conceived there under and the blue prints of the factory's buildings and machinery layouts have been approved subject to the conformity of all provisions conceived as per Factories Act 1948 concerned and clause 3(4) of Karnataka Factories Rules, 1969 and also conformity of following conditions:

1. To modify the use of hazardous chlorine chemical to minimum hazardous chlorine chemical and to strictly comply with all the conditions laid down in the letter as per the condition of this office letter no. CSMC/TFC/CR-13/2013-14 Date 23.09.2013.

2. To get those buildings and machinery layout maps approved which are not approved earlier or the maps involving modifications. Such maps should be submitted for approval.

3. Before starting use of all the buildings and structures of the factory, authentication certification should be separately obtained as per Form 1A from authorized Civil Engineers and submitted to the Field Officer. Then only these should be used.

Ninety nine maps as approved are sent enclosed herewith. Kindly acknowledge.

Director of Factories &
Boilers,
Bengaluru

To,
The Occupier,
M/s. Kudgi Super Thermal Power Project
NTPC Limited
Kudgi, Taluka: Basavana Bagewadi, Dist.: Vijayapura

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಕಾರ್ಖಾನೆಗಳು, ಬಾಯ್ಲರುಗಳು, ಕೈಗಾರಿಕಾ ಸುರಕ್ಷತೆ ಮತ್ತು ಸ್ವಾಸ್ಥ್ಯ ಇಲಾಖೆ

ಸಂಖ್ಯೆ: ಕಾಬಾಸಿ/ಎಫ್.ಫ್ಯಾಕ್ಟರಿ/ಎಫ್.ಪಿ.ಎನ್/ಸಿಆರ್-167/2015-16 ನಿರ್ದೇಶಕರ ಕಾರ್ಯಾಲಯ,
ಕಾರ್ಮಿಕ ಭವನ, 2ನೇ ಮಹಡಿ, ಬನ್ನೇರುಘಟ್ಟ ರಸ್ತೆ,
ಬೆಂಗಳೂರು-29, ದಿನಾಂಕ: 13.04.2016

ನಿರ್ದೇಶಕರು, ಕಾರ್ಖಾನೆಗಳು, ಬಾಯ್ಲರುಗಳು, ಕೈಗಾರಿಕಾ ಸುರಕ್ಷತೆ ಮತ್ತು ಸ್ವಾಸ್ಥ್ಯ ಇಲಾಖೆ, ಬೆಂಗಳೂರು ಇವರ ನಡವಳಿಗಳು

ಓದಿದೆ: ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಸೆಕ್ಷನ್ 6(1) ಹಾಗೂ ಕರ್ನಾಟಕ ಕಾರ್ಖಾನೆಗಳ ನಿಯಮಾವಳಿಗಳು, 1969ರ 3ನೇ ನಿಯಮ.

ವಿಷಯ: ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಮೇರೆಗೆ ಮೀ ಕೊಡಗಿ ಸೂಪರ್ ಥರ್ಮಲ್ ಪವರ್ ಪ್ರಾಜೆಕ್ಟ್ (ಎನ್.ಟಿ.ಪಿ.ಸಿ ಲಿಮಿಟೆಡ್), ವಿಜಯಪುರ ಈ ಕಾರ್ಖಾನೆಯ ನಕ್ಷೆಗಳನ್ನು ಅನುಮೋದಿಸುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: 1) ಅರ್ಜಿ ಪರಿಶೀಲನೆ-1ರ ದಿನಾಂಕ : 27.01.2016.
2) ಸ್ಥಳ ಪರಿವೀಕ್ಷಣೆಯ ದಿನಾಂಕ : 05.02.2016.
3) ಅಂತಿಮ ಪರಿಶೋಧನೆಯ ದಿನಾಂಕ : 07.04.2016.

ಮೀ ಕೊಡಗಿ ಸೂಪರ್ ಥರ್ಮಲ್ ಪವರ್ ಪ್ರಾಜೆಕ್ಟ್ (ಎನ್.ಟಿ.ಪಿ.ಸಿ ಲಿಮಿಟೆಡ್), ವಿಜಯಪುರ ಈ ಕಾರ್ಖಾನೆಯ ನಕ್ಷೆಗಳು ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಹಾಗೂ ಅದರಿಂದ ರೂಪಿತವಾದ ನಿಯಮುಗಳಲ್ಲಿ ಕಲ್ಪಿಸಿರುವ ಅವಕಾಶಗಳಿಗನುಸಾರವಾಗಿ ಪರಿಶೋಧಿಸಿದ ಮೇಲೆ ಸದರಿ ಕಾರ್ಖಾನೆ ಸಂಬಂಧಪಟ್ಟ ಕಟ್ಟಡ ಹಾಗೂ ಯಂತ್ರ ವಿನ್ಯಾಸ ಇವುಗಳ ಮೇಲಿ ನಕ್ಷೆಗಳು ಅಗತ್ಯವಿರುವ ಕಾರ್ಖಾನೆಗಳು ಕಾಯ್ದೆ 1948ರ ಹಾಗೂ ಕರ್ನಾಟಕ ಕಾರ್ಖಾನೆಗಳ ನಿಯಮಾವಳಿಗಳು 1969ರ 3(4) ನೇ ನಿಯಮಕ್ಕನುಸಾರವಾಗಿ ಕಲ್ಪಿಸಿರುವ ಎಲ್ಲಾ ಅವಕಾಶಗಳು ಮತ್ತು ಈ ಕೆಳಕಂಡ ಷರತ್ತುಗಳ ಅನುವರ್ತನೆಗೊಳಪಟ್ಟು ಅನುಮೋದಿತವಾಗಿದೆ.

1. ಇದೇ ಕಛೇರಿಯ ಪತ್ರ ಸಂಖ್ಯೆ: ಸಿಎಸ್.ಎಂಸಿ/ಟಿಎಫ್.ಸಿ/ಸಿಆರ್-13/2013-14, ದಿ: 23.09.2013 ರಂತೆ ವಿಧಿಸಿರುವ ಷರತ್ತಿನಂತೆ ಆಹಾರಯುಕ್ತ ಕ್ಲೋರಿನ್ ರಾಸಾಯನಿಕದ ಬಳಕೆಗಾಗಿ ಸದರಿ ಆಹಾರಯುಕ್ತ ರಾಸಾಯನಿಕಕ್ಕೆ ಬದಲಾಯಿಸುವುದು ಮತ್ತು ಇತರೆ ಸದರಿ ಪತ್ರದಲ್ಲಿ ಸೂಚಿಸಿರುವ ಎಲ್ಲಾ ಷರತ್ತುಗಳನ್ನು ಕಟ್ಟುನಿಟ್ಟಾಗಿ ಪಾಲಿಸುವುದು.
2. ಹಾಲಿ ಇಲಾಖೆಯಿಂದ ಅನುಮೋದನೆಗೊಂಡಿರುವ ಎಲ್ಲಾ ಕಟ್ಟಡ ಮತ್ತು ಯಂತ್ರ ವಿನ್ಯಾಸ ನಕ್ಷೆಗಳನ್ನು ಕೋರ್ರೀಕರಿಸಿ ಯಾವುದೇ ಕಟ್ಟಡ ಮತ್ತು ಯಂತ್ರ ವಿನ್ಯಾಸ ಅನುಮೋದನೆಗೊಳ್ಳದಿದ್ದಲ್ಲಿ ಅಥವಾ ಬದಲಾವಣೆಗಳಿದ್ದಲ್ಲಿ ಅವುಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ನಕ್ಷೆಗಳನ್ನು ಸಲ್ಲಿಸಿ ಅನುಮೋದನೆ ಪಡೆಯುವುದು.
3. ಕಾರ್ಖಾನೆಯಲ್ಲಿನ ಎಲ್ಲಾ ಕಟ್ಟಡ ಮತ್ತು ಸ್ಟ್ರಕ್ಚರ್‌ಗಳನ್ನು ಉಪಯೋಗಕ್ಕೆ ತೆಗೆದುಕೊಳ್ಳುವ ಪೂರ್ವದಲ್ಲಿ ದೃಢೀಕೃತ ಸಿವಿಲ್ ಇಂಜಿನಿಯರ್‌ಗಳಿಂದ ದೃಢೀಕರಣ ಪ್ರಮಾಣ ಪತ್ರಗಳನ್ನು ನಮೂನೆ-1ಎ ನಂತೆ ಪ್ರತ್ಯೇಕವಾಗಿ ಪಡೆದು ಕ್ಷೇತ್ರಾಧಿಕಾರಿಗಳಿಗೆ ಸಲ್ಲಿಸಿ, ನಂತರವೇ ಉಪಯೋಗಕ್ಕೆ ತೆಗೆದುಕೊಳ್ಳುವುದು.

ANNEXURE - I

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

CSMC/TFC/CR-13/2013-14

Directorate of Factories, Boilers, Industrial Safety &
Dated 23.09.2013

Site Clearance for setting up of super thermal power project

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

* * *

The site clearance is issued subject to the following conditions

- The explosive of highly hazardous chlorine with available less hazardous alternate chemicals like chlorine dioxide, sodium hypo chlorite shall be considered.

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

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

ANNEXURE-I

- [illegible] as suggested [illegible] shall be [illegible] in the [illegible] plan. The same shall be submitted for scrutiny and approval.
- The provisions [illegible] of Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Karnataka Rules 2006 shall be complied [illegible] safety and health of the construction workers [illegible] shall be [illegible] Industrial Safety and Health.

Suggestions

- [illegible]
- [illegible] solar energy system [illegible] suitably [illegible] water heating in the canteen [illegible].

[illegible] and suggestions shall be [illegible] reserves the right to modify or withdraw clearance [illegible] at any point of time.

Yours Faithfully

Chairman
[illegible]
and Director of Factories [illegible]
Industrial Safety and Health, Bangalore

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Government of India

Ministry of Labour and Employment

NATIONAL POLICY ON SAFETY, HEALTH AND ENVIRONMENT AT WORK PLACE

1. PREAMBLE

1.1 The Constitution of India provide detailed provisions for the rights of the citizens and also lays down the Directive Principles of State Policy which set an aim to which the activities of the state are to be guided.

1.2 These Directive Principles provide

(a) for securing the health and strength of employees, men and women;

b) that the tender age of children are not abused;

c) that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength;

d) just and humane conditions of work and maternity relief are provided; and

e) that the Government shall take steps, by suitable legislation or in any other way, to secure the participation of employee in the management of undertakings, establishments or other organisations engaged in any industry.

1.3 On the basis of these Directive Principles as well as international instruments, Government is committed to regulate all economic activities for management of safety and health risks at workplaces and to provide measures so as to ensure safe and healthy working conditions for every working man and woman in the nation. Government recognizes that safety and health of workers has a positive impact on productivity and economic and social development. Prevention is an integral part of economic activities

as high safety and health standard at work is as important as good business performance for new as well as existing industries.

1.4 The formulation of policy, priorities and strategies in occupational safety, health and environment at work places, is undertaken by national authorities in consultation with social partners for fulfilling such objectives. A critical role is played by the Government and the social partners, professional safety and health organizations in ensuring prevention and in also providing treatment, support and rehabilitation services.

1.5 Government of India firmly believes that without safe, clean environment as well as healthy working conditions, social justice and economic growth cannot be achieved and that safe and healthy working environment is recognized as a fundamental human right. Education, training, consultation and exchange of information and good practices are essential for prevention and promotion of such measures.

1.6 The changing job patterns and working relationships, the rise in self employment, greater sub-contracting, outsourcing of work, homework and the increasing number of employees working away from their establishment, pose problems to management of occupational safety and health risks at workplaces. New safety hazards and health risks will be appearing along with the transfer and adoption of new technologies. In addition, many of the well known conventional hazards will continue to be present at the workplace till the risks arising from exposure to these hazards are brought under adequate control. While advancements in technology have minimized or eliminated some hazards at workplace, new risks can emerge in their place which needs to be addressed.

1.7 Particular attention needs to be paid to the hazardous operations and of employees in risk prone conditions such as migrant employees and various vulnerable groups of employees arising out of greater mobility in the

workforce with more people working for a number of employers, either consecutively or simultaneously.

1.8 The increasing use of chemicals, exposure to physical, chemical and biological agents with hazard potential unknown to people; the indiscriminate use of agro-chemicals including pesticides, agricultural machineries and equipment; industries with major accident risks; effects of computer controlled technologies and alarming influence of stress at work in many modern jobs pose serious safety, health and environmental risks.

1.9 The fundamental purpose of this National Policy on Safety, Health and Environment at workplace, is not only to eliminate the incidence of work related injuries, diseases, fatalities, disaster and loss of national assets and ensuring achievement of a high level of occupational safety, health and environment performance through proactive approaches but also to enhance the well-being of the employee and society, at large. The necessary changes in this area will be based on a co-ordinated national effort focused on clear national goals and objectives.

1.10 Every Ministry or Department may work out their detailed policy relevant to their working environment as per the guidelines on the National Policy.

2. GOALS:

The Government firmly believes that building and maintaining national preventive safety and health culture is the need of the hour. With a view to develop such a culture and to improve the safety, health and environment at work place, it is essential to meet the following requirements:-

2.1 providing a statutory framework on Occupational Safety and Health in respect of all sectors of industrial activities including the construction sector, designing suitable control systems of compliance, enforcement and incentives for better compliance.

2.2 providing administrative and technical support services.

2.3. providing a system of incentives to employers and employees to achieve higher health and safety standards .

2.4 providing for a system of non-financial incentives for improvement in safety and health.

2.5. establishing and developing the research and development capability in emerging areas of risk and providing for effective control measures.

2.6. Focusing on prevention strategies and monitoring performance through improved data collection system on work related injuries and diseases.

2.7 Developing and providing required technical manpower and knowledge in the areas of safety, health and environment at workplaces in different sectors.

2.8 Promoting inclusion of safety, health and environment, improvement at workplaces as an important component in other relevant national policy documents.

2.9 Including safety and occupational health as an integral part of every operation.

3. OBJECTIVES:

3.1 The policy seeks to bring the national objectives into focus as a step towards improvement in safety, health and environment at workplace. The objectives are to achieve:-

a) Continuous reduction in the incidence of work related injuries, fatalities, diseases, disasters and loss of national assets.

b) Improved coverage of work related injuries, fatalities and diseases and provide for a more comprehensive data base for facilitating better performance and monitoring.

c) Continuous enhancement of community awareness regarding safety, health and environment at workplace related areas.

d) Continually increasing community expectation of workplace health and safety standards.

e) Improving safety, health and environment at workplace by creation of "green jobs" contributing to sustainable enterprise development.

4. ACTION PROGRAMME

For the purpose of achieving the goals and objectives mentioned in paragraphs 2 and 3 above, the following action programme is drawn up and where necessary time bound action programme would be initiated, namely:-

4.1. Enforcement

4.1.1 by providing an effective enforcement machinery as well as suitable provisions for compensation and rehabilitation of affected persons;

4.1.2 by effectively enforcing all applicable laws and regulations concerning safety, health and environment at workplaces in all economic activities through an adequate and effective labour inspection system;

4.1.3 By establishing suitable schemes for subsidy and provision of loans to enable effective implementation of the policy;

4.1.4 by ensuring that employers, employees and others have separate but complementary responsibilities and rights with respect to achieving safe and healthy working conditions;

4.1.5 by amending expeditiously existing laws relating to safety, health and environment and bring them in line with the relevant international instruments;

4.1.6 by monitoring the adoption of national standards through regulatory authorities;

4.1.7 by facilitating the sharing of best practices and experiences between national and international regulatory authorities;

4.1.8 by developing new and innovative enforcement methods including financial incentives that encourage and ensure improved workplace performance;

4.1.9 by making an enabling legislation on Safety, Health and Environment at Workplaces;

4.1.10 by setting up safety and health committees wherever deemed appropriate;

4.2 National Standards

4.2.1 by developing appropriate standards, codes of practices and manuals on safety, health and environment for uniformity at the national level in all economic activities consistent with international standards and implementation by the stake holders in true spirit;

4.2.2 by ensuring stakeholders awareness of and accessibility to applicable policy, documents, codes, regulations and standards;

4.3 Compliance

4.3.1 by encouraging the appropriate Government to assume the fullest responsibility for the administration and enforcement of occupational safety, health and environment at workplace, provide assistance in identifying their needs and responsibilities in the area of safety, health and environment at workplace, to develop plans and programmes in accordance with the provisions of the applicable Acts and to conduct experimental and demonstration projects in connection therewith;

4.3.2 by calling upon the co-operation of social partners in the supervision of application of legislations and regulations relating to safety, health and environment at work place;

4.3.3 by continuous improvement of Occupational Safety and Health by systems approach to the management of Occupational Safety and Health including developing guidance on Occupational Safety and Health management systems, strengthening voluntary actions, including mechanisms for self-regulatory concept and establishing auditing mechanisms which can test and authenticate occupational safety and health management systems;

4.3.4 by providing specific measures to prevent catastrophes, and to co-ordinate and specify the actions to be taken at different levels, particularly in the industrial zones with high potential risks;

4.3.5 by recognising the best safety and health practices and providing facilitation for their adoption.

4.3.6 by providing adequate penal provisions as deterrent for violation of laws for the time being in force;

4.3.7 by encouraging all concerned to adopt and commit to "Responsible Care" and / or "Corporate Social Responsibility" to improve safety, health and environment at workplace performance;

4.3.8 by ensuring a suitable accreditation machinery to recognise institutions, professionals and services relating to safety, health and environment at workplace for uniformity and greater coverage as also authenticating safe management system;

4.3.9 by encouraging employers to ensure occupational safety and health management systems, establish them in efficient manner to improve workplace safety and health;

4.3.10 by specifically focusing on such occupational diseases like pneumoconiosis and silicosis; developing a framework for its prevention and control as well as develop technical standards and guidelines for the same;

4.3.11 by promoting safe and clean technology and progressively replacing materials hazardous to human health and environment;

4.4 Awareness

4.4.1 by increasing awareness on safety, health and environment at workplace through appropriate means;

4.4.2 by providing forums for consultations with employers' representatives, employees representatives and community on matters of national concern

relating to safety, health and environment at work place with the overall objective of creating awareness and enhancing national productivity;

4.4.3 by encouraging joint labour-management efforts to preserve, protect and promote national assets and to eliminate injuries and diseases arising out of employment;

4.4.4 by raising community awareness through structured, audience specific approach;

4.4.5 by continuously evaluating the impact of such awareness and information initiatives;

4.4.6 by maximizing gains from the substantial investment in awareness campaigns by sharing experience and learning;

4.4.7 by suitably incorporating teaching inputs on safety, health and environment at work place in schools, technical, medical, professional and vocational courses and distance education programme;

4.4.8 by securing good liaison arrangements with the International organisations;

4.4.9 by providing medical criteria wherever necessary which will assure insofar as practicable that no employee will suffer diminished health, functional capacity, or life expectancy as a result of his work place activities and that in the event of such occupational diseases having been contracted, is suitably compensated;

4.4.10 by providing practical guidance and encouraging employers and employees in their efforts to reduce the incidence of occupational safety and health risks at their places of employment and to impress upon employers and employees to institute new programmes and to improve existing programmes for providing safe and healthful working conditions, requiring employers to ensure that workers and their representatives are consulted, trained, informed and involved in all measures related to their safety and health at work;

4.5 Research and Development

4.5.1 by providing for research in the field of safety, health and environment at workplace, including the social and psychological factors involved, and by developing innovative methods, techniques including computer aided Risk Assessment Tools, and approaches for dealing with safety, health and environment at workplace problems which will help in establishing standards;

4.5.2 by exploring ways to discover latent diseases, establishing causal connections between diseases and work environmental conditions, updating list of occupational diseases and conducting other research relating to safety, health and environmental problems at workplace;

4.5.3 by establishing research priorities as per national requirements; exploring partnerships and improving communications with various national and international research bodies;

4.5.4 by ensuring a coordinated research approach and an optimal allocation of resources in Occupational Safety and Health sector for such purposes;

4.6 Occupational safety and health skills development

4.6.1 by building upon advances already made through employer and employee initiative for providing safe and healthy working conditions;

4.6.2 by providing for training programmes to increase the number and competence of personnel engaged in the field of occupational safety, health and environment at workplace;

4.6.3 by providing information and advice, in an appropriate manner, to employers and employees organisations, with a view to eliminating hazards or reducing them as far as practicable;.

4.6.4 by establishing occupational health services aimed at protection and promotion of health of employee and improvement of working conditions and by providing employee access to these services in different sectors of economic activities;

4.6.5 by integrating health and safety into vocational, professional and labour related training programmes as also management training including small business practices;

4.6.6 by adopting Occupational Safety and Health training curricula in workplace and industry programmes;

4.7 Data collection

4.7.1 by compiling statistics relating to safety, health and environment at work places, prioritising key issues for action, conducting national studies or surveys or projects through governmental and non-governmental organisations;

4.7.2 by reinforcing and sharing of information and data on national occupational safety, health and environment at work place information amongst different stake holders through a national network system on Occupational Safety and Health;

4.7.3 by extending data coverage relevant to work-related injury and disease, including measures of exposure, and occupational groups that are currently excluded, such as self-employed people;

4.7.4 by extending data systems to allow timely reporting and provision of information;

4.7.5 by developing the means for improved access to information;

4.8 Review

4.8.1 An initial review and analysis shall be carried out to ascertain the current status of safety, health and environment at workplace and building a national Occupational Safety and Health profile.

4.8.2 National Policy and the action programme shall be reviewed at least once in five years or earlier if felt necessary to assess relevance of the national goals and objectives.

5. Conclusion

5.1 There is a need to develop close involvement of social partners to meet the challenges ahead in the assessment and control of workplace risks by mobilising local resources and extending protection to such working population and vulnerable groups where social protection is not adequate.

5.2 Government stands committed to review the National Policy on Safety, Health and Environment at Workplace and legislations through tripartite consultation, improve enforcement, compilation and analysis of statistics; develop special programmes for hazardous operations and other focus sectors, set up training mechanisms, create nation-wide awareness, arrange for the mobilisation of available resources and expertise.

5.3 The National Policy and programme envisages total commitment and demonstration by all concerned stake holders such as Government and social partners. Our goals and objectives will be that through dedicated and concerted efforts consistent with the requirements of safety, health and environment at work place and thereby improving the quality of work and working life.

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रजिस्ट्री सं॰ डी॰ एल॰—(एन)04/0007/2003—20 REGISTERED NO. DL—(N)04/0007/2003—20

भारत का राजपत्र
The Gazette of India

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असाधारण
EXTRAORDINARY
भाग II — खण्ड 1
PART II — Section 1
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PUBLISHED BY AUTHORITY

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No. 62] NEW DELHI, TUESDAY, SEPTEMBER 29, 2020/ASVINA 7, 1942 (SAKA)

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके।
Separate paging is given to this Part in order that it may be filed as a separate compilation.

MINISTRY OF LAW AND JUSTICE
(Legislative Department)

New Delhi, the 29*th September,* 2020/*Asvina* 7, 1942 (*Saka*)

The following Act of Parliament received the assent of the President on the 28th September, 2020 and is hereby published for general information:—

THE OCCUPATIONAL SAFETY, HEALTH AND WORKING CONDITIONS CODE, 2020

No. 37 of 2020

[28*th September,* 2020.]

An Act to consolidate and amend the laws regulating the occupational safety, health and working conditions of the persons employed in an establishment and for matters connected therewith or incidental thereto.

Be it enacted by Parliament in the Seventy-first Year of the Republic of India as follows:—

CHAPTER I
Preliminary

Short title, commencement and application.

1. (*1*) This Act may be called the Occupational Safety, Health and Working Conditions Code, 2020.

(*2*) It shall come into force on such date as the Central Government may, by notification appoint; and different dates may be appointed for different provisions of this Code and any reference in any such provision to the commencement of this Code shall be construed as a reference to the coming into force of that provision.

(*3*) It shall not apply to the offices of the Central Government, offices of the State Government and any ship of war of any nationality:

Provided that the Code shall apply in case of contract labour employed through contractor in the offices of the Central Government or in the offices of the State Government, where, the Central Government or, as the case may be, the State Government is the principal employer.

Definitions.

2. (*1*) In this Code, unless the context otherwise requires,—

(*a*) "adolescent" shall have the same meaning as assigned to it in clause (*i*) of section 2 of the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986; 61 of 1986.

(*b*) "adult" means a person who has completed his eighteenth year of age;

(*c*) "agent" when used in relation to a mine, means every person, whether appointed as such or not, who, acting or purporting to act on behalf of the owner, takes part in the management, control, supervision or direction of such mine or of any part thereof;

(*d*) "appropriate Government" means—

(*i*) in relation to, establishments [other than those specified in sub-clause (*ii*)] carried on by or under the authority of the Central Government or concerning any such controlled industry as may be specified in this behalf by the Central Government or the establishment of railways including metro railways, mines, oil field, major ports, air transport service or telecommunication service, banking company or any insurance company (by whatever name called) established by a Central Act or a corporation or other authority established by a Central Act or a Central public sector undertaking or subsidiary companies set up by the Central public sector undertakings or autonomous bodies owned or controlled by the Central Government, including establishment of contractors for the purposes of such establishment, corporation or other authority, Central public sector undertakings, subsidiary companies or autonomous bodies, as the case may be, the Central Government:

Provided that in the case of Central Public Sector Undertakings the appropriate Government shall continue to be the Central Government even if the holding of the Central Government reduces to less than fifty per cent. equity of the Central Government in that Public Sector Undertakings after the commencement of this Code; and

(*ii*) in relation to a factory, motor transport undertaking, plantation, newspaper establishment and establishment relating to beedi and cigar including the establishments not specified in clause (*i*), the concerned State Government where it is situated.

Explanation.—For the removal of doubts it is hereby clarified that State Government shall be the appropriate Government in respect of occupational safety, health and working conditions in a factory situated in that State;

(*e*) "audio-visual production" means audio-visual produced wholly or partly in India and includes—

(*i*) animation, cartoon depiction, audio-visual advertisement;

(*ii*) digital production or any of the activities in respect of making thereof; and

(*iii*) features films, non-feature films, television, web-based serials, talk shows, reality shows and sport shows;

(*f*) "audio-visual worker" means a person, who is employed, directly or through any contractor, in or in connection with the audio-visual production to work as an

artist including actor, musician, singer, anchor, news reader, dancer, dubbing artist or stunt person or to do any work, skilled, unskilled, manual, supervisory, technical, artistic or otherwise, and his remuneration with respect to such employment in or in connection with the production of audio-visual does not exceed, where remuneration is by way of monthly wages or where such remuneration is by way of lump sum, in each case, such amount as may be notified by the Central Government;

(*g*) "banking company" means a banking company as defined in clause (*c*) of section 5 of the Banking Regulation Act, 1949 and includes the Export-Import Bank of India, the Industrial Reconstruction Bank of India, the Small Industries Development Bank of India established under section 3 of the Small Industries Development Bank of India Act, 1989, the Reserve Bank of India, the State Bank of India, a corresponding new bank constituted under section 3 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970, a corresponding new bank constituted under section 3 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1980;

10 of 1949.

39 of 1989.

5 of 1970.

40 of 1980.

(*h*) "building or other construction work" means the construction, alteration, repairs, maintenance or demolition in relation to buildings, streets, roads, railways, tramways, airfields, irrigation, drainage, embankment and navigation works, flood control works (including storm water drainage works), generation, transmission and distribution of power, water works (including channels for distribution of water), oil and gas installations, electric lines, internet towers, wireless, radio, television, telephone, telegraph and overseas communications, dams, canals, reservoirs, watercourses, tunnels, bridges, viaducts, aqua-ducts, pipelines, towers, cooling towers, transmission towers and such other work as may be specified in this behalf by the Central Government, by notification, but does not include building or other construction work which is related to any factory or mine and the building or other construction work where such work is for own residential purposes of an individual or group of individuals for their own residence and the total cost of such work does not exceed rupees fifty lakhs or such higher amount and employing more than such number of workers as may be notified by the appropriate Government;

(*i*) "building worker" means a person who is employed to do any highly skilled, skilled, semi-skilled or unskilled, manual, technical or clerical work for hire or reward, whether the terms of such employment are express or implied, in connection with any building or other construction work, but does not include any such person who is employed mainly in a managerial or supervisory or administrative capacity;

(*j*) "cargo" includes anything carried or to be carried in a ship or other vessel, or vehicle;

(*k*) "Chief Inspector-cum-Facilitator" means a Chief Inspector-cum-Facilitator appointed under sub-section (*5*) of section 34;

(*l*) "competent person", means a person or an institution recognised as such by the Chief Inspector-cum-Facilitator for the purposes of carrying out tests, examinations and inspections required to be done in an establishment having regard to—

(*i*) the qualifications and experience of the person and facilities available at his disposal; or

(*ii*) the qualifications and experience of the persons employed in such institution and facilities available therein:

Provided that in case of mines the competent person includes such other person who is authorised by the manager referred to in section 67 to supervise or perform any work, or to supervise the operation of machinery, plant or equipment and is responsible for such duties assigned to him and also includes a shot firer or blaster;

(*m*) "contract labour" means a worker who shall be deemed to be employed in or in connection with the work of an establishment when he is hired in or in connection with such work by or through a contractor, with or without the knowledge of the principal employer and includes inter-State migrant worker but does not include a worker (other than part time employee) who is regularly employed by the contractor for any activity of his establishment and his employment is governed by mutually accepted standards of the conditions of employment (including engagement on permanent basis), and gets periodical increment in the pay, social security coverage and other welfare benefits in accordance with the law for the time being in force in such employment;

(*n*) "contractor", in relation to an establishment, means a person, who—

(*i*) undertakes to produce a given result for the establishment, other than a mere supply of goods or articles of manufacture to such establishment, through contract labour; or

(*ii*) supplies contract labour for any work of the establishment as mere human resource,

and includes a sub-contractor;

(*o*) "controlled industry" means any industry the control of which by the Central Government has been declared under any Central Act in the public interest;

(*p*) "core activity of an establishment" means any activity for which the establishment is set up and includes any activity which is essential or necessary to such activity:

Provided that the following shall not be considered as essential or necessary activity, if the establishment is not set up for such activity, namely:—

(*i*) sanitation works, including sweeping, cleaning, dusting and collection and disposal of all kinds of waste;

(*ii*) watch and ward services including security services;

(*iii*) canteen and catering services;

(*iv*) loading and unloading operations;

(*v*) running of hospitals, educational and training Institutions, guest houses, clubs and the like where they are in the nature of support services of an establishment;

(*vi*) courier services which are in nature of support services of an establishment;

(*vii*) civil and other constructional works, including maintenance;

(*viii*) gardening and maintenance of lawns and other like activities;

(*ix*) housekeeping and laundry services, and other like activities, where these are in nature of support services of an establishment;

(*x*) transport services including, ambulance services;

(*xi*) any activity of intermittent nature even if that constitutes a core activity of an establishment;

(*q*) "day" means a period of twenty-four hours beginning at mid-night;

(*r*) "District Magistrate", in relation to any mine, means the District Magistrate or the Deputy Commissioner, as the case may be, who is vested with the executive powers of maintaining law and order in the revenue district in which the mine is situated:

Provided that in case of a mine, which is situated partly in one district and partly in another, the District Magistrate for the purpose shall be the District Magistrate authorised in this behalf by the Central Government;

(*s*) "dock work" means any work in or within the vicinity of any port in connection with, or required for, or incidental to, the loading, unloading, movement or storage of cargoes into or from ship or other vessel, port, dock, storage place or landing place, and includes—

(*i*) work in connection with the preparation of ships or other vessels for receipt or discharge of cargoes or leaving port;

(*ii*) all repairing and maintenance processes connected with any hold, tank structure or lifting machinery or any other storage area on board the ship or in the docks; and

(*iii*) chipping, painting or cleaning of any hold, tank, structure or lifting machinery or any other storage area on board the ship or in the docks;

(*t*) "employee" means,—

(*i*) in respect of an establishment, a person (other than an apprentice engaged under the Apprentices Act, 1961) employed on wages by an establishment to do any skilled, semi-skilled, unskilled, manual, operational, supervisory, managerial, administrative, technical, clerical or any other work, whether the terms of employment be express or implied; and

52 of 1961.

(*ii*) a person declared to be an employee by the appropriate Government,

but does not include any member of the Armed Forces of the Union:

Provided that notwithstanding anything contained in this clause, in case of a mine a person is said to be "employed" in a mine who works as the manager or who works under appointment by the owner, agent or manager of the mine or with the knowledge of the manager, whether for wages or not—

(*a*) in any mining operation (including the concomitant operations of handling and transport of minerals up to the point of dispatch and of gathering sand and transport thereof to the mine);

(*b*) in operations or services relating to the development of the mine including construction of plant therein but excluding construction of buildings, roads, wells and any building work not directly connected with any existing or future mining operations;

(*c*) in operating, servicing, maintaining or repairing any part of any machinery used in or about the mine;

(*d*) in operations, within the premises of the mine, of loading for dispatch of minerals;

(*e*) in any office of mine;

(*f*) in any welfare, health, sanitary or conservancy services required to be provided under this Code relating to mine, or watch and ward, within the premises of the mine excluding residential area; or

(*g*) in any kind of work, whatsoever, which is preparatory or incidental to, or connected with, mining operations;

(*u*) "employer" means a person who employs, whether directly or through any person, or on his behalf, or on behalf of any person, one or more employees in his establishment and where the establishment is carried on by any Department of the Central Government or the State Government, the authority specified, by the head of

such Department, in this behalf or where no authority, is so specified, the head of the Department and in relation to an establishment carried on by a local authority, the Chief Executive of that authority, and includes,—

(*i*) in relation to an establishment which is a factory, the occupier of the factory;

(*ii*) in relation to mine, the owner of the mine, agent or manager referred to in section 67;

(*iii*) in relation to any other establishment, the person who, or the authority which has ultimate control over the affairs of the establishment and where said affairs are entrusted to a manager or managing director, such manager or managing director;

(*iv*) contractor; and

(*v*) legal representative of a deceased employer;

(*v*) "establishment" means—

(*i*) a place where any industry, trade, business, manufacturing or occupation is carried on in which ten or more workers are employed; or

(*ii*) motor transport undertaking, newspaper establishment, audio-video production, building and other construction work or plantation, in which ten or more workers are employed; or

(*iii*) factory, for the purpose of Chapter II, in which ten or more workers are employed, notwithstanding the threshold of workers provided in clause (*w*); or

(*iv*) a mine or port or vicinity of port where dock work is carried out:

Provided that in sub-clauses (*i*) and (*ii*), the threshold of worker specified therein shall not be applicable in case of such establishment or class of establishments, in which such hazardous or life threatening activity is being carried on, as may be notified by the Central Government:

Provided further that notwithstanding any threshold provided in the definition of factory in clause (*w*), for the purposes of Chapter II, the establishment specified in sub-clause (*i*) or sub-clause (*ii*) or sub-clause (*iii*) shall be deemed to be the establishment within the meaning of this clause though the number of employees employed are ten or more;

(*w*) "factory" means any premises including the precincts thereof—

(*i*) whereon twenty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on with the aid of power, or is ordinarily so carried on; or

(*ii*) whereon forty or more workers are working, or were working on any day of the preceding twelve months, and in any part of which a manufacturing process is being carried on without the aid of power, or is ordinarily so carried on,

but does not include a mobile unit belonging to the armed forces of the Union, railways running shed or a hotel, restaurant or eating place:

Provided that where under any law for the time being in force in a State immediately before the commencement of this Code, the number of workers specified is more or less than the number specified in clause (*i*) or clause (*ii*), then, the number specified under the law of the State shall prevail in that State till it is amended by the competent Legislature.

Explanation I.—For computing the number of workers for the purposes of this clause all the workers (in different groups and relays) in a day shall be taken into account.

Explanation II.—For the purposes of this clause, the mere fact that an Electronic Data Processing Unit or a Computer Unit is installed in any premises or part thereof, shall not be construed as factory if no manufacturing process is being carried on in such premises or part thereof;

(*x*) "family", when used in relation to a worker, means—

(*i*) spouse;

(*ii*) children including adopted children of the worker who are dependent upon him and have not completed the age of eighteen years; and

(*iii*) parents, grand-parents, widowed daughter and widowed sister dependent upon such worker.

Explanation.—For the purposes of this clause, such dependents shall not be included who are, for the time being, getting such income from such sources, as may be prescribed by the appropriate Government;

(*y*) "godown" means any warehouse or other place, by whatever name called, used for the storage of any article or substance required for any manufacturing process which means any process for, or incidental to, making, finishing or packing or otherwise treating any article or substance with a view to its use, sale, transport, delivery or disposal as finished products;

(*z*) "hazardous" means involving danger or potential danger;

(*za*) "hazardous process" means any process or activity in relation to an industry or plantation specified in the First Schedule where, unless special care is taken, raw materials used therein or the intermediate or finished products, bye-products, hazardous substances, wastes or effluents thereof or spraying of any pesticides, insecticides or chemicals used therein, as the case may be, would—

(*i*) cause material impairment to the health of the persons engaged in or connected therewith, or

(*ii*) result in the pollution of the general environment;

(*zb*) "hazardous substance" means any substance or such quantity of the substance as may be prescribed by the appropriate Government or preparation of which by reason of its chemical or physio-chemical properties or handling is liable to cause physical or health hazards to human being or may cause harm to other living creatures, plants, micro-organisms, property or the environment;

(*zc*) "industrial premises" means any place or premises (not being a private dwelling house), including the precincts thereof, in which or in any part of which any industry, trade, business, occupation or manufacturing is being ordinarily carried on with or without the aid of power and includes a godown attached thereto;

(*zd*) "industry" means any systematic activity carried on by co-operation between an employer and worker (whether such worker is employed by such employer directly or by or through any agency, including a contractor) for the production, supply or distribution of goods or services with a view to satisfy human wants or wishes (not being wants or wishes which are merely spiritual or religious in nature), whether or not,—

(*i*) any capital has been invested for the purpose of carrying on such activity; or

(*ii*) such activity is carried on with a motive to make any gain or profit,

but does not include—

(*a*) institutions owned or managed by organisations wholly or substantially engaged in any charitable, social or philanthropic services; or

(*b*) any activity of the appropriate Government relatable to the sovereign functions of the appropriate Government including all the activities carried on by the Departments of the Central Government dealing with defence research, atomic energy and space; or

(*c*) any domestic service; or

(*d*) any other activity as may be notified by the Central Government;

(*ze*) "Inspector-cum-Facilitator" means an Inspector-cum-Facilitator appointed under sub-section (*1*) of section 34;

(*zf*) "inter-State migrant worker" means a person who is employed in an establishment and who—

(*i*) has been recruited directly by the employer or indirectly through contractor in one State for employment in such establishment situated in another State; or

(*ii*) has come on his own from one State and obtained employment in an establishment of another State (hereinafter called destination State) or has subsequently changed the establishment within the destination State,

under an agreement or other arrangement for such employment and draws wages not exceeding the amount of rupees eighteen thousand per month or such higher amount as may be notified by the Central Government from time to time;

(*zg*) "machinery" means any article or combination of articles assembled, arranged or connected and which is used or intended to be used for converting any form of energy to perform work, or which is used or intended to be used, whether incidental thereto or not, for developing, receiving, storing, containing, confining, transforming, transmitting, transferring or controlling any form of energy;

(*zh*) "major port" means a major port as defined in clause (*8*) of section 3 of the Indian Ports Act, 1908; 15 of 1908.

(*zi*) "manufacturing process" means any process for—

(*i*) making, altering, repairing, ornamenting, finishing, packing, oiling, washing, cleaning, breaking up, demolishing, or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal; or

(*ii*) pumping oil, water, sewage or any other substance; or

(*iii*) generating, transforming or transmitting power; or

(*iv*) composing, printing, printing by letter press, lithography, offset, photogravure screen printing, three Dimensional or four Dimensional printing, prototyping, flexography or other types of printing process or book binding; or

(*v*) constructing, reconstructing, repairing, refitting, finishing or breaking up ships or vessels; or

(*vi*) preserving or storing any article in cold storage; or

(*vii*) such other processes as the Central Government may notify;

(*zj*) "medical officer" means the medical officer appointed under sub-section (*1*) of section 42;

(*zk*) "metro railway" means the metro railway as defined in sub-clause (*i*) of clause (*1*) of section 2 of the Metro Railways (Operation and Maintenance) Act, 2002; 60 of 2002.

(*zl*) "mine" means any excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on and includes—

(*i*) all borings, bore holes, oil wells and accessory crude conditioning plants, including the pipe conveying mineral oil within the oilfields;

(*ii*) all shafts, in or adjacent to and belonging to a mine, whether in the course of being sunk or not;

(*iii*) all levels and inclined planes in the course of being driven;

(*iv*) all open cast workings;

(*v*) all conveyors or aerial ropeways provided for bringing into or removal from a mine of minerals or other articles or for the removal of refuse therefrom;

(*vi*) all adits, levels, planes, machinery, works, railways, tramways and sidings in or adjacent to and belonging to a mine;

(*vii*) all protective works being carried out in or adjacent to a mine;

(*viii*) all workshops and stores situated within the precincts of a mine and under the same management and used primarily for the purposes connected with that mine or a number of mines under the same management;

(*ix*) all power stations, transformer sub-stations, converter stations, rectifier stations and accumulator storage stations for supplying electricity solely or mainly for the purpose of working the mine or a number of mines under the same management;

(*x*) any premises for the time being used for depositing sand or other material for use in a mine or for depositing refuse from a mine or in which any operations in connection with such sand refuse or other material is being carried on, being premises exclusively occupied by the owner of the mine;

(*xi*) any premises in or adjacent to and belonging to a mine on which any process ancillary to the getting, dressing or preparation for sale of minerals or coke is being carried on;

(*xii*) a mine owned by the Government;

(*zm*) "minerals" means all substances which can be obtained from the earth by mining, digging, drilling, dredging, hydraulicing, quarrying or by any other operation and includes mineral oils (such as natural gas and petroleum);

(*zn*) "motor transport undertaking" means a motor transport undertaking employing motor transport worker and engaged in carrying passengers or goods or both by road for hire or reward, and includes a private carrier;

(*zo*) "motor transport worker" means a person who is employed in a motor transport undertaking directly or through an agency, whether for wages or not, to work in a professional capacity on a transport vehicle or to attend the duties in connection with the arrival, departure, loading or unloading of such transport vehicle and includes a driver, conductor, cleaner, station staff, line checking staff, booking clerk, cash clerk, depot clerk, time-keeper, watchman or attendant, but does not include any such person—

(*i*) who is employed in a factory;

(*ii*) to whom the provisions of any other law for the time being in force regulating the conditions of service of persons employed in shops or commercial establishments apply;

(*zp*) "newspaper" means any printed periodical work containing public news or comments on public news and includes such other class of printed periodical work as may, from time to time, be notified in this behalf by the Central Government;

(*zq*) "newspaper establishment" means an establishment under the control of any person or body of persons, whether incorporated or not, for the production or publication of one or more newspapers or for conducting any news agency or syndicate and includes following newspaper establishments which shall be deemed to be one establishment, namely:—

(*i*) two or more newspaper establishments under common control;

(*ii*) two or more newspaper establishments owned by an individual and his or her spouse unless it is shown that such spouse is a sole proprietor or partner or a shareholder of a corporate body on the basis of his or her own individual funds;

(*iii*) two or more newspaper establishments publishing newspapers bearing the same or similar title and in the same language in any place in India or bearing the same or similar title but in different languages in the same State or Union territory.

Explanation 1.—For the purposes of sub-clause (*i*) two or more establishments shall be deemed to be under common control where—

(*a*) (*i*) the newspaper establishments are owned by a common individual or individuals;

(*ii*) the newspaper establishments are owned by firms, if such firms have a substantial number of common partners;

(*iii*) the newspaper establishments are owned by bodies corporate, if one body corporate is a subsidiary of the other body corporate, or both are subsidiaries of a common holding company or a substantial number of their equity shares are owned by the same person or group of persons, whether incorporated or not;

(*iv*) one establishment is owned by a body corporate and the other is owned by a firm, if a substantial number of partners of the firm together hold a substantial number of equity shares of the body corporate;

(*v*) one is owned by a body corporate and the other is owned by a firm having bodies corporate as its partners if a substantial number of equity shares of such bodies corporate are owned, directly or indirectly, by the same person or group of persons, whether incorporated or not, or

(*b*) there is functional integrality between concerned newspaper establishments.

Explanation 2.—For the purposes of this clause,—

(*i*) different departments, branches and centres of newspaper establishments shall be treated as parts thereof;

(*ii*) a printing press shall be deemed to be a newspaper establishment if the principal business thereof is to print newspaper;

(*zr*) "notification" means a notification published in the Gazette of India or the Official Gazette of a State, as the case may be, and the expression "notify" with its grammatical variations and cognate expressions shall be construed accordingly;

(*zs*) "occupier" of a factory means the person who has ultimate control over the affairs of the factory:

Provided that—

(*i*) in the case of a firm or other association of individuals, any one of the individual partners or members thereof;

(*ii*) in the case of a company, any one of the directors, except any independent director within the meaning of sub-section (*6*) of section 149 of the Companies Act, 2013;

18 of 2013.

(*iii*) in the case of a factory owned or controlled by the Central Government or any State Government, or any local authority, the person or persons appointed to manage the affairs of the factory by the Central Government, the State Government or the local authority or such other authority as may be prescribed by the Central Government,

shall be deemed to be the occupier:

Provided further that in the case of a ship which is being repaired, or on which maintenance work is being carried out, in a dry dock which is available for hire, the owner of the dock shall be deemed to be the occupier for all purposes except the matters as may be prescribed by the Central Government which are directly related to the condition of ship for which the owner of ship shall be deemed to be the occupier;

(*zt*) "office of the mine" means an office at the surface of the mine concerned;

(*zu*) "open cast working" means a quarry, that is to say, an excavation where any operation for the purpose of searching for or obtaining minerals has been or is being carried on, not being a shaft or an excavation which extends below superjacent ground;

(*zv*) "ordinarily employed" with reference to any establishment or part thereof, means the average number of persons employed per day in the establishment or part thereof during the preceding calendar year obtained by dividing the number of man days worked by the number of working days excluding rest days and other non-working days;

(*zw*) "owner", in relation to a mine, means any person who is the immediate proprietor or lessee or occupier of the mine or of any part thereof and in case of a mine the business whereof is being carried on by a liquidator or receiver, such liquidator or receiver; but does not include a person who merely receives a royalty, rent or fine from the mine, or is merely the proprietor of the mine, subject to any lease grant or licence for the working thereof, or is merely the owner of the soil and not interested in the minerals of the mine; but any contractor or sub-lessee for the working of a mine or any part thereof shall be subject to this Code in like manner as if he were an owner but not so as to exempt the former from any liability;

(*zx*) "plantation" means—

(*a*) any land used or intended to be used for—

(*i*) growing tea, coffee, rubber, cinchona or cardamom which admeasures five hectares or more;

(*ii*) growing any other plant, which admeasures five hectares or more and in which persons are employed or were employed on any day of the preceding twelve months, if, after obtaining the approval of the Central Government, the State Government, by notification, so directs.

Explanation.—Where any piece of land used for growing any plant referred to in this sub-clause admeasures less than five hectares and is

contiguous to any other piece of land not being so used, but capable of being so used, and both such pieces of land are under the management of the same employer, then, for the purposes of this sub-clause, the former piece of land shall be deemed to be a plantation, if the total area of both such pieces of land admeasures five hectares or more; and

(*b*) any land which the State Government may, by notification, declare and which is used or intended to be used for growing any plant referred to in sub-clause (*a*), notwithstanding that it admeasures less than five hectares:

Provided that no such declaration shall be made in respect of such land which admeasures less than five hectares immediately before the commencement of this Code; and

(*c*) offices, hospitals, dispensaries, schools and any other premises used for any purpose connected with any plantation within the meaning of sub-clause (*a*) and sub-clause (*b*); but does not include factory on the premises;

(*zy*) "prescribed" means prescribed by rules made by the appropriate Government under this Code;

(*zz*) "principal employer", where the contract labour is employed or engaged, means—

(*i*) in relation to any office or Department of the Government or a local authority, the head of that office or Department or such other officer as the Government or the local authority, may specify in this behalf;

(*ii*) in a factory, the owner or occupier of the factory and where a person has been named as the manager of the factory, the person so named;

(*iii*) in a mine, the owner or agent of the mine;

(*iv*) in relation to any other establishment, any person responsible for the supervision and control of the establishment;

(*zza*) "producer", in relation to audio-visual production, means the company, firm or other person by whom the arrangements necessary for producing such audio-visual (including the raising of finances and engaging audio-visual workers for producing audio-visual) are undertaken.

Explanation.—For the purposes of this clause, the expressions "company" and "firm" have the same meaning as respectively assigned to them in the Companies Act, 2013 and the Indian Partnership Act, 1932; 18 of 2013. 9 of 1932.

(*zzb*) "qualified medical practitioner" means a medical practitioner who possesses any recognised medical qualification as defined in clause (*i*) of section 2 of the Indian Medical Council Act, 1956 and who is enrolled on a Indian Medical Register as defined in clause (*e*) and on a State Medical Register as defined in clause (*l*) of the said section; 102 of 1956.

(*zzc*) "railway" means the railway as defined in clause (*31*) of section 2 of the Railways Act, 1989; 24 of 1989.

(*zzd*) "relay" means a set of two or more persons carrying out the same kind of work during different periods of the day and each such period is called a "shift";

(*zze*) "sales promotion employees" means any person by whatever name called employed or engaged in any establishment for hire or reward to do any work relating to promotion of sales or business, or both, but does not include any such person who,—

(*i*) being employed or engaged in a supervisory capacity, draws wages exceeding eighteen thousand rupees per mensem or an amount as may be notified by the Central Government from time to time; or

(*ii*) is employed or engaged mainly in a managerial or administrative capacity.

(*zzf*) "Schedule" means the Schedule appended to this Code;

(*zzg*) "serious bodily injury" means any injury which involves, or in all probability will involve, the permanent loss of any part or section of a body or the use of any part or section of a body, or the permanent loss of or injury to the sight or hearing or any permanent physical incapacity or the fracture of any bone or one or more joints or bones of any phalanges of hand or foot;

(*zzh*) "standards", "regulations", "rules", "bye-laws" and "orders" respectively means standards, regulations, rules, bye-laws and orders made or declared, as the case may be, under this Code;

(*zzi*) "telecommunication service" means the telecommunication service as defined in clause (*k*) of sub-section (*1*) of section 2 of the Telecom Regulatory Authority of India Act, 1997;

24 of 1997.

(*zzj*) "wages" means all remuneration whether by way of salaries, allowances or otherwise, expressed in terms of money or capable of being so expressed which would, if the terms of employment, express or implied, were fulfilled, be payable to a person employed in respect of his employment or of work done in such employment, and includes,—

(*i*) basic pay;

(*ii*) dearness allowance; and

(*iii*) retaining allowance, if any,

but does not include—

(*a*) any bonus payable under any law for the time being in force, which does not form part of the remuneration payable under the terms of employment;

(*b*) the value of any house-accommodation, or of the supply of light, water, medical attendance or other amenity or of any service excluded from the computation of wages by a general or special order of the appropriate Government;

(*c*) any contribution paid by the employer to any pension or provident fund, and the interest which may have accrued thereon;

(*d*) any conveyance allowance or the value of any travelling concession;

(*e*) any sum paid to the employed person to defray special expenses entailed on him by the nature of his employment;

(*f*) house rent allowance;

(*g*) remuneration payable under any award or settlement between the parties or order of a court or Tribunal;

(*h*) any overtime allowance;

(*i*) any commission payable to the employee;

(*j*) any gratuity payable on the termination of employment;

(*k*) any retrenchment compensation or other retirement benefit payable to the employee or any *ex gratia* payment made to him on the termination of employment:

Provided that, for calculating the wages under this clause, if payments made by the employer to the employee under sub-clauses (*a*) to (*i*) exceeds

one-half, or such other per cent. as may be notified by the Central Government, of the all remuneration calculated under this clause, the amount which exceeds such one-half, or the per cent. so notified, shall be deemed as remuneration and shall be accordingly added in wages under this clause:

Provided further that for the purpose of equal wages to all genders and for the purpose of payment of wages, the emoluments specified in sub-clauses (*d*), (*f*), (*g*) and (*h*) shall be taken for computation of wages.

Explanation.—Where an employee is given in lieu of the whole or part of the wages payable to him, any remuneration in kind by his employer, the value of such remuneration in kind which does not exceed fifteen per cent. of the total wages payable to him, shall be deemed to form part of the wages of such employee;

(*zzk*) "week" means a period of seven days beginning at midnight on Saturday night or such other night as may be approved in writing for a particular area by the Chief Inspector-cum-Facilitator;

(*zzl*) "worker" means any person employed in any establishment to do any manual, unskilled, skilled, technical, operational, clerical or supervisory work for hire or reward, whether the terms of employment be express or implied, and includes working journalists and sales promotion employees, but does not include any such person—

(*i*) who is subject to the Air Force Act, 1950, or the Army Act, 1950, or the Navy Act, 1957; or 45 of 1950. 46 of 1950. 62 of 1957.

(*ii*) who is employed in the police service or as an officer or other employee of a prison; or

(*iii*) who is employed mainly in a managerial or administrative capacity; or

(*iv*) who is employed in a supervisory capacity drawing wage exceeding eighteen thousand rupees per month or an amount as may be notified by the Central Government from time to time;

(*zzm*) "Working Journalist" means a person whose principal avocation is that of a journalist and who is employed as such, either whole-time or part-time, in, or in relation to, one or more newspaper establishment, or other establishment relating to any electronic media or digital media such as newspaper or radio or other likemedia and includes an editor, a leader-writer, news editor, sub-editor, feature-writer, copy-tester, reporter, correspondent, cartoonist, news-photographer and proof-reader, but does not include any such person who is employed mainly in a managerial, supervisory or administrative capacity;

(*2*) For the purposes of this Code, a person working or employed in or in connection with mine is said to be working or employed—

(*a*) "below ground" if he is working or employed—

(*i*) in a shaft which has been or is in the course being sunk; or

(*ii*) in any excavation which extends below superjacent ground; and

(*b*) "above ground" if he is working in an opencast working or in any other manner not specified in clause (*a*).

CHAPTER II

REGISTRATION

Registration of certain establishments.

3. (*1*) Every employer of any establishment,—

(*a*) which comes into existence after the commencement of this Code; and

(*b*) to which this Code shall apply,

shall, within sixty days from the date of such applicability of this Code, make an application electronically to the registering officer appointed by the appropriate Government (hereinafter referred to as the registering officer) for the registration of such establishment:

Provided that the registering officer may entertain any such application for registration after the expiry of such period on payment of such late fees as may be prescribed by the appropriate Government.

(*2*) Every application under sub-section (*1*) shall be submitted to the registering officer in such manner, in such form, containing such particulars including the information relating to the employment of inter-State migrant workers and shall be accompanied by such fees as may be prescribed by the appropriate Government.

(*3*) After the receipt of an application under sub-section (*1*), the registering officer shall register the establishment and issue a certificate of registration electronically to the employer thereof in such form and within such time and subject to such conditions as may be prescribed by the Central Government:

Provided that if the registering officer fails to register an establishment under the application so made or to entertain the application within the prescribed period, then, such establishment shall be deemed to have been registered under this Code immediately on the expiration of such period and the electronic certificate of registration shall be auto generated and the responsibility of such failure shall be on the registering officer.

(*4*) Any change in the ownership or management or in any particulars referred to in sub-section (*2*) which occurs after the registration of an establishment under this Code, shall be intimated by the employer electronically to the registering officer within thirty days of such change in such form as may be prescribed by the Central Government and thereafter the registering officer shall make amendment in the certificate of registration electronically in such manner as may be prescribed by the Central Government.

(*5*) The employer of an establishment shall, within thirty days of the closing of the establishment—

(*a*) inform the closing of such establishment; and

(*b*) certify payment of all dues to the workers employed in such establishment,

to the registering officer in such manner as may be prescribed by the Central Government and the registering officer shall, on receiving such information and certificate remove such establishment from the register of establishments maintained by him and cancel the registration certificate of the establishment within sixty days from the receipt of such information :

Provided that if the registering officer fails to cancel the registration certification of the establishment under this sub-section within such sixty days, then, the registration certificate of such establishment shall be deemed to have been cancelled under this Code immediately on the expiration of such period of sixty days and the cancellation of registration certificate shall be auto generated and the responsibility of such failure shall be on the registering officer.

(*6*) If an employer of an establishment—

(*a*) has obtained the registration of his establishment by misrepresentation or suppression of any material fact, or

(*b*) has obtained the registration of his establishment so fraudulently or otherwise that the registration has become useless or ineffective to run the establishment,

then, in case of clause (*a*) such misrepresentation or suppression of any material fact shall be deemed to be the contravention of the provisions of this Code for prosecution of the employer under section 94 without affecting the registration and running of the establishment and in case of clause (*b*) the registering officer may, after giving an opportunity to the employer of the establishment to be heard, revoke the registration by an order and such process for revocation shall be completed by the registering officer within sixty days from coming into his notice the facts specified in clause (*b*).

(*7*) No employer of an establishment who—

(*a*) has not registered the establishment under this section; or

(*b*) has not preferred appeal under section 4 against the cancellation of the registration certificate of the establishment under sub-section (*5*) or revocation of the registration of the establishment under sub-section (*6*) or the appeal so preferred has been dismissed,

shall employ any employee in the establishment.

(*8*) Notwithstanding anything contained in this Code, where any establishment, to which this Code applies, has already been registered under any—

(*a*) Central Labour law; or

(*b*) any other law which may be notified by the Central Government and which applies to the establishment which is in existence at the time of the commencement of this Code,

shall be deemed to have been registered under the provisions of this Code, subject to the condition that the registration holder provides the details of registration to the concerned registering officer within such time and in such form as may be prescribed.

Appeal.

4. (*1*) Any person aggrieved by an order made under section 3 may, within thirty days from the date on which the order is communicated to him, prefer an appeal to an appellate officer who shall be a person notified in this behalf by the appropriate Government:

Provided that the appellate officer may entertain the appeal after the expiry of the said period of thirty days, if he is satisfied that the appellant was prevented by sufficient cause from filing the appeal in time.

(*2*) On receipt of an appeal under sub-section (*1*), the appellate officer shall, after giving the appellant an opportunity of being heard, dispose of the appeal within a period of thirty days from the date of receipt of such appeal.

Notice by employer of commencement and cessation of operation.

5. (*1*) No employer of an establishment being factory or mine or relating to contract labour or building or other construction work shall use such establishment to commence the operation of any industry, trade, business, manufacturing or occupation thereon without sending notice of such purpose in such form and manner and to such authority and within such time as may be prescribed and shall also intimate the cessation thereof to the said authority in such manner as may be prescribed by the appropriate Government.

(*2*) The notice or intimation under sub-section (*1*) shall be given electronically.

CHAPTER III

DUTIES OF EMPLOYER AND EMPLOYEES, ETC.

Duties of employer.

6. (*1*) Every employer shall,—

(*a*) ensure that workplace is free from hazards which cause or are likely to cause injury or occupational disease to the employees;

(*b*) comply with the occupational safety and health standards declared under section 18 or the rules, regulations, bye-laws or orders made under this Code;

(*c*) provide such annual health examination or test free of costs to such employees of such age or such class of employees of establishments or such class of establishments, as may be prescribed by the appropriate Government;

(*d*) provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of the employees;

(*e*) ensure the disposal of hazardous and toxic waste including disposal of e-waste;

(*f*) issue a letter of appointment to every employee on his appointment in the establishment, with such information and in such form as may be prescribed by the appropriate Government and where an employee has not been issued such appointment letter on or before the commencement of this Code, he shall, within three months of such commencement, be issued such appointment letter;

(*g*) ensure that no charge is levied on any employee, in respect of anything done or provided for maintenance of safety and health at workplace including conduct of medical examination and investigation for the purpose of detecting occupational diseases;

(*h*) relating to factory, mine, dock work, building or other construction work or plantation, ensure and be responsible for the safety and health of employees, workers and other persons who are on the work premises of the employer, with or without his knowledge, as the case may be.

(*2*) Without prejudice to the generality of the provisions of sub-section (*1*), the duties of an employer shall particularly in respect of factory, mines, dock, building or other construction work or plantation include—

(*a*) the provision and maintenance of plant and systems of work in the workplace that are safe and without risk to health;

(*b*) the arrangements in the workplace for ensuring safety and absence of risk to health in connection with the use, handling, storage and transport of articles and substances;

(*c*) the provision of such information, instruction, training and supervision as are necessary to ensure the health and safety of all employees at work;

(*d*) the maintenance of all places of work in the workplace in a condition that is safe and without risk to health and the provision and maintenance of such means of access to, and egress from, such places as are safe and without such risk;

(*e*) the provision, maintenance or monitoring of such working environment in the workplace for the employees that is safe, without risk to health as regards facilities and arrangements for their welfare at work.

Duties and responsibilities of owner, agent and manager in relation to mine.

7. (*1*) The owner and agent of every mine shall jointly and severally be responsible for making financial and other provisions and for taking such other steps as may be necessary for compliance with the provisions of this Code and the rules, regulations, bye-laws and orders made thereunder, relating to mine.

(*2*) In the event of any contravention by any person whosoever of any of the provisions of this Code or of the rules, regulations, bye-laws or orders made thereunder, relating to mine, except those which specifically require any person to do any act or thing or prohibit any person from doing an act or thing, besides the person who contravenes, then, each of the following persons shall also be deemed to be guilty of such contravention unless he

proves that he had used due diligence to secure compliance with the provisions and had taken reasonable means to prevent such contravention, namely:—

(*a*) the official or officials appointed to perform duties of supervision in respect of the provisions contravened;

(*b*) the manager of the mine;

(*c*) the owner and agent of the mine;

(*d*) the person appointed, if any, to carry out the responsibility under section 24.

(*3*) It shall not be a defence in any proceedings brought against the owner or agent of a mine under this section that the manager and other officials have been appointed in accordance with the provisions of this Code or that a person to carry the responsibility under section 24 has been appointed.

Duties of designers, manufacturers, importers or suppliers.

8. (*1*) Every person who designs, manufactures, imports or supplies any article for use in any establishment shall—

(*a*) ensure so far as is reasonably practicable, that the article is so designed and constructed in the establishment as to be safe and without risk to the health of the workers when properly used;

(*b*) carry out or arrange for the carrying out of such tests and examination in the establishment as may be considered necessary for the effective implementation of the provisions of clause (*a*);

(*c*) take steps as may be necessary to ensure that adequate information will be available—

(*i*) in connection with the use of the article in any establishment;

(*ii*) about the use for which such article is designed and tested; and

(*iii*) about any conditions necessary to ensure that the article, when put to such use, shall be safe, and without risk to the health of the workers:

Provided that where an article is designed or manufactured outside India, then it shall be obligatory on the part of the importer to see—

(*A*) that the article conforms to the same standards of such article manufactured in India; or

(*B*) if the standards adopted in the country outside India for the manufacture of such article is above the standards adopted in India, that the article conforms to such standards in such country;

(*C*) if there is no standard of such article in India, then, the article conforms to the standard adopted in the country from where it is imported at its national level.

(*2*) The designer, manufacturer, importer or supplier shall also comply with such duties as the Central Government may, in consultation with the National Occupational Safety and Health Advisory Board referred to in sub-section (*1*) of section 16, by regulations specify.

(*3*) Every person, who undertakes to design or manufacture any article and substance for use in any factory, may carry out or arrange for the carrying out of necessary research with a view to the discovery and, so far as is reasonably, practicable, the elimination or minimisation of any risks to the health or safety of the workers to which the design or manufacture of article and substance may give rise to such risk.

(*4*) Nothing contained in sub-sections (*1*) and (*2*) shall be construed to require a person to repeat the testing, examination or research which has been carried out otherwise than by him or at his instance in so far as it is reasonable for him to rely on the results thereof for the purposes of the said sub-sections.

(*5*) Any duty imposed on any person by sub-sections (*1*) and (*2*) shall extend only to things done in the course of business carried on by him and to matters within his control.

(*6*) Every person,—

(*a*) who erects or installs any article for use in a factory, shall ensure, so far as practicable, that such article so erected or installed does not make it unsafe or a risk to health when that article is used by the persons in such factory;

(*b*) who manufactures, imports or supplies any substance for use in any factory shall—

(*i*) ensure, so far as practicable, that such substance when used in the factory does not make it unsafe or a risk to health of persons working in such factory;

(*ii*) carry out or arrange for carrying out of such tests and examination in relation to such substance as may be necessary;

(*iii*) take such steps as are necessary to secure that the information about the results of tests carried out in connection with the use of the substance as referred to in sub-clause (*ii*) is available in a factory along with conditions necessary to ensure its safe use and no risks to health;

(*c*) who undertakes the manufacture of any substance for use in any factory shall carry out or arrange for carrying out of any necessary research with a view to discover and, so far as practicable, to ensure the elimination or minimisation of any risks to health or safety to which the substance may give rise out of such manufacture or research;

(*7*) For the purposes of this section, an article and substance is not to be regarded as properly used, if they are used without regard to any information or advice relating to their use which has been made available by the person who has designed, manufactured, imported or supplied the article and substance.

Explanation.—For the purpose of this section—

(*a*) "article" shall include plant and machinery;

(*b*) "substance" means any natural or artificial substance whether in a solid or liquid form or in the form of a gas or vapour; and

(*c*) "substance for use in any factory" means such substance, whether or not intended for use by persons working in a factory.

Duties of architect, project engineer and designer.

9. (*1*) It shall be the duty of the architect, project engineer or designer responsible for any building or other construction work or the design of any project or part thereof relating to such building or other construction work to ensure that, at the planning stage, due consideration is given to the safety and health aspects of the building workers and employees who are employed in the erection, operation and execution of such projects and structures as the case may be.

(*2*) Adequate care shall be taken by the architect, project engineer and other professionals involved in the project referred to in sub-section (*1*), not to include anything in the design which would involve the use of dangerous structures or other processes or materials, hazardous to health or safety of building workers and employees during the course of erection, operation and execution as the case may be.

(*3*) It shall also be the duty of the professionals, involved in designing the buildings structures or other construction projects, to take into account the safety aspects associated with the maintenance and upkeep of the structures and buildings where maintenance and upkeep may involve such hazards as may be notified by the appropriate Government.

Notice of certain accident.

10. (*1*) Where at any place in an establishment, an accident occurs which causes death, or which causes any bodily injury by reason of which the person injured is prevented from working for a period of forty-eight hours or more immediately following the accident or which is of such nature as may be prescribed by the appropriate Government, then,—

(*a*) employer or owner or agent or manager referred to in section 67 of such establishment if it is mine; or

(*b*) employer or manager in relation to such establishment if it is factory or relates to dock work; or

(*c*) the employer of a plantation or an establishment relating to building or other construction or any other establishment,

shall send notice thereof to such authorities, in such manner and within such time, as may be prescribed by the appropriate Government.

(*2*) Where a notice given under sub-section (*1*) relates to an accident causing death in a plantation or an establishment relating to building or other construction work or any other establishment, the authority to whom the notice is sent shall make an inquiry into the occurrence within two months of the receipt of the notice or if there is no such authority, the Chief Inspector-cum-Facilitator shall cause the Inspector-cum-Facilitator to make an inquiry within the said period.

Notice of certain dangerous occurrences.

11. Where in an establishment there is any dangerous occurrence of such nature, (whether causing any bodily injury or disability, or not) the employer shall send notice thereof to such authorities, and in such form and within such time, as may be prescribed by the appropriate Government.

Notice of certain diseases.

12. (*1*) Where any worker in an establishment contracts any disease specified in the Third Schedule, the employer of the establishment shall send notice thereof to such authorities, and in such form and within such time, as may be prescribed by the appropriate Government.

(*2*) If any qualified medical practitioner attends on a person, who is or has been employed in an establishment, and who is, or is believed by the qualified medical practitioner, to be suffering from any disease specified in the Third Schedule, the medical practitioner shall without delay send a report in writing to the office of the Chief Inspector-cum-Facilitator in such form and manner and within such time as may be prescribed by the appropriate Government.

(*3*) If any qualified medical practitioner fails to comply with the provisions of sub-section (*2*), he shall be punishable with penalty which may extend to ten thousand rupees.

Duties of employee.

13. Every employee at workplace shall,—

(*a*) take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions at the workplace;

(*b*) comply with the safety and health requirements specified in the standards;

(*c*) co-operate with the employer in meeting the statutory obligations of the employer under this Code;

(*d*) if any situation which is unsafe or unhealthy comes to his attention, as soon as practicable, report such situation to his employer or to the health and safety representative and in case of mine, agent or manager referred to in section 67, safety officers or an official for his workplace or section thereof, as the case may be, who

shall report it to the employer in the manner as may be prescribed by the appropriate Government;

(*e*) not wilfully interfere with or misuse or neglect any appliance, convenience or other thing provided at workplace for the purpose of securing the health, safety and welfare of workers;

(*f*) not do, wilfully and without reasonable cause, anything, likely to endanger himself or others; and

(*g*) perform such other duties as may be prescribed by the appropriate Government.

Rights of employee.

14. (*1*) Every employee in an establishment shall have the right to obtain from the employer information relating to employee's health and safety at work and represent to the employer directly or through a member of the Safety Committee as constituted under section 22, if constituted by the employer for such purpose, regarding inadequate provision for protection of his safety or health in connection with the work activity in the workplace, and if not satisfied, to the Inspector-cum-Facilitator.

(*2*) Where the employee referred to in sub-section (*1*) in any workplace has reasonable apprehension that there is a likelihood of imminent serious personal injury or death or imminent danger to health, he may bring the same to the notice of his employer directly or through a member of the Safety Committee referred to in sub-section (*1*) and simultaneously bring the same to the notice of the Inspector-cum-Facilitator.

(*3*) The employer or any employee referred to in sub-section (*1*) shall take immediate remedial action if he is satisfied about the existence of such imminent danger and send a report forthwith of the action taken to the Inspector-cum-Facilitator in such manner as may be prescribed by the appropriate Government.

(*4*) If the employer referred to in sub-section (*3*) is not satisfied about the existence of any imminent danger as apprehended by his employees, he shall, nevertheless, refer the matter forthwith to the Inspector-cum-Facilitator whose decision on the question of the existence of such imminent danger shall be final.

Duty not to interfere with or misuse things.

15. No person shall intentionally or recklessly interfere with, damage or misuse anything which is provided in the interest of health, safety or welfare under this Code.

CHAPTER IV

OCCUPATIONAL SAFETY AND HEALTH

National Occupational Safety and Health Advisory Board.

16. (*1*) The Central Government shall, by notification, constitute the National Occupational Safety and Health Advisory Board (hereinafter in this Code referred to as the National Board) to discharge the functions conferred on it by or under this Code and to advise the Central Government on the matters relating to—

(*a*) standards, rules and regulations to be declared or framed under this Code;

(*b*) implementation of the provisions of this Code and the standards, rules and regulations relating thereto;

(*c*) the issues of policy and programme relating to occupational safety and health referred to it, from time to time, by the Central Government; and

(*d*) any other matter in respect of this Code referred to it, from time to time, by the Central Government.

(*2*) The National Board shall consist of—

(*a*) Secretary, Ministry of Labour and Employment—Chairperson *ex officio;*

NATIONAL DISASTER MANAGEMENT GUIDELINES

CHEMICAL DISASTERS

April 2007

NATIONAL DISASTER MANAGEMENT AUTHORITY
GOVERNMENT OF INDIA

National Disaster Management Guidelines

Chemical Disasters (Industrial)

National Disaster Management Authority
Government of India

Contents

Vice Chairman
National Disaster Management Authority
Government of India

FOREWORD

Preparation of guidelines for various types of disasters forms an important part of the mandate of the National Disaster Management Authority (NDMA). Chemical Disaster (Industrial) is one such high priority subject, as it can be a highly traumatic event. At times, it can result in irreparable damage to the environment; both biotic and abiotic, and also cause fatality to a large number of population. Consequently, the work on preparation of comprehensive guidelines on Chemical disasters was undertaken on priority over a year back.

Formulation of these guidelines has involved active participation and contributions of 275 experts, including stakeholders like representatives of central ministries and departments, regulatory agencies, research and development organisations, professionals from scientific and technical institutes/academies like the National Safety Council and various DM institutes and apex industrial associations/consortia of the corporate sector. Help and advice of the officials at the functional level were also taken to incorporate practical aspects of the functioning.

The work commenced with an Extended Group of approximately 60 experts, identifying 'the felt needs' and determining the critical objectives. A Core Group of 8 members, constituted out of this group, thereafter, prepared draft guidelines taking into account the operational, administrative, financial and legal aspects. These draft papers were reviewed extensively, a number of times by the Extended Group, and then finalized in a national workshop held at the Disaster Management Institute, Bhopal.

The underlying philosophy of these guidelines is to build on existing structures and mechanisms. The 'National Disaster Management Guidelines—Chemical Disasters' document calls for a proactive, participatory, well-structured, fail-safe, multi-disciplinary and multi-sectoral approach involving all stakeholder groups, aimed at refining and strengthening the national mechanisms in this field, from stages of planning to field operations. These guidelines contain all the details that are required by the planners and implementers and will help in the preparation of plans by the central ministries/departments and the states.

I take this opportunity to express my deep appreciation of the commitment of various stakeholder groups who extended their willing support and cooperation to our efforts. I am grateful to the members of the Core Group, who put in endless hours of work. I also wish to convey my gratitude to the members of the NDMA, Extended Group, and other experts whose contributions have resulted into the preparation

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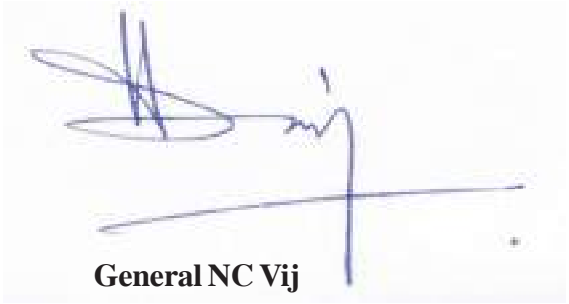
of these guidelines. I would also like to commend the significant contributions made by the Ministry of Environment and Forests, the National Safety Council, Mumbai and the Disaster Management Institute, Bhopal in preparation of these guidelines. And finally, I am pleased to place on record my sincere appreciation for Lt Gen (Dr.) J.R. Bhardwaj, PVSM, AVSM, VSM, PHS (Retd), Member, NDMA, who guided and coordinated the entire exercise.



New Delhi
30 April 2007

General NC Vij
PVSM, UYSM, AVSM (Retd)

Member
National Disaster Management Authority
Government of India

ACKNOWLEDGEMENTS

I am thankful to the Core Group Members for their untiring efforts in helping the NDMA in the formulation of the National Guidelines on Chemical Disaster Management. I would like to place on record the significant contribution made by the Ministry of Environment and Forests, New Delhi and National Safety Council, Mumbai for helping in designing the format of the document and providing lots of technical inputs from time-to-time. The Disaster Management Institute, Bhopal also deserves special recognition for providing inputs related to On-Site and Off-Site emergency plans.

I would also like to express my sincere thanks to the representatives of the other central ministries and departments concerned, regulatory agencies, R&D organisations, professionals from scientific and technical institutes/academics, technocrats from leading national institutions and apex industrial associations/consortiums of the corporate sectors for the valuable inputs that helped us in improving the content and presentation of the document.

The efforts of Dr. Rakesh Kumar Sharma, Scientist 'F' and Additional Director, Defence Research Laboratory, Tezpur, Assam, and Dr. Raman Chawla, Senior Research Officer, NDMA, in providing knowledge-based technical inputs to the core group, are highly appreciated. Thanks are also due to Mr. Rubaab Sood and the secretarial staff of the NDMA including Mr. Deepak Sharma and Mr. D.K. Ray for their dedicated work during the convening of various workshops, meeting and preparation of the final document.

Finally, I would like to express my gratitude to General N.C. Vij, PVSM, UYSM, AVSM (Retd), Vice Chairman, NDMA and all Members of the NDMA for their constructive criticism and suggestions that guided us in formulating these guidelines.

New Delhi
30 April 2007

Lt Gen (Dr) JR Bhardwaj
PVSM, AVSM, VSM, PHS (Retd)
MD DCP PhD FICP FAMS FRC Path (London)

Abbreviations

ADPC	Asian Disaster Preparedness Centre
AERB	Atomic Energy Regulatory Board
AMAI	Alkali Manufacturers Association of India
APELL	Awareness and Preparedness for Emergencies at Local Level
ASME	American Society of Mechanical Engineers
ASSOCHAM	Associated Chambers of Commerce and Industry
BIS	Bureau of Indian Standards
BLEVE	Boiling Liquid Expanding Vapour Explosion
CA (EPPR) Rules	Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
CAS	Crisis Alert System
CCG	Central Crisis Group
CCR	Central Control Room
CDM	Chemical Disaster Management
CETP	Common Effluent Treatment Plant
CFEES	Centre for Fire, Explosive and Environment Safety
CIF	Chief Inspector of Factories
CII	Confederation of Indian Industry
CIR	Community Information Representative
CLI	Central Labour Institute
CMVR	Central Motor Vehicles Rules
CPAP	Continuous Positive Air Pressure
CPCB	Central Pollution Control Board
CRR	Community Response Representative
CSIR	Council of Scientific and Industrial Research
DAE	Department of Atomic Energy
DCG	District Crisis Group
DCR	District Control Room
DCS	Distributed Control System
DDMA	District Disaster Management Authority
DDMAP	District Disaster Management Action Plans
DEA	Department of Economic Affairs
DGFASLI	Directorate General Factory Advice Service and Labour Institutes
DGFT	Director General Foreign Trade
DISH	Directorate of Industrial Safety and Health
DM	Disaster Management
DMI	Disaster Management Institute
DMIS	Disaster Management Information System
DMP	Disaster Management Plan
DRDO	Defence Research and Development Organisation

DRM	Disaster Risk Management
DTIE	Division of Technology, Industry & Economics
EIA	Environment Impact Assessment
EIP	Emergency Information Panel
EMP	Emergency Management Plan
ENVIS	Environmental Information Systems
EOC	Emergency Operations Centre
ERC	Emergency Response Centre
ERF	Environment Relief Fund
ERRIS	Environment Risk Reporting and Information Systems
ESIC	Employee State Insurance Corporation
FE	Functional Exercise
FICCI	Federation of Indian Chambers of Commerce and Industry
FSD	Full-Scale Drill
GIDC	Gujarat Industrial Development Corporation
GIS	Geographic Information System
GPS	Global Positioning System
HAZAN	Hazard Analysis
HAZCHEM	Hazardous Chemical
HAZMAT	Hazardous Material
HAZOP	Hazard and Operability Study
HPC	High Powered Committee
HPCL	Hindustan Petroleum Corporation Ltd
HSE	Health, Safety and Environment
IATA	International Air Transport Association
ICA	Indian Chemical Association
ICAO	International Civil Aviation Organization
ICC	Indian Chamber of Commerce
ICMA	Indian Chemical Manufacturers' Association (now called Indian Chemical Council)
ICMR	Indian Council of Medical Research
ICSC	International Chemical Safety Cards
IDLH	Immediately Dangerous to Life and Health
IDRN	India Disaster Resource Network
IICT	Indian Institute of Chemical Technology
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
ILO	International Labour Organization
IMO	International Maritime Organization
IPCL	Indian Petrochemicals Corporation Limited
IPCS	International Programme on Chemical Safety
IRPTC	International Register for Potentially Toxic Chemicals
IS	Indian Standards
ISDR	International Strategy for Disaster Reduction
ITRC	Industrial Toxicology Research Centre

LAMP	Local Accident Mitigation and Prevention
LCG	Local Crisis Group
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAH Unit	Major Accident Hazard Unit
MAHC	Major Accident Hazard Control
MAHCAD	Major Accident Hazard Control Advisory Division
MARG	Mutual Aid Response Group
MARPOL	Maritime Pollution
MFR	Medical First Responders
MHA	Ministry of Home Affairs
MIS	Management Information System
MoA	Ministry of Agriculture
MoC & F	Ministry of Chemicals and Fertilizers
MoC & I	Ministry of Commerce and Industry
MoD	Ministry of Defence
MoEF	Ministry of Environment & Forests
MoF	Ministry of Finance
MoH & FW	Ministry of Health and Family Welfare
MoHI & PE	Ministry of Heavy Industries and Public Enterprises
MoLE	Ministry of Labour and Employment
MoP & NG	Ministry of Petroleum and Natural Gas
MoSRT & H	Ministry of Shipping, Road Transport and Highways
MSDS	Material Safety Data Sheet
MSIHC Rules	The Manufacture, Storage and Import of Hazardous Chemicals Rules,1989
NAC	National APELL Centre
NCDC	National Civil Defence College
NCL	National Chemical Laboratory
NCT	National Capital Territory
NDMA	National Disaster Management Authority
NDRF	National Disaster Response Force
NEC	National Executive Committee
NEERI	National Environmental Engineering Research Institute
NFSC	National Fire Service College
NGOs	Non-Governmental Organizations
NHAI	National Highway Authority of India
NICNET	National Informatics Centre Network
NIDM	National Institute of Disaster Management
NIOH	National Institute of Occupational Health
NOCs	No Objection Certificates
NSC	National Safety Council
OISD	Oil Industry Safety Directorate
PCC	Pollution Control Committee
PESO	Petroleum and Explosives Safety Organisation

PM	Preventive Maintenance
PMS	Pipeline Management System
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PVOs	Private Voluntary Organisations
PWD	Public Works Department
QCI	Quality Council of India
QRMT	Quick Reaction Medical Team
QRT	Quick Reaction Team
QSP	Quick Start Programme
RC	Responsible Care
R&D	Research and Development
RLI	Regional Labour Institute
RTO	Regional Transport Officer
SAICM	Strategic Approach to International Chemical Management
SCG	State Crisis Group
SDMA	State Disaster Management Authority
SDRF	State Disaster Response Force
SEC	State Executive Committee
SMEs	Small and Medium Enterprises
SOLAS	Safety of Life at Sea
SOPs	Standing Operating Procedures
SPCB	State Pollution Control Board
STEL	Short Term Exposure Limit
TOR	Terms of Reference
TQ	Threshold Quantity
TREMCARD	Transport Emergency Card
TTE	Table Top Exercise
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USAID	United States Agency for International Development
UTs	Union Territories
WAD	Waste Air Destruction
WEC	World Environment Centre
WHO	World Health Organization

Executive Summary

Background

The growth of chemical industries has led to an increase in the risk of occurrence of incidents associated with hazardous chemicals (HAZCHEM). A chemical industry that incorporates the best principles of safety, can largely prevent such incidents. Common causes for chemical accidents are deficiencies in safety management systems and human errors, or they may occur as a consequence of natural calamities or sabotage activities. Chemical accidents result in fire, explosion and/or toxic release. The nature of chemical agents and their concentration during exposure ultimately decides the toxicity and damaging effects on living organisms in the form of symptoms and signs like irreversible pain, suffering, and death. Meteorological conditions such as wind speed, wind direction, height of inversion layer, stability class, etc., also play an important role by affecting the dispersion pattern of toxic gas clouds. The Bhopal Gas tragedy of 1984—the worst chemical disaster in history, where over 2000 people died due to the accidental release of the toxic gas Methyl Isocyanate, is still fresh in our memories. Such accidents are significant in terms of injuries, pain, suffering, loss of lives, damage to property and environment. A small accident occurring at the local level may be a prior warning signal for an impending disaster. Chemical disasters, though low in frequency, have the potential to cause significant immediate or long-term damage.

A critical analysis of the lessons learnt from major chemical accidents exhibited various deficiencies. Laxity towards safety measures, non-conformation to techno-legal regimes and a low level of public consultation are a few such shortcomings. The scenario called for concerted and sustained efforts for effective risk reduction strategies and capacity development under a national authority to decrease the occurrence of such incidents and lessen their impact. Although tremendous efforts have been made to minimise such accidents and to improve emergency preparedness at all levels, substantial efforts are still required to predict the occurrence of disasters, assess the damage potential, issue warnings, and to take other precautionary measures to mitigate their effects. Another pressing need is to properly assess the potential of chemical emergencies and develop tools for emergency planning and response to minimise the damage in case of any eventuality.

Risks Posed by HAZCHEM

Increased industrial activities and the risks associated with HAZCHEM and enhanced vulnerability lead to industrial and chemical accidents. Chemical accidents may originate in the manufacturing or formulation facility, or during the process operations at any stage of the product cycle, material handling, transportation and storage of HAZCHEM. Vulnerability is sometimes compounded due to the location of Major Accident Hazard (MAH) industries closer to densely populated areas. Chemical and industrial accidents generally occur due to technical failures that can be anticipated. The risk associated with them can thus be predicted and reduced effectively by identification of risk areas, risk assessment and designing pre-operative measures. The occurrence of chemical accidents and probability thereof, manifesting in a disaster, remain a cause of concern.

The Genesis of National Disaster Management Guidelines—Chemical Disasters

There has been a paradigm shift in the government's focus from its rescue, relief, and restoration-centric approach to a planning, prevention/mitigation and preparedness approach. It has been realised that effective Chemical Disaster Management (CDM) is possible by the adoption of preventive and mitigation strategies as most chemical disasters are preventable in comparison to natural disasters that are difficult to predict and prevent.

With this renewed emphasis, the National Disaster Management Authority (NDMA) took up the task of strengthening CDM in recognition of the gravity of the risk posed by HAZCHEM. The main stakeholders in the management of chemical disasters are Ministry of Environment and Forests (MoEF; the nodal ministry); Ministry of Home Affairs (MHA); Ministry of Health and Family Welfare (MoH & FW); Ministry of Labour and Employment (MoLE); Ministry of Agriculture (MoA); Ministry of Shipping, Road Transport and Highways (MoSRT & H); Ministry of Defence (MoD); Ministry of Chemicals and Fertilizers (MoC & F); Ministry of Petroleum and Natural Gas (MoP & NG), Department of Atomic Energy (DAE); state governments and Union Territories (UTs) and the chemical industries. As a first step, a meeting of the stakeholders including representatives of Research and Development (R&D) organisations, professionals from scientific and technical institutes, academics, technocrats from leading national institutions and apex industrial associations/consortiums of corporate sectors was convened on 17 February 2006, with a view to pool the knowledge in this multidisciplinary field. A core group of experts was constituted from amongst these participants. Several meetings of the core group were subsequently held and a draft document was evolved for bridging the gaps that were identified. These deliberations acknowledged several initiatives taken up by the government and other stakeholders. The draft document was reviewed by a group of experts on 18 May 2006, for evolving a consensus among various stakeholders including the nodal ministry. Detailed inputs from MAH units and regulators were obtained during a meeting held during 7–8 September 2006, at Bhopal. The recommendations and action points that emerged out of these deliberations have resulted in the development of the National Guidelines for the Management of Chemical Disasters (hereinafter referred to as the Guidelines).

Structure of Guidelines

The present work is an important step in the direction of the development of plans for the management of chemical disasters. The Guidelines have been prepared to provide directions to ministries, departments and state authorities for the preparation of their detailed Disaster Management (DM) plans. These Guidelines call for a proactive, participatory, well-structured, fail-safe, multi-disciplinary and multi-sectoral approach at various levels.

The Guidelines consist of seven chapters; the details of which are as follows:

Chapter 1 provides an introductory brief of risks, vulnerabilities and consequences of chemical accidents; provides an account of causal factors of chemical disasters so as to restrict and contain them; and enlists major chemical accidents—their initiators, and impact on human lives and the environment. The aims and objectives of the Guidelines focus on all aspects of the DM cycle to assist the ministries and departments of the Government of India, state governments and other agencies to prepare DM plans.

Chapter 2 reviews the existing regulatory framework and practises. It furnishes an overview of the institutional framework with details of the monitoring mechanisms and compliance by central and state governments. It also provides an overview of the functioning of research institutes, autonomous bodies, professional institutes, Non-Governmental Organizations (NGOs) and MAH units, their compliance to statutory safeguards, and the efforts of the MoEF in setting up crisis management groups in industrial areas to ensure chemical safety. Various initiatives highlighting substantial work done in the area of emergency response and management systems in installations, storages and transport sectors are also illustrated. A bird's eye view of international best practises and developments within India is also given.

Chapter 3 gives an overview of the salient gaps identified in various aspects of the management of chemical accidents, transport accidents and medical emergencies.

The management of chemical disasters will aim at prevention and mitigation with the introduction of safer process technologies, improved performance of safety devices and reduction of human error. Immediate effects of a disaster can be mitigated through installing engineering systems like scrubbers, flares and venting systems. The various work areas and activities that can be undertaken within the framework of the Guidelines are described in chapters 4 to 6.

Chapter 4 includes comprehensive guidelines for a regulatory framework, code of practises, procedures and standards, testing and information, technical and technological information, preparedness including education, training, creation of appropriate infrastructure, capacity development, awareness generation, institutional framework, networking and communication, R&D, and response, relief and rehabilitation for CDM. The roles and responsibilities of various stakeholders at centre, state and district levels are also described. The salient highlights include:

- Strengthening of the present regulatory framework to meet the defined national policies and aspirations; augmentation of technical support functions.
- A supportive and technology neutral regulation framework.
- Legislation on land-use policy (buffer zone around chemical industry).
- Standardisation of national codes and practises.
- Emphasis on regular safely audit, identification and selection of professional organisations and their accreditation.
- Commissioning and decommissioning of chemical industries.
- Preparation of On-Site and Off-Site Plans.
- Regular testing of emergency plans.
- Need of medical first responders and medical inventory to deal with specialised chemical accidents at the installation site.
- Crisis management plans of hospitals to manage the victims of chemical emergencies.
- Concept of mobile hospital and mobile teams.
- Issues related to public health response, medical rehabilitation and harmful effects on the environment.
- Post-disaster documentation and analysis.

Chapter 5 comprises comprehensive guidelines for installations and storages (including isolated storages of HAZCHEM) that contain good engineering practises for safety, accident reporting, investigation and analysis checklists and safety promotional activities as important tools for effective CDM.

Chapter 6 deals with guidelines related to chemical accidents during transportation of HAZCHEM. The areas covered include:

- Preparation of a highway DM plan.
- Modification of rules pertaining to transport emergencies.
- Specific roles and responsibilities of MAH units, transporters, drivers, authorities and aspects related to emergency communication systems and training of various stakeholders.
- The need for the development of an efficient pipeline management system.

Chapter 7 sets out the approach to implementation of the Guidelines and also highlights the key points for ensuring the implementation of the plans prepared by the central ministries, departments and states. The strategy to be adopted for the important activities to be included in the Action Plan are given below:

- Putting in place a national mechanism for covering all major disasters and reporting mechanisms at the district level.
- Dovetailing regulations governing HAZCHEM safety with the Disaster Management Act, 2005 (DM Act, 2005).
- Establishing a risk management framework criterion for chemical assessment.
- Strengthening of the institutional framework for CDM and its integration with the activities of the NDMA, State Disaster Management Authorities (SDMAs), District Disaster Management Authorities (DDMAs) and other stakeholders.
- Renewed focus on model safety codes/ standards for prevention of accidents at industry level by matching processes and technologies for safety installations comparable with the best available in the world.
- Identifying infrastructure needs for preparing mitigation plans.
- Implementing a financial strategy for the allocation of funds for different national and state/district level mitigation projects.
- Establishing an efficient information network for dissemination of alerts, warning and response messages.
- Identifying/recognising training institutions.
- Strengthening the National Disaster Response Force (NDRF), fire services, medical first responders and other emergency responders.
- Revamping of home guards and civil defence for CDM.
- Developing a national medical emergency plan binding all government, private and public hospitals with unified, well-established triage and other emergency procedures.
- Developing highway DM plans for all the identified stretches, nodal points, and Standard Operating Procedures (SOPs) integrated in the driver's kit.
- Establishing a register of relevant national and international institutes and information exchange programmes.
- Establishing post-disaster documentation procedures, epidemiological surveys and minimum criteria for relief and rehabilitation.
- Sensitising the community on chemical disasters.
- Sensitising all stakeholders, especially the management of MAH units for a more proactive role in prevention of chemical

accidents by instituting regular internal audits of plant safety measures, actuation of On-Site emergency plans and establishment of mutual aid arrangements.

The MoEF, as the nodal ministry, will prepare a detailed Action Plan in accordance with these Guidelines with specific tasks, activities, targets and timeframes that will also form a part of the national DM plan.

In view of the expected time lapse between the formulation and approval of the DM plan, an interim arrangement has also been suggested, highlighting the following features:

- Baseline information on hazard identification and risk assessment in chemical installations and pipelines.
- Incorporation of Geographic Information System (GIS) technology.
- Identification and incorporation of legislative and institutional framework for disaster preparedness with specific and measurable indicators.
- Risk mapping.
- Development and improvement of relevant databases including isolated storages and warehouses.
- Preparation of a National Response Plan.
- Pooling of resources available on transport routes of chemicals.
- Crisis Alert System (CAS) and continued training programmes.

The activities mentioned above will be initiated with immediate effect and will be further intensified in due course of time. An institutional framework for the management of chemical disasters will be set up at the national level, which will integrate and strengthen the existing institutional mechanisms on CDM. For efficient and coordinated management, the state governments will issue guidelines for the preparation of district and local level plans in accordance with these Guidelines. The objective is to evolve an attainable and practical approach for the management of chemical disasters in India with the participation of all stakeholders including local communities for On-Site and Off-Site emergencies.

1 Introduction

Handling large quantities of HAZCHEM in installations, isolated storages, and during transportation, poses the grave risk of a sudden release of copious quantities of toxicants in the environment. There are about 1666 MAH units in India, handling a large number of chemicals as raw materials, in processes, products, and wastes, with flammable, explosive, corrosive, toxic and noxious properties. Any accident involving these may have an adverse impact on both the community and the environment.

Large quantities of chemicals are also stored/processed in industries that are located in densely populated areas. Inappropriate and haphazard construction and the lack of awareness and preparedness on the part of the community further enhance their vulnerability. The potential of heavy losses and adverse consequences on the environment due to a chemical accident calls for further improvement of safety measures in all processes/procedures and the adoption of appropriate methods for handling HAZCHEMs.

The Bhopal Gas Disaster in December 1984 brought into sharp focus the unprecedented potential of HAZCHEM like Methyl Isocyanate in terms of loss of life, health, injury and the long-term effects on the population and environment. It created compelling evidence to approach DM and chemical safety holistically. The era of restructuring with the induction of new HAZCHEM control systems and procedures all over the world in the wake of the Bhopal disaster also resulted in the strengthening of institutional mechanisms at local, district, state and central levels for the management of chemical disasters in India. The consolidation of these institutional mechanisms and the mobilisation of corporate support for the preparation and implementation of emergency plans is an integral part of these Guidelines.

1.1 Sources of Chemical Disasters

Chemical accidents may originate in:

i) Manufacturing and formulation installations including during commissioning and process operations; maintenance and disposal.

ii) Material handling and storage in manufacturing facilities, and isolated storages; warehouses and godowns including tank farms in ports and docks and fuel depots.

iii) Transportation (road, rail, air, water, and pipelines).

1.2 Causative Factors Leading to Chemical Disasters

Chemical disasters, in general, may result from:

i) Fire.

ii) Explosion.

iii) Toxic release.

iv) Poisoning.

v) Combinations of the above.

Chemical disasters may occur due to process deviations concerning the chemistry of the process, pressure, temperature and other identified parameters with regard to the state of the substance i.e., solid, liquid or gas, proximity to other toxic substances and the probability of a runaway reaction due to the incidental mixing of two or more HAZCHEMs with dissimilar properties. In addition, it may be due to hardware failure, resulting in large-scale spills of toxic substances (in any form) due to loss of containment, or an explosion. Further, Boiling Liquid Expanding Vapour Explosion (BLEVE) may occur due to sparks, shocks or frictional forces on the chemicals during transportation.

The effects can be further compounded by the micro-meteorology of the area, wind speed and direction, rate of precipitation, toxicity/quantity of chemical released, population in the reach of release, probability of formation of lethal mixtures (fuel-air or other mixtures) and other industrial activities being performed in closer vicinity.

It is very important to understand that the state of the chemical substance (solid, liquid or gas) contributes substantially to the gravity of the accident and affects control measures. Chemicals in solid form may have devastating effects if their properties are suddenly changed (e.g., sublimation) due to pressure and temperature conditions to which they are accidentally exposed. If solids continue to remain in solid form, the damage will be negligible.

Any human/mechanical failure may cause large-scale spills of liquids or of compressed gases like chlorine or Liquid Petroleum Gas (LPG) which can cause BLEVE and can directly affect human lives and the environment. The release of compressed gases give rise to thermal and cryogenic stresses, which may also impact the surrounding structure or building, compounding the damage.

1.3 Initiators of Chemical Accidents

A number of factors including human errors could spark off chemical accidents with the potential to become chemical disasters. These are:

1.3.1 Process and Safety System Failures:

i) **Technical errors:** design defects, fatigue, metal failure, corrosion etc.

ii) **Human errors:** neglecting safety instructions, deviating from specified procedures etc.

iii) **Lack of information:** absence of emergency warning procedures, non-disclosure of line of treatment etc.

iv) **Organisational errors:** poor emergency planning and coordination, poor communication with public, non-compliance with mock drills/exercises etc., which are required for ensuring a state of quick response and preparedness.

1.3.2 Natural Calamities:

The Indian subcontinent is highly prone to natural disasters, which can also trigger chemical disasters. Damage to phosphoric acid sludge containment during the Orissa super cyclone in 1999 and the release of acrylonitrile at Kandla Port, during an earthquake in 2001, are some of the recent examples.

1.3.3 Terrorist Attacks/Sabotage:

Vulnerability to chemical disasters is further compounded by likely terrorist and warfare activities, which include sabotage and attack on HAZCHEM installations and transportation vehicles. This can occur at sources listed in para 1.1, anywhere, and at any time. Guidelines for the management of chemical warfare agents and chemical weapons of mass destruction will be issued separately.

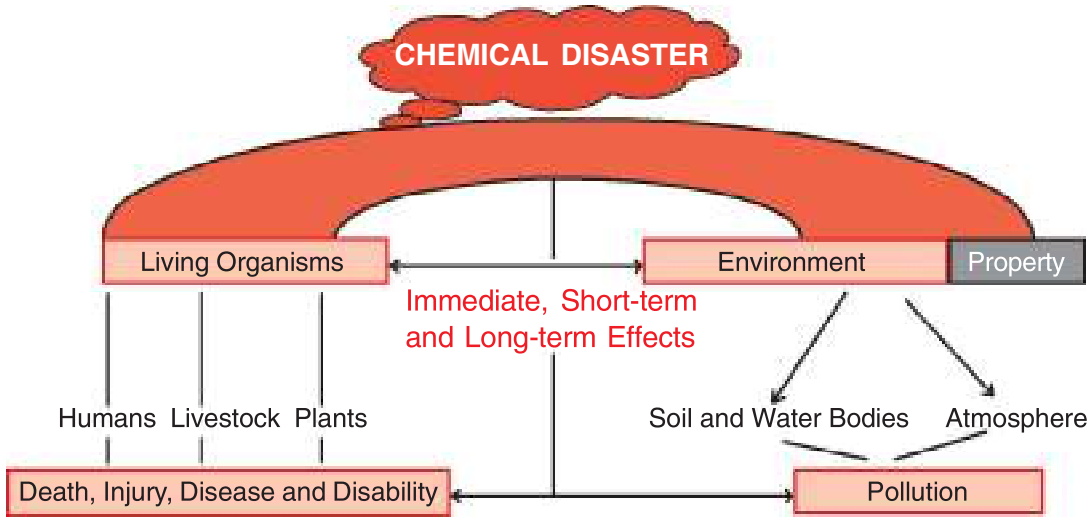


Figure -1: Impact of a Chemical Disaster

1.4 Impact of Chemical Disasters

In addition to loss of life, the major consequences of chemical disasters include impact on livestock, flora/fauna, the environment (air, soil, water) and losses to industry as shown in Figure 1.

Chemical accidents may be categorised as a major accident or a disaster depending upon the number of casualties, injuries, damage to the property or environment. A major accident is defined in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, issued under the Environment (Protection) Act, 1986, whereas 'disaster' is defined in the DM Act, 2005.

1.5 Major Chemical Accidents in India

Following the Bhopal Gas Disaster in 1984, major incidences of chemical disasters in India include a fire in an oil well in Andhra Pradesh (2003); a vapour cloud explosion in the Hindustan Petroleum Corporation Limited Refinery (HPCL), Vishakhapatnam (1997); and an explosion in the Indian Petrochemicals Corporation Limited (IPCL) Gas Cracker Complex, Nagothane, Maharashtra (1990). Over 20 major chemical accidents have been reported in MAH units during 2002–06. Details of these accidents that involved chemicals like chlorine, ammonia, LPG and other HAZCHEMs are indicated in Annexure A.

1.6 Aims and Objectives of the Guidelines

The NDMA is mandated to issue guidelines to ministries/departments and states for preparing DM Plans for holistic and coordinated management of disasters. The Guidelines are intended to focus on all aspects of the DM cycle including prevention, mitigation, preparedness, relief, rehabilitation and recovery.

These Guidelines shall form the basis for the ministries and departments concerned, at the centre and state levels to evolve programmes and measures in their DM Plans. The approach followed shall emphasise chemical safety and risk reduction measures including technical and non-technical preparedness measures, be environment and technology friendly, sensitive to the special requirements of the vulnerable groups and communities, and address all stakeholders involved in the CDM. This is to be achieved through strict conformity with existing and new policies.

5 Guidelines for Industrial (Chemical) Installations and Storages

5.1 Industrial (Chemical) Installations

A prime area of concern is the strengthening of the industrial systems for the prevention and management of chemical accidents. Such provisions shall be established to continuously re-engineer (improve and upgrade) the system. As a part of government policy, it is envisaged that the present regulatory inspection and monitoring framework will evolve measures to encourage self-regulation, public consultation and PPP. These activities would develop credibility at all levels.

The important guidelines are listed below:

5.1.1 Good Engineering for Safety

This is applicable for the prevention and minimisation of all disasters—both man-made and natural. In the context of industrial disasters, good engineering is the first step in achieving safety. The setting up of new industries by an occupier shall be done in consultation with the state inspectorate, considering all parameters including geographical, seismological, demographic and environmental factors. The process engineering and control including detailed evaluation at the design stage are essential inputs for safety.

Engineering methods to control hazards include:

i) Change of processes: to shift to less hazardous processes.

ii) Change of material: to shift to less hazardous material.

iii) Change of equipment: to replace machinery before the expiry of residual life.

iv) Detailed engineering of each equipment under requirement, capacity, specifications and regular maintenance of history sheets for fault analysis.

v) Regular testing of critical equipment/ storage vessels through non-destructive testing (radiography, thickness survey, hydraulic testing etc.).

vi) Isolation and enclosures: Storages will be isolated and enclosed to minimise the impact of weather conditions (heat radiation, thermal and cryogenic stresses) and will be directly connected to containment including Waste Air Destruction (WAD) systems.

vii) Hazard and Operability Study (HAZOP) and Hazard Analysis (HAZAN) studies for early identification of hazards; regular structural audit.

viii) Management Information System (MIS) is a significant area for monitoring at the management level. It is divided into three categories:

a. Checking normal day-to-day operations; compliance of statutory requirements; monitoring reports; and reporting of exceptions to the top management.

b. This deals with emergency control systems (chemicals and fire contingency plans), training and retraining of employees, transporters, drivers and cleaners, stockists, distributors, retailers, community

leaders, consumers, first responders—the police, fire services, home guards, civil defence, NDRF, SDRF and medics/paramedics. This also covers HAZOP/HAZAN studies, regular appraisal and updating.

c. Provision, maintenance and regular upgrading of safety including PPE; maintenance of daily check charts of PPE, work permit system (including stoppage, start-up chemical manufacturing/storage equipment hardware).

5.1.2 Accident Reporting, Investigation and Analysis

i) The basic concept is the 'Principles of Examination'. The examination will aim at identification of operational difficulties, fault in design, and inspection procedures after an accident.

ii) There is a need to synthesise a prediction model that can spot problems/difficulties prospectively as well as retrospectively.

iii) To identify principal causes of accidents or near misses.

iv) To identify deficiencies in the process/operation/hardware/instrumentation.

v) To find out and critically evaluate unsafe practises requiring correction.

vi) To find out and finalise needs for engineering revision.

5.1.3 Safety Promotional Activities

Accident prevention needs proactive and reactive participation of all activities like:

i) Installation of sensors and monitors, their regular maintenance and calibration at the plant perimeter to trigger alarms to the plant personnel as well as public.

ii) Safety competitions, exhibitions, film/video shows, seminars, debates.

iii) Celebration of Safety Day/Week.

iv) Safety hoardings at strategic points.

v) Frequent visit to other model industries.

vi) Institution of chemical safety award system.

5.1.4 Other Areas of Attention

Efficacy of safety systems shall be checked daily and listed with special emphasis on the following:

i. Provisions of two-to-three tier safety.

ii. Early-warning system.

iii. Two-to-three tier power back-up system for safety of equipment/provision.

iv. Start-up and shutdown procedures.

v. Daily exceptional reporting for top management based on status of full preparedness/compliance according to latest internal safety audit; internal audit highlights; high accident potential jobs, actions or conditions to be dealt on priority basis. The audit shall indicate shortfalls according to accident potential.

vi. Best maintenance and preventive maintenance practises.

a. Regular improvisation of safety systems based on global success stories.

b. Toxicology (complete MSDS as ready reckoner for warnings/ instructions).

c. Mock drills of warning alarm systems.

d. Instrumentation.

e. Written down preventive maintenance and breakdown maintenance practises and check listing of each on a daily basis.

f. Regular (daily basis) trials of stand by systems.

g. Key points to be kept in mind while setting SOPs for safety include:

   1. Use of danger and information tags.
   2. No substitutions of tags from one another.
   3. Information or instruction tag shall be used to convey special instructions for the equipment.
   4. The instruction tag shall not be used where a danger tag is required to identify a particular equipment as that equipment, if operated can cause an accident.
   5. The operator/shift officer shall assume responsibility for the use and removal of danger tags.
   6. Locking out of chemical plant equipment.
   7. Colour codes will be devised for locking.
   8. All locks will be placed on a breaker with a process until work is completed.
   9. The principle of isolation of equipment under maintenance repair without exception.

Based upon the actual inventory of HAZCHEM, adequacy of the preparedness and response is required to be established in the plant. It is essential to develop the DM capabilities both within the plant perimeter and in the vicinity on the basis of the dynamic quantitative risk assessment analysis. Meteorological data like wind direction shall be either obtained from concerned functionaries, or generated in-house for the proper management of chemical emergencies.

The best engineering practises practised the world over like those followed by the American Society of Mechanical Engineering (ASME) and others shall be modified and adapted in the Indian context under the authority of the BIS. Some of the major features of chemical safety procedures practised are shown in Annexure H for ready reference.

5.2 Storages

The storages of HAZMAT in an installation, or isolated storages are major sources of chemical disasters. The existing legal regulatory requirement provided through The Petroleum Act, 1934 and The Explosives Act, 1884, the Static and Mobile Pressure Vessels (Unfired) Rules 1981, the Gas Cylinder Rules, 2004, the MSIHC Rules, 1989, and the Factories Act, 1948, and various rules framed by the states give comprehensive guidelines to all installations and storages for the purpose of maintenance and operation of storage, tank farms and vessels. However, there are some glaring gaps with regard to safety, containment and neutralisation of toxic spill and release at the installation and storage site. Necessary provisions need to be enacted for fail-safe safety measures.

Important guidelines for installations and isolated storages are:

i) Factories/Storages having Off-Site consequences need to be treated at par with MAH factories in view of the probability of occurrence of accident due to the risks associated with bulk storage of HAZMAT.

ii) Standards in respect of design and construction with provisions for maintenance shall be laid down. The design shall be so formulated such that there would not be any effect of micrometeorological factors like temperature, pressure, humidity, air flow and protection from static charges.

iii) The storages of large inventories of HAZMAT should go with corresponding safety, containment measures, good engineering and environmental practises. Better safety and containment measures for safety release installations should be used, like valves, rupture discs and monitors etc., to protect the storages.

iv) At the installation level, storages require a risk assessment strategy addressing all the risk areas including the following components:

a. Safety and security provisions.

b. Pipelines transferring the HAZMAT to other plants/locations, or outside the premises.

c. Instrumentation especially—Distributed Control Systems (DCSs).

v) Comprehensive guidelines are available for safe storages, testing and monitoring of storage vessels and areas, and for checking the residual life of vessels, pipelines and other equipment used in storage of HAZCHEMs. In addition, a testing system, its frequency and a certification system also exist. However, there is an urgent need of critical evaluation and review pertaining to the following areas:

a. Defining and ensuring the limits of quantity of HAZMAT as per the capacity of storage facility.

b. Simultaneous storage of non-compatible hazardous and toxic material.

c. Restriction of keeping storage vessels open to the sky due to the impact of weather conditions on the content of storage vessels.

d. The concept of residual life with regard to depletion of various tolerances etc., needs to be re-evaluated from time-to-time, as many other factors and stresses responsible for the breakdown of vessels appear with ageing.

e. Proper and adequate provisions of safety to cater to thermal and cryogenic stresses will be taken care of during the designing mode.

f. A full-scale containment and neutralisation system shall be established for HAZCHEM that are not manufactured but stored in bulk quantities for in-house use. Such HAZCHEM include liquids like ammonia in ice manufacturing, LPG, furnace oils, compressed gas including chlorine in the pulp and paper industry, oxygen in Common Effluent Treatment Plants (CETPs), hydrogen in vegetable oil manufacturing and other inflammable fuels used in industries.

g. Special provisions including the usage of lightning arrestors for gases (such as hydrogen that can make an explosive mixture with air, running the possible risk of exploding) as lightning acts as a catalyst for such a reaction.

h. Ensure availability of a stand-by power supply system which shall operate in the case of failure/disruption of the main power supply and simultaneously requiring containment/neutralisation of stored liquid/gaseous chemicals to a designated place.

Annexures

Annexure-A

Some Major Chemical Accidents in India (2002–06)

S. No.	Name of Unit	Date of Accident	Source	Death/Injury/Missing; Losses
1.	GACL, Vadodara, Gujarat	05.09.2002	Chlorine gas —explosion	4/20/nil
2.	IPCL, Gandhar, Gujarat	20.12.2002	Chlorine gas —release	Nil/18 workers & 300 villagers in Jageshwar affected/nil
3.	IOC Refineries, Digboi, Assam	07.03.2003	Fire in motor spirit tank	Nil;Product loss Rs11.55crore
4.	Ranbaxy Laboratories Ltd., Mohali, Punjab	11.06.2003	Toluene	2/19/nil
5.	BPCL Bottling Plant, Dhar, Madhya Pradesh	05.10.2003	LPG leak from tank lorry	Nil
6.	Orient Paper Mills, Amla, Shahdol, Madhya Pradesh	13.10.2003	Liquid chlorine	Nil/88/nil; 5 m pipe affected
7.	IDL Gulf Oil, Kukkatpally, Hyderabad, Andhra Pradesh	25.11.2003	Explosion	8/5/1
8.	Anil Enterprises, Zakhira, Rohtak, Haryana	28.04.2004	Fire in LPG fired oven	6/2/nil
9.	HIL Udyogmandal, Kerala	06.07.2004	Toluene fire	Nil
10.	Shyamlal Industries, GIDC, Vatva, Ahmedabad,Gujarat	12.04.2004	Benzene fire	Nil
11.	Chemical Factory, Dombivilli, Maharashtra	31.05.2004	Hexane release —fire	1/8/Nil
12.	Chemplast, Mettur, Tamil Nadu	18.07.2004	Chlorine leak	Nil/27/nil

13.	Gujarat Refinery, Vadodara, Gujarat	29.10.2004	Explosion in slurry settler	2/13/nil
14.	Ranbaxy Laboratories Ltd., Mohali, Punjab	30.10.2004	Fire in dryer room	1/2/nil
15.	Matrix Laboratory Ltd. Unit 1, Kazipally, Medak District, Andhra Pradesh	05.03.2005	Sodium hydride	8/nil/nil
16.	Gujarat Refinery, Gujarat	15.06.2005	Fire	Nil
17.	Coromondal Fertilizer Ltd., Ennore, Tamil Nadu	22.07.2005	Ammonia	Nil/5/nil
18.	Gulf Oil Corporation Ltd., Sanathnagarn, Hyderabad, Andhra Pradesh	04.10.2005	Explosion/fire	2/2/nil
19.	Orchid Chemicals and Pharmaceuticals Ltd., Alathur, Kancheepuram District, Tamil Nadu	03.11.2005	Explosion with fire	2/4/nil
20.	Aurobindo Pharma Ltd., Unit-V, IDA Pashamylaram Medak Dist., Andhra Pradesh	28.11.2005	Explosion while drying cloxaciline sodium	1/4/nil
21.	Indian Oil Corporation Ltd., Mathura Refinery, Mathura, Uttar Pradesh	29.12.2005	Fire	1/nil/nIl
22.	Kanoria Chemicals and Industries Ltd. Renukoot, Sonebhadra, Uttar Pradesh	29.03.2006	Chlorine release	6/23/nil
23.	Anjana Explosives Ltd., Peddakaparthi Nalgonda District, Andhra Pradesh	18.07.2006	Spillage of hazchem	5/nil/nil
24.	Ravi Organics Ltd., Muzzaffarnagar, Uttar Pradesh	19.09.2006	Gas release	1/nil/nil
25.	Reliance Industries Refinery, Jamnagar, Gujarat	25.10.2006	Leaked hot vaccum gas oil catches fire in air	2/nil/nil

Justification for Dry Ash Evacuation System (DAES) including Silos for Stage-I of Korba-I&II STPS

It is submitted that in Stage-I (3x200 MW) of Korba-I&II STPS (3x200 MW + 3x500 MW), the disposal of fly ash generated is through Wet Slurry System, i.e. the dry fly ash is evacuated from ESP Hoppers through vacuum conveying system up to Wetting Heads, where water is mixed with ash to make ash slurry, which flows through sluice trenches by gravity up to Ash Slurry pump house for further pumping to Ash Dyke. Presently, there are no Fly Ash Silos in Stage-I for storage and direct utilization of dry fly ash and therefore, the entire fly ash generated has to mandatorily mixed with water and pumped to dyke, from where its subsequent utilization takes place.

It is also relevant to note that ash utilization for Korba STPS has been very low/ moderate primarily on account of factors such as low demand of ash in the nearby regions, the instant Station being at a remote location and high supply of ash in the area owing to multiple coal-based plants in the vicinity.

As per MOEF&CC Notification dated 31.12.2021 (**copy attached underneath**), the following is pertinent to note:

i) Every coal or lignite based thermal power plant shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it.
ii) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash for at least sixteen hours of ash based on installed capacity
iii) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law.

Also, as per the Consent to Operate for Korba STPS (**copy attached underneath**), granted by the Chhattisgarh Environment Conservation Board (CECB), clause A.6 and B.6 direct the Petitioner that *"Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash."*

Therefore, in view of the aforementioned statutory norms of MOEF&CC Notification dated 31.12.2021, and directions of CECB under Consent to Operate, the Petitioner is installing Dry Ash Evacuation System (DAES) including Fly Ash Silos Storage Silos with associated civil, electrical, mechanical and C&I works. The said DAES essentially comprises of two (02) nos. Silos of 1800 MT capacity each to ensure storage of dry fly ash for at least 16 hours, Transport Air Compressors (TAC), Instrument Air Compressors (IAC), Buffer Hoppers, ash conveying pipelines to Fly Ash Silos, Compressor House Building, Silo Utility Building, Electrical MCC Room and Control Building, Transformers, Structural Pipe Rack and associated Civil, Mechanical, Electrical and C&I Works for the System.

It is submitted that the said DAES, apart from ensuring compliance with the aforementioned statutory requirement of having fly ash storage silos for at least 16 hours, will also contribute towards reducing the burden of disposal of wet slurry fly ash in the ash dyke area, which in

turn, will reduce the capital expenditure on creation of adequate capacity of ash dyke. The said system by enabling direct loading of fly ash from under the Silos in closed ash bulkers will contribute towards enhancing ash utilization, reducing the cost of transportation compared to utilization from ash dyke and will also cause lesser air pollution/ ground water pollution.

It is also relevant to mention that the Hon'ble Commission, on similar grounds mentioned as above, has allowed capital expenditure towards Dry Ash Evacuation System (DAES) in a plethora of Orders such as Order dated 27.12.2023 in 430/GT/2020 (Rihand-III), Order dated 06.06.2022 in 425/GT/2020 (Sipat-I), Order dated 25.08.2023 in 429/GT/2020 (Farakka-I&II), etc.

In view of the above, Hon'ble Commission may be pleased to allow the instant capital expenditure for Dy Ash Evacuation System (DAES) for Stage-I of Korba-I&II STPS under Regulation 26(1)(b) of Tariff Regulations 2024.

रजिस्ट्री सं. डी.एल.- 33004/99 REGD. No. D. L.-33004/99

भारत का राजपत्र
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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 5075] नई दिल्ली, शुक्रवार, दिसम्बर 31, 2021/पौष 10, 1943
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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 31 दिसम्बर, 2021

का.आ. 5481(अ).—केन्द्रीय सरकार ने भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 763 (अ) तारीख 14 सितम्बर, 1999 द्वारा कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों से तीन सौ किलोमीटर के विनिर्दिष्ट व्यास के भीतर ईंटों के विनिर्माण के लिए उपजाऊ मिट्टी के उत्खनन को प्रतिबंधित करने के लिए और भवन निर्माण सामग्री के विनिर्माण में और संनिर्माण क्रियाकलाप में फ्लाई-राख के उपयोग को बढ़ावा देने के लिए निदेश जारी किए हैं;

और, प्रदूषणकर्ता भुगतान सिद्धांत (पीपीपी) के आधार पर, ऐसा करके कोयला या लिग्नाइट आधारित ताप विद्युत संयंत्रों द्वारा फ्लाई-राख का 100 प्रतिशत उपयोग सुनिश्चित करते हुए और फ्लाई-राख प्रबंधन प्रणाली की संधारणीयता के लिए पूर्वोक्त अधिसूचना को और अधिक प्रभावकारी ढंग से कार्यान्वित करने हेतु, केंद्रीय सरकार ने मौजूदा अधिसूचना की समीक्षा की;

और प्रदूषणकर्ता भुगतान सिद्धांत के आधार पर पर्यावरणीय प्रतिकर निर्धारित किए जाने की आवश्यकता है;

और, विनिर्माण को बढ़ावा देकर तथा निर्माण कार्य के क्षेत्र में राख आधारित उत्पादों तथा भवन निर्माण सामग्रियों के प्रयोग को अनिवार्य करके उपजाऊ मिट्टी को संरक्षित करने की आवश्यकता है;

	सीमेंट शीट या पाइप या बोर्ड या पैनल): ii. सीमेंट विनिर्माण: iii. रेडी मिक्स कंक्रीट: iv. राख और जीओ-पॉलिमर आधारित निर्माण सामग्री: v. सिंटर्ड या कोल्ड बॉन्डेड राख एग्रीगेट का निर्माण: vi. सड़कों, सड़क और फ्लाई ओवर के पुश्तों का निर्माण: vii. बांधों का निर्माण: viii. निम्न भू-क्षेत्र का भराव: ix. खनिज क्षेत्रों का भराव: x. अधिभार वाले डम्पों में उपयोग: xi. कृषि: xii. तटीय जिलों में तटरेखा सुरक्षा संरचनाओं का निर्माण: xiii. अन्य देशों को राख का निर्यात xiv. अन्य (कृपया विनिर्दिष्ट करें):	

20.	**सार :**			
	ब्यौरा	सृजित मात्रा (एमटीपी)	उपयोग की गई मात्रा (एमटीपी) और (%)	शेष मात्रा (एमटीपी)
	रिपोर्टिंग की अवधि के दौरान राख			
	पुरानी राख			
	कुल			
21.	कोई अन्य सूचना : वार्षिक अनुपालन रिपोर्ट, और विद्युत संयंत्रों और राख कुण्डों की शेप फाइलों की सॉफ्ट कॉपी ई-मेल:- moefcc-coalash@gov.in पर भेजी जाए।			
22.	प्राधिकृत हस्ताक्षरकर्ता के हस्ताक्षर			

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 31st December, 2021

S.O. 5481(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests *vide* S.O.763 (E), dated the 14th September, 1999, as amended from time to time, the Central Government, issued directions for restricting the excavation of top soil for manufacturing of bricks and promoting the utilisation of fly ash in the manufacturing of building materials and in construction activity within a specified radius of three hundred kilometres from the coal or lignite based thermal power plants;

And whereas, to implement the aforesaid notification more effectively based on the polluter pays principle (PPP) thereby ensuring 100 per cent utilisation of fly ash by the coal or lignite based thermal power plants and for the sustainability of the fly ash management system, the Central Government reviewed the existing notification; and whereas environmental compensation needs to be introduced based on the polluter pays principle;

And whereas, there is a need to conserve top soil by promoting manufacture and mandating use of ash based products and building materials in the construction sector;

And whereas, there is a need to conserve top soil and natural resources by promoting utilisation of ash in road laying, road and flyover embankments, shoreline protection measures, low lying areas of approved projects, backfilling of mines, as an alternative for filling of earthen materials;

And whereas, it is necessary to protect the environment and prevent the dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land;

And whereas, in the said notification the phrase 'ash', has been used which includes both fly ash as well as bottom ash generated from the Coal or Lignite based thermal power plants;

And whereas, the Central Government intends to bring out a comprehensive framework for ash utilisation including system of environmental compensation based on polluter pays principle;

And whereas, a draft notification on ash utilisation by coal or lignite thermal power plants in supersession of the notification of the Government of India, Ministry of Environment and Forests published in the Gazette of India, Extra Ordinary part II, section 3, sub-section (i) *vide* S.O.763 (E), dated the 14th September, 1999, by notification in exercise of the powers conferred under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, was published in the Gazette of India, Extraordinary, Part II, section 3, sub-section (i), *vide* G.S.R. 285(E), dated the 22nd April, 2021 inviting objections and suggestions from all persons likely to be affected thereby before the expiry of sixty days from the date on which copies of the Gazette containing the said draft provisions were made available to the public;

And, whereas all the objections and suggestions received from all persons likely to be affected thereby in respect of the said draft notification have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule (5) of the Environment (Protection) Rules, 1986, and in supersession of the Notification S.O.763 (E), dated the 14th September, 1999 except as respect things done or omitted to be done before such supersession, the Central Government hereby issues the following notification on ash utilisation from coal or lignite thermal power plants which shall come into force on the date of the publication of this notification, namely:-

A. Responsibilities of thermal power plants to dispose fly ash and bottom ash.—

(1) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall be primarily responsible to ensure 100 per cent utilisation of ash (fly ash, and bottom ash) generated by it in an eco-friendly manner as given in sub-paragraph (2);

(2) The ash generated from coal or lignite based thermal power plants shall be utilised only for the following eco-friendly purposes, namely:-

(i) Fly ash based products viz. bricks, blocks, tiles, fibre cement sheets, pipes, boards, panels;

(ii) Cement manufacturing, ready mix concrete;

(iii) Construction of road and fly over embankment, Ash and Geo-polymer based construction material;

(iv) Construction of dam;

(v) Filling up of low lying area;

(vi) Filling of mine voids;

(vii) Manufacturing of sintered or cold bonded ash aggregate;

(viii) Agriculture in a controlled manner based on soil testing;

(ix) Construction of shoreline protection structures in coastal districts;

(x) Export of ash to other countries;

(xi) Any other eco-friendly purpose as notified from time to time.

(3) A committee shall be constituted under the chairmanship of Chairman, Central Pollution Control Board (CPCB) and having representatives from Ministry of Environment, Forest and Climate Change (MoEFCC), Ministry of Power, Ministry of Mines, Ministry of Coal, Ministry of Road Transport and Highways, Department of Agricultural Research and Education, Institute of Road Congress, National Council for Cement and Building Materials, to examine and review and recommend the eco-friendly ways of utilisation of ash and make inclusion or exclusion or modification in the list of such ways as mentioned in Sub-paragraph (2) based on technological developments and requests received from stakeholders. The committee may invite State Pollution Control Board or Pollution Control Committee, operators of thermal power plants and mines, cement plants and other stakeholders as and when required for this purpose. Based on the recommendations of the Committee, Ministry of Environment, Forest and Climate Change (MoEFCC) may publish such eco-friendly purpose.

(4) Every coal or lignite based thermal power plant shall be responsible to utilise 100 per cent ash (fly ash and bottom ash) generated during that year, however, in no case shall utilisation fall below 80 per cent in any year, and the thermal power plant shall achieve average ash utilisation of 100 per cent in a three years cycle:

Provided that the three years cycle applicable for the first time is extendable by one year for the thermal power plants where ash utilisation is in the range of 60-80 per cent, and two years where ash utilisation is below 60 per cent and for the purpose of calculation of percentage of ash utilisation, the percentage quantity of utilisation in the year 2021- 2022 shall be taken into account as per the table below:

Utilisation percentages of thermal power plants	First compliance Cycle to meet 100 per cent utilisation	Second compliance cycle onwards, to meet 100 per cent utilisation
>80 per cent	3 years	3 years
60-80 per cent	4 years	3 years
<60 per cent	5 years	3 years

Provided further that the minimum utilisation percentage of 80 per cent shall not be applicable to the first year and first two years of the first compliance cycle for the thermal power plants under the utilisation category of 60-80 per cent and <60 per cent, respectively.

Provided also that 20per cent of ash generated in the final year of compliance cycle may be carried forward to the next cycle which shall be utilised in the next three years cycle along with the ash generated during that cycle.

(5) The unutilised accumulated ash i.e. legacy ash, which is stored before the publication of this notification, shall be utilised progressively by the thermal power plants in such a manner that the utilization of legacy ash shall be completed fully within ten years from the date of publication of this notification and this will be over and above the utilisation targets prescribed for ash generation through current operations of that particular year:

Provided that the minimum quantity of legacy ash in percentages as mentioned below shall be utilised during the corresponding year and the minimum quantity of legacy ash is to be calculated based on the annual ash generation as per installed capacity of thermal power plant.

Year from date of publication	1st	2nd	3rd -10th
Utilisation of legacy ash (in percentage of Annual ash)	At least 20 per cent	At least 35 per cent	At least 50 per cent

Provided further that the legacy ash utilisation shall not be required where ash pond or dyke has stabilised and the reclamation has taken place with greenbelt or plantation and the concerned State Pollution Control Board shall certify in this regard. Stabilisation and reclamation of an ash pond or dyke including certification by the Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be carried out within a year from the date of publication of this notification. The ash remaining in all other ash ponds or dykes shall be utilised in progressive manner as per the above mentioned timelines.

Note: The obligations under sub-paragraph (4) and (5) above for achieving the ash utilisation targets shall be applicable from 1st April, 2022.

(6) Any new as well as operational thermal power plant may be permitted an emergency or temporary ash pond with an area of 0.1 hectare per Mega Watt (MW). Technical specifications of ash ponds or dykes shall be as per the guidelines of Central Pollution Control Board (CPCB) made in consultation with Central Electricity Authority (CEA) and these guidelines shall also lay down a procedure for annual certification of the ash pond or dyke on its safety, environmental pollution, available volume, mode of disposal, water consumption or conservation in disposal, ash water recycling and greenbelt, etc., and shall be put in place within three months from the date of publication of this notification.

(7) Every coal or lignite based thermal power plant shall ensure that loading, unloading, transport, storage and disposal of ash is done in an environmentally sound manner and that all precautions to prevent air and water pollution are taken and status in this regard shall be reported to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in Annexure attached to this notification.

(8) Every coal or lignite based thermal power plant shall install dedicated silos for storage of dry fly ash silos for at least sixteen hours of ash based on installed capacity and it shall be reported upon to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) in the Annexure and shall be inspected by Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) from time to time.

(9) Every coal or lignite based thermal power plant (including captive or co-generating stations or both) shall provide real time data on daily basis of availability of ash with Thermal Power Plant (TPP), by providing link to Central Pollution Control Board's web portal or mobile phone App for the benefit of actual user(s).

(10) Statutory obligation of 100 per cent utilisation of ash shall be treated as a change in law, wherever applicable.

B. **For the purpose of utilisation of ash, the subsequent sub-paras shall apply.—**

(1) All agencies (Government, Semi-government and Private) engaged in construction activities such as road laying, road and flyover embankments, shoreline protection structures in coastal districts and dams within 300 kms from the lignite or coal based thermal power plants shall mandatorily utilise ash in these activities:

Provided that it is delivered at the project site free of cost and transportation cost is borne by such coal or lignite based thermal power plants.

Provided further that thermal power plant may charge for ash cost and transportation as per mutually agreed terms, in case thermal power plant is able to dispose the ash through other means and those agencies makes a request for it and the provisions of ash free of cost and free transportation shall be applicable, if thermal power plant serves a notice on the construction agency for the same.

(2) The utilisation of ash in the said activities shall be carried out in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, Central Building Research Institute, Roorkee, Central Road Research Institute, Delhi, Central Public Works Department, State Public Works Departments and other Central and State Government Agencies.

(3) It shall be obligatory on all mines located within 300 kilometres radius of thermal power plant, to undertake backfilling of ash in mine voids or mixing of ash with external Overburden dumps, under Extended Producer Responsibility (EPR). All mine owners or operators (Government, Public and Private Sector) within three hundred kilometres (by road) from coal or lignite based thermal power plants, shall undertake measures to mix at least 25 per cent of ash on weight to weight basis of the materials used for external dump of overburden, backfilling or stowing of mine (running or abandoned as the case may be) as per the guidelines of the Director General of Mines Safety (DGMS):

Provided that such thermal power stations shall facilitate the availability of required quantity of ash by delivering ash free of cost and bearing the cost of transportation or cost or transportation arrangement decided on mutually agreed terms and mixing of ash with overburden in mine voids and dumps shall be applicable for the overburden generated from the date of publication of this notification and the utilisation of ash in the said activities shall be carried out in accordance with guidelines laid down by the Central Pollution Control Board, Director General of Mines Safety and Indian Bureau of Mines.

Explanation.- For the purpose of this sub-paragraph, it is also clarified that the provisions of ash free of cost and free transportation shall be applicable, if thermal power plants serve a notice on the mine owner for the same and the mandate of using 25 per cent of ash for mixing with overburden dump and filling up of mine voids shall not be applicable unless a notice is served on the mine owner by thermal power plant.

(4) (i) All mine owners shall get mine closure plans (progressive and final) to accommodate ash in the mine voids and the concerned authority shall approve mine plans for disposal of ash in mine voids and mixing of ash with overburden dumps. The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued guidelines on 28th August, 2019 regarding exemption of requirement of Environmental Clearance of thermal power plants and coal mines along with the guidelines to be followed for such disposal.

(ii) The Ministry in consultation with Central Pollution Control Board (CPCB), Director General of Mine Safety (DGMS) and Indian Bureau of Mines (IBM) may issue further guidelines time to time to facilitate ash disposal in mine voids and mixing with overburden dumps and it shall be the responsibility of mine owners to get the necessary amendments or modifications in the permissions issued by various regulatory authorities within one year from the date of identification of such mines.

(5) (i) There shall be a committee headed by Chairperson, Central Pollution Control Board (CPCB) with representatives from Ministry of Environment, Forest and Climate Change, Ministry of Power, Ministry of Mines, Ministry of Coal, Director General of Mine Safety and Indian Bureau of Mines for identification of mines for backfilling of mine voids with ash or mixing of ash with overburden dump including examination of safety, feasibility (not economic feasibility) and aspects of environmental contamination and the committee shall get updated quarterly reports prepared regarding identified mines (both underground and opencast) for the stakeholder Ministries or Departments and the committee shall start identifying the suitable mines immediately after the publication of this notification.

(ii) Thermal power plants or mines shall not wait for disposal of ash till the identification is done by the above mentioned committee, to meet the utilisation targets mandated as above.

(6) Filling of low lying areas with ash shall be carried out with prior permission of the State Pollution Control Board or Pollution Control Committee for approved projects, and in accordance with guidelines laid down by Central Pollution Control Board (CPCB) and the State Pollution Control Board or Pollution Control Committee (PCC) shall publish approved sites, location, area and permitted quantity annually on its website.

(7) Central Pollution Control Board after engaging relevant stakeholders, shall put in place the guidelines within one year for all types of activities envisaged under this notification including putting in place time bound online application process for the grant permission by State Pollution Control Boards (SPCBs) or Pollution Control Committees (PCCs).

(8) All building construction projects (Central, State and Local authorities, Govt. undertakings, other Govt. agencies and all private agencies) located within a radius of three hundred kilometres from a coal or lignite based thermal power plant shall use ash bricks, tiles, sintered ash aggregate or other ash based products, provided these are made available at prices not higher than the price of alternative products.

(9) Manufacturing of ash based products and use of ash in such products shall be in accordance with specifications and guidelines laid down by the Bureau of Indian Standards, Indian Road Congress, and Central Pollution Control Board.

C. Environmental compensation for non-compliance.—

(1) In the first two years of a three years cycle, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved at least 80 per cent ash (fly ash and bottom ash) utilisation, then such non-compliant thermal power plants shall be imposed with an environmental compensation of Rs. 1000 per ton on unutilised ash during the end of financial year based on the annual reports submitted and if it is unable to utilise 100 per cent of ash in the third year of the three years cycle, it shall be liable to pay an environmental compensation of Rs. 1000 per ton on the unutilised quantity on which environmental compensation has not been imposed earlier:

Provided that the environmental compensation shall be estimated and imposed at the end of last year of the first compliance cycle as per the various utilisation categories as mentioned in sub-paragraph (4) of Para A.

(2) Environmental compensation collected by the authorities shall be deposited in the designated account of Central Pollution Control Board.

(3) In case of legacy ash, if the coal or lignite based thermal power plant (including captive or co-generating stations or both) has not achieved utilisation equivalent to at least 20 per cent (for the first year), 35 per cent (for the second year), 50 per cent (for third to tenth year) of ash generated based on installed capacity, an environmental compensation of Rs. 1000 per ton of unutilised legacy ash during that financial year shall be imposed and if the utilization of legacy ash is not completed at the end of 10 years, an environmental compensation of Rs.1000 per ton shall be imposed on the remaining unutilised quantity which has not been imposed earlier.

(4) It shall be the responsibility of the transporters or vehicle owner to deliver ash to authorised purchaser or user agency and if it is not complied, then an environmental compensation of Rs. 1500 per ton on such quantity as mis-delivered to unauthorised users or non- delivered to authorised users will be imposed besides prosecution of such non-compliant transporters by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(5) It is the responsibility of the purchasers or user agencies to utilise ash in an eco-friendly manner as laid down at para B of this notification and if it is not complied, then an environmental compensation of Rs. 1500 or per ton shall be imposed by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

(6) If the user agencies do not utilise ash to the extent obligated under para B or the extent to which they have been intimated through Notice(s) served under sub-paragraph (1) of para D, whichever is lower, they shall be liable to pay Rs. 1500 per ton of ash for the quantity they fall short off:

Provided that the environmental compensation on building constructions shall be levied at Rs.75/- per square feet of built up area of construction.

(7) (i) The environmental compensation collected by Central Pollution Control Board from the thermal power plants and other defaulters shall be used towards the safe disposal of the unutilised ash and the fund may also be utilised for advancing research on use of ash including ash based products.

(ii) The liability of ash utilisation shall be with thermal power plants even after imposition of environmental compensation on unutilised quantities and in case thermal power plant achieves the ash utilisation of any

particular cycle after imposition of environmental compensation in subsequent cycles, the said amount shall be returned to thermal power plant after deducting 10 per cent of the environmental compensation collected on the unutilised quantity during the next cycle and deduction of 20 per cent, 30 per cent, and so on, of the environmental compensation collected is to be made in case of utilisation of ash in subsequent cycles.

D. Procedure for supply of ash or ash based products.—

(1) The owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate shall serve written notice to persons or agencies who are liable to utilise ash or ash based products, offering for sale, or transport or both.

(2) Persons or user agencies who have been served notices by owner of thermal power plants or manufacturers of ash bricks or tiles or sintered ash aggregate, if they have already tied up with other agencies for the purpose of utilisation of ash or ash products, shall inform the thermal power plant accordingly, if they cannot use any ash or ash products or use reduced quantity.

E. Enforcement, Monitoring, Audit and Reporting.—

(1) The Central Pollution Control Board (CPCB) and the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall be the enforcing and monitoring authority for ensuring compliance of the provisions and shall monitor the utilisation of ash on quarterly basis. Central Pollution Control Board shall develop a portal for the purpose within six months of date of publication of the notification. The concerned District Magistrate shall have concurrent jurisdiction for enforcement and monitoring of the provisions of this notification.

(2) (i) Thermal power plants shall upload monthly information regarding ash generation and utilisation by 5th of the next month on the web portal. Annual implementation report (for the period 1st April to 31st March) providing information about the compliance of provisions in this notification shall be submitted by the 30th day of April, every year to the Central Pollution Control Board, concerned State Pollution Control Board or Pollution Control Committee (PCC), Central Electricity Authority (CEA), and concerned Integrated Regional Office of Ministry of Environment, Forest and Climate Change by the coal or lignite based thermal power plants. Central Pollution Control Board and Central Electricity Authority shall compile the annual reports submitted by all the thermal power plants and submit to Ministry of Environment, Forest and Climate Change by 31st May.

(ii) All other user agencies shall submit consumption or utilisation or disposal of ash and use of ash based products as mandated in this notification in the compliance report of Environmental Clearance (EC) issued by Ministry of Environment, Forest and Climate Change or State Level Environment Impact Assessment Authority (SEIAA) or Consent to Operate (CTO) issued by State Pollution Control Board (SPCB) or Pollution Control Committee (PCC), whichever is applicable. The Central Pollution Control Board (CPCB) or State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall publish annual report of ash utilisation of all other agencies except thermal power plants to review the effective implementation of the provisions of the notification.

(3) For the purpose of monitoring the implementation of the provisions of this notification, a committee shall be constituted under the Chairperson, Central Pollution Control Board (CPCB), with members from Ministry of Power, Ministry of Coal, Ministry of Mines, Ministry of Environment, Forest and Climate Change, Ministry Road Transportation and Highways, Department of Heavy Industry as well as any concerned stakeholder(s), to be nominated by the Chairman of the committee. The committee may make recommendations for effective and efficient implementation of the provisions of the notification. The committee shall meet at least once in six months and review annual implementation reports and the committee shall also hold stakeholder consultations for monitoring of ash utilisation as mandated by this notification by inviting relevant stakeholder(s) at least once in six months. The committee shall submit the six monthly report to Ministry of Environment, Forest and Climate Change (MoEFCC).

(4) For the purpose of resolving disputes between thermal power plants and users of ash or manufacturer of ash based products, the State Governments or Union territory administration constitute a Committee within three months from the date of publication of this notification under the Chairman, State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) with representatives from Department of Power, and one representative from the Department which deals with the subject of concerned agency with which dispute is made.

(5) The compliance audit for ash disposal by the thermal power plants and the user agency shall be conducted by auditors, authorised by Central Pollution Control Board (CPCB) and audit report shall be submitted to Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) by 30th November every year. Central Pollution Control Board (CPCB) and concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC) shall initiate action against non-compliant thermal power plants within fifteen days of receipt of audit report.

[F. No. HSM-9/1/2019-HSM]

NARESH PAL GANGWAR, Jt. Secy.

Annexure

Ash Compliance Report (for the period 1st April-31st March) to be submitted on or before 31st May.

Sl. No.	Details	
1.	Name of Power Plant	
2.	Name of the company	
3.	District	
4.	State	
5.	Postal address for communication:	
6.	E-mail:	
7.	Power Plant installed capacity (MW):	
8.	Plant Load Factor (PLF):	
9.	No. of units generated (MWh):	
10.	Total area under power plant (ha): (including area under ash ponds)	
11.	Quantity of coal consumption during reporting period (Metric Tons per Annum):	
12	Average ash content in percentage (per cent):	
13.	Quantity of current ash generation during reporting period (Metric Tons per Annum): Fly ash (Metric Tons per Annum): Bottom ash (Metric Tons per Annum):	
14.	Capacity of dry fly ash storage silo(s) (Metric Tons) :	
15	Details of utilisation of current ash generated during reporting period (a) Total quantity of current ash utilised (MTPA) during reporting period: (b) Quantity of fly ash utilised (MTPA): (i) Fly ash based products (bricks or blocks or tiles or fibre cement sheets or pipes or boards or panels) (ii) Cement manufacturing:	

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
Paryavas Bhawan, North Block, Sector - 19,
Nava Raipur Atal Nagar, District - Raipur (C.G.)
e-mail - hocecb@gmail.com

No. **4184** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur Dated **29/08/2023**

To,

General Manager,
M/s Korba Super Thermal Power Project,
National Thermal Power Corporation Limited,
P.O.-Vikash Bhawan Jamnipali,
District - Korba (C.G.) 495 450

Sub: - Renewal of the consent of the Board under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

Ref: -

1. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 7498, dated: 25/07/1989. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 7500, dated: 25/07/1989.
2. Consent of the Board issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 4796, dated: 25/11/2010. and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 4798, dated: 25/11/2010.
3. Last renewal of consent issued under section 25 of the Water (Prevention and Control of Pollution) Act and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 5092, Nava Raipur Atal Nagar, Raipur dated: 31/10/2022.
4. Your online application no. 13010255, dated: 25/07/2023.

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With reference to your above application, consents under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 are hereby renewed for a period of **one year from 01/11/2023 to 31/10/2024**, subject to the fulfillment of the terms and conditions incorporated in the water consent letter no. **7498, dated: 25/07/1989 and 4796, dated: 25/11/2010** and air consent letter no. **7500, dated: 25/07/1989 and 4798, dated: 25/11/2010** and subsequent renewal(s)/amendment(s) issued by the Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of: -

Product	Production Capacity
Electricity Generation By Thermal Power Plant (Stage-I, II & III)	2600 Megawatt {Two Thousand Six Hundred Megawatt}

Additional Conditions

A. Water (Prevention and Control of Pollution) Act, 1974

1. Industry shall operate the effluent treatment arrangement regularly and maintain them properly. Industry shall ensure treated effluent quality meets the standard prescribed by the Board. Zero discharge condition shall be maintained all the time.
2. Industry shall ensure maximum reuse of non-potable water.
3. Industry shall ensure continuous running of PTZ Cameras with online connectivity at out lets of premises. Real time data of EQMS shall be made available in CECB/CPCB Server.
4. Industry shall ensure transportation of coal through mechanically covered vehicles. (If applicable)
5. Industry shall comply the provisions of notification issued by MoEF & CC regarding specific water consumption.
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall enhance the capacity of rain water harvesting structures to recharge ground water.
9. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
10. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
11. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
12. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. B. Ramachandra Rao, CGM (Korba) of M/s Korba Super Thermal Power Project, National Thermal Power Corporation Limited, Village-Jamnipali, Tehsil- Katghora, District - Korba (C.G.).

13. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
14. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
15. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

B. Air (Prevention and Control of Pollution) Act, 1981

1. Industry shall operate and maintain the existing air pollution control equipments regularly and effectively so as to ensure the particulate matter emission level below 50 mg/Nm^3. Emission of air pollutants and ambient air quality shall be ensured within the limits prescribed by Board all the time.
2. Ambient air quality within premises shall be within latest prescribed limit.
3. Industry shall comply with the emission norms for SO_2 and NOx within time limit as prescribed by MoEF & CC/CPCB.
4. Calabration and data validation shall be carried out off all CEMS and CAAQMS and availability of real time data shall be ensured in CECB / CPCB sever.
5. Industry shall ensure transportation of raw material through mechanically covered vehicles. (If applicable)
6. Industry shall ensure 100% utilization of fly ash, bottom ash and legacy ash (unutilized accumulated ash) as per provisions of notification dated 31/12/2021 and amended notification dated 30.12.2022 issued by MoEF & CC regarding utilization of ash.
7. All the solid waste, garbage, sludge etc shall be disposed of in environment friendly manner.
8. Industry shall comply with the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 (as amended upto date).
9. Extensive tree plantation shall be carried out in the open areas available within and around the plant premises in during monsoon season. Fruit bearing species like mango, tamarind, guava etc. shall be given preference in this regard.
10. Industry shall submit Environment Statement to this Board as per provision of Environment (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
11. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. B. Ramachandra Rao, CGM (Korba) of M/s Korba Super Thermal Power Project, National Thermal Power Corporation Limited, Village-Jamnipali, Tehsil- Katghora, District - Korba (C.G.).

12. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
13. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
14. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Endt. No. **4185** /TS/CECB/2023 Nava Raipur Atal Nagar, Raipur, Dated **29/08/2023**

Copy to: -

Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Korba (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.

Sd/-
Member Secretary
Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Signature Not Verified

Digitally Signed by :P Arun Prasad MS

Date: 2023.09.04 12:51:20 IST

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

Name of the Petitioner: NTPC Limited

Name of the Generating Station Korba STPP Stage-I & II

S. No.	Month		Apr-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	333845.07	0.00
2	Value of Stock	(Rs.)	623315841.13	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1260197.86	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1260197.86	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2564.25	0.00
7	Net Coal Supplied (5-6)	(MT)	1257633.61	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2318646702.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	12319063.63	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	36872666.01	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2367838431.64	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	13211436.58	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	13211436.58	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2381049868.22	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1887.78**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1887.78**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4169.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3166.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3383.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3337.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Apr-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	250.62	16.04	3475.57
2	Value of Opening Stock	(Rs.)	7866650	1676691	327445308
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	20.00	0.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	20.00	0.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	20.00	0.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	1910749.00	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	1910749.00	0.00
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	1910749.00	0.00
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	31388.88	99534.98	94213.41
19	Blending Ratio		81.21%	5.18%	13.61%
20	**Weighted Average Cost of Secondary fuel For the month**		**43471.60**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9241**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9128**	**0**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9947**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9241**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9128**	**0**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9947**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		May-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	345478.68	0.00
2	Value of Stock	(Rs.)	652188636.17	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1242013.25	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1242013.25	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2484.03	0.00
7	Net Coal Supplied (5-6)	(MT)	1239529.22	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2290146185.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	17492230.98	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	36243459.81	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2343881875.79	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	14389219.61	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	14389219.61	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2358271095.40	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1899.33**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1899.33**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4173.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3337.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3246.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3266.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	May-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	20.04	3433.57
2	Value of Opening Stock	(Rs.)	0	1994880	323488344
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	0.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	0.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	0.00
C)	**PRICE**				
8	Amount charged by 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)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	0.00
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	99534.98	94213.41
19	Blending Ratio		0.00%	0.00%	100.00%
20	**Weighted Average Cost of Secondary fuel For the month**		**94213.41**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9408**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**0**	**0**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9408**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9408**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**0**	**0**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9408**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Jun-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	251288.91	0.00
2	Value of Stock	(Rs.)	477281617.59	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1167675.30	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1167675.30	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2335.35	0.00
7	Net Coal Supplied (5-6)	(MT)	1165339.95	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2153739368.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	6433783.73	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	39196540.31	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2199369692.04	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12824649.08	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	12824649.08	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2212194341.12	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1898.50**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1898.50**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	3974.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3266.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3637.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3571.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Jun-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	20.04	3412.57
2	Value of Opening Stock	(Rs.)	0	1994880	321509863
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	20.00	0.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	20.00	0.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	20.00	0.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	1910749.00	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	1910749.00	0.00
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	1910749.00	0.00
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	94213.41
19	Blending Ratio		0.00%	1.55%	98.45%
20	**Weighted Average Cost of Secondary fuel For the month**		**94265.09**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9280**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9017**	**0**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9276**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9280**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9017**	**0**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9276**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Jul-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	332048.86	0.00
2	Value of Stock	(Rs.)	630396179.06	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1059413.04	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1059413.04	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2161.51	0.00
7	Net Coal Supplied (5-6)	(MT)	1057251.53	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	1955046864.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	-11522261.70	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	28862566.65	0.00
11	Total amount Charged (8+9+10)	(Rs.)	1972387168.96	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		878543.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12331766.37	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	13210309.37	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	1985597478.33	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1882.96**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1882.96**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4159.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3571.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3493.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3512.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Jul-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	37.04	3222.57
2	Value of Opening Stock	(Rs.)	0	3613014	303609315
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	82.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	82.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	82.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	6231670.00
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	6231670.00
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	6231670.00
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	93761.36
19	Blending Ratio		0.00%	2.36%	97.64%
20	**Weighted Average Cost of Secondary fuel For the month**		**93850.35**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9017**	**9280**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9318**	**9241**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9243**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9017**	**9280**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9318**	**9241**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9243**		

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

Name of the Petitioner: NTPC Limited

Name of the Generating Station Korba STPP Stage-I & II

S. No.	Month		Aug-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	333507.38	0.00
2	Value of Stock	(Rs.)	627980248.45	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	962273.50	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	962273.50	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	1924.55	0.00
7	Net Coal Supplied (5-6)	(MT)	960348.95	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	1774830339.99	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	16788178.37	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	24701092.61	0.00
11	Total amount Charged (8+9+10)	(Rs.)	1816319610.97	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12235024.00	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	12235024.00	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	1828554634.97	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1898.61**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1898.61**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4206.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3512.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3767.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3701.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Aug-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	19.04	2558.57
2	Value of Opening Stock	(Rs.)	0	1857324	239895008
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	632.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	632.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	632.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	48681178.80
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	48681178.80
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	48681178.80
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	90446.59
19	Blending Ratio		0.00%	0.24%	99.76%
20	**Weighted Average Cost of Secondary fuel For the month**		**90463.56**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9318**	**9241**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9083**	**9280**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9280**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9318**	**9241**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9083**	**9280**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9280**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Sep-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	297683.34	0.00
2	Value of Stock	(Rs.)	565186010.05	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1049032.00	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1049032.00	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2098.06	0.00
7	Net Coal Supplied (5-6)	(MT)	1046933.94	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	1934848889.01	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	27110391.93	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	27607598.77	0.00
11	Total amount Charged (8+9+10)	(Rs.)	1989566879.70	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12980983.50	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	12980983.50	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2002547863.20	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1909.64**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1909.64**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4368.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3701.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3983.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3921.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Sep-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	17.04	2202.57
2	Value of Opening Stock	(Rs.)	0	1662248	199214953
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	383.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	383.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	383.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	36840572.06
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	36840572.06
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	36840572.06
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	91297.29
19	Blending Ratio		0.00%	0.00%	100.00%
20	**Weighted Average Cost of Secondary fuel For the month**		**91297.29**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9083**	**9280**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9083**	**9280**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9280**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9083**	**9280**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9083**	**9280**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9280**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Oct-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	277614.27	0.00
2	Value of Stock	(Rs.)	530143101.58	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1131735.90	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1131735.90	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2263.47	0.00
7	Net Coal Supplied (5-6)	(MT)	1129472.43	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2087389095.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	21532074.12	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	27849310.37	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2136770479.49	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12150715.50	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	12150715.50	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2148921194.99	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1903.98**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1903.98**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4503.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4001.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3921.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3916.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3917.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Oct-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	17.04	1897.57
2	Value of Opening Stock	(Rs.)	0	1662248	173242992
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	742.98
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	742.98
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	742.98
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	69571504.46
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	69571504.46
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	69571504.46
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	91956.20
19	Blending Ratio		0.00%	0.00%	0.00%
20	**Weighted Average Cost of Secondary fuel For the month**		**91956.20**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9083**	**9280**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9128**	**9224**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9280**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9083**	**9280**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9128**	**9224**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9280**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Nov-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	250142.70	0.00
2	Value of Stock	(Rs.)	476266585.60	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1122128.40	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1122128.40	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2244.26	0.00
7	Net Coal Supplied (5-6)	(MT)	1119884.14	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2081451229.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	83443555.96	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	16272377.34	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2181167162.30	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	12937594.60	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	12937594.60	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2194104756.90	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1949.14**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1949.14**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4395.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4398.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3917.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3681.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3724.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Nov-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	17.04	2640.55
2	Value of Opening Stock	(Rs.)	0	1662248	242814496
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	257.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	257.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	257.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	23544364.62
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	23544364.62
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	23544364.62
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	91925.70
19	Blending Ratio		0.00%	2.61%	97.39%
20	**Weighted Average Cost of Secondary fuel For the month**		**92072.44**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9224**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9128**	**9224**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9221**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9224**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9128**	**9224**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9221**		

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

Name of the Petitioner: **NTPC Limited**

Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month		Dec-23	
			Domestic Coal	Imported Coal
A)	**OPENING QUANTITY**			
1	Opening Quantity of Coal	(MT)	194129.84	0.00
2	Value of Stock	(Rs.)	378385850.08	0.00
B)	**QUANTITY**			
3	Quantity of Coal supplied by Coal Company	(MT)	1169977.68	0.00
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	0.00	0.00
5	Coal supplied by Coal Company (3+4)	(MT)	1169977.68	0.00
6	Normative Transit & Handling Losses (For Coal based Projects)	(MT)	2384.20	0.00
7	Net Coal Supplied (5-6)	(MT)	1167593.48	0.00
C)	**PRICE**			
8	Amount charged by the Coal Company	(Rs.)	2171944282.00	0.00
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	60754573.84	0.00
10	Handling, Sampling and such other similar charges	(Rs.)	12534946.14	0.00
11	Total amount Charged (8+9+10)	(Rs.)	2245233801.98	0.00
D)	**TRANSPORATION**			
12	Transportation charges by rail/ship/road transport	(Rs.)		
	By Rail		0.00	0.00
	By Road		0.00	0.00
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)		
14	Demurrage Charges, if any	(Rs.)		
15	Cost of diesel in transporting Coal through MGR system, if applicable	(Rs.)	13888147.74	0.00
16	Total Transportation Charges (12+13+14+15)	(Rs.)	13888147.74	0.00
17	Other Charges	(Rs.)	0.00	0.00
18	Total amount Charged for Coal supplied including Transportation (11+16)	(Rs.)	2259121949.72	0.00
E)	**TOTAL COST**			
19	Landed cost of Coal (2+18)/(1+7)	Rs./MT	**1936.89**	**0.00**
20	Blending Ratio (Domestic/Imported)		100.0%	0.0%
21	**Weighted average cost of Coal**	**Rs./MT**	**1936.89**	
F)	**QUALITY**			
22	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4399.00	
23	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4001.00	
24	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)		0.00
25	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)		0.00
26	**Weighted average GCV of coal as Billed**	**(kCal/Kg)**	**4058.00**	
27	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3724.00	
28	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3395.00	
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)		0.00
30	GCV of Imported Coal supplied as received at Station	(kCal/Kg)		0.00
31	**Weighted average GCV of coal as Received**	**(kCal/Kg)**	**3442.00**	

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Dec-23		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	13.04	2748.55
2	Value of Opening Stock	(Rs.)	0	1272095	252661931
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	341.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	341.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	341.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	28003158.00
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	28003158.00
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	28003158.00
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	97538.31	90843.50
19	Blending Ratio		0.00%	3.75%	96.25%
20	**Weighted Average Cost of Secondary fuel For the month**		**91094.56**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9224**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9128**	**9224**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9220**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9224**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9128**	**9224**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9220**		

Part 1

Details of Sourcewise fuel for computation of Energy Charges **Form - 15 version: 1**

Company	**NTPC Limited**
Name of the generating Station	**Korba Super Thermal Power Proj-STAGE 01 AND 02**
Month	**January-2024**

SL	Particulars	Unit	COAL-DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**			
1	Opening Stock of coal	MT	71653.32	0.00
2	Value of Stock	Rs.	138784579.00	0.00
B)	**QUANTITY**			
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	1251773.20	0.00
3.01	- Qty Received (Pit Head)	MT	1236618.90	0.00
3.02	- Qty Received (Non Pit Head)	MT	15154.30	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	1251773.20	0.00
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	2594.47	0.00
6.01	- Normative Loss (Pit Head)	MT	2473.24	0.00
6.02	- Normative Loss (Non Pit Head)	MT	121.23	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	1249178.73	0.00
C)	**PRICE**			
8	Amount charged by the Coal / Lignite Company	Rs.	2325579957.00	0.00
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	70324378.09	0.00
10	Handling,Sampling and such other Similar charges	Rs.	18599239.10	0.00
11	Total Amount charged (8 +9+10)	Rs.	2414503574.19	0.00
D)	**TRANSPORTATION**			
12	Transportation charges by Rail / Ship / Road Transport	Rs.	0.00	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.	13747734.63	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	13747734.63	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	2428251308.82	0.00
E)	**TOTAL COST**			
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	1943.50	0.00
19	Blending Ratio (Domestic/Imported)	%	100.00	0.00
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	1943.50	
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	1943.50	1943.50
F)	**QUALITY**			
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	4147	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	4001	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	0
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	0
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	4009	
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	4009	4009
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	3445	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	3506	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	0
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	0
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	3503	
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	3503	3503

Submitted On :16.04.2024

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Jan-24		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	10.04	2849.55
2	Value of Opening Stock	(Rs.)	0	979480	258862649
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	20.00	570.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	20.00	570.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	20.00	570.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	2130321.00	46844330.50
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	2130321.00	46844330.50
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	2130321.00	46844330.50
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	103515.10	89399.77
19	Blending Ratio		0.00%	4.35%	95.65%
20	**Weighted Average Cost of Secondary fuel For the month**		**90013.48**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9128**	**9224**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**9165**	**9224**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9221**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9128**	**9224**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**9165**	**9224**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9221**		

Part 1

Details of Sourcewise fuel for computation of Energy Charges **Form - 15 version: 1**

Company	**NTPC Limited**
Name of the generating Station	**Korba Super Thermal Power Proj-STAGE 01 AND 02**
Month	**February-2024**

SL	Particulars	Unit	COAL- DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**			
1	Opening Stock of coal	MT	177719.05	0.00
2	Value of Stock	Rs.	345396915.43	0.00
B)	**QUANTITY**			
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	1083126.70	0.00
3.01	- Qty Received (Pit Head)	MT	1083126.70	0.00
3.02	- Qty Received (Non Pit Head)	MT	0.00	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	1083126.70	0.00
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	2166.25	0.00
6.01	- Normative Loss (Pit Head)	MT	2166.25	0.00
6.02	- Normative Loss (Non Pit Head)	MT	0.00	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	1080960.45	0.00
C)	**PRICE**			
8	Amount charged by the Coal / Lignite Company	Rs.	2009106451.00	0.00
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	60849849.76	0.00
10	Handling,Sampling and such other Similar charges	Rs.	15618193.61	0.00
11	Total Amount charged (8 +9+10)	Rs.	2085574494.37	0.00
D)	**TRANSPORTATION**			
12	Transportation charges by Rail / Ship / Road Transport	Rs.	0.00	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.	12590213.22	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	12590213.22	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	2098164707.59	0.00
E)	**TOTAL COST**			
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	1941.37	0.00
19	Blending Ratio (Domestic/Imported)	%	100.00	0.00
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	1941.37	
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	1941.37	1941.37
F)	**QUALITY**			
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	3931	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	4001	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	0
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	0
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	3991	
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	3991	3991
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	3503	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	3546	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	0
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	0
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	3540	
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	3540	3540

Submitted On :16.04.2024

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Feb-24		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	29.04	3395.55
2	Value of Opening Stock	(Rs.)	0	3006286	303561385
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	487.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	487.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	487.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	42278680.20
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	42278680.20
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	42278680.20
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	103515.10	89075.50
19	Blending Ratio		0.00%	0.00%	100.00%
20	**Weighted Average Cost of Secondary fuel For the month**		**89075.50**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9165**	**9224**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**0**	**9280**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9280**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9165**	**9224**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**0**	**9280**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9280**		

Part 1

Details of Sourcewise fuel for computation of Energy Charges **Form - 15 version: 1**

Company	**NTPC Limited**
Name of the generating Station	**Korba Super Thermal Power Proj-STAGE 01 AND 02**
Month	**March-2024**

SL	Particulars	Unit	COAL- DOMESTIC	COAL - IMPORTED
A)	**OPENING QUANTITY**			
1	Opening Stock of coal	MT	308095.50	0.00
2	Value of Stock	Rs.	598127313.52	0.00
B)	**QUANTITY**			
3	Quantity of Coal /Lignite supplied by Coal / Lignite Company	MT	1138103.80	0.00
3.01	- Qty Received (Pit Head)	MT	1138103.80	0.00
3.02	- Qty Received (Non Pit Head)	MT	0.00	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	1138103.80	0.00
6	Normative transit & Handling losses (for Coal /Lignite based projects)	MT	2276.21	0.00
6.01	- Normative Loss (Pit Head)	MT	2276.21	0.00
6.02	- Normative Loss (Non Pit Head)	MT	0.00	0.00
7	Net Coal / Lignite supplied (5 - 6)	MT	1135827.59	0.00
C)	**PRICE**			
8	Amount charged by the Coal / Lignite Company	Rs.	2111084219.00	0.00
9	Adjustment (+ / -) in amount charged by coal / Lignite Company	Rs.	63938421.36	0.00
10	Handling,Sampling and such other Similar charges	Rs.	16625641.52	0.00
11	Total Amount charged (8 +9+10)	Rs.	2191648281.88	0.00
D)	**TRANSPORTATION**			
12	Transportation charges by Rail / Ship / Road Transport	Rs.	0.00	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.	11969790.56	0.00
16	Total transportation charges (12+/- 13 - 14 + 15)	Rs.	11969790.56	0.00
17	Total amount charged for Coal / Lignite supplied including transportation (11 + 16)	Rs.	2203618072.44	0.00
E)	**TOTAL COST**			
18	Landed Cost of Coal/Lignite (2+17) / (1+7)	Rs./MT	1940.37	0.00
19	Blending Ratio (Domestic/Imported)	%	100.00	0.00
20	Weighted average cost of Coal /Lignite (Including biomass)	Rs./MT	1940.37	
20.10	Weighted average cost of Coal /Lignite (Excluding biomass)	Rs./MT	1940.37	1940.37
F)	**QUALITY**			
21	GCV of Domestic coal of the opening coal stock as per bill of coal company	kCal/Kg	4141	0
22	GCV of Domestic coal supplied as per bill of coal company	kCal/Kg	4001	0
23	GCV of Imported coal of the opening coal stock as per bill of coal company	kCal/Kg	0	0
24	GCV of Imported coal supplied as per bill of coal company	kCal/Kg	0	0
25	Weighted average GCV of Coal /Lignite as billed (Including biomass)	kCal/Kg	4031	
25.10	Weighted average GCV of Coal /Lignite as billed (Excluding biomass)	kCal/Kg	4031	4031
26	GCV of Domestic coal of the Opening stock as received at station	kCal/Kg	3540	0
27	GCV of Domestic coal/biomass supplied as received at station	kCal/Kg	3606	0
28	GCV of Imported coal of the Opening stock as received at station	kCal/Kg	0	0
29	GCV of Imported coal supplied as received at station	kCal/Kg	0	0
30	Weighted average GCV of coal/ Lignite as Received (Including biomass)	kCal/Kg	3592	
30.10	Weighted average GCV of coal/ Lignite as Received (Excluding biomass)	kCal/Kg	3592	3592

Submitted On :16.04.2024

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

Name of the Petitioner: **NTPC Limited**
Name of the Generating Station **Korba STPP Stage-I & II**

S. No.	Month	Unit	Mar-24		
			HFO	HSD	LDO
A)	**OPENING QUANTITY**				
1	Opening Stock of Oil	(KL)	0.00	29.04	2676.55
2	Value of Opening Stock	(Rs.)	0	3006286	238415018
B)	**QUANTITY**				
3	Quantity of LDO supplied by Oil company	(KL)	0.00	0.00	683.00
4	Adjustment(+/-) in qnty.supplied made by Oil Comopany	(KL)	0.00	0.00	0.00
5	LDO supplied by Oil company (3+4)	(KL)	0.00	0.00	683.00
6	Normative transit & Handling losses	(KL)	0.00	0.00	0.00
7	Net Oil supplied (5-6)	(KL)	0.00	0.00	683.00
C)	**PRICE**				
8	Amount charged by Oil Company	(Rs.)	0.00	0.00	52487307.80
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	52487307.80
D)	**TRANSPORATION**				
12	Transportation charges by rail/ship/road transport	(Rs.)			
	By Rail		Inclusive	Inclusive	Inclusive
	By Road				
	By Ship				
	……..				
13	Adjustment(+/-) in amount made byRailways/ Transport Company	(Rs.)			
14	Demurrage Charges, if any	(Rs.)			
15	Total Transportation Charges (12+13+14+15)	(Rs.)			
16	Other Charges	(Rs.)	0.00	0.00	0.00
17	Total Amount charged for Oil supplied including transportation (11+15+16)	(Rs.)	0.00	0.00	52487307.80
E)	**TOTAL COST**				
18	Weighted average cost of Oil	(Rs./KL)	0.00	103515.10	86589.67
19	Blending Ratio		0.00%	1.37%	98.63%
20	**Weighted Average Cost of Secondary fuel For the month**		**86822.16**		
F)	**QUALITY**				
21	GCV of Domestic Secondary fuel of the opening Secondary fuel stock as per bill of Secondary fuel Company	Kcal/KL	**10117**	**9165**	**9280**
22	GCV of Domestic Secondary fuel supplied as per bill of Secondary fuel Company,	Kcal/KL	**0**	**0**	**9224**
23	GCV of Imported Secondary fuel of the opening stock as per bill Secondary fuel Company	Kcal/KL	-	-	-
24	GCV of Imported Secondary fuel supplied as per bill Secondary fuel Company	Kcal/KL	-	-	-
25	**Weighted average GCV of Secondary fuel as Billed**	**Kcal/KL**	**9223**		
26	GCV of Domestic Secondary fuel of the opening stock as received at Station	Kcal/KL	**10117**	**9165**	**9280**
27	GCV of Domestic Secondary fuel supplied as received at Station	Kcal/KL	**0**	**0**	**9224**
28	GCV of Imported Secondary fuel of opening stock as received at Station	Kcal/KL	-	-	-
29	GCV of Imported Secondary fuel supplied as received at Station	Kcal/KL	-	-	-
30	**Weighted average GCV of Secondary fuel as Received**	**Kcal/KL**	**9223**		