

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

For True-up in Petition No- 433/GT/2020

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-13 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for revision of tariff of **Rihand Super Thermal Power Station, Stage-I (1000 MW)** for the period from **01.04.2019 to 31.03.2024** after the truing up exercise.

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परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यावसायिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

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

Respondents

1. Uttar Pradesh Power Corp. Ltd. (UPPCL)
Shakti Bhawan
14, Ashok Marg,
Lucknow – 226 001.
2. Rajasthan Urja Vika Nigam Limited (RUVNL)
(on behalf of DISCOMs of Rajasthan),
Vidyut Bhawan, Janpath,
Jaipur 302 005.


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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

3. Tata Power Delhi Distribution Ltd.
Grid Substation, Hudson Road
Kingsway Camp
Delhi-110009.
4. BSES Rajdhani Power Ltd.,
2nd floor, B-Block
BSES Bhawan, Nehru Place
New Delhi-110019.
5. BSES Yamuna Power Ltd.,
Shakti Kiran Building
Karkardooma
Delhi-110092
6. Haryana Power Purchase Centre (HPPC)
Shakti Bhawan, Sector – VI,
Panchkula
Haryana – 134 109
7. Punjab State Power Corporation Ltd. (PSPCL)
The Mall
Patiala – 147 001
8. Himachal Pradesh State Electricity Board Ltd.
(HPSEB)
Kumar Housing Complex Building-II
Vidyut Bhawan
Shimla – 171 004
9. Power Development Department (J&K)
Govt. of J&K, Secretariat
Srinagar



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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

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

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

The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as 'Petitioner' or 'NTPC'), is a Government of India Company within the meaning of the Companies Act, 1956. Further, it is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) The Petitioner is having power stations/ projects at different regions and places in the country. Rihand Super Thermal Power Station, Stage-I (1000 MW) (hereinafter referred to as Rihand St-I) is one such station located in the State of Uttar Pradesh (U.P.).
- 3) The power generated from Rihand St-I is being supplied to the respondents herein mentioned above.
- 4) Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by a generating company. The Hon'ble Commission, under Section 79(1)(a) of Electricity Act, 2003, is vested with the jurisdiction to regulate the tariff of the Generating Companies owned or controlled by the Central Government.
- 5) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019) which came into force from 1.4.2019 and specify the



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terms & conditions and methodology of tariff determination for the period from 01.04.2019 to 31.03.2024 under Section 62 & 79 of the Electricity Act, 2003.

- 6) Regulation 9(2) of CERC (Terms & Conditions of Tariff) Regulations 2019 provides as under:

"9. Application for determination of tariff:

.....

"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2019-24 along with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014."

- 7) In accordance with the above, Petition No. 433/GT/2020 for determination of tariff for Rihand Super Thermal Power Station, Stage-I (1000 MW) was filed before the Hon'ble Commission based on the admitted cost as on 31.03.2019 and projected estimated additional capital expenditure for the period 01.04.2019 to 31.03.2024.

- 8) The tariff for Rihand St-I for the period from 01.04.2019 to 31.3.2024 was determined by the Hon'ble Commission vide order dated 15.09.2023 in Petition No. 433/GT/2020. The capital cost allowed for tariff determination included the projected additional capital expenditure admitted by the Hon'ble Commission after prudence check.

- 9) Further, Chapter-3, Regulation 13 of the Tariff Regulations 2019 provides as under:

"(13) Truing up of tariff for the period 2019-24:

(1) The Commission shall carry out truing up exercise for the period 2019-24 along with the tariff petition filed for the next tariff period, for the following:



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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

a) the capital expenditure including additional capital expenditure incurred up to 31.3.2024, as admitted by the Commission after prudence check at the time of truing up:

b) the capital expenditure including additional capital expenditure incurred up to 31.3.2024, on account of Force Majeure and Change in Law.

(2) The generating company or the transmission licensee, as the case may be, shall make an application, as per Annexure-I to these regulations, for carrying out truing up exercise in respect of the generating station or a unit thereof or the transmission system or an element thereof by 30.11.2024.

.....”

- 10) In line with the provisions quoted above, the Petitioner is filing this petition for truing up the additional capital expenditure for the control period 2019-24, based on admitted capital cost as on 01.04.2019 and actual capital expenditure incurred during the tariff period from 01.04.2019 to 31.03.2024.
- 11) The year wise actual capital expenditure has been indicated and enclosed as part of **Appendix-I** herewith. In addition to the actual additional capital expenditure as above, discharge of liabilities during the period from 01.04.2019 to 31.03.2024 (year wise) out of the liabilities excluded from capital cost for the works already allowed/ claimed have also been indicated.
- 12) As per para 25 of CERC order dated 15.09.2023 in petition no. 433/GT/2020 the capital cost as on 31.3.2024 is Rs 2,51,698.87 Lakh, as shown in Form-5. Further, the Petitioner has claimed additional capitalization under the regulatory provisions of CERC Tariff Regulations-2019 for truing up of tariff. The difference in additional capitalization amounting to Rs (-) 6,732.88Lakh wrt earlier add-cap has been adjusted to arrive at the capital cost as on 31.3.2024, as shown in Form-9A. Hon'ble Commission may be pleased to take the same into consideration while approving the tariff of the instant station.

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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

- 13) Further, in accordance with the provisions of the Regulation-31 of Tariff Regulations 2019, for the purpose of computation of the Return on Equity, the base rate has been grossed up with the effective tax rate (MAT) applicable to NTPC at the end of respective financial years for the period 2019-24. The same is indicated in the Form-3 attached at **Appendix-I**.
- 14) Further, in accordance with the provisions of the Regulation-34 of Tariff Regulations 2019, for the purpose of computation of the Interest on Working Capital, the landed fuel cost (taking into account normative transit and handling losses) and gross calorific value of the fuel as per actual weighted average for the third-quarter of FY 2018-19, FY 2019-20, FY 2020-21, FY 2021-22 & FY 2022-23 is considered. Also, the rate of interest on working capital is considered at bank rate as on 1st April of each of the financial year during the tariff period of 2019-24. The same is indicated in the Form-O attached at **Appendix-I**.
- 15) It is submitted that some of the loans allocated to this station have been refinanced by taking new loans with lower rate of interest. As per Regulation 61 (1) of Tariff Regulations 2019, the benefits of refinancing of loans has to be shared with the beneficiaries in the ratio of 50:50 (Beneficiaries: Generator). The same has been applied by adjusting the rate of interest of new loans while computing weighted average rate of interest. The adjustment in rate of interest for new loans has been done as illustrated below:
- Rate of interest of existing loan: 8.000% (say)
Rate of interest of new loan for refinancing of existing loan: 6.000% (say)
Rate of interest of new loan considered for computing weighted average rate of interest: 7.000%.
- 16) It is relevant to submit that the Petitioner has filed Appeal before the Hon'ble Appellate Tribunal for Electricity in respect of certain disallowed claims by Hon'ble Commission. It is humbly submitted that the Petitioner reserves the right to approach this Hon'ble Commission and/or file amended Petition based on the outcome of such Appeal and/or any subsequent appeal(s).



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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

- 17) Hon'ble Commission vide tariff order dated 15.09.2023 in tariff petition 433/GT/2020 of the stations at Para 46 has allowed the truing up of water charges which has been allowed by the Hon'ble Commission in the instant order based on actual/projections. Accordingly, the details for water charges at actuals have been submitted in the instant petitioner. Hon'ble Commission may be pleased to allow the same.
- 18) It is submitted that Hon'ble Commission at para 47 in its order dated 15.09.2023 in petition no. 433/GT/2020 has allowed the consideration of the claim on merits towards capital spares consumption at the time of truing up. Accordingly, the same has been claimed in Form-3A of the attached Appendix-I. The details of the year wise capital spares consumed have been provided in Form-17 of the attached Appendix-I. It is prayed before Hon'ble Commission to consider the same and allow the expenditure on capital spares consumption as claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations.
- 19) It is further submitted that in petition no. 433/GT/2020 for the instant station, the claim against security expenses had been claimed by the petitioner on estimated basis, and the same has been considered by Hon'ble Commission subject to truing up in its order dated 15.09.2023 in petition no. 433/GT/2020. The details of actual security expenses has been provided in Form-3A of the attached Appendix-I for the period 2019-24. It is prayed before Hon'ble Commission to consider the same and allow the expenditure on security expenses as claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations."
- 20) **Ash Transportation expenses**
- (i) It is submitted that Hon'ble Commission vide its order dated 28.10.2022 in Petition No. 205/MP/2021 has allowed ash transportation on actual basis for the period 2019-22 and the monthly billing for ash transportation charges for 2022-24 period as below:

"



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39. Petitioner has furnished the details of the distance to which fly ash has been transported from the generating station, schedule rates applicable for transportation of fly ash, as notified by the State Governments along with details, including Auditor certified accounts. These documents have been examined and accordingly, the total fly ash transportation expenditure allowed to the Petitioner generating station wise for the period 2019-22 is as per the table in para 38 above totalling to Rs.309704.03 lakh and the same shall be recovered from the beneficiaries of the respective generating stations in 6 (six) equal monthly installments. However, the Petitioner is directed to submit details regarding award of transportation contracts, distance to which fly ash has been transported along with duly reconciled statements of expenditure incurred on ash transportation at the time of filing petitions for truing up of tariff for the 2019-24 tariff period of the generating stations.

Monthly billing

.....

43. In the light of the above discussion and keeping in view that the Petitioner is entitled for recovery of fly ash transportation charges, under change in law, as additional O&M expenses, we permit the provisional billing at 90% of the fly ash transportation charges incurred by the Petitioner, in respect of its generating stations, for the balance period (i.e. 2022-24), on a monthly basis, based on self -certification, and the beneficiaries shall pay the same accordingly. This is, however, subject to prudence check of the claims, at the time of truing-up of tariff for the period 2019-24, in respect of the generating stations of the Petitioner, in terms of Regulation 13 of the 2019 Tariff Regulations.

44. We direct that the fly ash transportation cost incurred by the Petitioner, shall be recovered, in proportion to the coal consumed corresponding to the scheduled generation at normative parameters in accordance with the 2019 Tariff Regulations or at actuals, whichever is lower, for the supply of electricity to the respective Discoms. If the actual generation is less than the scheduled generation, the coal consumed for actual generation shall be considered for the purpose of computation of transportation of fly ash. The Petitioners are

directed to furnish along with its monthly regular and/or supplementary bill(s), computations duly certified by the auditor, to the Respondent Discoms. The Petitioners and the Respondent Discoms are also directed to carry out reconciliation in respect of the claims, annually and the same is subject to truing-up, in terms of Regulation 13 of the 2019 Tariff Regulations."

.....
.....
Carrying Cost

47. In line with the above decision and since the Petitioner has been permitted to recover the fly ash transportation cost as 'additional O&M expenses', for the period 2019-24, in exercise of the regulatory powers under Section 79(1)(a) of the Act, we permit the recovery of these charges, along with carrying cost, at the rate of interest as specified, in terms of Regulation 10 (7) of the 2019 Tariff Regulations."

It is pertinent to mentioned here that in compliance to the various directives of the Hon'ble commission in petition no 205/MP/2021, petitioner has already submitted entire set of documents i.e. transportation contracts, price discovery mechanism, end user certificate etc and duly audited statement of ash transportation and ash fund for the FY 2019-20, 20-21 and 21-22. Based on the above said submissions of petitioner, the Hon'ble Commission has already decided the Ash Transportation expenditure for NTPC Stations including the instant station for the said period which has achieved finality.

Further, in compliance to Hon'ble Commission directives vide order dated 28/10/2022 in petition no 205/MP/2021 (para 43), the petitioner continued monthly billing of ash transportation expenditure @90% of expenditure provisionally for the balance period 2022-24.

In view of the above directions passed by this Hon'ble Commission, the Petitioner is now submitting the actual transportation cost incurred for ash transportation for the period 2022-24 on actual basis in Form-3A along with the required documents. It is relevant to mention that Form-3A contains information of Ash Transportation for entire control period of 2019-24 for the



sake of brevity/ simplicity. It is prayed that this Hon'ble Commission may be pleased to allow the same as prayed for. »

21) The tariff calculation based on the above & other applicable provisions, in the formats provided in the **Appendix-I** of the Tariff Regulations 2019 are enclosed herewith.

22) The filing fee for the tariff determination has already been paid for the period from 2019-24 as per provisions of CERC (Payment of Fees), Regulation 2012. Accordingly, no fee is payable along with this petition for revision of tariff.

Prayer

In the light of above submissions and submissions made in respect of the directions of the Hon'ble Commission in its order dated 15.09.2023 the Petitioner, therefore, prays that the Hon'ble Commission may be pleased to:

- i) Approve revised tariff of Rihand St-I for the tariff period 2019-24 as per provision of Regulation 13 of Tariff Regulations 2019.
- ii) Allow the Petitioner to recover the additional O&M cost for ash transportation.
- iii) Allow the reimbursement of water charges, capital spares and security expenses for the instant station, as claimed by the Petitioner.
- iv) Pass any other order as it may deem fit in the circumstances mentioned above.



(Petitioner)

Noida (U.P.)

Date: 18.11.2024

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यवसायिक)
Addl. General Manager (Commercial)
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EOC-2/2024 Sector-24, Noida-201301 (U.P.)

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

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For True-up in Petition No- 433/GT/2020

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-13 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for revision of tariff of **Rihand Super Thermal Power Station, Stage-I (1000MW)** for the period from 01.04.2019 to 31.03.2024 after the truing up exercise.

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



Respondents:

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

And
Others

AFFIDAVIT

I, Parimal Piyush, Son of Late Bharat Mishra, aged about 49 years, resident of IN1-2004, Inspire, Eldeco Amantran, Sector-119, Noida (UP), do hereby solemnly affirm and state as follows:

1. That the deponent is the Additional General Manager (Commercial) of the Petitioner NTPC Ltd., and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.
2. That the accompanying Petition under Section 62 and 79 (1) (a) of the Electricity Act, 2003, has been filed by my authorized representative under my



SPT

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

3. That the contents of Para No.....1..... to...22... 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.

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एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

(Deponent)

Verification:

Verified at Noida on this 16th 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)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)



ATTESTED
BALKRISHNA DIXIT
Advocate (Notary)
R. No. 7167
GAUTAM BUDDH NAGAR (U.P.)

16 NOV 2024

TARIFF FILING FORMS (THERMAL)

FOR TRUING-UP OF TARIFF

FOR

Rihand Super Thermal Power Station Stage-I

(From 01.04.2019 to 31.03.2024)

PART-I

APPENDIX-I



परिमल पीयूष / PARIMAL PIYUSH
अपर महाप्रबन्धक (वणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOC, A-BA, Sector-24, Noida-201301 (U.P.)

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

Form No. *	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Ash Transportation Expenses	✓
FORM- 4	Details of Foreign loans	✓
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-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-9B#	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 Secondary Fuel for Computation of Energy Charges	✓
FORM- 15B**	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	✓
FORM- 18	Non-Tariff Income	✓
FORM-19	Details of Water Charges	✓
FORM-20	Details of Statutory Charges	✓

PART-I

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

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

** Additional Forms


Provided yearwise for the period 2019-24

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
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 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

<u>List of supporting documents for tariff filing for Thermal Stations</u>		
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. 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	NA
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	✓
9	Any other relevant information, (Please specify)	NA
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	✓
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA
		(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-92 Sector-24, Noida-201301 (U.P.)

Summary of Tariff								PART-I	
								FORM-1	
Name of the Petitioner:		NTPC Limited							
Name of the Generating Station:		Rihand Super Thermal Power Station Stage-I							
Place (Region/District/State):		Northern Region/Sonebhadra/ Uttar Pradesh							
S. No.	Particulars	Unit	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	
1	2	3	4	5	6	7	8	9	
1.1	Depreciation	Rs Lakh	44.84	175.82	106.55	114.87	189.60	299.02	
1.2	Interest on Loan	Rs Lakh	50.82	96.98	82.47	77.71	148.16	247.24	
1.3	Return on Equity	Rs Lakh	23,741.16	13,718.03	13,714.84	13,696.20	13,716.45	13,778.44	
1.4	Interest on Working Capital	Rs Lakh	5,421.15	4,268.01	4,062.56	3,769.40	3,977.43	4,931.13	
1.5	O&M Expenses	Rs Lakh	20,875.96	25,610.14	28,021.56	29,563.78	32,364.61	40,609.80	
1.6	Special Allowance (if applicable)	Rs Lakh	9594.25	9,500.00	9,500.00	9,500.00	9,500.00	9,500.00	
	Total	Rs Lakh	59,728.18	53,368.95	55,487.98	56,721.97	59,896.24	69,363.63	
2.1	Landed Fuel Cost of coal as per FSA approved by beneficiaries	Rs/Ton	1,698.87	2,228.61	2,248.05	2,161.19	2,422.66	2,409.13	
	(%) of Fuel Quantity	(%)	97.12%	100.00%	100.00%	100.00%	100.00%	100.00%	
2.2	Landed Fuel Cost of Imported Coal as per FSA approved by beneficiaries	Rs/Ton	NA						
	(%) of Fuel Quantity	(%)	NA						
2.3	Landed Fuel Cost of coal other than FSA	Rs/Ton	5,890.58	NA					
	(%) of Fuel Quantity	(%)	1.11%	NA					
2.4	Landed Fuel Cost Imported Coal other than FSA	Rs/Ton	6,663.22	NA					
	(%) of Fuel Quantity	(%)	1.77%	NA					
2.5	Secondary fuel oil cost	Rs/Unit	0.03	0.03	0.03	0.02	0.03	0.04	
	Energy Charge Rate ex-bus 2A, 2B, 2C, 2D	Rs/Unit	1.30	1.42	1.43	1.42	1.49	1.57	
 (Petitioner)									

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

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

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	2,43,422.87	2,43,498.26	2,43,309.58	2,42,836.68	2,44,028.49
2	Add: Addition during the year	241.31	138.37	59.21	2,728.83	1,342.81
3	Less: De-capitalisation during the year	-165.92	-414.19	-562.73	-1,548.90	-466.34
4	Less: Reversal during the year	-	-	-	-	-
5	Add: Discharges during the year	-	87.14	30.61	11.88	61.03
6	Closing Capital Cost	2,43,498.26	2,43,309.58	2,42,836.68	2,44,028.49	2,44,965.98
7	Average Capital Cost	2,43,460.57	2,43,403.92	2,43,073.13	2,43,432.58	2,44,497.24

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

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	243422.87	243498.26	243309.58	242836.68	244028.49
2	Add: Addition during the year	241.31	138.37	59.21	2728.83	1342.81
3	Less: De-capitalisation during the year	-165.92	-414.19	-562.73	-1548.90	-466.34
4	Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year	0.00	87.14	30.61	11.88	61.03
6	Closing Capital Cost	243498.26	243309.58	242836.68	244028.49	244965.98
7	Average Capital Cost	243460.57	243403.92	243073.13	243432.58	244497.24

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED
ECC, A-8A, Sector-24, Noida-201301 (U.P.)

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

Amount in Rs. Lakhs

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

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


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Statement showing Return on Equity at Normal Rate						PART-I
Name of the Petitioner					NTPC Limited	
Name of the Generating Station					Rihand Super Thermal Power Station Stage-I	
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	1,20,352.78	1,20,342.21	1,20,202.77	1,19,948.35	1,19,996.12
2	Less: Adjustment in Opening Equity	47,325.92	47,292.74	47,209.90	47,097.35	46,787.57
3	Adjustment during the year	-	-	-	-	-
4	Net Opening Equity (Normal)	73,026.86	73,049.48	72,992.87	72,851.00	73,208.55
5	Add: Increase in equity due to addition during the year	72.39	41.51	17.76	818.65	402.84
7	Less: Decrease due to De-capitalisation during the year	-49.78	-124.26	-168.82	-464.67	-139.90
8	Less: Decrease due to reversal during the year	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year	0.00	26.14	9.18	3.57	18.31
10	Net closing Equity (Normal)	73,049.48	72,992.87	72,851.00	73,208.55	73,489.80
11	Average Equity (Normal)	73,038.17	73,021.18	72,921.94	73,029.77	73,349.17
12	Rate of ROE (%)	18.782%	18.782%	18.782%	18.782%	18.782%
13	Total ROE	13,718.03	13,714.84	13,696.20	13,716.45	13,776.44



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Statement showing Return on Equity at Weighted Average Rate of Interest						PART-I FORM-1(IIB)
Name of the Petitioner:			NTPC Limited			
Name of the Generating Station:			Rihand Super Thermal Power Station Stage-I			
						Amount in Rs. Lakhs
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity @ Weighted Average Rate of Interest					
1	Gross Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
5	Add: Increase in equity due to addition during the year	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	0.00	0.00	0.00	0.00	0.00
11	Average Equity (Normal)	0.00	0.00	0.00	0.00	0.00
12	Rate of ROE (%)	9.80%	8.18%	7.71%	8.72%	9.17%
13	Total ROE	0.00	0.00	0.00	0.00	0.00


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Name of the Company:	NTPC Limited	
Name of the Power Station:	Rihand Super Thermal Power Station Stage-I	
Plant Characteristics		
Unit(s)/Block(s)/Parameters	Unit-I	Unit-II
Installed Capacity (MW)	500	500
Schedule COD as per Investment Approval	NA	NA
Actual COD (Date of Taken Over (as applicable)	01.01.1990	01.01.1991
Pit Head or Non Pit Head	Pit Head	
Name of the Boiler Manufacture		
Name of Turbine Generator Manufacture		
Main Steams Pressure at Turbine Inlet (kg/Cm ²) abs ¹ .		
Main Steam Temperature at Turbine inlet (°C) ¹		
Reheat Steam Pressure at Turbine inlet (kg/Cm ²) ¹		
Reheat Steam Temperature at Turbine inlet (°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	N/A	
% Makeup Water Consumption		
Design Capacity of Make up Water System(DM)—m ³ /hr		
Design Capacity of Inlet Cooling System-m ³ /hr		
Design Cooling Water Temperature (°C)		
Back Pressure(mm Hg abs)		
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 (°C)		
Steam Temperature at Reheater outlet at BMCR condition (°C)		
Design / Guaranteed Boiler Efficiency (%)		
Design Fuel with and without Blending of domestic/imported coal		
Type of Cooling Tower	Not Applicable	
Type of cooling system ⁵	Once Through Cooling	
Type of Boiler Feed Pump ⁵	Electric Motor Driven-3 Nos per unit	
Type of coal Mill		
Fuel Details ⁷		
-Primary Fuel	Coal	
-Secondary Fuel	LDO	
-Alternate Fuels	LDO	
Types of SOX control system	FGD under implementation	
Types of NOX control system		
Details of SPM control system	ESP	
Special Features/Site Specific Features ⁸		
Special Technological Features ⁹		
Environmental Regulation related features ¹⁰	1.ESP is provided 2.FGD under implementation	
	 (Petitioner)	

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Normative parameters considered for tariff computations							PART-I
							FORM-3
Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Rihand Super Thermal Power Station Stage-I					
Particulars	Unit	(Year Ending March)					
		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity at normal rate	%	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Base Rate of Return on Equity on Add. Capitalization at Weighted Average	%	8.30%	8.08%	6.75%	6.36%	7.19%	7.57%
Rate of Interest on Loan	%	21.55%	17.47%	17.47%	17.47%	17.47%	17.47%
Effective Tax Rate	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Target Availability	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
In High Demand Season	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Peak Hours	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Off-Peak Hours	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
In Low Demand Season(Off-Peak)	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Peak Hours	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Off-Peak Hours	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Auxiliary Energy Consumption	%	7.75%	8.00%	8.00%	8.00%	8.00%	8.00%
Gross Station Heat Rate	kCal/kWh	2335.00	2350.00	2350.00	2350.00	2350.00	2350.00
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC	in Days	45	40	40	40	40	40
Cost of Main Secondary Fuel Oil for WC	in Months	2	2	2	2	2	2
Fuel Cost for WC	in Months						
Liquid Fuel Stock for WC	in Months						
O&M Expenses	Rs lakh/MW	20.43	22.51	23.30	24.12	24.97	25.84
Maintenance Spares for WC	% of O&M	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Receivables for WC	in Days	2months	45.00	45.00	45.00	45.00	45.00
Storage capacity of Primary fuel*	MT	8.9 Lakh MT					
SBI 1 Year MCLR plus 350 basis point	%	13.50%	12.05%	11.25%	10.50%	10.50%	12.00%
Blending ratio of domestic coal/imported coal		1.77%	0.00%	0.00%	0.00%	0.00%	0.00%

*Combined storage capacity of Rihand St-I, Rihand St-II and Rihand St-III.

परिमल पीयूष/PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

(Petitioner)

Calculation of O&M Expenses

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

Amount in Rs. Lakhs

S.No	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	O&M expenses under Reg.35(1)					
1a	Normative	22510.00	23300.00	24120.00	24970.00	25840.00
2	O&M expenses under Reg.35(6)					
2a	Water Charges	466.24	466.24	466.24	466.24	477.83
2b	Security expenses	1244.50	1535.62	1251.15	1503.19	1667.45
2c	Capital Spares*	1389.40	1791.07	1217.69	1847.84	5355.02
3	O&M expenses-Ash Transportation**	0.00	928.63	2508.71	3577.34	7269.50
	Total O&M Expenses	25610.14	28021.56	29563.78	32364.61	40609.80

*Capital spares: The above amount for Rihand-I is by apportioning the capital spares for Rihand-I, II & III based on MW installed capacity.

Hon'ble commission vide its order dated 28.10.2022 in petition no 205/MP/2021 had allowed the Ash transportation expenses of Rs 0 Lakhs, Rs 3125.21Lakh, Rs 7229.05 Lakhs for the period from 2019-20, 2020-21 & 2021-22 after accounting for the revenue earned through sale of ash for the Rihand Station (Stage-I, II and III combined), as per the audited data submitted by the petitioner. Also, Hon'ble commission had allowed the provisional billing at 90 % of the ash transportation expenses incurred by the petitioner for the tariff period (i.e. 2022-24). The details of same apportioned for Rihand-I, II & III provided in Annexure-3B. Auditor certificate enclosed as **Annexure-1.



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Part-I
FORM-3B
ADDITIONAL FORM

Statement of Ash Transportation Expenses

Name of the Petitioner:

NTPC Limited

Name of the Generating Station:

Rihand Super Thermal Power Station Stage-I

S.No.	Particulars	UOM	Amount in Rs. in Lakh				
			2019-20	2020-21	2021-22	2022-23	2023-24
1	Total Ash Transportation Charges Incurred, Rihand Station	Rs Lakh	11.90	3,364.53	7,229.05	11,810.27	21,277.18
2	Income from sales of Ash, Rihand Station	Rs Lakh	11.90	239.32	-	5.49	44.09
3	Net Ash Transportation Charges, Rihand Station	Rs Lakh	-	3,125.21	7,229.05	11,804.78	21,233.09
4	Ash Trans. Charges- Rihand Super Thermal Power Station Stage-I	Rs Lakh	-	928.63	2,508.71	3,577.34	7,269.50
5	Ash Trans. Charges- Rihand Super Thermal Power Station Stage-II	Rs Lakh	-	1,118.65	2,153.78	4,210.75	6,756.94
6	Ash Trans. Charges- Rihand Super Thermal Power Station Stage-III	Rs Lakh	-	1,077.92	2,566.56	3,940.88	7,206.65
			-	3,125.20	7,229.05	11,728.97	21,233.09

Note- Ash Transportation charges from 2019-20 to 2021-22 were allowed by Hon'ble Commission vide its order dated 28.10.2022 in Petition No-205/MP/2021 which is pro-rated based on Scheduled Generation (SG) in different stages.



 परिमल पीयूष/PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Form-4		DETAILS OF FOREIGN LOANS (Details only in respect of loans applicable to the project under petition) NTPC LIMITED										Part-4 Form-4									
Name of the company																					
Name of the Power Station																					
Exchange Rate as on		31-03-2019	USD = Rs.	69.77	EUR = Rs.	78.04	JPY = Rs.	0.6265													
Exchange Rate as on		31-03-2020	USD = Rs.	76.06	EUR = Rs.	84.43	JPY = Rs.	0.7069													
Exchange Rate as on		31-03-2021	USD = Rs.	74.98	EUR = Rs.	87.28	JPY = Rs.	0.6730													
Exchange Rate as on		31-03-2022	USD = Rs.	78.33	EUR = Rs.	85.76	JPY = Rs.	0.6280													
Exchange Rate as on		31-03-2023	USD = Rs.	82.74	EUR = Rs.	90.67	JPY = Rs.	0.6265													
Exchange Rate as on		31-03-2024	USD = Rs.	83.85	EUR = Rs.	91.81	JPY = Rs.	0.5576													
		32.65%		(Amount in Lacs)				(Amount in Lacs)				(Amount in Lacs)									
Financial Year (Starting)		2019-20 (01.04.2019 to 31.03.2020)				2020-21 (01.04.2020 to 31.03.2021)				2021-22 (01.04.2021 to 31.03.2022)				2022-23 (01.04.2022 to 31.03.2023)				2023-24 (01.04.2023 to 31.03.2024)			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Financial Year (Starting)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	
KIW .ESP	13-03-2019																				
Carveup 1 EURO	01-04-2019	215.19	78.84	16,985.24	01-04-2020	215.19	84.43	18,168.88	01-04-2021	215.19	87.25	18,782.18	01-04-2022	215.19	85.76	18,468.08	01-04-2023	215.19	90.67	19,554.73	
At the date of draw																					
Loan repayment upto		53.80	78.84	4,241.45		83.70		107.60		107.60		107.60		124.30		107.60		191.40		191.40	
Net loan at the beginning of	01-04-2019	161.40	78.84	12,743.79	01-04-2020	131.50	84.43	11,205.55	01-04-2021	107.60	87.25	9,391.09	01-04-2022	83.70	85.76	7,182.88	01-04-2023	53.80	90.67	4,885.68	
Schedule repayment date of	15-09-2019	13.45	78.84	1,057.17	15-09-2020	13.45	84.43	1,138.73	15-09-2021	13.45	87.25	1,176.83	15-09-2022	13.45	85.76	1,154.58	15-09-2023	13.45	90.67	1,217.76	
Schedule payment date of	15-09-2019	2.57	78.84	202.34	15-09-2020	2.55	84.43	215.27	15-09-2021	1.72	87.25	149.14	15-09-2022	1.29	85.76	109.54	15-09-2023	0.86	90.67	77.42	
Withholding tax including	15-09-2019	-	-	-	15-09-2020	-	-	-	15-09-2021	-	-	-	15-09-2022	-	-	-	15-09-2023	-	-	-	
Schedule repayment date of	15-03-2020	13.45	83.77	1,128.61	15-03-2021	13.45	88.71	1,196.19	15-03-2022	13.45	84.31	1,139.84	15-03-2023	13.45	87.76	1,182.88	15-03-2024	13.45	90.47	1,216.78	
Schedule payment date of	15-03-2020	2.38	83.77	197.66	15-03-2021	1.95	88.71	172.41	15-03-2022	1.88	84.31	158.15	15-03-2023	1.27	87.76	111.19	15-03-2024	0.84	90.47	75.79	
Withholding tax including	15-03-2020	-	-	-	15-03-2021	-	-	-	15-03-2022	-	-	-	15-03-2023	-	-	-	15-03-2024	-	-	-	
ERV	31-03-2020	-	-	0.14	31-03-2021	-	-	0.05	31-03-2022	-	-	0.00	31-03-2023	-	-	0.00	31-03-2024	-	-	0.00	
At the end of Financial	31-03-2020	134.60	84.43	11,355.55	31-03-2021	107.66	87.28	9,391.09	31-03-2022	83.70	85.76	7,182.88	31-03-2023	53.80	90.67	4,885.68	31-03-2024	26.96	91.81	2,461.34	

(Pafibover)


परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :		NTPC Limited	
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I	
Last date of order of Commission for the project		Date (DD-MM-YYYY)	15-09-2023
Reference of petition no. in which the above order was passed		Petition no.	433/GT/2020
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:			
Capital cost as on 31.03.2024		(Rs. in lakh)	2,51,698.87
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)			
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)			813.62
Gross Normative Debt as on 31.03.2024			1,28,863.29
Cumulative Repayment as on 31.03.2024			1,23,704.33
Net Normative Debt as on 31.03.2024			5,158.96
Normative Equity as on 31.03.2024			1,22,835.58
Cumulative Depreciation as on 31.03.2024			2,16,574.86
Freehold land			3,114.74
			 (Petitioner)

परिमल पीयूष / PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOG, A-8A, Sector-24, Noida-201301 (U.P.)

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station	Rihand Super Thermal Power Station Stage-I	
Reference of Final True-up Tariff Petition	Affidavit dated	
Capital Cost as on 31.03.2024 as per Hon'ble Commission's Order dated 15.09.2023 in Pet. No. 433/GT/2020	Rs. Lakhs	2,51,698.87
Adjustment as per Para 11 i.e. capital cost as on 31.03.2024 as per present true-up petition		-6,732.89
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 31.03.2024	(Rs. in lakh)	2,44,965.98
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		-
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		6,044.33
Gross Normative Debt as on 31.03.2024		1,24,781.89
Cumulative Repayment as on 31.03.2024		1,21,173.95
Net Normative Debt as on 31.03.2024		3,607.94
Normative Equity as on 31.03.2024		1,20,184.10
Cumulative Depreciation as on 31.03.2024		2,11,954.70
Freehold land		3,113.23
		 (Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Statement Giving Details of Project Financed through a Combination of Loan		Part-I Form-B	
Form B			
TRANCHE NO			
BP NO 529000752	E92001	D99000	
Unsecured Loan From AXIS BANK-I			
Source of Loan :	AXIS BANK-I		
Currency :	INR		
Amount of Loan :	30,00,00,00,000		
Total Drawn amount :	5,00,00,00,000		
Date of Drawl :	30-04-2023		
Interest Type :	Floating		
Fixed Interest Rate :			
Base Rate, if Floating Interest :	7.45%		
Margin, if Floating Interest :			
App. Rate w/ Cap/Floor :	Y/N		
Frequency of Int. Payment :	MONTHLY		
If Above is yes, specify Cap/Floor :			
Moratorium Period :	3 Years		
Moratorium effective from :	30-04-2023		
Repayment Period (inc. Moratorium) :	12 Years		
Repayment Frequency :	3 Yearly Yearly Instalment		
Repayment Type :	AVG		
First Repayment Date :	11-07-2023		
Base Exchange Rate :	R. PEE		
Date of Base Exchange Rate :	N.A.		
Project Code	Project Name	Amount	
	SAPRI-I	70,00,00,000/08.04.2023	D99000
	GADARWARA	80,00,00,000/08.04.2023	D99000
	DARUPALI	20,00,00,000/08.04.2023	D99000
	SHARGONE	70,00,00,000/08.04.2023	D99000
	SAPAJUNI-II	40,00,00,000/08.04.2023	D99000
	BEJALUR SOLAR 20MW	30,00,00,000/08.04.2023	D99000
	ALURAYA SOLAR 20MW	5,00,00,000/08.04.2023	D99000
	ALURAYA SOLAR FS 20MW	5,00,00,000/08.04.2023	D99000
	SIRHADRI FLOATING	5,00,00,000/08.04.2023	D99000
	SINGRAJLI R&M	43,00,00,000/08.04.2023	D99000
	KORBA R&M	32,00,00,000/08.04.2023	D99000
	SAVANGUNDAMI I & II R&M	45,00,00,000/08.04.2023	D99000
	VINCHHYCHAL R&M	40,00,00,000/08.04.2023	D99000
	FARAWA R&M	26,00,00,000/08.04.2023	D99000
	RHANI R&M	35,00,00,000/08.04.2023	D99000
	DADRI GAS R&M	8,00,00,000/08.04.2023	D99000
	TSTPP R&M	8,00,00,000/08.04.2023	D99000
	WCDPP R&M	5,00,00,000/08.04.2023	D99000
	CHATTISGARHLY OWS	5,00,00,000/08.04.2023	D99000
Total Allocated Amount		5,00,00,00,000	


परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (राजिस्ट्रार)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-2A, Sector-24, Noida-201301 (U.P.)

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

BP NO 266890791		TRANCHE NO T00001		D00003	
Unsecured Loan From HDFC Bank Ltd. VI					
Source of Loan	HDFC Bank Ltd. VI				
Currency	INR				
Amount of Loan	25,00,00,000				
Total Drawn amount	1,70,00,00,000				
Date of draw	01.01.2020				
Interest Type	Floating				
Fixed Interest Rate					
Base Rate, if Floating Interest	7.55%				
Margin, if Floating Interest	NIL				
Are there any Caps/Floor	Y/N				
Frequency of Int. Payment	MONTHLY				
If Above is yes, specify Caps/Floor					
Moratorium Period	3 Years				
Moratorium effective from	01.01.2020				
Repayment Period (inc. Moratorium)	15 Years				
Repayment Frequency	3 Yearly Instalment				
Repayment Type	AVD				
First Repayment Date	11.06.2023				
Base Exchange Rate	RUPEE				
Date of Base Exchange Rate	N/A				
Project Code	Project Name	Amount			
	KSRBA R&M	20,00,00,000	01.01.2020	T00001	D00003
	RAMACHANDRAM R&M	40,00,00,000	01.01.2020	T00001	D00003
	VINDHYACHAL R&M	40,00,00,000	01.01.2020	T00001	D00003
	PARAKKA R&M	30,00,00,000	01.01.2020	T00001	D00003
	UNCHAKAR R&M	10,00,00,000	01.01.2020	T00001	D00003
	RIVANDI R&M	10,00,00,000	01.01.2020	T00001	D00003
	TSTTP R&M	18,00,00,000	01.01.2020	T00001	D00003
	KAHALUACH R&M	10,00,00,000	01.01.2020	T00001	D00003
Total Allocated Amount		1,70,00,00,000			

BP NO 800000081		TRANCHE NO 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 draw	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 Int. Payment	MONTHLY				
If Above is yes, specify Caps/Floor					
Moratorium Period	3 Years				
Moratorium effective from	18.11.2020				
Repayment Period (inc. Moratorium)	12 Years				
Repayment Frequency	12 Yearly Instalment				
Repayment Type	AVD				
First Repayment Date	18.06.2024				
Base Exchange Rate	RUPEE				
Date of Base Exchange Rate	N/A				


परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Project Code	Project Name	Amount	
	BARH-I	1,75,00,00,000.00	18.11.2020
	BARWANA-II	25,00,00,000.00	18.11.2020
	SOLAPUR	30,00,00,000.00	18.11.2020
	TTPS R&M	1,00,00,000.00	18.11.2020
	SINGRAULI R&M	15,00,00,000.00	18.11.2020
	KORBA R&M	15,00,00,000.00	18.11.2020
	RAMAGUNDAM I & II R&M	43,55,00,000.00	18.11.2020
	VINDHYACHAL R&M	18,00,00,000.00	18.11.2020
	FARAKKA R&M	12,00,00,000.00	18.11.2020
	UNCHAHAR R&M	16,00,00,000.00	18.11.2020
	RHANG R&M	16,00,00,000.00	18.11.2020
	FARAKKAD R&M	1,50,00,000.00	18.11.2020
	DANDI GAS R&M	5,00,00,000.00	18.11.2020
	TSTPP R&M	11,50,00,000.00	18.11.2020
	KAHALGADN R&M	18,00,00,000.00	18.11.2020
	SAMAPUR R&M	1,50,00,000.00	18.11.2020
	CHATTI BARIATU CMG	25,00,00,000.00	18.11.2020
	TALAPPAU COAL MINE	75,00,00,000.00	18.11.2020
	KRENDARI	10,00,00,000.00	18.11.2020
Total Allocated Amount		5,86,00,00,000	

Form B

TRANCHE NO

BP NO 5850001151

Y09901

D09902

Unsecured Loan From HDFC Bank Ltd. X

Source of Loan:	HDFC Bank Ltd. X
Currency:	INR
Amount of Loan:	50,00,00,000.00
Total Drawn amount:	5,00,00,00,000.00
Date of Issue:	24.11.2021
Interest Type:	Floating
Fixed Interest Rate:	
Base Rate, if Floating Interest:	5.85%
Margin, if Floating Interest:	NIL
Are there any Caps/Floor:	NO
Frequency of Int. Payment:	MONTHLY
If Above is yes, specify Caps/Floor:	
Moratorium Period:	3 Years
Moratorium effective from:	24.11.2021
Repayment Period (inc. Moratorium):	12 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		
	MORTH SARAMPURA	24,00,00,000.00	21.03.2022	5.83%
	RAMNAM	3,00,00,000.00	21.03.2022	5.83%
	TELANGANA	25,00,00,000.00	21.03.2022	5.83%
	LAPA	50,00,00,000.00	21.03.2022	5.83%
	GADWARA	50,00,00,000.00	21.03.2022	5.83%
	SARIPPAU	77,00,00,000.00	21.03.2022	5.83%
	TANDA-I	66,00,00,000.00	21.03.2022	5.83%
	SARAJNI-II	20,00,00,000.00	21.03.2022	5.83%
	SINGRAULI R&M	15,00,00,000.00	21.03.2022	5.83%
	KORBA R&M	15,00,00,000.00	21.03.2022	5.83%
	RAMAGUNDAM I & II R&M	48,00,00,000.00	21.03.2022	5.83%
	VINDHYACHAL R&M	7,00,00,000.00	21.03.2022	5.83%
	FARAKKA R&M	18,00,00,000.00	21.03.2022	5.83%
	UNCHAHAR R&M	4,00,00,000.00	21.03.2022	5.83%
	RHANG R&M	15,00,00,000.00	21.03.2022	5.83%
	KAHALGADN R&M	3,00,00,000.00	21.03.2022	5.83%
	CHATTI BARIATU CMG	5,00,00,000.00	21.03.2022	5.83%
	TULANGA COAL MINE	26,00,00,000.00	21.03.2022	5.83%
	TALAPPAU COAL MINE	25,00,00,000.00	21.03.2022	5.83%
	KRENDARI	3,00,00,000.00	21.03.2022	5.83%
	BARH-I FGD	1,50,00,000.00	21.03.2022	5.83%
	MOURA-II FGD	6,50,00,000.00	21.03.2022	5.83%
Total Allocated Amount		5,00,00,00,000		

परिमल पियूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Form 5		
TRANCHE NO		
BP NO 066900161	T0001	00004
Unsecured Loan From HDFC Bank Ltd. II		
Source of Loan	HDFC Bank Ltd. II	
Currency	INR	
Amount of Loan	30,00,00,000	
Total Drawn amount	5,00,00,000	
Date of draw	12.05.2022	
Interest Type	Floating	
Fixed Interest Rate		
Base Rate, if Floating Interest	5.33%	
Margin, if Floating Interest	Nil	
Are there any Cap/Floor	Y/N	
Frequency of Int. Payment	MONTHLY	
If Above is yes, specify Cap/Floor		
Moratorium Period	3 Years	
Moratorium effective from	24.11.2021	
Repayment Period (no Moratorium)	15 Years	
Repayment Frequency	12 Yearly Installment	
Repayment Type	AVG	
First Repayment Date	24.11.2025	
Base Exchange Rate	INR/USD	
Date of Base Exchange Rate	N/A	
Project Code	Project Name	Amount
	NORTH KARANPURA	33,00,00,000.00 12.05.2022 5.83%
	KAYAKULAM FLOT(M)	45,00,00,000.00 12.05.2022 5.83%
	AJANTA SOLAR FS 20	5,00,00,000.00 12.05.2022 5.83%
	ISTAR SOLAR	10,00,00,000.00 12.05.2022 5.83%
	DEVKOT SOLAR	5,00,00,000.00 12.05.2022 5.83%
	DEVKOT SOLAR-R&M	20,00,00,000.00 12.05.2022 5.83%
	MOHRA SOLAR	1,00,00,000.00 12.05.2022 5.83%
	STANAPURAM SOLAR	5,00,00,000.00 12.05.2022 5.83%
	RIHAND-SOLAR	1,00,00,000.00 12.05.2022 5.83%
	KAWAS SOLAR	5,00,00,000.00 12.05.2022 5.83%
	ANTA SOLAR	8,50,00,000.00 12.05.2022 5.83%
	SOLAPUR SOLAR	5,00,00,000.00 12.05.2022 5.83%
	NOGH SOLAR PLOT-I (245MW)	33,00,00,000.00 12.05.2022 5.83%
	NOGH SOLAR PLOT-II (245M)	39,00,00,000.00 12.05.2022 5.83%
	SINGRAJU-R&M	13,00,00,000.00 12.05.2022 5.83%
	EDHRA-R&M	20,00,00,000.00 12.05.2022 5.83%
	BAWGLUNDAM-R&M	37,00,00,000.00 12.05.2022 5.83%
	VSTPS-R&M	3,00,00,000.00 12.05.2022 5.83%
	PTSP-R&M	20,00,00,000.00 12.05.2022 5.83%
	SHARD-R&M	20,00,00,000.00 12.05.2022 5.83%
	FARDABAD-R&M	5,00,00,000.00 12.05.2022 5.83%
	TSRP-R&M	10,00,00,000.00 12.05.2022 5.83%
	KAHALGACHIN-R&M	10,00,00,000.00 12.05.2022 5.83%
	NCP-STAGE-I-DI	56,00,00,000.00 12.05.2022 5.83%
	Total Allocated Amount	5,00,00,000

Statement Giving Details of Project Financed through a Combination of loan

Form 5

Form 5		
TRANCHE NO		
BP NO 0669001641	T0001	00009
Unsecured Loan From Bank Of India-IV		
Source of Loan	Bank Of India-IV	
Currency	INR	
Amount of Loan	2200000000	
Total Drawn amount	1,94,00,00,000	
Date of Drawal	30-12-2023	
Interest Type	Floating	
Fixed Interest Rate		
Base Rate, if Floating Interest	5.15%	
Margin, if Floating Interest	Nil	
Are there any Cap/Floor	Y/N	
Frequency of Int. Payment	Monthly	
If Above is yes, specify Cap/Floor		
Moratorium Period	3 Years	
Moratorium effective from	25.03.2021	
Repayment Period (no Moratorium)	15 Years	
Repayment Frequency	Yearly	
Repayment Type	AVG	
First Repayment Date	07.12.2024	
Base Exchange Rate	INR/USD	
Date of Base Exchange Rate		

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परिमल पीयूष/PARIMAL PIYUSH
अवर महाप्रबन्धक (वणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-5A, Sector-24, Noida-201301 (U.P.)

Project Code	Project Name	Amount	
	NCTP R&M	50000000	30-03-2023
	D&DR GAMBHAM	60000000	30-03-2023
	SIMHARI FLOWTMS	50000000	30-03-2023
	RHARDI R&M	350000000	30-03-2023
	KORBA R&M	320000000	30-03-2023
	VSTPS R&M	400000000	30-03-2023
	FSTPS R&M	200000000	30-03-2023
	RAMGOUNDAM R&M	450000000	30-03-2023
Total Allocated Amount		1,04,00,00,000	

**Statement Giving Details of Project Financed through a Combination of Issue
Form 5**

TRANCHE NO
BP NO 505000621 TR9001 D9004
Unsecured Loan From HDFC Bank Ltd-IV

Source of Loan	HDFC Bank Ltd-FY
Currency	INR
Amount of Loan	20,00,00,00,000
Total Drawn amount	12,45,00,00,000
Date of Issue	29-08-2018
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 Int. Payment	MONTHLY
If Above is yes, specify Caps/Floor	
Moratorium Period	3 Years
Moratorium effective from	25.06.2018
Repayment Period (inc. Moratorium)	12 Years
Repayment Frequency	9 Yearly Installment
Repayment Type	AVD
First Repayment Date	17.04.2021
Base Exchange Rate	RUPPE
Date of Base Exchange Rate	N/A

Project Code	Project Name	Amount	
	KORBA R&M	90,00,00,000	29.06.2018 100001
	RAMGOUNDAM R&M	2,20,00,00,000	29.06.2018 100002
	UNCHAWAR R&M	70,00,00,000	29.06.2018 100003
	RHARDI R&M	90,00,00,000	29.06.2018 100004
	SAWAS R&M	1,90,00,00,000	29.06.2018 100005
	ATRAITA R&M	1,90,00,00,000	29.06.2018 100006
	TSTPP R&M	90,00,00,000	29.06.2018 100007
	GAUNDHAR R&M	1,25,00,00,000	29.06.2018 100008
	NCTPP R&M	30,00,00,000	29.06.2018 100009
	SAHAGAM R&M	30,00,00,000	29.06.2018 100010
	ANTA R&M	80,00,00,000	29.06.2018 100011
Total Allocated Amount		12,45,00,00,000	

**Statement Giving Details of Project Financed through a Combination of Issue
Form 5**

TRANCHE NO
BP NO 505000671 TR9001 D0693
Unsecured Loan From Punjab National Bank-II

Source of Loan	Punjab National Bank-II
Currency	INR
Amount of Loan	20,00,00,00,000
Total Drawn amount	5,00,00,00,000
Date of Issue	13.08.2018
Interest Type	Floating
Fixed Interest Rate	
Base Rate, if Floating Interest	8.00%
Margin, if Floating Interest	0.00%
Are there any Caps/Floor	Y/N
Frequency of Int. 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 Installment
Repayment Type	AVD
First Repayment Date	01.02.2022
Base Exchange Rate	RUPPE
Date of Base Exchange Rate	N/A



परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (सि.सि.मार्ग)
& Ex. General Manager (S. S. Marg)
एन. टी. सी लिमिटेड - NTPC LIMITED
F-20, A-8A, Sector-24, Noida-201301 (U.P.)

Project Code	Project Name	Amount			
	BARH-I	30,00,00,000.00	13.08.2018	100001	000003
	SCAFUR	20,00,00,000.00	13.08.2018	100001	000003
	TANDA-II	20,00,00,000.00	13.08.2018	100001	000003
	TALLAPALLI	50,00,00,000.00	13.08.2018	100001	000003
	SIMBRAJ R&M	80,00,00,000.00	13.08.2018	100001	000003
	BARAKA R&M	80,00,00,000.00	13.08.2018	100001	000003
	BHAND R&M	50,00,00,000.00	13.08.2018	100001	000003
	DADRIGAS R&M	45,00,00,000.00	13.08.2018	100001	000003
	KORBA R&M	40,00,00,000.00	13.08.2018	100001	000003
	RAVASENDAM R&M	40,00,00,000.00	13.08.2018	100001	000003
	VINDHAYACHAL R&M	30,00,00,000.00	13.08.2018	100001	000003
	UNCHAHAR R&M	20,00,00,000.00	13.08.2018	100001	000003
Total Allocated Amount		5,00,00,00,000.00			

Statement Giving Details of Project Finance through Contributions of loan
Form B

FORM B		TRACES NO	DDDDDD
SF NO 000000011		TRACES NO	DDDDDD
FINANCIAL LEASING FROM PFC/			
Kind of Loan	DFI-V		
Category	501		
Amount of Loan	1,00,00,00,000.00		
Total loan amount	1,00,00,00,000.00		
Date of Disal	15.12.2011		
Interest type	Fixed		
Rate of Interest as on 31.03.2011	10.82%		
Maturity of Floating interest	501		
Are there any Capex Floor	Yes		
Frequency of payment	Quarterly		
Is advance paid, security deposit / etc.			
Maturity Period	5 Years		
Maturity date	24.12.2016		
Maturity type (by month)	60 Parts		
Payment frequency	48 Quarterly Payments		
Payment type	Fixed		
First Payment Date	15.02.2012		
Loan Purpose Code	010000		
Date of Loan Disbursement	N.A.		
		Amount	
	Project Name		
	BARAKA R&M	80,00,00,000.00	
	DADRIGAS R&M	45,00,00,000.00	
	RAVASENDAM R&M	40,00,00,000.00	
	UNCHAHAR R&M	20,00,00,000.00	
	VINDHAYACHAL R&M	30,00,00,000.00	
	BARAKA R&M	80,00,00,000.00	
	DADRIGAS R&M	45,00,00,000.00	
	RAVASENDAM R&M	40,00,00,000.00	
	UNCHAHAR R&M	20,00,00,000.00	
	VINDHAYACHAL R&M	30,00,00,000.00	
	BARAKA R&M	80,00,00,000.00	
	DADRIGAS R&M	45,00,00,000.00	
	RAVASENDAM R&M	40,00,00,000.00	
	UNCHAHAR R&M	20,00,00,000.00	
	VINDHAYACHAL R&M	30,00,00,000.00	
Total Allocated Amount		5,00,00,00,000.00	

(Petitioner)

परिमल पीयूष / PARIMAL PIYUSH
 अपर गैलरी प्रत्यन्तक (परिमल पीयूष)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

FORM-B Details of


Name of the Company

Particulars	72	73	74	75	76
Source of Loan - Bonds Series	72	73	74	75	76
Currency	INR	INR	INR	INR	INR
Amount of Loan sanctioned (in Lakh)	4,00,000.00	2,50,000.00	3,99,600.00	3,00,000.00	2,00,000.00
Amount of Gross Loan drawn upto COD (in Lakh)	4,00,000.00	2,50,000.00	3,99,600.00	3,00,000.00	2,00,000.00
Interest Type	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	5.45%	6.43%	6.87%	6.92%	7.44%
Base Rate, if Floating Interest	NA	NA	NA	NA	NA
Margin, if Floating Interest	NA	NA	NA	NA	NA
Is there any caps/floor	No	NA	No	No	No
If above is yes specify caps/floor	NA	NA	NA	NA	NA
Moratorium Period (In Years)	5	10	15 yrs 1 day	10	10
Moratorium effective from*	15-10-2020	27-01-2021	20-04-2021	13-06-2021	25-09-2022
Repayment Period	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment effective from	15-10-2025	27-01-2031	21-04-2036	13-09-2031	25-09-2032
Repayment Frequency	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment Instalment (in Lakh)	4,00,000.00	2,50,000.00	3,99,600.00	3,00,000.00	2,00,000.00
Base Exchange Rate	NA	NA	NA	NA	NA
Door to Door Maturity (In Years)	5	10	15 yrs 1 day	10	10

Name of the Projects	72	73	74	75	76
RINAND R&M	700.00	1,200.00	2,000.00	6,275.00	2,400.00
Rinand Solar (20MW)			300.00	510.00	
Sambhu Ki Bhui Solar 250MW		2,700.00	50,700.00	19,815.00	
Sambhu Ki Bhui-II (TOKALAI) 300MW			25,700.00	26,530.00	
Simhadri R&M				200.00	
Simhadri Floating		1,875.00	3,050.00	525.00	
SMHADRI I	38,700.00				
Simhadri-II & I (2x500 MW) & (2x600 MW) FGD			7,800.00	1,150.00	
Singrauli R&M		4,200.00	1,700.00	2,725.00	
Singrauli-I & II FGD			8,700.00	160.00	
SIPAT I	34,500.00				
SIPAT II	900.00				
Sipat-I (3x600 MW) FGD			5,600.00	1,100.00	
SOLAPUR					
Solapur Solar				2,875.00	
Solapur-FGD			2,700.00	3,450.00	
Talaspur Coal Mine		19,400.00	4,850.00	2,160.00	
TALCHER II	3,400.00				
TANDA I		9,500.00	16,750.00	1,000.00	
TANDA R&M	1,500.00				
Tapovan Vishnugadh	10,900.00	8,200.00	9,000.00	1,500.00	
TELANGANA		9,725.00	20,390.00	9,200.00	
TSTPP R&M		500.00		640.00	
TSTPS Stage-II & I FGD			9,700.00		
UNCHAHAR IV					
Unchahar R&M	500.00	900.00	900.00	1,050.00	
Unchahar-I, II & III-FGD			5,450.00	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	2,500.00	
Vindhyachal-II & I FGD			200.00	900.00	
TOTAL	4,00,000.00	2,50,000.00	3,99,600.00	3,00,000.00	2,00,000.00

*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 refinanced. However, the details of the original loan is to be given separately in the same form.
5. If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately 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 drawl/repayment for a loan, the date & amount of each drawl/repayment and its allocation may also be given separately.
14. If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule is to be furnished separately.
15. In case of Foreign loan, date of each drawl & 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.


परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (व्यापारिक)
 Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I
COD	01-01-1991
For Financial Year	2019-24 (Summary)

Sl. No.	Head of Work /Equipment	ACE Claimed					Justification	Admitted Cost by the
		2019-20	2020-21	2021-22	2022-23	2023-24		
		3	4	5	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
A.1	Claimed/Allowed Items							
1	Freehold Land Plant/Office							
2	LED Based LVS System							
3	High Mast lighting System	41.01						
4	Ash Related Works	67.45						
4.1	1st Raising Of Mithini Ash Dyke Lagoon-1	88.69	5.38	-2.98	6.33			
4.2	2nd Raising Of Central Ash Dyke Lagoon 1	13.87	2.74					
4.3	2nd Raising of Central Dyke Lagoon - II	37.80		-3.07				
4.4	1st Raising Of Mithini Ash Dyke Lagoon-II	6.66		0.09	0.19			
4.5	3rd Raising Of Central Ash Dyke Lagoon-I	3.69	0.85					
5	Upgradation of Boiler Drum Level Measurement System	26.68	1.79	0.01	6.13			
6	HFO to LDO conversion Stage-1		87.26	1.78	1.92			
7	Leasehold Land		16.91					
8	Bio-Methanation Plant				1,663.16	39.56		
9	Augmentation of Fire detection & Protection System-Allowed Work			21.50	5.57			
10	Upgradation Of HMI System Of DCS				101.78	228.18		
11	Automatic Foam Protection System for fuel storage tanks				778.28			
12	Security related works: CCTV System				127.41			
13	In-Motion Weigh Bridge (140MT)					783.28		
14	Online-Analyser for CEMS for CO, CO2, Sox, Nox					47.52		
						45.85		
	Subtotal (A.1)	197.14	109.56	20.30	2,684.43	1,144.39		
A.2	Capitalization of MBOAs	44.17	28.81	38.91	44.40	198.42		
A.3	Decap of MBOAs: Part of Capital Cost	-65.05	-46.71	-369.91	-1427.74	-10.18		
A.4	Decap of Spares: Part of Capital Cost	-100.87	-367.48	-192.83	-121.16	-456.16		
	Total Claims	75.39	-275.82	-503.52	1179.93	876.46		

Pl. refer Form-9 of respective FYs.

परिमल पीयूष
अपर महाप्रबन्धक (प. एन.टी.सी.)
Addl. General Manager (Commercial)
एन टी सी लिमिटेड / NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

A.5	Discharge of Liability	0.00	87.14	30.61	11.88	61.03
	Total (A)	75.39	-188.68	-472.91	1,191.82	937.49
B.	Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest	-	-	-	-	-
	Total (B)	-	-	-	-	-
	Total Add. Cap. Claimed (A+B)	75.395	-188.683	-472.906	1,191.816	937.493



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalization after COO

Name of the Petitioner											
NTPC Limited											
Name of the Generating Station											
Rihand Super Thermal Power Station Stage-I											
COO											
01-01-1997											
For Financial Year											
2019-20											
Sl. No.	Head of Work (Equipment)	Agency's Name	ACE Claimed						Regulations under which claimed	Justification	Amount in Rs Lakh
			Accrual basis as per Ind AS	Ind AS adjustment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IPC included in col. 3			
1	2	3	4	5	6	7	8	9	10	11	12
A. Works under Original scope, Change in Law etc. eligible for Roll- at Normal Rate											
A. Claims											
A.1 Claimed/Admitted Items											
1	Freehold Land Plans/Office		8.15	-	8.15	9.15	-	-	25(1)(a), 25(1)(b)	<p>The interest portion (not payable towards) enhanced compensation for land as per various court orders was earlier not indicated in cost of land as Accounting standards did not allow the same. However, after the receipt of opinion of the Expert Advisory Committee of Institute of Chartered Accountants of India and as ordered, the interest payable has been capitalized now as cost of land. (Opinion of Expert Advisory Committee attached as Annexure-2-A1).</p> <p>Accordingly, the amount has been capitalized as interest which would be payable for settlement of Land compensation cases pending in various courts.</p> <p>Hon'ble Commission vide para 31 of order dttd. 27.03.2023 in petition no. 2306GT0020 for interest station has allowed similar claim. (Excerpts of order dttd. 27.03.2023 attached as Annexure-2-A2).</p> <p>As the current capitalization corresponds to the activity of land acquisition already admitted, the Hon'ble Commission may be pleased to allow the capitalization of the same under Regulation 25(1)(a) & 25(1)(b) of Tariff Regulations, 2010.</p>	
2	LED Based LVS System	Sarco Electronics Systems Pvt Ltd	41.01	-	41.01	-	41.01	-	25(1)(a)	<p>Large Video Screens (LVS) are display devices installed in plant control room for monitoring different parameters of the plant. It is because of data displayed on these screens an operator is able to run the plant. Hence, their availability is necessary for operation of plant.</p> <p>Earlier Lamp based LVS were installed which required frequent change of lamps and have now become obsolete. Being of old design the lamps for these display devices were also not available.</p> <p>Hence these lamp based LVS have been replaced with the LED based monitors. The new LED based system is maintenance-free, incorporates no moving parts and hence eliminates the costs associated with lamp changes. Further the LED based system provides high visual performance for better monitoring of the plant parameters.</p> <p>Hon'ble Commission may be please to allow the same under Regulation 25(2)(b) of Tariff Regulations, 2010.</p>	
3	High Mast lighting System	Various Parties	103.55	-	103.55	38.10	67.45	-	26(1)(b) & 26(1)(c)	<p>Safety and security during night is a great concern due to large area of the plant. For illumination High mast lighting has been installed at intermittent locations in plant premises for ensuring proper illumination to ensure safety and security within plant premises.</p> <p>The requirement of these lights were has been recognized by CISP in its safety inspection report dttd. 03.12.2021. (Relevant excerpts have of inspection report attached as Annexure-2-A3).</p> <p>The present capitalization has been done as per deliberations of CISP for ensuring safety and security within the plant premises during night.</p> <p>Hon'ble Commission may be pleased to allow the same.</p>	
4	1st Raising Of Mithani Ash Dyke Lagoon-1	K.N International Ltd	13.87	-	13.87	-	13.87	-			
5	2nd Raising Of Central Ash Dyke Lagoon-1	K.N International Ltd	37.80	-	37.80	-	37.80	-			
6	2nd Raising of Central Dyke Lagoon - II	National Prestige Construction Co.	5.00	-	5.00	-	5.00	-	25(1)(a) & 25(1)(b)	<p>Ash dyke raising is a continuous activity being carried out during the life of the plant. It remains in operation. In order to have optimum utilization of land for ash disposal, conservation of forest/sustaining land and compliance with the directions of statutory bodies, capacity of Ash Dykes has been enhanced by raising of the ash dyke for catering the need of disposal of ash from Rihand 5th units.</p> <p>It is further submitted by the Petitioner that since Rihand-I was envisaged without dry ash disposal system, disposal of ash generated is done only through ash dyke. Hence for continued and sustained generation from the station, the availability of Ash Dyke is necessary which would otherwise lead to ash outage. Since</p>	

Name of the Petitioner		Year wise Statement of Additional Capitalization after COD								Amount in My Lakh		
Name of the Generating Station		NTPC Limited								Admitted Cost by the Commission, if any		
COD		Rihand Super Thermal Power Station Stage-I										
Per Financial Year		01-01-1991										
		2019-20										
Sl. No.	Head of Work (Equipment)	Agency's Name	Add. Claimed						Regulations under which claimed	Justification		
			Accrual basis as per Ind AS	Ind AS adjustment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3				
1	2	3	4	5	6	7	8	9	10	11	12	
7	1st Raising Of Ash Dike Lagoon-I	Beghet Infrastructures	3.69	-	3.69	-	3.69	-	-		The benefit of cheaper power from the present generating station is available only if the station can generate electricity, the present capitalization towards ash dike raising may please be allowed. The Hon'ble Commission may be pleased to allow the same.	
8	3rd Raising Of Central Ash Dike Lagoon-I	National Prestige Construction Co.	26.68	-	26.68	-	26.68	-	-			
Subtotal (A.1)			242.39	-	242.39	46.25	197.14	-	-			
A.2	Capitalization of MGOAs		53.46	-0.70	52.76	8.59	44.17	-	25(2)(a)	This add-on pertains to replacement of assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated. The Hon'ble Commission may be pleased to allow the same.		
A.3	Decap of MGOAs: Part of Capital Cost		-4.51	-66.55	-65.55	-	-65.55	-	25(2)	These assets were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.		
A.4	Decap of Spares: Part of Capital Cost		-10.10	-86.77	-100.87	-	-100.87	-	25(2)	These spares were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.		
TOTAL, Claim (A)			279.25	-153.61	129.24	33.64	75.39	-	-			
A.5	Discharge of Liability								25(1)(b)	Details given in Form-5, i.e. Liability Flow Statement		
Total additional capitalization claimed with RoE at Normal Rate (A)							75.39					
B. Works beyond Original scope excluding add-on due to Change in Law eligible for RoE at Vtd. Average rate of interest												
Total (B)												
Total Add. Cap. Claimed (A+B)							75.39					

Petitioner

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I
COD	01-01-1991
For Financial Year	2020-21

Sl. No.	Head of Work/Equipment	Agency's Name	ACE Claimed						Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
			Accrual basis as per Ind AS	Ind AS Adjustment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5	6	7	8	9	10	11	12
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate											
A. Claims											
A.1 Claimed/Allowed Items											
1	Upgradation of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd.	95.34	0.00	95.34	8.08	87.26	0.00	25(2)(c)	In Boiler drums, hydrastep is installed for measurement of boiler drum level. Earlier Schlumberger (now Emerson-Mobrey) make 2457 model hydrastep was in service since unit inception in 1990-91 and is more than 28 years old. The system has become obsolete and spares support from OEM is not available. Technical Note of OEM advising for upgrade due to obsolescence is attached as Annexure-2-B/T. Hence, upgradation of the existing hydrastep is required as has also been recommended in technical note from OEM attached. In view of above and as per technical note from OEM, the 2457 hydrastep model installed earlier has been replaced with 2468 hydrastep model. Hon'ble Commission may be pleased to allow the same under Regulation 25(2)(c) of Tariff Regulations, 2019.	
2	HFO to LDO conversion Stage-1	Bharat Heavy Electricals Ltd	16.91	0.00	16.91	0.00	16.91	0.00	25(1)(b) & 25(1)(f)	Hon'ble Commission vide para 42 of order dtd. 27.06.2023 in petition no. 230/GT/2020 has allowed the work for conversion of HFO to LDO under 'Change in Law' in compliance of Hon'ble Supreme court judgement dtd. 24.10.2017 which banned use of HFO (Furnace Oil) in states of UP, Haryana & Rajasthan and Ordered switching to Light Diesel Oil (LDO) in Thermal Power Plants. Present capitalization pertains to release of balance payments on account of contract closure. Hon'ble Commission may be pleased to allow the same under Regulation 25(1)(b) & 25(1)(f) of Tariff Regulations, 2019.	
3	1st Raising Of Mihini Ash Dyke Lagoon-I	K N International Ltd	2.74	0.00	2.74	0.00	2.74	0.00	25(1)(c) & 25(1)(g)	As per Sl No A.1.4, A.1.7 & A.1.8 of 'Form-9 19-20'.	
4	1st Raising Of Mihini Ash Dyke Lagoon-II	Baghel Infrastructures	0.85	0.00	0.85	0.00	0.85	0.00			
5	3rd Raising Of Central Ash Dyke Lagoon-I	National Prestige Construction Co	1.79	0.00	1.79	0.00	1.79	0.00			
Subtotal (A.1)			117.84	0.00	117.84	8.08	109.56	0.00			
A.2	Capitalization of MBOAs	Various Parties	54.14	0.00	54.14	25.33	28.81	0.00	25(2)(a)	This add-cap pertains to replacement of assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated. Hon'ble Commission may be pleased to allow the same.	

परिमल पीयूष/PARIMAL PIYUSH
 अध्यक्ष, भारतीय प्रसारण (कार्पोरेशन)
 Addl. General Manager (Commercial)
 एम टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD												
Name of the Petitioner		NTPC Limited										
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I										
COD		01-01-1997										
For Financial Year		2020-21										
Sl. No.	Head of Work /Equipment	Agency's Name	ACE Claimed						Regulations under which claimed	Justification	Amount in Rs Lakh	Admitted Cost by the Commission, if any
			Accrual basis as per Ind AS	Ind AS Adjustment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3				
1	2	3	4	5	6	7	8	9	10	11	12	
A.3	Decap of MBOAs: Part of Capital Cost		-4.87	-42.03	-46.71	0.00	-46.71	0.00	25(2)	These assets were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.		
A.4	Decap of Spares: Part of Capital Cost		-39.11	-328.37	-367.48	0.00	-367.48	0.00	25(2)	These spares were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.		
	Total claim (A)		127.99	-370.40	-242.41	93.41	-275.82	0.00				
	Discharge of Liability						87.14		25(1)(f)	Details given in Form-S, i.e., Liability Flow Statement		
	Total additional capitalization claimed with RoE at Normal Rate (A)						-188.68					
B.	Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Whl. Average rate of interest											
	Total (B)											
	Total Add. Cap. Claimed (A+B)						-188.68					

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalization after CDD												
Name of the Petitioner		NTPC Limited										
Name of the Generating Station		Parimal Super Thermal Power Station Stage-I										
COD		01-01-1991										
For Financial Year		2021-22										
Sl. No.	Head of Work/Equipment	Agency's Name	ACE Claimed							Regulations under which claimed	Amount in Rs Lakh Admitted Cost by the Commission, if any	
			Accrual basis as per Ind AS	Ind AS Adjusted	Accrual basis as per ISAAP	Un-discharged Liability included in Ind AS	Cash basis	IDC included in Ind AS	Artification			
1	2	3	4	5	6	7	8	9	10	11	12	
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate												
A. Claims												
A.1 Claimed Allowed Items												
1	Bio-Methanation Plant	Ram Waste Managers LLP	33.02	0.21	-32.23	11.70	-	21.30	-	28(1)(i)	As per Consent to Operate (CTO) for the station dt. 22.04.2020, "Industry shall abide by directions given by Hon'ble Coos, M&P&CC, Central Pollution Control Board and UPCCB for protection and safe guard of environment till time to time." The Central Government under sections 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) has notified Solid Waste Management Rules, 2016 wherein under the Duties of waste generators, it has been mandated that no waste generator shall throw, burn or bury the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies. (Relevant excerpts of CTO dt. 22.04.2020 attached as Annexure-2-CH & Solid Waste Management Rules, 2016 attached as Annexure-2-CW). In compliance of above, the petitioner has installed the Bio-methanation plant for disposal of solid waste. Biomethanation plant has been installed to dispose solid waste in such a manner that no air, water and soil pollution takes place. The same work has been allowed in Andhra OPS vide para 16 vide order dt. 31.05.2020 in petition no. 425/GT/2020. Hon'ble Commission may be pleased to allow the same.	
2	Upgrade of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd.	1.78	-	-1.78	-	-	1.78	-	25(2)(c)	As per SI No A.1.2 of Form-9 20-21.	
3	2nd Raising Of Central Ash Dyke Lagoon-1	K.N International Ltd.	-3.07	-	-3.07	-	-	-3.07	-	25(1)(c) & 25(1)(d)	As per SI No A.1.3, A.1.4 & A.1.5 of Form-9 19-20.	
4	2nd Raising Of Central Ash Dyke Lagoon-1	National Prestige Construction Co.	0.09	-	-0.09	-	-	0.09	-			
5	3rd Raising Of Central Ash Dyke Lagoon-1	National Prestige Construction Co.	0.01	-	-0.01	-	-	0.01	-			
Subtotal (A, 1)			31.82	0.21	-32.03	11.70	-	29.30	-			
A.2	Capitalization of MBOAs	Various Parties	38.93	0.17	38.10	0.59	-	38.61	-	25(2)(e)	This add-cap pertains to replacement of assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated. Hon'ble Commission may be pleased to allow the same.	900
A.3	Decap of MBOAs: Part of Capital Cost		-33.19	-206.71	-309.91	0.00	-	-309.91	-	25(2)	These assets were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.	
A.4	Decap of Spares: Part of Capital Cost		-4.92	-167.91	-192.83	0.00	-	-192.83	-	25(2)	These spares were part of capital cost, have become unserviceable. Accordingly the same are decapitalized. Hon'ble Commission may be pleased to allow the same.	
Total claim (A)			32.64	-204.24	-491.63	11.99	-	-363.82	-			
Discharge of Liability								30.61	-	25(1)(g)	Details given in Form-5, i.e., Liability Flow Statement	
Total additional capitalization claimed with RoE at Normal Rate (A)								-472.91				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at WtG, Average rate of Interest												
Total (B)												
Total Add. Cap. Claimed (A+B)								-472.91				

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यापारिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalization after CDD

Name of the Petitioner											NTPC Limited
Name of the Generating Station											Rihand Super Thermal Power Station Stage-I
CDD											31-03-2023
For Financial Year											2022-23
Sl. No.	Head of Work/Equipment	Agency's Name	Account basis as per Ind AS	Ind AS Adjustment	Account basis as per GAAP	A/C Claimed			Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
						Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5	6	7	8	9	10	11	12
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate											
A.1 Claimed/ Allowed Items											
1	Augmentation of Fire extinguis & Protection System	Technico India Pvt Ltd	131.00	-	131.00	29.22	101.78	-	28(1)(b)	Hon'ble Commission vide para 17 of order dttd. In 432GT2020 has allowed the present work. The present capitalization pertains to work already allowed by Hon'ble Commission for instant station. The capitalization has been done in 2022-23 & 2023-24 respectively with total expenditure of Rs. 329.90 Lakh (net of undischarged liabilities of Rs. 55.77 Lakh). There is variation in expenditure allowed and actual capitalization as the expenditure was allowed on the basis of estimate while capitalization is based on actual execution.	270
2	Leasehold Land	UP/VNL	3,818.75	2,421.24	5,240.10	4,577.94	1,663.16	-	25(1)(a), 26(1)(16)	Hon'ble Commission may be pleased to allow the same. The present capitalization pertains to lease of UP/VNL's land in use by the present station. The agreement for the land was signed in 2002. Against this land, accounting assets were created which have been de-capitalized in 2021-22 and liability reversed in 2022-23 but there was no cash outflow against this land as modalities of land lease agreement could only be finalized in 2022. The present capitalization pertains to the land as per agreement with Uttar Pradesh Jal Vidyut Nigam Limited (UPVUNL). (Agreement attached as Annexure-2-D1).	
3	Bio-Methanation Plant	Kean Waste Managers LLP	5.57	-	5.57	-	5.57	-	26(1)(b)	Since the capitalization belongs under original scope and already in use, hence Hon'ble Commission may be pleased to allow the same under regulation 25(1)(a) of tariff regulations, 2019.	
4	Upgradation Of HMI System Of DCS	Yokogawa India Ltd	778.28	-	778.28	-	778.28	-	25(2)(c)	As per SI No A.1.3 of Form-9 21-22. The HMI system installed at the instant station were based on Windows XP for which no support from OEM, i.e. Microsoft was available due to declaration of obsolescence and End of Life (EOL) of Windows XP (EOL, April 2014). Microsoft will not release new security updates, security hot fixes, provide technical phone support, or online technical content updates. Without this support, the Microsoft Windows Server 2008 R2 & Windows 7 operating system could become increasingly vulnerable to cyber security risks; in the event a system is exploited, there is no support available for remediation or repair. (Attached as Annexure-2-D2).	
5	Upgradation of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd	1.92	-	1.92	-	1.92	-	25(2)(c)	Accordingly, in compliance of CEA (Cyber Security in Power Sector) Guidelines, 2021 and direction from Govt order dated 28.04.2022 the HMI system was upgraded for ensuring safe and reliable operation of the station as no spares and service support was available for the obsolete HMI system.	
6	3rd Raising Of Central Ash Dye Lagoon-I	National Prestige Construction Co	6.13	-	6.13	-	6.13	-	25(1)(a) & 25(1)(16)	Therefore, it is humbly submitted that Hon'ble Commission may be pleased to allow the replacement of HMI system under Regulations 25(2)(c).	
7	2nd Raising of Central Dye Lagoon - II	National Prestige Construction Co	0.19	-	0.19	-	0.19	-	25(1)(a) & 25(1)(16)	As per SI No A.1.6 & A.1.8 of Form-9 18-22.	

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalization after CDD

Name of the Petitioner											
Name of the Generating Station											
CDD											
For Financial Year											
Sl. No.	Head of Work/Equipment	Agency's Name	Account basis as per Ind AS	Ind AS Adjustment	Account basis as per IGAAP	ACE Claimed			Regulations under which claimed	Justification	Amount in Rs Lakh
						Un-Discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5	6	7	8	9	10	11	12
8	Automatic Foam Protection System for fuel storage tanks	MX Systems International Pvt.Ltd	165.96	-	165.96	38.45	127.41	-	26(1)(b) & 26(1)(d)	Fire Protection Systems are installed for preventing fire in oil tanks carrying secondary fuel oil used in power plants. The present capitalization pertains to expenditure incurred for automatic foam protection system mandated as per CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010. Relevant extract of CEA, 2010 regulation is attached as Annexure-2-D/2. Respectable Commission may be pleased to allow the same.	
Total (A1)			4,968.70	2,421.34	7,390.04	4,645.61	2,884.43	-			
A.2	Capitalization of MDOAs	Various Parties	45.82	-	45.82	1.42	44.40	-	25(2)(a)	This add-cap pertains to replacement of assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated. Respectable Commission may be pleased to allow the same.	
A.3	Decap of MDOAs: Part of Capital Cost		-142.77	-1,264.87	-1,427.74	-	-1,427.74	-	25(2)	These assets were part of capital cost, have become unserviceable. Accordingly the same are depreciated.	
A.4	Decap of Spares: Part of Capital Cost		-70.22	-110.84	-121.10	-	-121.76	-	25(2)	These spares were part of capital cost, have become unserviceable. Accordingly the same are depreciated.	
Total claim (A)			4,891.52	1,025.43	5,916.96	4,647.92	1,179.93	-			
Discharge of Liability							11.68		24(7)(a)	Details given in Form-9, i.e. Liability Flow Statement	
Total additional capitalization claimed with RoC at Normal Rate (A)							1,191.62				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoC at Wtd. Average rate of Interest											
Total (B)											
Total Add. Cap. Claimed (A+B)							1,191.62				

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner												
NTPC Limited												
Name of the Generating Station												
Rihard Super Thermal Power Station Stage-I												
COD												
01-01-1991												
For Financial Year												
2023-24												
Sl. No.	Head of Work /Equipment	Agency's Name	Accrual basis as per Ind AS	Ind AS Adjustment	Accrual basis as per IGAAP	ACE Claimed (Actual)			Regulations under which claimed	Justification	Amount in Rs Lakh	Admitted Cost by the Commission, if any
						Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3				
1	2	3	4	5	6	7	8	9	10	11	12	
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate												
A.1 Claimed/ Allowed Items												
1	Leasehold Land	UP/NTE	777.37	160.14	957.51	927.95	39.56	-	25(1)(4)	As per SI No A. 1.1 of Form-9 22-23. The present capitalization pertains to implication due to revision of lease rent as per terms and conditions of lease agreement and stamp duty to the authorities. Hon'ble Commission may be pleased to allow the same.		
2	Augmentation of the Fire Detection and Protection System (CHP)	Thermosystems Pvt. Ltd.	252.73	-	252.73	24.55	228.18	-	26(1)(b)	As per SI No A. 1.1 of Form-9 22-23.	278	
3	Security related works: CCTV System	Technocrats Security Systems Pvt. Ltd.	802.82	0.98	803.81	20.52	783.29	-	26(1)(b) & 26(1)(e)	The present capitalization pertains to installation of CCTV system in instant station as per recommendation CISE for ensuring safety and security of plant. The old system installed has very old and having limited no. of cameras installed and not covering all the areas. It had analog cameras where the picture quality was very poor. The same has been recognized by CISE in its safety inspection report dtd. 03.12.2021. (Relevant excerpts have of inspection report attached as Annexure-3 ERI). The present capitalization has been done as per deliberations of CISE for ensuring safety and security within the plant premises during night. Hon'ble Commission may be pleased to allow the same.		
4	In-Motion Weigh Bridge (140MT)	Weightrack India Pvt. Ltd.	63.72	-	63.72	35.25	47.52	-	26(1)(b)	Under the directions of CVC vide OM no. Conf.6441/15 dtd. 13.06.2018, a Joint Committee of CVOs of Ministry of Coal, Railways, CIL and NTPC was formed to identify system deficiencies in coal shortage on the way after its loading from points of Northern Coalfields Limited and its receipt in power plant. The committee submitted its report which inter alia recommended installation of ROSD compliant weighbridges. (Relevant excerpts attached as Annexure-3 ERI). The present capitalization pertains to expenditure incurred for the in-motion weigh bridge. Hon'ble Commission may be pleased to allow the same.		
5	Online-Analyser for CEMS for CO, CO2, Sox, Nos	Forbes Marshall Pvt. Ltd.	47.04	-	47.04	1.20	45.85	-	26(1)(b)	As per Guidelines for Continuous Emission Monitoring Systems issued by MoEF, the CEMS must have the capability of online data monitoring. The present capitalization has been done to enable online measurement and monitoring of CEMS data as per MoEF guidelines. (MoEF guidelines attached as Annexure-2 ERI). Hon'ble Commission may be pleased to allow the same.		
Subtotal (A-1)			1,943.69	161.12	2,134.89	980.42	1,144.39	-				
A.2	Capitalization of MROAs	Various Parties	231.00	0.35	232.24	33.82	198.42	0.00	26(2)(a)	This add-cap pertains to replacement of assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated. Hon'ble Commission may be pleased to allow the same.		

पारमल पीयूष / PARIMAL PIYUSH
 अधीक प्रबन्धक (व्यवसायिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner											
Name of the Generating Station											
COD											
For Financial Year											
Amount in Rs Lakh											
Sl. No.	Head of Work/Equipment	Agency's Name	Accrual basis as per Ind AS	Ind AS Adjustment	Accrual basis as per IGAAP	ACE Claimed (Actual)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
						Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5	6	7	8	9	10	11	12
A.3	Decap of MBOAs: Part of Capital Cost		-1.00	-9.18	-10.18		-10.18	0.00	25(2)	These assets were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.	
A.4	Decap of Spares: Part of Capital Cost		-57.12	-388.04	-445.16		-445.16	0.00	25(2)	These spares were part of capital cost, have become unserviceable. Accordingly the same are decapitalized.	
	Total claim (A)		2,117.49	-216.75	1,900.74	1,924.24	879.48	0.00			
	Discharge of Liability						81.03		25(1)(b)	Details given in Form-5, i.e., Liability Flow Statement	
	Total additional capitalization claimed with RoE at Normal Rate (A)						937.49				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of interest											
	Total (B)										
	Total Add. Cap. Claimed (A+B)						937.49				



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Statement of Depreciation

PART-I
FORM- 12

Name of the Company : NTPC Limited

Name of the Power Station : Rihand Super Thermal Power Station Stage-I

		(Amount in Rs Lakh)					
S. No.	Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Existing Assets (Depreciation through Spreading over)							
1	Opening Capital Cost	241963.14	241758.94	241593.02	241178.83	240616.10	239067.20
2	Closing Capital Cost	241758.95	241593.02	241178.83	240616.10	239067.20	238600.85
3	Average Capital Cost	241861.05	241675.98	241385.93	240897.47	239841.65	238834.03
1a	Cost of IT Equipments & Software included in (1) above	-	806.59	790.46	796.08	319.73	319.73
2a	Cost of IT Equipments & Software included in (2) above	-	790.46	796.08	319.73	319.73	615.11
3a	Average Cost of IT Equipments & Software	-	798.53	793.27	557.90	319.73	467.42
4	Freehold land	3,113.24	3,113.24	3,113.23	3,113.23	3,113.23	3,113.23
5	Rate of depreciation						
6	Depreciable value	2,14,873.02	2,14,786.32	2,14,524.75	2,14,061.60	2,13,087.55	2,12,195.46
7	Balance useful life at the beginning of the period	0.00	0.00	0.00	0.00	0.00	0.00
8	Remaining depreciable value	-	81.59	-	-	-	-
9	Depreciation (for the period)	-	81.59	-	-	-	-
10	Depreciation (annualised)	-	81.59	-	-	-	-
11	Cumulative depreciation at the end of the period	2,14,891.19	2,14,786.32	2,14,637.02	2,14,274.88	2,13,768.42	2,12,374.41
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	0.00	0.00	0.00	0.00	0.00
13	Add: Cumulative depreciation adjustment on account of liability Discharge	0.00	0.00	0.00	0.00	0.00	0.00
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	186.46	149.30	362.13	506.46	1,394.01	419.71
15	Net Cumulative depreciation at the end of the period after adjustments	2,14,704.73	2,14,637.02	2,14,274.88	2,13,768.42	2,12,374.41	2,11,954.70
New Assets (Depreciation @5.28%)							
1'	Opening Capital Cost	34.61	1,663.93	1,905.24	2,130.75	2,220.58	4,961.29
2'	Closing Capital Cost	1,663.93	1,905.24	2,130.75	2,220.58	4,961.29	6,365.13
3'	Average Capital Cost	849.27	1,784.59	2,018.00	2,175.66	3,590.93	5,663.21
4'	Depreciable value	764.34	1,606.13	1,816.20	1,958.10	3,231.84	5,096.89
5'	Cumulative Dep at the begning of the period	4.57	49.41	143.64	250.19	365.06	554.66
6'	Balance Dep Value	844.70	1,735.18	1,874.36	1,925.47	3,225.87	5,108.55
7'	Depreciation Rate	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
8'	Depreciation for the year (annualized)	44.84	94.23	106.55	114.87	189.60	299.02

परिमल शर्मा/PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

9'	Cumulative Dep at the end (periodwise)	49.41	143.64	250.19	365.06	554.66	853.68
	Total Depreciation during the Year (10+9')	44.84	175.82	106.55	114.87	189.60	299.02

 (Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Name of the Company
Name of the stationNTPC Limited
Rihand Super Thermal Power Station Stage-I

Rs in Lacs

S No	Loan	2019-20	2020-21	2021-22	2022-23	2023-24
1	Bonds-54- repayment from 25.03.2023					
	Gross loan - Opening	2500.00	2500.00	2500.00	2500.00	2500.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	500.00
	Net loan - Opening	2500.00	2500.00	2500.00	2500.00	2000.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
	Total	2500.00	2500.00	2500.00	2500.00	2000.00
	Repayments of Loans during the period	0.00	0.00	0.00	500.00	1000.00
	Net loan - Closing	2500.00	2500.00	2500.00	2000.00	1000.00
	Average Net Loan	2500.00	2500.00	2500.00	2250.00	1500.00
	Rate of Interest on Loan	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on Loan Annualised	213.00	213.00	213.00	191.70	127.80
2	Bond 72 (Bullet repaymnet 25-10-2025)					
	Gross loan - Opening	-	-	364.58	364.58	364.58
	Cumulative repayments of Loans upto	-	-	0.00	0.00	0.00
	Net loan - Opening	-	-	364.58	364.58	364.58
	Increase/ Decrease due to FERV	-	-	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	-	364.58	0.00	0.00	0.00
	Total	-	364.58	364.58	364.58	364.58
	Repayments of Loans during the period	-	0.00	0.00	0.00	0.00
	Net loan - Closing	-	364.58	364.58	364.58	364.58
	Average Net Loan	-	182.29	364.58	364.58	364.58
	Rate of Interest on Loan	0.0000%	6.5950%	6.5950%	6.5950%	6.5950%
	Interest on Loan Annualised	0.00	12.02	24.04	24.04	24.04
3	Bond 72 (Bullet repaymnet 25-10-2025)					
	Gross loan - Opening	0.00	0.00	335.42	335.42	335.42
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	335.42	335.42	335.42
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	335.42	0.00	0.00	0.00
	Total	0.00	335.42	335.42	335.42	335.42
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	335.42	335.42	335.42	335.42
	Average Net Loan	0.00	167.71	335.42	335.42	335.42
	Rate of Interest on Loan	0.0000%	5.4800%	5.4800%	5.4800%	5.4800%
	Interest on Loan Annualised	0.00	9.19	18.38	18.38	18.38
4	Bonds-73					
	Gross loan - Opening	0.00	0.00	1200.00	1200.00	1200.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	1200.00	1200.00	1200.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	1200.00	0.00	0.00	0.00
	Total	0.00	1200.00	1200.00	1200.00	1200.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	1200.00	1200.00	1200.00	1200.00
	Average Net Loan	0.00	600.00	1200.00	1200.00	1200.00
	Rate of Interest on Loan	0.0000%	6.4600%	6.4600%	6.4600%	6.4600%
	Interest on Loan Annualised	0.00	38.76	77.52	77.52	77.52

5	Bonds-74					
	Gross loan - Opening	0.00	0.00	0.00	2000.00	2000.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	2000.00	2000.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	2000.00	0.00	0.00
	Total	0.00	0.00	2000.00	2000.00	2000.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	2000.00	2000.00	2000.00
	Average Net Loan	0.00	0.00	1000.00	2000.00	2000.00
	Rate of Interest on Loan	0.0000%	0.0000%	6.9000%	6.9000%	6.9000%
	Interest on Loan Annualised	0.00	0.00	69.00	138.00	138.00
6	Bonds-75					
	Gross loan - Opening	0.00	0.00	0.00	6275.00	6275.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	6275.00	6275.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	6275.00	0.00	0.00
	Total	0.00	0.00	6275.00	6275.00	6275.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	6275.00	6275.00	6275.00
	Average Net Loan	0.00	0.00	3137.50	6275.00	6275.00
	Rate of Interest on Loan	0.0000%	0.0000%	6.7200%	6.7200%	6.7200%
	Interest on Loan Annualised	0.00	0.00	210.84	421.68	421.68
7	Bonds-78					
	Gross loan - Opening	0.00	0.00	0.00	0.00	2400.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	0.00	2400.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	2400.00	0.00
	Total	0.00	0.00	0.00	2400.00	2400.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	2400.00	2400.00
	Average Net Loan	0.00	0.00	0.00	1200.00	2400.00
	Rate of Interest on Loan	0.0000%	0.0000%	0.0000%	7.4700%	7.4700%
	Interest on Loan Annualised	0.00	0.00	0.00	89.64	179.28
8	PFC V D-32 (Repayment On 15.10.2020)					
	Gross loan - Opening	656.25	656.25	656.25	656.25	656.25
	Cumulative repayments of Loans upto	291.67	291.67	656.25	656.25	656.25
	Net loan - Opening	364.58	364.58	0.00	0.00	0.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
	Total	364.58	364.58	0.00	0.00	0.00
	Repayments of Loans during the period	0.00	364.58	0.00	0.00	0.00
	Net loan - Closing	364.58	0.00	0.00	0.00	0.00
	Average Net Loan	364.58	182.29	0.00	0.00	0.00
	Rate of Interest on Loan	7.6800%	7.6800%	0.0000%	0.0000%	0.0000%
	Interest on Loan Annualised	28.00	14.00	0.00	0.00	0.00
9	HDFC Bank-IV- D4(Repayment from 17.04.2021)					
	Gross loan - Opening	9000.00	9000.00	9000.00	9000.00	9000.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	1000.00	2000.00
	Net loan - Opening	9000.00	9000.00	9000.00	8000.00	7000.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00

Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
Total	9000.00	9000.00	9000.00	8000.00	7000.00
Repayments of Loans during the period	0.00	0.00	1000.00	1000.00	1000.00
Net loan - Closing	9000.00	9000.00	8000.00	7000.00	6000.00
Average Net Loan	9000.00	9000.00	8500.00	7500.00	6500.00
Rate of Interest on Loan	8.0492%	8.3982%	5.9500%	7.2335%	7.9600%
Interest on Loan Annualised	724.43	575.84	505.75	542.51	517.40
10 Punjab National Bank-III- D3(Repayment fom 01.02.2022)					
Gross loan - Opening	5000.00	5000.00	5000.00	5000.00	5000.00
Cumulative repayments of Loans upto	0.00	0.00	0.00	555.56	1111.11
Net loan - Opening	5000.00	5000.00	5000.00	4444.44	3888.89
Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
Total	5000.00	5000.00	5000.00	4444.44	3888.89
Repayments of Loans during the period	0.00	0.00	555.56	555.56	555.56
Net loan - Closing	5000.00	5000.00	4444.44	3888.89	3333.33
Average Net Loan	5000.00	5000.00	4722.22	4166.67	3611.11
Rate of Interest on Loan	8.0102%	6.8567%	5.9896%	7.1475%	7.9000%
Interest on Loan Annualised	400.51	342.84	282.84	297.81	285.28
11 AXIS BANK-II					
Gross loan - Opening	0.00	0.00	3500.00	3500.00	3500.00
Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	3500.00
Net loan - Opening	0.00	0.00	3500.00	3500.00	0.00
Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
Total	0.00	3500.00	0.00	0.00	0.00
Repayments of Loans during the period	0.00	3500.00	3500.00	3500.00	0.00
Net loan - Closing	0.00	0.00	0.00	3500.00	0.00
Average Net Loan	0.00	3500.00	3500.00	0.00	0.00
Rate of Interest on Loan	0.0000%	6.3913%	3500.00	1750.00	0.00
Interest on Loan Annualised	0.00	111.85	220.50	129.83	0.00
12 BANK OF INDIA-IV D-9 (REPAYMENT FROM-07-12-2024)					
Gross loan - Opening	0.00	0.00	0.00	0.00	3500.00
Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
Net loan - Opening	0.00	0.00	0.00	0.00	3500.00
Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	3500.00	0.00
Repayments of Loans during the period	0.00	0.00	0.00	3500.00	3500.00
Net loan - Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	0.00	0.00	0.00	3500.00	3500.00
Rate of Interest on Loan	0.0000%	0.0000%	0.00	1750.00	3500.00
Interest on Loan Annualised	0.00	0.00	0.00	8.2250%	8.0750%
				143.94	282.63
13 HDFC Bank Ltd. VII -D3					
Gross loan - Opening	0.00	1000.00	1000.00	1000.00	1000.00
Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
Net loan - Opening	0.00	1000.00	1000.00	1000.00	1000.00
Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	0.00	0.00
Total	1000.00	0.00	0.00	0.00	0.00
Repayments of Loans during the period	1000.00	1000.00	1000.00	1000.00	1000.00
Net loan - Closing	0.00	0.00	0.00	0.00	0.00
Average Net Loan	1000.00	1000.00	1000.00	1000.00	1000.00
Rate of Interest on Loan	500.00	1000.00	1000.00	1000.00	1000.00
	7.5505%	8.3982%	5.9500%	7.2335%	7.9600%



परिमल पीयूष/PARIMAL PIYUSH

अपर महाप्रबन्धक (पारित्तिक)

Addl. General Manager (Commercial)

पता: जी.पी.ओ. बिल्डिंग, एन.ए. रोड, दिल्ली-110002

	Interest on Loan Annualised	37.75	63.98	59.50	72.33	79.60
14	HDFC Bank Ltd. IX-D8					
	Gross loan - Opening	0.00	0.00	1600.00	1600.00	1600.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	1600.00	1600.00	1600.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	1600.00	0.00	0.00	0.00
	Total	0.00	1600.00	1600.00	1600.00	1600.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	1600.00	1600.00	1600.00	1600.00
	Average Net Loan	0.00	800.00	1600.00	1600.00	1600.00
	Rate of Interest on Loan	0.0000%	6.0440%	5.9500%	7.2335%	7.9600%
	Interest on Loan Annualised	0.00	48.35	95.20	115.74	127.36
15	HDFC Bank Ltd. X-D2					
	Gross loan - Opening	0.00	0.00	0.00	1500.00	1500.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	1500.00	1500.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	1500.00	0.00	0.00
	Total	0.00	0.00	1500.00	1500.00	1500.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	1500.00	1500.00	1500.00
	Average Net Loan	0.00	0.00	750.00	1500.00	1500.00
	Rate of Interest on Loan	0.0000%	0.0000%	5.8300%	6.9282%	7.9600%
	Interest on Loan Annualised	0.00	0.00	43.73	103.92	119.40
16	HDFC Bank Ltd. X-D4					
	Gross loan - Opening	0.00	0.00	0.00	0.00	2000.00
	Cumulative repayments of Loans upto	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	0.00	0.00	0.00	0.00	2000.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	0.00	0.00	0.00	2000.00	0.00
	Total	0.00	0.00	0.00	2000.00	2000.00
	Repayments of Loans during the period	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	2000.00	2000.00
	Average Net Loan	0.00	0.00	0.00	1000.00	2000.00
	Rate of Interest on Loan	0.0000%	0.0000%	0.0000%	7.0671%	7.9600%
	Interest on Loan Annualised	0.00	0.00	0.00	70.67	159.20
	TOTAL LOAN					
	Gross loan - Opening	17156.25	18156.25	25156.25	34931.25	42831.25
	Cumulative repayments of Loans upto	291.67	291.67	656.25	2211.81	7767.36
	Net loan - Opening	16864.58	17864.58	24500.00	32719.44	35063.89
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl	1000.00	7000.00	9775.00	7900.00	0.00
	Total	17864.58	24864.58	34275.00	40819.44	35063.89
	Repayments of Loans during the period	0.00	364.58	1555.56	5555.56	2555.56
	Net loan - Closing	17,864.58	24,500.00	32,719.44	35,063.89	32,508.33
	Average Net Loan	17364.58	21182.29	28609.72	33891.67	33786.11
	Rate of Interest on Loan	8.0636%	6.7501%	6.3625%	7.1927%	7.5699%
	Interest on Loan Annualised	1403.69	1429.83	1820.30	2437.72	2557.57

परिमल पियुष / PARIMAL PIYUSH

अपर महाप्रबन्धक (कार्पोरेट)
Add. General Manager (Corporate)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

(Petitioner)

S.No	Bank Loan	Interest Rate	Applicable from	Applicable upto	Number of Days	Product	Weighted Average Rate of Interest			
1	AXIS Bank-II	7.40%	06-Apr-20	28-Apr-20	22.00	1.34	8.2012%			
		8.700%	20-Apr-20	25-May-20	30.00	2.01				
		8.300%	26-May-20	31-Mar-21	370.00	18.52				
					358.00	22.80				
		3012-22	8.80%	01-04-2021	31-03-2022	365	22.00	6.30%		
		2022-23	6.30%	01-Apr-22	27-May-22	01.00	0.08			
	6.70%		28-May-22	27-Jun-22	01.00	0.08				
	7.20%		28-Jun-22	27-Aug-22	01.00	4.58				
	7.70%		28-Aug-22	27-Oct-22	01.00	4.71				
	8.80%		28-Oct-22	31-Dec-22	4.80	0.20				
	7.70%		01-Nov-22	31-Dec-22	81.00	4.72				
	8.05%		01-Jan-23	28-Feb-23	88.20	4.73				
8.30%	01-Mar-23		28-Mar-23	28.80	2.22					
				382.00	28.80	7.4081%				
2	Bank Of India-IV	8.10%	30-03-2022	31-03-2023	2.00	0.30				
		3012-24	8.00%	01-Apr-22	31-Mar-24	395.00	20.28	8.80%		
						364.88	20.28			
	3	HDFC Bank Limited-IV	6.480%	01-Apr-19	17-04-2019	16.00	1.28	8.0402%		
			6.480%	17-Apr-19	28-07-2019	73.00	8.88			
			6.380%	28-Jul-19	28-08-2019	31.00	2.87			
			6.200%	28-Aug-19	29-08-2019	31.00	2.64			
			6.150%	29-Sep-19	29-10-2019	30.00	2.43			
			6.800%	29-Oct-19	31-12-2019	33.00	2.84			
7.600%			31-Dec-19	31-03-2020	91.00	8.80				
7.400%			01-Mar-20	31-Mar-20	31.00	2.31				
						360.00	29.80		8.0422%	
			2018-22	7.800%	01-Apr-20	31-Mar-21	01.00		4.94	6.2882%
6.300%				01-Jun-20	30-Dec-20	89.00	12.88			
5.950%				24-Dec-20	31-Mar-21	98.00	5.83			
				305.89	23.65					
	2012-22	5.90%	02-04-2022	31-03-2023	365	21.72	5.85%			
	2022-23	5.90%	01-04-2022	29-06-2022	53.80	3.18				
6.35%		24-05-2022	23-06-2022	31.00	1.87					
6.80%		24-06-2022	23-08-2022	61.00	4.18					
7.80%		24-08-2022	23-10-2022	61.00	4.49					
7.80%		24-10-2022	23-12-2022	61.00	4.79					
8.30%		24-12-2022	31-12-2022	8.00	2.80					
7.95%		01-01-2023	28-02-2023	59.00	4.89					
8.01%		01-03-2023	31-03-2023	31.00	2.40					
				360.00	28.80	7.2151%				
	2022-24	8.01%	01-Apr-23	31-May-23	61.00	4.89	7.86%			
7.95%		01-Jun-23	31-Mar-24	305.00	24.25					
				366.89	29.13					
4	HDFC Bank Limited-VII	7.600%	07-Jul-20	11-02-2020	41.80	3.14	7.6608%			
		7.600%	11-Feb-20	01-02-2020	18.80	1.43				
		7.600%	01-Mar-20	31-Mar-20	31.80	2.31				
					81.80	6.47				
		2020-21	7.450%	01-Apr-20	31-May-20	61.00	4.54	8.2882%		
	8.800%		01-Jun-20	23-Dec-20	200.00	12.88				
	2.850%		24-Dec-20	31-Mar-21	89.00	8.83				
					360.00	23.85				
		2021-22	5.95%	01-04-2021	31-03-2022	365	21.72	5.95%		
		2022-23	6.80%	01-04-2022	23-06-2022	53.80	3.18			
	6.35%		24-05-2022	23-06-2022	31.00	1.87				
	6.80%		24-06-2022	23-08-2022	61.00	4.18				
7.80%	24-08-2022		23-10-2022	61.00	4.49					
7.80%	24-10-2022		23-12-2022	61.00	4.79					
8.30%	24-12-2022		31-12-2022	8.00	2.80					
7.95%	01-01-2023		28-02-2023	59.00	4.89					
8.01%	01-03-2023		31-03-2023	31.00	2.40					
				360.00	28.80	7.2151%				
	2023-24	8.01%	01-Apr-23	31-May-23	61.00	4.89	7.96%			
7.95%		01-Jun-23	31-Mar-24	305.00	24.25					
				366.00	29.13					

परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (रिजिस्ट्रार)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

5	HDFC Bank Limited IX	6.300%	10-Nov-20	23-Dec-20	36.00	3.27	0.0440%						
		3.950%	24-Dec-20	31-Mar-21	98.00	5.93							
					134.00	8.10							
2023-24	HDFC Bank Limited IX	5.95%	01-08-2021	31-03-2022	385	21.72	5.89%						
		5.25%	01-04-2022	20-05-2022	53.00	3.15							
		6.55%	24-05-2022	20-08-2022	31.00	1.07							
		6.85%	24-08-2022	23-08-2022	61.00	6.18							
		7.15%	24-08-2022	23-10-2022	61.00	6.44							
		7.85%	24-10-2022	23-12-2022	61.00	6.79							
		8.15%	24-12-2022	31-12-2022	8.00	0.69							
		7.55%	01-01-2023	28-02-2023	58.00	4.59							
		8.05%	01-03-2023	31-03-2023	31.00	2.48							
			385.00	26.40	7.1335%								
2023-24	HDFC Bank Limited IX	8.81%	01-Apr-23	31-May-23	61.00	4.89							
		7.95%	01-Jun-23	31-Mar-24	385.00	24.25							
				385.00	29.13	7.56%							
6	HDFC X	5.82%	24-11-2021	31-03-2022	128	7.40	5.82%	HDFC X 02					
2023-24	HDFC X	5.81%	01-04-2022	23-05-2022	55.00	3.09		5.81%	12-05-2022	23-05-2022	12.00	0.70	
		6.23%	24-05-2022	23-08-2022	50.00	5.73		6.23%	24-05-2022	23-08-2022	50.00	5.73	
		7.23%	24-08-2022	31-10-2022	130.00	9.40		7.23%	24-08-2022	31-10-2022	130.00	9.40	
		7.73%	01-01-2023	23-02-2023	54.00	4.17		7.73%	01-01-2023	23-02-2023	54.00	4.17	
		8.20%	24-02-2023	28-02-2023	5.00	0.41		8.20%	24-02-2023	28-02-2023	5.00	0.41	
		8.01%	01-03-2023	31-03-2023	31.00	2.48		8.01%	01-03-2023	31-03-2023	31.00	2.48	
			385.00	25.28	6.5582%				324.00	22.00	7.5671%		
2023-24	HDFC X	9.01%	01-Apr-23	31-May-23	61.00	4.88							
		7.95%	01-Jun-23	31-Mar-24	305.00	24.25							
				366.00	29.13	7.96%							
7	Punjab National Bank II	6.3000%	01-Apr-19	04-05-2019	33.00	2.74	6.3102%						
		6.2000%	04-May-19	04-08-2019	92.00	7.84							
		6.0500%	04-Aug-19	01-10-2019	58.00	4.87							
		6.0500%	01-Oct-19	04-11-2019	34.00	2.74							
		7.9900%	04-Nov-19	04-02-2020	82.00	7.27							
		7.6500%	04-Feb-20	31-Mar-20	37.00	4.35							
					389.00	29.32	6.3102%						
		2020-21	Punjab National Bank II	7.950%	01-Apr-20	03-May-20	33.00	3.02	6.8047%				
				7.300%	04-May-20	03-Jun-20	31.00	3.23					
				7.990%	04-Jun-20	03-Aug-20	61.00	4.30					
8.802%	24-Aug-20			03-Nov-20	92.00	6.26							
8.700%	24-Nov-20			23-Dec-20	67.00	3.79							
8.500%	21-Dec-20			31-Mar-21	101.00	6.91							
					385.00	25.03							
2021-22	Punjab National Bank II	5.20%	01-04-2021	20-05-2021	173	10.73	5.20%						
		5.80%	21-05-2021	31-05-2021	192	11.14							
2022-23	Punjab National Bank II	5.85%	01-04-2022	20-05-2022	61.00	4.79							
		6.70%	21-05-2022	31-05-2022	72.00	4.83							
		7.35%	01-09-2022	30-09-2022	35.00	2.15							
		7.75%	01-10-2022	31-12-2022	92.00	7.08							
		8.0%	01-01-2023	28-02-2023	58.00	4.79							
		8.45%	01-03-2023	31-03-2023	31.00	2.57							
			385.00	26.09	7.1475%								
2023-24	Punjab National Bank II	7.95%	01-Apr-23	31-Mar-24	305.00	24.25							
					385.00	29.13	7.96%						

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परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (परिचालन)
 Addl. General Manager (Co-Ordination)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Refinancing										
Sr. No.	Bank	ROI on refinancing date	Date of refinancing	Refinanced with Bank	Refinanced Amount (Rs. in crore)	New Loan Amount (Rs. in crore)	ROI of replaced Loan	savings	saving to be retained (Percent)	Remarks
1	Power Finance Corporation - V	7.88%	15-Oct-20	Bonds Series-72	4,000.00	4,000.00	5.45%	2.23%	1.1150%	Loan outstanding as on 14.10.2020 from PFC-V have been foreclosed by way of refinancing from Bond Series-72 at a concessional rate. One-half of the savings in the interest rate is added to the weighted average rate of loan.
Refinancing of PFC Loans 15.10.2020										
BP NO.	DESCRIPTION	Qis amount	Interest rate benchmark and rate on swap date	Refinanced by Loan	Interest rate benchmark and rate on swap date					
	Power Finance Corporation	41,66,66,66.668	3Y-AAA Bond rate +45bps	Bonds- Rs. 4000Cr, HDFC-IX-Rs. 166.66	5.45% Repo rate+150bps-5.25%					



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (परिमलियुष)
 Addl. General Manager (परिमलियुष)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Station								
Year wise reference of loans								
(Rs Lakhs)								
Sl. No	Bank	ROI on refinancing date	Date of refinancing	Refinanced with Bank	ROI of replaced loan	Refinanced Amount	Savings	saving to be retained (Percent)
	State Bank of India	8.20%	29 Mar-12	Bank of India	8.10%	100	0.10%	0.07500
Table B								
	DADRIGAS RSM		Bank Of India-IV	(9.00)				
	FARAKKA RSM		Bank Of India-IV	(26.00)				
	KORBA RSM		Bank Of India-IV	(32.00)				
	NETaji RSM		Bank Of India-IV	(5.00)				
	HAMAGUNJAM RSM		Bank Of India-IV	(45.00)				
	REHANI RSM		Bank Of India-IV	(16.00)				
	SIKHADEE FLOATING		Bank Of India-IV	(3.00)				
	WINDHYAGHAL RSM		Bank Of India-IV	(42.00)				
			Total	(194.00)				

(Position)


परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (व्यावसायिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Source wise Fuel for Computation of Energy Charges

PART-I
FORM-15

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I						
S. No.	Month	Unit	Oct-18		Nov-18		Dec-18	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
1	Opening Quantity of Coal/ Lignite	(MT)	7,98,600.00		8,63,300.00		8,58,000.00	
2	Value of Stock	(Rs.)	1731507484		1,82,70,94,965.00		2,01,33,08,246.00	
3	Quantity of Coal supplied by Coal Company	(MT)	11,03,800.00	-	10,26,100.00	-	11,65,700.00	
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	-	-	-	-	-	
5	Coal supplied by Coal Company (1+2)	(MT)	11,03,800.00		10,26,100.00		11,65,700.00	
6	Normative Transit & Handling Losses	(MT)	3,200.00	-	2,700.00	-	3,390.63	
7	Net coal / Lignite Supplied (3-4)	(MT)	11,00,600.00		10,23,400.00		11,62,309.370	
8	Amount charged by the Coal Company*	(Rs.)	2,20,62,88,010.00		2,53,12,17,257.00		2,36,46,12,979.00	
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)						
10	Handling, Sampling and such other similar charges	(Rs.)	2,41,46,258.00		2,81,11,557.00		5,84,28,824.00	
11	Total amount Charged (6+7)	(Rs.)	2,23,04,34,268.00		2,55,93,28,814.00		2,42,30,41,803.00	
12	Transportation charges by rail ship, road transport	(Rs.)	3,65,20,499.00		2,22,83,997.00		3,83,10,986.00	
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.)	2,09,94,373.00		1,84,34,410.00		1,85,27,883.00	
16	Total Transportation Charges (9+10+11+12)	(Rs.)	5,75,14,872.00		4,07,18,407.00		5,68,38,869.00	
17	Total amount Charged for coal supplied including Transportation (8+13+13A)	(Rs.)	2,28,79,49,140.00		2,60,00,47,221.00		2,47,98,80,672.00	
18	Landed cost of coal (14)/(5)	Rs./MT	2,116.40		2,346.48		2,224.00	
19	Blending Ratio	%	100.00%	-	100.00%	-	100.00%	-
20	Weighted average cost of coal	Rs./MT			2228.62			
21	GCV of Domestic Coal of the opening stock as per bill of Coal Company	(kCal/Kg)						
22	GCV of Domestic Coal supplied as per bill Coal Company	(kCal/Kg)	4660.00		5009.00		4667.00	
23	GCV of Imported Coal of the opening stock as per bill of Coal Company	(kCal/Kg)						
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
25	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4660.00		5009.00		4667.00	
26	GCV of Domestic Coal of opening stock as received at Station	(kCal/Kg)	4000.00		4402.00		4137.00	
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)						
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)						
30	Weighted average GCV of coal/ Lignite as Received	(kCal/Kg)	4000.00		4402.00		4137.00	

Note- Break-up of coal receipt through different modes for computation of Normative Transit loss attached as Annexure-3


 पारिमल पीयूष / PARIMAL PIYUSH
 असुर महोपबन्धक (ए. जे. सिविल)
 Asst. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EDC, A-8A, Sector-24, Noida-201301 (U.P.)

(Petitioner)

Details of Secondary Fuel for Computation of Energy Charges

PART-I
FORM- 15A

Name of the Company : NTPC Limited
Name of the Power Station : Rihand Super Thermal Power Station Stage-I

Sl.No.	Month	Unit	Oct-18		Nov-18		Dec-18	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Quantity of Oil	KL	561.85	4383.4	736.45	4263.2	3639.84	4114.2
2	Value of Opening	(Rs)	2,90,44,499.00	13,41,81,533.00	4,10,05,239.00	13,05,02,066.00	21,55,94,390.00	12,59,40,974.00
3	Quantity of Oil supplied by Oil Company	KL	233.00		3,433.980			
4	Adjustment (+/-) in quantity supplied made by Oil Company	KL						
5	Oil supplied by oil company (1+2)	KL	233.00		3,433.98		-	
6	Normative Transit & Handling Losses	KL						
7	Net Oil Supplied (3-4)	KL	233.00		3,433.98		-	
8	Amount charged by the Oil Company	(Rs)	1,52,17,996.00		20,60,16,697			-
9	Adjustment (+/-) in amount charged made by Oil Company	(Rs)						
10	Total amount charged (8+7)	(Rs)	1,52,17,996.00		20,60,16,697.00		-	
11	Transportation charges by rail / ship / road transport	(Rs)						
12	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)						
13	Demurrage Charges, if any	(Rs)						
14	Cost of diesel in transporting Oil through MGR system, if applicable	(Rs)						
15	Total Transportation Charges (9+10-11+12)	(Rs)						
16	Others -Entry Tax on Oil	(Rs.)						
17	Total amount Charged for fuel supplied including Transportation (8+13+14)	(Rs)	1,52,17,996.00		20,60,16,697.00		-	
18	Weighted average GCV of Oil as fired	kCal/KL	9790		9790		9790	
19	Weighted average rate of Secondary Fuel	Rs/KL	55,679.60	30,611.29	59,231.77	30,611.29	59,231.63	30,611.29

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


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Asst. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Source wise Fuel for Computation of Energy Charges

PART-I
FORM- 15

Name of the Company :

NTPC Limited

Name of the Power Station :

Rihand Super Thermal Power Station Stage-I

S. No.	Month	Unit	Oct-19		Nov-19		Dec-19	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
1	Opening Quantity of Coal/ Lignite							
2	Value of Stock	(MT)	44500.0000		1,66,600.00		4,88,400.00	
3	Quantity of Coal supplied by Coal Company*	Rs	95247214		35,57,23,828.00		1,16,56,43,867.00	
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	13,81,300.00		13,11,600.00		10,73,900.00	
5	Coal supplied by Coal Company (1+2)	(MT)	-	-	-	-	-	-
6	Normative Transit & Handling Losses	(MT)	13,81,300.00	-	13,11,600.00		10,73,900.00	-
7	Net coal / Lignite Supplied (3-4)	(MT)	3,800.000		3,000.000		2,100.00	
8	Amount charged by the Coal Company*	(Rs.)	13,77,500.000	-	13,88,600.000		10,71,800.000	-
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	2,85,01,51,843.00		3,23,30,89,518.00		2,02,14,10,220.00	
10	Handling, Sampling and such other similar charges	(Rs.)						
11	Total amount Charged (8+7)	(Rs.)	2,98,57,197.00		4,60,07,174.00		6,45,95,642.00	
12	Transportation charges by rail, ship, road transport	(Rs.)	2,88,00,08,840.0	-	3,27,90,96,692.0		2,08,60,05,862.0	-
13	Adjustment (+/-) in amount charged made by Railways/ Transport Company	(Rs.)	3,72,12,719.00	-	1,44,18,662.00			-
14	Demurrage Charges, if any	(Rs.)						
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)						
16	Total Transportation Charges (9+10+11+12)	(Rs.)	2,40,48,199.00		2,14,95,274.00		16656007	
17	Total amount Charged for coal supplied including Transportation (8+13+13A)	(Rs.)	6,12,50,878.00	-	3,59,14,966.00		1,66,58,007.00	-
18	Landed cost of coal (14)/(5)	Rs./MT	2,94,12,69,718.0	-	3,31,50,11,658		2,10,26,81,869	-
19	Blending Ratio	%	2.135.38		2,488.35		2,122.04	
20	Weighted average cost of coal	Rs./MT	100.00%		100.00%		100.00%	
21	GCV of Domestic Coal of the opening stock as per bill of Coal Company	(kCal/Kg)	4558		2248.08			
22	GCV of Domestic Coal supplied as per bill Coal Company	(kCal/Kg)	4578		4578		4898	
23	GCV of Imported Coal of the opening stock as per bill of Coal Company	(kCal/Kg)	4579		4939		4229	
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
25	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)						
26	GCV of Domestic Coal of opening stock as received at Station	(kCal/Kg)	4578		4898		4432	
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	4126		4072		4355	
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)	4070		4391		4020	
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)						
30	Weighted average GCV of coal as Received	(kCal/Kg)	4072		4355		4122	

Note- Break-up of coal receipt through different modes for computation of Normative Transit loss attached as Annexure-3


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबंधक (व्यावसायिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Secondary Fuel for Computation of Energy Charges

PART-I
FORM- 15A

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I						
Sl.No.	Month	Unit	Oct-19		Nov-19		Dec-19	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Stock of Oil	KL	5,772.386		5,507.386		5,383.390	
2	Value of Opening Stock	Rs.	30,57,75,957		29,17,38,325		28,51,69,772	
3	Quantity of Oil supplied by Oil Company	KL						
4	Adjustment (+/-) in quantity supplied made by Oil Company	KL						
5	Oil supplied by oil company (3+4)	KL	-	-	-	-	-	-
6	Normative Transit & Handling Losses	KL						
7	Net Oil Supplied (3-4)	KL	-	-	-	-	-	-
8	Amount charged by the Oil Company*	(Rs)						
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	-	-	-	-	24,084.00	-
10	Handling, Sampling & Such other charges	(Rs)						
11	Total amount charged (6+7)	(Rs)	-	-	-	-	24,084.00	-
12	Transportation charges by rail / ship / road transport	(Rs)						
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)						
14	Demurrage Charges, if any	(Rs)						
15	Cost of Diesel in transporting Secondary Fuel through MGR system, if applicable	(Rs)						
16	Total transportation charges	(Rs)	-	-	-	-	-	-
17	Total amount charged for the Oil supplied including transportation	(Rs.)	-	-	-	-	24,084.00	-
18	Landed Cost of Oil	Rs/KL	52,972.20	-	52,972.19	-	52,976.70	-
29	Weighted average GCV of Oil as fired	kCal/KL		9609		9605		9609

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


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
आपरे महाप्रबन्धक (व्यापारिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Source wise Fuel for Computation of Energy Charges

PART-I
FORM-15

Name of the Company :

NTPC Limited

Name of the Power Station :

Rihand Super Thermal Power Station Stage-I

S. No.	Month	Unit	Oct-20		Nov-20		Dec-20	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
1	Opening Quantity of Coal/ Lignite	(MT)	-	-	-	-	-	-
2	Value of Stock	(Rs.)	-	-	2,24,800.00	-	5,83,400.00	-
3	Quantity of Coal supplied by Coal Company*	(MT)	-	-	45,24,10,097.00	-	1,28,27,22,780.00	-
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	14,24,200.00	-	12,62,500.00	-	11,52,000.00	-
5	Coal supplied by Coal Company (1+2)	(MT)	-	-	-	-	-	-
6	Normative Transit & Handling Losses	(MT)	14,24,200.00	-	12,62,500.00	-	11,52,000.00	-
7	Net coal / Lignite Supplied (3-4)	(MT)	4,300.000	-	2,900.000	-	2,400.00	-
8	Amount charged by the Coal Company*	(Rs.)	14,19,900.000	-	12,58,600.000	-	11,49,600.000	-
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	2,68,58,32,773.00	-	2,34,31,78,863.00	-	2,19,85,93,399.00	-
10	Handling, Sampling and such other similar charges	(Rs.)	6,51,79,008.00	-	37,90,86,848.00	-	31,01,09,448.00	-
11	Total amount Charged (8+7)	(Rs.)	4,07,85,312.00	-	5,12,79,360.00	-	5,87,21,528.00	-
12	Transportation charges by rail, ship, road transport	(Rs.)	2,77,17,97,093.0	-	2,77,35,45,071.0	-	2,58,54,23,376.0	-
13	Adjustment (+/-) in amount charged made by Railways/ Transport Company	(Rs.)	5,82,32,386.00	-	1,48,09,169.00	-	3,15,05,721.00	-
14	Demurrage Charges, if any	(Rs.)	-	-	-	-	-	-
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	-	-	-	-	-	-
16	Total Transportation Charges (9+10+11+12)	(Rs.)	2,72,62,513.00	-	2,27,73,599.00	-	2,16,24,463.00	-
17	Total amount Charged for coal supplied including Transportation (8+13+13A)	(Rs.)	8,54,94,899.00	-	3,75,82,768.00	-	5,31,31,184.00	-
18	Landed cost of coal (14)(15)	(Rs./MT)	2,85,72,91,982.0	-	2,81,11,27,839	-	2,81,85,54,560	-
19	Blending Ratio	%	2,012.41	-	2,198.59	-	2,251.14	-
20	Weighted average cost of coal	%	100.00%	-	100.00%	-	100.00%	-
21	GCV of Domestic Coal of the opening stock as per bill of Coal Company	(kCal/Kg)	-	-	2161.22	-	-	-
22	GCV of Domestic Coal supplied as per bill of Coal Company	(kCal/Kg)	4365	-	4435	-	4667	-
23	GCV of Imported Coal of the opening stock as per bill of Coal Company	(kCal/Kg)	4435	-	4708	-	4679	-
24	GCV of Imported Coal supplied as per bill of Coal Company	(kCal/Kg)	-	-	-	-	-	-
25	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4435	-	4667	-	4675	-
26	GCV of Domestic Coal of opening stock as received at Station	(kCal/Kg)	3630	-	3817	-	4148	-
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	3817	-	4207	-	4151	-
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)	-	-	-	-	-	-
29	GCV of Imported Coal supplied as received at Station	(kCal/Kg)	-	-	-	-	-	-
30	Weighted average GCV of coal as Received	(kCal/Kg)	3817	-	4148	-	4150	-

Note: Break-up of coal receipt through different modes for computation of Normative Transit loss attached as Annexure-3.


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यवसायिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Secondary Fuel for Computation of Energy Charges

**PART-I
FORM- 15A**

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I						
Sl.No.	Month	Unit	Oct-20		Nov-20		Dec-20	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Stock of Oil	KL	5,060.395		5,004.395		4,089.400	
2	Value of Opening Stock	Rs.	22,94,37,752		22,68,98,718		18,54,12,719	
3	Quantity of Oil supplied by Oil Company	KL					3,156.270	
4	Adjustment (+/-) in quantity supplied made by Oil Company	KL						
5	Oil supplied by oil company (3+4)	KL	-	-	-	-	3,156.270	-
6	Normative Transit & Handling Losses	KL						
7	Net Oil Supplied (3-4)	KL	-	-	-	-	3,156.270	-
8	Amount charged by the Oil Company*	(Rs)					14,29,15,264.00	
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	-	-	-	-		-
10	Handling, Sampling & Such other charges	(Rs)						
11	Total amount charged (6+7)	(Rs)	-	-	-	-	14,29,15,264.00	-
12	Transportation charges by rail / ship / road transport	(Rs)						
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)						
14	Demurrage Charges, if any	(Rs)						
15	Cost of Diesel in transporting Secondary Fuel through MGR system, if applicable	(Rs)						
16	Total transportation charges	(Rs)	-	-	-	-	-	-
17	Total amount charged for the Oil supplied including transportation	(Rs.)	-	-	-	-	14,29,15,264.00	-
18	Landed Cost of Oil	Rs/KL	45,339.89	-	45,339.89	-	45,313.71	-
29	Weighted average GCV of Oil as fired	kCal/kL	9540		9540		9371	

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


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Receipts and Fuel for Computation of Energy Charges

Name of the Company:		NTPC Limited										PART 2 FORM 16	
Name of the Power Station:		Rihand Super Thermal Power Station Stage-I											
S. No.	Month	Unit	Oct-21			Nov-21			Dec-21			Biomass	
			Domestic	Imported	Biomass	Domestic	Imported	Biomass	Domestic	Imported	Biomass		
1	Opening Quantity of Coal/Lignite	(MT)	190191.2000	-	-	1,91,633.46	-	-	1,91,633.46	-	-	-	
2	Value of Stock	(Rs.)	43,78,93,667	-	-	47,86,21,323	-	-	44,17,56,639	-	-	-	
3	Quantity of Coal supplied by Coal Company	(MT)	10,87,711.848	-	-	11,83,204.180	-	-	12,76,343.06	-	-	-	
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	-	-	-	-	-	-	-	-	-	-	
5	Coal supplied by Coal Company (2+4)	(MT)	10,87,711.848	-	-	11,83,204.180	-	-	12,76,343.06	-	-	-	
6	Normalative Transit & Handling Losses	(MT)	2,195.420	-	-	2,308.430	-	-	2,784.60	-	-	-	
7	Net coal/Lignite Supplied (5-6)	(MT)	10,85,516.230	-	-	11,80,897.770	-	-	12,73,558.46	-	-	-	
8	Amount charged by the Coal Company	(Rs.)	2,19,93,67,363	-	-	2,28,97,37,972	-	-	2,44,06,86,575.89	-	-	-	
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	58,64,01,868	-	-	33,05,87,865	-	-	50,4,17,449.00	-	-	-	
10	Handling, Sampling and such other similar charges	(Rs.)	4,75,76,347.00	-	-	4,98,64,717	-	-	5,04,17,449.00	-	-	-	
11	Total amount charged (8+9+10)	(Rs.)	2,74,32,81,068	-	-	2,58,06,84,546	-	-	3,17,73,42,357	-	-	-	
12	Transportation charges by rail, ship, road transport	(Rs.)	-	-	-	-	-	-	76,33,317.00	-	-	-	
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.)	2,34,56,100.00	-	-	2,67,87,011.00	-	-	2,64,56,959.00	-	-	-	
16	Total Transportation Charges (12-13+14+15)	(Rs.)	2,34,56,100	-	-	2,57,87,010	-	-	3,62,92,275.00	-	-	-	
17	Total amount charged for coal supplied including Transportation (11+16)	(Rs.)	2,76,67,37,168	-	-	2,61,56,87,555	-	-	3,21,19,34,632	-	-	-	
18	Landed cost of coal (2+17)+7	(Rs./MT)	2,473.06	-	-	2,281.33	-	-	2,489.51	-	-	-	
19	Handling Rate	%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
20	Weighted average cost of coal (including biomass)	(Rs./MT)	2473.06	0.00%	0.00%	2281.33	0.00%	0.00%	2489.51	0.00%	0.00%	0.00%	
21	GCV of Domestic Coal of the opening stock as per bill of Coal Company	(Rs./Kg)	4973	-	-	4931	-	-	4746	-	-	-	
22	GCV of Domestic Coal supplied as per bill of Coal Company	(Rs./Kg)	4928	-	-	4723	-	-	4655	-	-	-	
23	GCV of Imported Coal of the opening stock as per bill of Coal Company	(Rs./Kg)	-	-	-	-	-	-	-	-	-	-	
24	GCV of Imported Coal supplied as per bill of Coal Company	(Rs./Kg)	-	-	-	-	-	-	-	-	-	-	
25	Weighted average GCV of coal/Lignite as Billed (including Biomass)	(Rs./Kg)	4901	-	-	4748	-	-	4676	-	-	-	
26	GCV of Domestic Coal of opening stock as received at Station	(Rs./Kg)	3683	-	-	4272	-	-	4216	-	-	-	
27	GCV of Domestic Coal Supplied as received at Station	(Rs./Kg)	4322	-	-	4267	-	-	4472	-	-	-	
28	GCV of Imported Coal of opening stock as received at Station	(Rs./Kg)	-	-	-	-	-	-	-	-	-	-	
29	GCV of Imported Coal Supplied as received at Station	(Rs./Kg)	-	-	-	-	-	-	-	-	-	-	
30	Weighted average GCV of coal as Received (including biomass)	(Rs./Kg)	4372	-	-	4216	-	-	4438	-	-	-	

Note: Break-up of coal receipt through different modes for computation of Normalative Transit loss attached as Annexure-3

(Signature)

परिमल पीयूष/PARIMAL PIYUSH
 आगर महोपायुक्त (सांमिपिक)
 Add. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Secondary Fuel for Computation of Energy Charges

PART-I
FORM- 15A

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

Sl.No	Month	Unit	Oct-21		Nov-21		Dec-21	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Stock of Oil	KL	4,360.090	-	7,027.170	-	6,865.170	-
2	Value of Opening Stock	Rs.	22,02,87,492	-	40,75,86,271	-	39,81,90,030	-
3	Quantity of Oil supplied by Oil Company	KL	3,162.080	-	-	-	-	-
4	Adjustment (+/-) in quantity supplied made by Oil Compa	KL	-	-	-	-	-	-
5	Oil supplied by oil company (3+4)	KL	3,162.080	-	-	-	-	-
6	Normative Transit & Handling Losses	KL	-	-	-	-	-	-
7	Net Oil Supplied (3-4)	KL	3,162.080	-	-	-	-	-
8	Amount charged by the Oil Company*	(Rs)	21,60,09,516.00	-	-	-	-	-
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)	-	-	-	-	-	-
10	Handling, Sampling & Such other charges	(Rs)	-	-	-	-	-	-
11	Total amount charged (8+7)	(Rs)	21,60,09,516.00	-	-	-	-	-
12	Transportation charges by rail / ship / road transport	(Rs)	-	-	-	-	-	-
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	-	-	-	-	-	-
14	Demurrage Charges, if any	(Rs)	-	-	-	-	-	-
15	Cost of Diesel in transporting Secondary Fuel through MGR system, if applicable	(Rs)	-	-	-	-	-	-
16	Total transportation charges	(Rs)	-	-	-	-	-	-
17	Total amount charged for the Oil supplied including transportation	(Rs.)	21,60,09,516.00	-	-	-	-	-
18	Landed Cost of Oil	Rs/KL	58,001.48	-	58,001.48	-	58,001.49	-
19	Blending Ratio (Domestic/ Imported)	%	1.00	-	1.00	-	1.00	-
20	Weighted average cost of Oil	Rs/KL	58,001.48	-	58,001.48	-	58,001.49	-
21	GCV of Domestic Oil of the Opening Oil stock as per bill of Oil Company	kCal/kL	-	-	-	-	-	-
22	GCV of Domestic Oil supplied as per bill of Oil Company	kCal/kL	-	-	-	-	-	-
23	GCV of Imported Oil of the opening stock as per bill of Oil Company	kCal/kL	-	-	-	-	-	-
24	GCV of Imported Oil supplied as per bill of Company	kCal/kL	-	-	-	-	-	-
25	Weighted average GCV of Oil/ Lignite as Billed	kCal/kL	-	-	-	-	-	-
26	GCV of Domestic Oil of the Opening Oil stock as received at Station	kCal/kL	-	-	-	-	-	-
27	GCV of Domestic Oil supplied as received at Station	kCal/kL	9,232.00	-	9,232.00	-	9,232.00	-
28	GCV of Imported Oil of the Opening Oil stock as received at Station	kCal/kL	-	-	-	-	-	-
29	GCV of Imported Oil supplied as received at Station	kCal/kL	-	-	-	-	-	-
30	Weighted average GCV of Oil as received	kCal/kL	9,232.00	-	9,232.00	-	9,232.00	-

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबंधक (व्यापारिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EDC, A-8A, Sector-24, Noida-201301 (U.P.)

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

(Petitioner)

Details of Source wise Fuel for Computation of Energy Charges											
Name of the Company :		NTPC Limited									
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I									
S. No.	Month	Unit	Oct-22			Nov-22			Dec-22		
			Domestic	Imported	Biomass	Domestic	Imported	Biomass	Domestic	Imported	Biomass
1	Opening Quantity of Coal/Lignite	(MT)	4,36,649	-	-	6,46,142.29	-	-	8,37,711.48	-	-
2	Value of Stock	(Rs.)	2,27,74,26,320	-	-	1,67,41,79,369	-	-	1,67,06,80,724	-	-
3	Quantity of Coal supplied by Coal Company	(MT)	9,82,297,460	-	-	12,17,054,320	-	-	11,18,452,96	-	-
4	Adjustment (+/-) in quantity supplied made by Coal Company	(MT)	-	-	-	-	-	-	-	-	-
5	Coal supplied by Coal Company (3+4)	(MT)	9,82,297,460	-	-	12,17,054,320	-	-	11,18,452,96	-	-
6	Normative Transit & Handling Lessee	(MT)	1,084,590	-	-	2,454,130	-	-	2,239,01	-	-
7	Net coal/Lignite Supplied (5-6)	(MT)	9,81,212,870	-	-	12,14,600,190	-	-	11,16,213,95	-	-
8	Amount charged by the Coal Company	(Rs.)	1,95,99,35,106	-	-	2,47,23,52,392	-	-	2,22,32,10,032.00	-	-
9	Adjustment (+/-) in amount charged made by Coal Company	(Rs.)	37,05,48,879	-	-	20,61,96,971	-	-	22,09,89,574.00	-	-
10	Handling, Sampling and such other similar charges	(Rs.)	4,36,76,433.00	-	-	4,97,90,207	-	-	4,55,79,789.00	-	-
11	Total amount charged (8+9+10)	(Rs.)	2,37,91,61,418	-	-	2,87,83,38,771	-	-	2,50,17,79,374	-	-
12	Transportation charges by rail, ship, road transport	(Rs.)	-	-	-	-	-	-	-	-	-
13	Adjustment (+/-) in amount charged made by Railways/ Transport Company	(Rs.)	-	-	-	-	-	-	-	-	-
14	Demurrage Charges, if any	(Rs.)	-	-	-	-	-	-	-	-	-
15	Cost of diesel in vaporizing coal through MGR system, if applicable	(Rs.)	2,67,25,361.00	-	-	3,19,20,967.00	-	-	2,66,47,437.00	-	-
16	Total Transportation Charges (12-13+14+15)	(Rs.)	2,67,25,361	-	-	3,19,20,966	-	-	2,66,47,437.00	-	-
17	Total amount charged for coal supplied including Transportation (11+16)	(Rs.)	2,40,58,86,779	-	-	2,71,02,69,737	-	-	2,53,26,36,811	-	-
18	Landed cost of coal (2+17)(1+7)	(Rs./MT)	2,579.08	-	-	2,322.48	-	-	2,326.26	-	-
19	Stacking Ratio	%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%
20	Weighted average cost of coal (including biomass)	(Rs./MT)	3579.66	3579.66	3579.66	2352.46	2352.46	2352.46	2352.46	2352.46	2352.46
21	GCV of Domestic Coal of the opening stock as per bill of Coal Company	(KCal/Kg)	5045	-	-	4948	-	-	4758	-	-
22	GCV of Domestic Coal supplied as per bill of Coal Company	(KCal/Kg)	4886	-	-	4570	-	-	4580	-	-
23	GCV of Imported Coal of the opening stock as per bill of Coal Company	(KCal/Kg)	-	-	-	-	-	-	-	-	-
24	GCV of Imported Coal supplied as per bill of Coal Company	(KCal/Kg)	-	-	-	-	-	-	-	-	-
25	Weighted average GCV of coal/Lignite as billed (including biomass)	(KCal/Kg)	-	4948	-	-	4758	-	-	4640	-
26	GCV of Domestic Coal of opening stock as received at Station	(KCal/Kg)	4437	-	-	4211	-	-	4036	-	-
27	GCV of Domestic Coal Supplied as received at Station	(KCal/Kg)	4258	-	-	3665	-	-	3862	-	-
28	GCV of Imported Coal of opening stock as received at Station	(KCal/Kg)	-	-	-	-	-	-	-	-	-
29	GCV of Imported Coal Supplied as received at Station	(KCal/Kg)	-	-	-	-	-	-	-	-	-
30	Weighted average GCV of coal as Received (including biomass)	(KCal/Kg)	-	4211	-	-	4036	-	-	3958	-

Note: Break-up of coal receipt through different modes for computation of Normative Transit loss attached as Annexure-3


(Parimal)

परिमल पीयूष/PARIMAL PIYUSH
 अधीन प्रमुख (परिमल) /
 Add: General Manager (Coal) -
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of Secondary Fuel for Computation of Energy Charges

PART-I
FORM-15A

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I						
Sl.No	Month	Unit	Oct-21		Nov-21		Dec-21	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Stock of Oil	KL	5,770,920		4,803,920		4,481,820	
2	Value of Opening Stock	Rs.	45,72,64,443		38,53,97,408		35,51,28,260	
3	Quantity of Oil supplied by Oil Company	KL	1,098,000				3,035,630	
4	Adjustment (+/-) in quantity supplied made by Oil Company	KL						
5	Oil supplied by oil company (3+4)	KL					3,035,630	
6	Normative Transit & Handling Losses	KL						
7	Net Oil Supplied (3-6)	KL					3,035,630	
8	Amount charged by the Oil Company*	(Rs)					29,42,39,528.00	
9	Adjustment (+/-) in amount charged made by Oil Company	(Rs)						
10	Handling, Sampling & Such other charges	(Rs)						
11	Total amount charged (8+7)	(Rs)					29,42,39,528.00	
12	Transportation charges by rail / ship / road transport	(Rs)						
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)						
14	Demurrage Charges, if any	(Rs)						
15	Cost of Diesel in transporting Secondary Fuel through MGR system, if applicable	(Rs)						
16	Total transportation charges	(Rs)						
17	Total amount charged for the Oil supplied including transportation	(Rs.)					29,42,39,528.00	
18	Landed Cost of Oil	Rs/KL	79,235.97		79,235.98		86,360.38	
19	Blending Ratio (Domestic/ Imported)	%	1.00		1.00		1.00	
20	Weighted average cost of Oil	Rs/KL	89,236.00		89,456.00		86,360.38	
21	GCV of Domestic Oil of the Opening Oil stock as per bill of Oil Company	klCal/kL						
22	GCV of Domestic Oil supplied as per bill of Oil Company	klCal/kL						
23	GCV of Imported Oil of the opening stock as per bill of Oil Company	klCal/kL						
24	GCV of Imported Oil supplied as per bill of Company	klCal/kL						
25	Weighted average GCV of Oil Lignite as billed	klCal/kL						
26	GCV of Domestic Oil of the Opening Oil stock as received at Station	klCal/kL						
27	GCV of Domestic Oil supplied as received at Station	klCal/kL	9,362.00		9,362.00		9,302.00	
28	GCV of Imported Oil of the Opening Oil stock as received at Station	klCal/kL						
29	GCV of Imported Oil supplied as received at Station	klCal/kL						
30	Weighted average GCV of Oil as received	klCal/kL	9,362.00		9,362.00		9,302.00	

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


(Patron)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यापारिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Computation of Energy Charges

Form-15B
ADDITIONAL FORM

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

Computation of Energy Charges		2019-20	2020-21	2021-22	2022-23	2023-24
1	Rate of Energy Charge from Sec. Fuel OR Alternate Fuel (p/kWh) ⁽¹⁾ = $(R_2) \times P_1$	2.945	2.649	2.295	2.900	4.110
2	Heat Contribution from SFO / Alternate Fuel (H ₂) = $(Q_2) \times (GCV_2)$	4.895	4.804	4.742	4.616	4.671
3	Heat Contribution from coal (H ₁) = $(Q_1) \times H_1$	2345.11	2345.20	2345.25	2345.38	2345.33
4	Specific Primary Fuel Consumption (CPR ₁) = $H_1 / (GCV_1)$	0.573	0.572	0.593	0.555	0.581
5	Rate of Energy charge from Primary Fuel (p/kWh) (PRC ₁)	127.637	128.652	128.210	134.519	140.068
6	Rate of Energy charge ex-bus (p/kWh) ⁽²⁾ = $\frac{(PRC_1) + (PRC_2)}{(1 + AUZ)}$	141.938	142.718	141.822	149.368	156.736

		2019-20	2020-21	2021-22	2022-23	2023-24
No. of Days in the period	Days	365	365	365	365	365
No. of Days in the year	Days	365	365	365	365	365
Sp. Oil consumption	m/kWh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption	%	8.00%	8.00%	8.00%	8.00%	8.00%
Heat Rate	Kcal/Kwh	2,350.00	2,350.00	2,350.00	2,350.00	2,350.00

Computation of Variable Charges			2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charge (Coal)	p/kWh		135.736	139.839	139.358	146.218	152.269
Variable Charge (Oil)	p/kWh		3.201	2.879	2.464	3.152	4.467
Total	p/kWh		141.938	142.718	141.822	149.368	156.736

Price of fuel from Form-15/15A

		2019-20	2020-21	2021-22	2022-23	2023-24
Coal Cost	(Rs./MT)	2228.61	2248.06	2161.19	2422.66	2409.13
Oil Cost	(Rs./KL)	58903.64	52973.63	45328.92	56001.48	62194.72

Computation of Fuel Expenses for Calculation of IWC:

		2019-20	2020-21	2021-22	2022-23	2023-24
ESD in a year	(MUe)	6869.09	6950.32	6850.32	6850.32	6869.09
ESD for 45 days	(MUe)	750.720	750.720	750.720	750.720	750.720
Cost of coal for 45 Days	(Rs. Lakh)	1645.22	1645.22	1487.95	1645.62	1645.62
Cost of oil for 2 months	(Rs. Lakh)	366.50	328.70	281.27	359.90	511.42
Energy Expenses for 45 days	(Rs. Lakh)	11987.49	12053.38	11977.72	12615.05	13237.31

		2019-20	2020-21	2021-22	2022-23	2023-24
Coal						
Wtd. Avg. Price of Coal	Rs./MT	2228.61	2248.06	2161.19	2422.66	2409.13
Wtd. Avg. GCV of Coal as received	kCal/Kg	4179.67	4163.00	4038.33	4309.00	4118.33
Wtd. Sec. Oil	kCal/Kg	4094.67	4096.00	3661.33	4224.00	4033.33
Wtd. Avg. Price of Secondary Fuel	Rs./KL	58903.64	52973.63	45328.92	56001.48	62194.72
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9790.00	9607.67	9483.67	9232.00	9342.00


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (व्यवसायिक)
Add. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-BA, Sector-24, Noida-201301 (U.P.)

Details/Information to be Submitted in respect of Capital Spares (2019-20)								
Name of the Petitioner: NTPC Ltd.		NTPC Limited						
Name of the Generating Station:		Rihand Super Thermal Power Station Stage-I						
Date of Commercial Operation:		01-01-1991						
Sl. No.	Name of Spare	Value of the Asset	Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance	Funded through Special Allowance (if Applicable)	Claimed as a part of stores and spares	Amount in Rs Lakh	Remarks
1	GV-IS, 10611-H.O:BW-A218 WCC:2500:100MM	0.35	No	No	No	No		
2	C.S. GATE VALVE SIZE 100mm	0.27	No	No	No	No		
3	400 NB MAN OPTD. BUTTERFLY VALVE	0.40	No	No	No	No		
4	C.I GATE VALVE SIZE 8(200MM)	0.26	No	No	No	No		
5	FLUIDOMAT HFD-7: COMPLETE ASSEMBLY	0.28	No	No	No	No		
6	COMP ASSY FLUIDOMAT COUPLING, SC-10	15.97	No	No	No	No		
7	COMP ASSY FLUIDOMAT COUPLING, SC-14	42.46	No	No	No	No		
8	COMP ASSY BREVENI GEAR BOX, SC8504	5.00	No	No	No	No		
9	COMP UNIT DAVID BROWN GEAR BOX, B3-355	85.75	No	No	No	No		
10	COMPLETE ASSY DAVID BROWN GEAR BOX	8.70	No	No	No	No		
11	COMP ASSY ELECON GEAR BOX, NK-KCU200, 80.1	49.79	No	No	No	No		
12	COMP ASSY ELECON GEAR BOX, SBN280, 14.1	30.81	No	No	No	No		
13	COMP ASSY ELECON GEAR BOX, VK6S-424, 570.1	43.31	No	No	No	No		
14	COMP ASSY PCT GEAR BOX, SR 32 2(12, 93, 1)	27.99	No	No	No	No		
15	COMP ASSY PREMIUM ENERGY GEAR BOX, B232	35.55	No	No	No	No		
16	COMP ASSY PREMIUM ENERGY GEAR BOX, B3-355	3.50	No	No	No	No		
17	GEAR COUPLING ED8400 COMP UNIT ELECON	4.42	No	No	No	No		
18	ELECON BZWE-5600 COMP ASSY	1.49	No	No	No	No		
19	DH 800-2000-2-SJ: COMPLETE CATRIDGE ASSY	11.22	No	No	No	No		
20	IMPELLER SHAFT, 1860101, BHM-125	16.19	No	No	No	No		
21	SREHLG COMP ASSY	3.28	No	No	No	No		
22	COMPLETE PUMP ASSY, ST 4MD 80/2050MAKE	2.49	No	No	No	No		
23	COMPLETE CATRIDGE ASSEMBLY, TDRFPS-AOP	37.92	No	No	No	No		
24	SIZE 200 WATER RING VACUUM PUMP ASSY	22.24	No	No	No	No		
25	COMPRESSOR COMPLETE, TYPE-30	27.11	No	No	No	No		
26	4-C150-GV-HW-BW-WCB-COMPLETE VALVE ASSY	2.00	No	No	No	No		
27	4-C150-FV-BW-WCB-COMP VIV ASSLY	0.27	No	No	No	No		
28	BODY, H95325&1, HOPKINSON	8.92	No	No	No	No		
29	FLUID DRIVE HYD CPLG, 36SCR24R, 960RPM	11.58	No	No	No	No		
30	HP DOSING PUMP WITH MOTOR ASSY BHEL	4.49	No	No	No	No		
31	ECO COIL LOWER ASSY	531.48	No	No	No	No		
32	DOUBLE CKT 22 TUBE ECO COIL PAIR ASSY	560.91	No	No	No	No		
33	WALL BLOWER ASSY	6.03	No	No	No	No		
34	ENTRAL TRUNNION SHAFT, MAIN PREHEATER	59.00	No	No	No	No		
35	GEAR BOX, TYPE-II, 3 INPUT, DOWNSHAFT	41.85	No	No	No	No		
36	PIN RACK ASSY, FOR SAPH 30.0 VIM 2000	5.75	No	No	No	No		
37	PIN RACK ASSY FOR PAPH-27.5 VIM 2000	4.32	No	No	No	No		
38	SECONDARY GEAR BOX	64.27	No	No	No	No		
39	OVERRUNNING CLUTCH FOR SAPH	3.65	No	No	No	No		
40	SHAFT&IMPELLER ASSY 05652001	308.05	No	No	No	No		
41	IMPELLER BLADE, 0-55-216-00829 (D)8+ BHEL	52.11	No	No	No	No		
42	MULTI PORT ASSY, 614000011, 03.01, G, BHEL	18.66	No	No	No	No		
43	BULL RING SEGMENTS ASSEMBLY, MILL XRP1003	28.99	No	No	No	No		
44	GRINDING ROLL, FOR XRP 1003	80.29	No	No	No	No		
45	MILL BOTTOM FOR XRP-1003 MILLS	4.56	No	No	No	No		
46	BELT DRIVE REDUCER	71.37	No	No	No	No		
47	BELT DRIVE REDUCER, SWM150V150R, 500MW	7.72	No	No	No	No		
48	UNITROL-6000 POWER SUPPLY QUIN1	0.46	No	No	No	No		
49	UNITROL-6000 COMM CTRL MEASU DEVICE	5.70	No	No	No	No		

परिमल पीयूष/PARIMAL PIYUSH
 अपर माहिजवनाक (परिमल)
 General Manager
 लिमिटेड
 A, Sector-24, New

50	CONTROLLER,3BHIE023784R2530,ABB	12.51	No	No	No	No
51	UNITROL-6000 FIRING UNIT	3.82	No	No	No	No
52	TOPBOTTOM SHELL,R210(A0)1175,NEI	8.86	No	No	No	No
53	TOPBOTTOM SHELL,R210(A0)1170&4.5,NEI	11.55	No	No	No	No
54	U-SEALING RING MACHINED,010501080007	3.93	No	No	No	No
55	JOURNAL BRG ASSLY,D250X180,01190418000&0	44.90	No	No	No	No
56	IV SERVOMOTOR COMPLETE 0-11403-27000	16.61	No	No	No	No
57	ANGLE DRAIN VALVE,E920-2 AR118061	14.84	No	No	No	No
58	ESV SERVOMOTOR COMPLETE 0-11401-27000	45.41	No	No	No	No
59	BEARING SHELL ASSY,91390101000	57.05	No	No	No	No
60	BEARING SHELL ASSY,9139120100300006	64.54	No	No	No	No
61	MAIN OIL PUMP IMPELLER PartNO. 3156377	14.28	No	No	No	No
62	COMPLETE HP GOVERNING V/V K1401-2	1.15	No	No	No	No
63	DIESEL GENERATOR 250KVA,GPW11-P11-250	16.61	No	No	No	No
64	ROTOR ASSY,M07219Y1,EKK 48X114	53.71	No	No	No	No
65	PADDLE ASSY,2322016&3,FLSMIDTH,1125MPH	13.91	No	No	No	No
66	HYD MOTOR,2322016&10,FLSMIDTH,1125TPH	11.35	No	No	No	No
67	1125MPH-TRAVEL DRIVE GEARED MOTOR	1.84	No	No	No	No
68	DRIVE UNIT ASSY,TRF TE-13	1.72	No	No	No	No
69	LUFF HYD CYLINDER,HL0983/2&2,ELECON EPC	110.27	No	No	No	No
70	MAGNET ASSY,BD.X14.010.OVBO1059+	43.15	No	No	No	No
71	ASSLY OF FLUID COUP. FCU- 17.75	0.81	No	No	No	No
72	COMP FLUID COUPLING FOR ASH SLURRY PUMP	10.14	No	No	No	No
73	200X250MM-COMPLTE ASSEMBLY	9.67	No	No	No	No
74	PVC FILL PK CF.(1216X1829X305),THK-0.3MM	418.97	No	No	No	No
75	PVC FILL PK CF.(869X1829X305),THK-0.3MM	40.39	No	No	No	No
76	VEHICLE,PLATFORM TRUCK,JOISTS,FWHFB 40	6.14	No	No	No	No
77	TORQUE CNVRTR ASSY,1951318001,BFML,BD355	24.84	No	No	No	No
78	TRACK SHOE ASSY,130C100268,BEML DOZER	20.42	No	No	No	No
79	TRANSMISSION ASSY,130TM01008,BEML,BD355	51.20	No	No	No	No
80	ENGINE ASSY,51Z0000022,BEML,BD355	52.48	No	No	No	No
81	SCREW COMPRESSOR	23.13	No	No	No	No
82	TURBOCHARGER ASSY,10080193,DLW	50.78	No	No	No	No
83	CB SF6,11KV,3150A,ABB	1.17	No	No	No	No
84	3PH SCIM,90KW4-15V,1482RPM,280M,TEFC	6.30	No	No	No	No
85	MOTOR,55KW,1475 RPM,ND250M	1.22	No	No	No	No
86	SQ,CG,MOTOR- 415V,160KW,6P,V1 TEFC,315LX	4.53	No	No	No	No
87	MOTOR,SQ,CAGE IND,415VAC,3PH,S1,315L,B3	5.00	No	No	No	No
88	MTR,SGL,415V,200KW,4P,B3,TEFC,FR,315ML	3.92	No	No	No	No
89	MOTOR,DC,JOP,220VDC,S1,AU/S289M,FLG,IP55	6.40	No	No	No	No
90	MOTOR,SGL,SQ,CAGE IND,3.3KV,D3158,B3	14.50	No	No	No	No
91	MOTOR,SGL,SQ,CAGE IND,3.3KV,3PH,D355-9B	24.99	No	No	No	No
92	MOTOR,SGL,SQ,CAGE IND,3.3KV,ILA7713,B3,F	63.60	No	No	No	No
93	LBB RELAY MCT1140 TYPE MCT1140F1AK1001A	0.08	No	No	No	No
94	NUMERICAL TRANSFORMR PROTECTION RELAY 1A	4.59	No	No	No	No
95	DISTANCE PROTECTION RELAY MICOM P442	3.06	No	No	No	No
96	RELY NUM:220VDC,RET-630,ABB,ZAANRXX	10.33	No	No	No	No
97	RELY NUM:220VDC,REF-615,ABB,GNBA1B8N1XD	5.28	No	No	No	No
98	RELY NUM:220VDC,REM-615,ABB,GNBA1B8N1XD	8.61	No	No	No	No
99	RELAY NUMERI GE MJA,TILIN F650	13.77	No	No	No	No
100	RELAY,NUM GENERATOR PROT,6A,220VDC	95.27	No	No	No	No
101	BATTERY RECH LEAD ACID,220V,560AH	34.96	No	No	No	No
102	ANALYZER,0-200V,0-50MA,0.1MILL,1HZ-10KHZ	22.30	No	No	No	No
103	PR/DP TRANSMTR -100-1900MMVVC	0.23	No	No	No	No
104	PR/DP TRANSMTR 0-1900MRAR	0.08	No	No	No	No
105	ABSOLUTE SHAFT & BRG VIBRATION MONITOR	0.10	No	No	No	No
106	DUAL SEISMIC VIBR MONITOR, MAKE SHINKAWA	0.19	No	No	No	No
107	C&I PG0-10 KG/CM2BRD 1/2" NPTBCK150MM	0.03	No	No	No	No
108	VALVE SOL HERION,2334808,1500,024,00	8.71	No	No	No	No
109	T/C, K-TYPE,HEAD TYPE, DUPLEX,6MMX7655MM	0.31	No	No	No	No

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अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी ली लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)



110	VALVE,SOL,24VDC,2432581,1302,024,00	11.23	No	No	No	No
111	WH CONVERTOR, DSG-807112, VOITH TURBO	16.47	No	No	No	No
112	PNEU ACTUATOR, 38/15, MAKE, M/L	0.86	No	No	No	No
113	ACTUATOR, HYD, ELECTRO, ADVANCE ACTUATOR	20.02	No	No	No	No
114	ANALOG INPUT MODULE AAH43-S00K4A00	84.55	No	No	No	No
115	LED BASED LVS SYSTEM, MVL6715SXGA, BARCO	41.01	No	No	No	No
116	24V DC-DC CONVERTER, MODEL- 200SI	0.35	No	No	No	No
117	MAX OPERATOR STATION	25.22	No	No	No	No
	Total (A)	4,168.21				
	Total for Rihand-I station (B=A*2*600/(3*2*600))	1,389.40				



(Petitioner)

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 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details/Information to be Submitted in respect of Capital Spares

PART-I
FORM-17

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Rihand Super Thermal Power Station Stage-I					
Sl. No.	Details of Capital Spares and Expenses in 2020-21						Amount in Rs Lakhs
	Name of Spare	Value of the Asset	Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance (If Applicable)	Funded through Special Allowance	Claimed as a part of stores and spares	Remarks
1	350 NB C.I. CHECK VALVE 0-10 KG/CM2	0.02	No	NA	No	No	
2	100 NB GATE VALVE, CI BODY NP=1 FLANGED	0.09	No	NA	No	No	
3	CI GLOBE VALVE 80 NB RISING SPINDLE TYPE	0.10	No	NA	No	No	
4	REGULATING V/V 65NB CCS WCB MO	5.31	No	NA	No	No	
5	200 NB CI GATE VALVE	0.06	No	NA	No	No	
6	450 MM RISING SPINDLE TYPE CI GATE V/V	0.03	No	NA	No	No	
7	C.I SWING CHECK VALVE 400 NB (NRV)	0.03	No	NA	No	No	
8	BEARING FM-29496	28.29	No	NA	No	No	
9	BEARING RLR, SPHERICAL THRUST, 294/750	96.80	No	NA	No	No	
10	FLUID COUPLING CDR-480 COMP ASSY	3.03	No	NA	No	No	
11	FLUIDOMAT HFD-7 COMPLETE ASSEMBLY	0.31	No	NA	No	No	
12	FC FLUIDOMAT HFD-8 COMP ASSY	0.84	No	NA	No	No	
13	FC FLUIDOMAT HFD-8B COMP ASSY	1.00	No	NA	No	No	
14	FC FLUIDOMAT HFD-9 COMP ASSY	0.80	No	NA	No	No	
15	FLUID COUPLING MODEL-SC11A-FLUIDOMAT	18.49	No	NA	No	No	
16	COMP UNIT, DAVID BROWN GEAR BOX, B3-355	37.89	No	NA	No	No	
17	COMP ASSY, ELECON, GEAR BOX, KCN250	25.10	No	NA	No	No	
18	COMP ASSY, ELECON, GEAR BOX, SBN250, 14:1	18.21	No	NA	No	No	
19	COMP ASSY, PCT, GEAR BOX, SR 32 2(12.93:1)	14.07	No	NA	No	No	
20	GB ASSY, R18.9H, PETL, B3.315	3.00	No	NA	No	No	
21	COMP ASSY, PREMIUM ENERGY, GEAR BOX, B232	71.10	No	NA	No	No	
22	COMP ASSY, PREMIUM ENERGY, GEAR BOX B3-400	3.50	No	NA	No	No	
23	ELECON BZWE-2240 COMP ASSY	0.93	No	NA	No	No	
24	ELECON BZWE-3000 COMP ASSY	2.20	No	NA	No	No	
25	COUPLING, ELECON, ED3200, COMPL ASSY	1.37	No	NA	No	No	
26	ELECON, ED6200 COMP ASSY	1.19	No	NA	No	No	
27	DIESEL ENG, DRIVEN CENTRIFUGAL PP SET	2.53	No	NA	No	No	
28	DH 600-2000-2-SJ COMPLETE CARTRIDGE ASSY	22.43	No	NA	No	No	
29	PUMP ASSY, DH 540-1080-3S	12.80	No	NA	No	No	
30	CARTRIDGE ASSY, DH 540-1080-3S	20.93	No	NA	No	No	
31	COMPLETE VACUUM PUMP ASSLY W.O. MOTOR	85.18	No	NA	No	No	
32	THRUST BEARING, MITCHELL, PUMP, EN6, J40	15.65	No	NA	No	No	
33	IMPELLER, 1560101, BHM-125	72.29	No	NA	No	No	
34	TRANSMISSION SHAFT, 1840101, BHM-125	11.40	No	NA	No	No	
35	HEAD SHAFT, 1850101, BHM-125	16.19	No	NA	No	No	
36	IMPELLER SHAFT, 1880101, BHM-125	15.87	No	NA	No	No	
37	PUMP ASSEMBLY	6.83	No	NA	No	No	
38	COMPLETE ASSY, PV140R/L1K1T1VFHS	23.72	No	NA	No	No	
39	SCREW PUMP ASSY, ROTO, RMAA 701 R2CD3N	5.49	No	NA	No	No	
40	PUMP ASSY, SAM TURBO, AR-300/750 AM	23.63	No	NA	No	No	
41	BA20B IMPELLER	1.19	No	NA	No	No	
42	SIZE 200 WATER RING VACUUM PUMP ASSY	23.58	No	NA	No	No	
43	SHAFT PUMP, FK4E36	39.65	No	NA	No	No	
44	THRUST BRG ASSY FK4E36	11.79	No	NA	No	No	
45	LP ELEMENT, 1616530581, COMPRESSOR, ZR-305	45.42	No	NA	No	No	
46	ROTOR DRUM 1817505076, ATLAS COPCO, ZR-250	20.07	No	NA	No	No	
47	HP ELEMENT, 1616580381, COMPRESSOR, ZR-300	43.72	No	NA	No	No	
48	ZR SERIES MD 1000 DRIER ROTAR DRUM	13.46	No	NA	No	No	

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EOC, A-8A, Sector-24, Noida-201301 (U.P.)

49	SECOND STAGE PISTON AND CYLINDER ASSY	2.53	No	NA	No	No
50	SCREW ELEMENT ASSY.46.001.880.00	18.56	No	NA	No	No
51	80NB-C-300-BW-MO(HW) COMP. V/V ASSY(HW)	2.10	No	NA	No	No
52	6-C300-GV-BW-HW/MO-WCB COMP. VALVE ASSY	1.26	No	NA	No	No
53	COMPLETE VALVE ASSY M279420WWPC	39.42	No	NA	No	No
54	BODY_R178/305&1.HOPKINSON	9.63	No	NA	No	No
55	ANGLE DRAIN VLV ASSY.S10+1487+101	7.19	No	NA	No	No
56	HRH ERV INLET-ISCL V/V PART NO.R034	14.93	No	NA	No	No
57	ECO COIL, LOWER ASSY	531.48	No	NA	No	No
58	DOUBLE CKT.22 TUBE ECO COIL PAIR ASSY	560.91	No	NA	No	No
59	COMPLETE DRUM SAFETY VALVE 1740 WB	3.87	No	NA	No	No
60	BEARING RUNNER PLATE 4X500MM	10.00	No	NA	No	No
61	SPEED REDUCER,TYPE-II.CCW.SAPH-30	44.38	No	NA	No	No
62	SPEED REDUCER PAPH 500MM.27.5VIM2000	34.25	No	NA	No	No
63	HYD ADJ DEVICE.0-55.215-01109804	24.21	No	NA	No	No
64	ADJUSTMENT ASSY.0-55-334-009600171	46.96	No	NA	No	No
65	GEAR BOX ASSY.BHEL BOILER.XRP-1003	110.30	No	NA	No	No
66	SPINDLE&HEAD ASSY.01111120.HPGV	98.35	No	NA	No	No
67	HPSV STRAINER.R231M306&1.WFIXING DOWELS	90.38	No	NA	No	No
68	TOP/BOTTOM SHELL R210(AO)1109&5,0,NEI	11.76	No	NA	No	No
69	JOURNAL BRG ASSY.D500X450.011814020000	79.87	No	NA	No	No
70	VALVE SPINDLE.11132036000009.BHEL	12.60	No	NA	No	No
71	I.V. VALVE CONE	25.07	No	NA	No	No
72	IP KEEP RING ASSY.M265(A)40396/1 TO B	159.24	No	NA	No	No
73	HPBP SPRAY VALVE E455.10CM2 AREA	4.15	No	NA	No	No
74	DP REGULATOR VALVE.W90414901444.25NB	130.80	No	NA	No	No
75	CONTROL FLUID PUMP.ALONG WITH MOTOR	91.97	No	NA	No	No
76	MAIN OIL PUMP IMPELLER PartNO. 3156377	14.28	No	NA	No	No
77	ROTA SIDE.HYD. CYLINDER	23.15	No	NA	No	No
78	DRIVE PULLEY	0.10	No	NA	No	No
79	1400 DRIVE PULLEY DXL800X1800SHAFT D200	7.75	No	NA	No	No
80	DRIVE AXLE WHEEL.F1378200.ELECON EPC	8.14	No	NA	No	No
81	400NB PLATE V/V COMP ASSY IN SLURRY LINE	8.31	No	NA	No	No
82	PVC FILL PK CF.(1216X1828X305) THK-0.3MM	158.39	No	NA	No	No
83	PVC FILL PK CF.(909X1828X305) THK-0.3MM	7.25	No	NA	No	No
84	MAP10000 COMPLETE ASSY	5.68	No	NA	No	No
85	TRACK SHOE ASSY.130CT00268.BEML DOZER	40.35	No	NA	No	No
86	ENGINE ASSY.5120000022.BEML DOZER	53.53	No	NA	No	No
87	8 PORT 10/100 MBPS ETHERNET SWITCH	0.69	No	NA	No	No
88	ENGINE ASSY.5120000014.BEML DOZER.80-155	53.57	No	NA	No	No
89	TRANSMISSION ASSY.125TMB0029.BEML DOZER	47.53	No	NA	No	No
90	TRACK SHOE ASSY.125CT00268.BEML DOZER	19.41	No	NA	No	No
91	DELUGE VALVE ASSEMBLY COMPLETE-150NB	0.86	No	NA	No	No
92	COMPLETE DELUGE VALVE ASSEMBLY 150MM	2.30	No	NA	No	No
93	COMPLETE ASSY.KT-1150	392.18	No	NA	No	No
94	DOZER ENGINE.5120000014.8S6 D170	53.53	No	NA	No	No
95	CIRCUIT BREAKER.SF6.3.3KV/220V.40KA.ABB	16.18	No	NA	No	No
96	CIRCUIT BREAKER.SF6.132KV.2000A.1P	19.82	No	NA	No	No
97	XFMR.POWER.11KV.2.3KV.3.25MVA.3PH.DYN11	28.91	No	NA	No	No
98	XFMR.CURR. OSKF-420.400KV.20VA.5	110.92	No	NA	No	No
99	NUMERICAL TRANSFORMER PROTECTION RELAY 1A	8.49	No	NA	No	No
100	BATTERY CHARGER.3PH.48V.400A	5.20	No	NA	No	No
101	BATTERY CHARGER.3PH.110V.150 AMP	3.89	No	NA	No	No
102	ABT ENERGY METER WITH CT/PT-1A/110V.220V	1.04	No	NA	No	No
103	CT TEST KIT	21.83	No	NA	No	No
104	PR/DP TRANSMTR.0-1000MMBAR	0.15	No	NA	No	No
105	RAPCON.BHEL ESP ELECTRONIC CONTROLLER	2.75	No	NA	No	No
106	CONTROL PANEL ANNUNCIATOR	12.98	No	NA	No	No
107	ON-LINE ANALYSER FOR CO.CO2.SO2.NOX	79.20	No	NA	No	No

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 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

108	MOVING COIL, 01142206000865, 11, 70, TURBINE	25.37	No	NA	No	No
109	VH CONVERTOR, DSG-807112, VOITH TURBO	32.95	No	NA	No	No
110	SWITCH, LVL RESISTIVE, 14PORT	95.34	No	NA	No	No
111	CONTROLLER, STOCK, GRAVIMETRIC FEEDER, DT-8	487.28	No	NA	No	No
112	ON LINE SODIUM ANALYSER	18.59	No	NA	No	No
113	AUMA POS TX IWG1002 2WIRE 4-20 MA 24VDC	2.20	No	NA	No	No
114	ACTUATOR, ELE. PART-TURN, 11RPM, AUMA	1.40	No	NA	No	No
115	ACTUATOR S46E90/GS125 WITH GEAR BOX	0.51	No	NA	No	No
116	ACTUATOR, HYD. ELECTRO, ADVANCE ACTUATOR	20.02	No	NA	No	No
117	ACTUATOR, PNEU, 100MM, 120 AN, ABB, F/BFP	17.05	No	NA	No	No
118	AKCAA-COLLINS TRANSMTR MDL, ED69229S905A	0.51	No	NA	No	No
119	ANALOG INPUT MODULE AA1143-S00K4A00	21.14	No	NA	No	No
120	DIGITAL INPUT 24 DC IOP330 ED69230I330B	1.43	No	NA	No	No
121	DIGITAL O/P CARD, MAXDNA, IOP351, 89230I351A	0.57	No	NA	No	No
122	DRIVE CONTROL MODULE, ED 69229S908A	12.92	No	NA	No	No
123	DRIVE CONTROL MODULE, ED69229S908A, BHEL	12.92	No	NA	No	No
124	PROMAX SER DVR MOD, ED69229S922A	23.51	No	NA	No	No
125	PROMAX TRIP POWER MODULE, ED69229S903A	0.51	No	NA	No	No
126	PLC SYSTEM WITH ACCESSORIES	262.11	No	NA	No	No
127	CONTROL, PROCESSOR, FCP270, MAKE: FOXBORO	79.63	No	NA	No	No
128	MAX OPERATOR STATION	37.84	No	NA	No	No
	Total	5,373.22	No	NA	No	No
	Total for Rihand-I station (B=A*2*500/(3*2*500))	1,791.07				

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details/Information to be Submitted in respect of Capital Spares

PART-I
FORM-17

Name of the Petitioner:

NTPC Limited

Name of the Generating Station:

Rihand Super Thermal Power Station Stage-I

Sl. No.	Details of Capital Spares and Expenses in 2021-22		Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance	Funded through Special Allowance	Amount in Rs Lakhs Claimed as a part of stores and spares	Remarks
	Name of Spare	Value of the Asset					
1	GATE VLV SIZE-250MM,NON RISING SPINDLE	0.93	No	NA	No	No	
2	BUTTERFLY VLV, SIZE-350 MM,API-609,PN-10	0.98	No	NA	No	No	
3	GUIDE BRG (SP.ROLLER BRG 23060)	0.99	No	NA	No	No	
4	BEARING,ROLLER SPHERICAL, 294/580 EM	77.72	No	NA	No	No	
5	BEARING,RLR,SPHERICAL THRUST,294/790	45.35	No	NA	No	No	
6	FLUID COUPLING CDR-480 COMP ASSY	6.06	No	NA	No	No	
7	COMP ASSY PEMBRIL COUPLING,PST-530	10.14	No	NA	No	No	
8	COMP ASSY PEMBRIL COUPLING,23SCR24R	9.87	No	NA	No	No	
9	GB BOMFGLIOLI 313L2-25AF COMPL ASSY	6.09	No	NA	No	No	
10	GEAR BOX DAVID BROWN, B3-200	60.63	No	NA	No	No	
11	COMP ASSY,DAVID BROWN,GEAR BOX, B3-200	19.26	No	NA	No	No	
12	COMP ASSY,DAVID BROWN,GEAR BOX, B3-226	45.74	No	NA	No	No	
13	COMPLETE ASSY,DAVID BROWN,GEAR BOX	17.40	No	NA	No	No	
14	COMP ASSY,ELECON,GEAR BOX,SBN280,14.1	23.77	No	NA	No	No	
15	COMP ASSY,PCT,GEAR BOX,SR 32 2(12.93.1)	9.32	No	NA	No	No	
16	PET B3-290-COMP GEAR BOX, RATIO-18 B/1	27.20	No	NA	No	No	
17	DH 600-2000-2-SJ COMPLETE CARTRIDGE ASSY	11.22	No	NA	No	No	
18	CARTRIDGE ASSY,DH 540-1080-3S	22.48	No	NA	No	No	
19	THRUST BRG#78-WEIR BFP-PR,PUMP-FK4E-36	5.56	No	NA	No	No	
20	SHAFT NUT,10500015,PUMP	76.73	No	NA	No	No	
21	1800-MFB-V/S SUSP MAIN	1.95	No	NA	No	No	
22	ROTATING ASSY,KBL 8U/4FB	2.83	No	NA	No	No	
23	MUFF COUPLING,3450101,BHM-130	42.19	No	NA	No	No	
24	SCREW PUMP ASSY,ROTO RMAA 701 R2C03N	5.76	No	NA	No	No	
25	PUMP ASSY,10A 16 D	10.59	No	NA	No	No	
26	PUMP ASSY,ZM II 530/01	7.78	No	NA	No	No	
27	ROTOR DRUM 1617506173,ATLAS COPCO	31.58	No	NA	No	No	
28	HP STAGE&ELEMENT,1616747281,ATLAS COPCO	54.73	No	NA	No	No	
29	LP STAGE&ELEMENT,1616590481,ATLAS COPCO	64.69	No	NA	No	No	
30	3-C300-GV-RW-MO/HW-WCB-COMP VALVE ASSY	0.50	No	NA	No	No	
31	3-C150-GV-HW-RW-WCB-COMPLETE VALVE ASSY	3.10	No	NA	No	No	
32	FLUID DRIVE HYD CPLG,36SCR24R,960RPM	13.91	No	NA	No	No	
33	ECO INLET HDR DRAIN-REG VV PART NO E021	4.06	No	NA	No	No	
34	WALL BLOWER ASSY	4.02	No	NA	No	No	
35	DRUM EMERGENCY DRAIN,B115,BHEL BOILER	8.34	No	NA	No	No	
36	ERV,153BVX-10W	6.39	No	NA	No	No	
37	SPEED REDUCER 0-52-100-02055,BHEL	11.32	No	NA	No	No	
38	SPEED REDUCER 0-52-100-02055,BHEL	11.32	No	NA	No	No	
39	FLUID COUPLING 12.75 FCU	1.29	No	NA	No	No	
40	GEAR BOX,SHANTHI,TYPE-IA,3 INPUT UPSHAFT	96.91	No	NA	No	No	
41	GEAR BOX,TYPE-II,3 INPUT,DOWNSHAFT	83.70	No	NA	No	No	
42	OVERRUNNING CLUTCH ASSEMBLY FOR APH	2.04	No	NA	No	No	
43	SPEED REDUCER,TYPE-II,CCW,SAPH-30	41.85	No	NA	No	No	
44	SPEED REDUCER,PAPH,500MW,27.5VM2000	66.55	No	NA	No	No	
45	HE SECTOR PLATE ASSEMBLY FOR PAPH	20.45	No	NA	No	No	
46	BARRING GEAR ASSY,452/03,HOWDEN	59.31	No	NA	No	No	
47	ROTOR ASSY,1.05.00(B)1,BOILER,500MW	135.90	No	NA	No	No	
48	SERVO MOTOR,FD	28.13	No	NA	No	No	
49	HYD ADJ DEVICE 0-55-215-01109&04	48.03	No	NA	No	No	
50	ROTOR ASSY,BOILER,500MW	100.52	No	NA	No	No	
51	ADJUSTMENT ASSY,0-55-334-006800171	46.96	No	NA	No	No	
52	MULTI PORT ASSY,614000011.03.01,G,BHEL	111.98	No	NA	No	No	

In order to meet the customers demand and maintain high machine availability at all times by the instant station, units/ equipment are taken under overhaul/ maintenance and inspected regularly for wear and tear. During such works, spares parts of equipment's which became


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एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-25, Noida-201301 (U.I)

53	GEAR BOX ASSY,BHEL BOILER,XRP-1003	110.30	No	NA	No	No
54	BELT DRIVE REDUCER SWM150V150R,500MW	7.72	No	NA	No	No
55	RING 01050809000/002	1.08	No	NA	No	No
56	RING 01050809000/001	3.58	No	NA	No	No
57	FRONT BEARING D250X180 DRG01180418000-00	44.90	No	NA	No	No
58	DELTD PILOT HPCV 01140205100 ITEM 10	1.71	No	NA	No	No
59	CONT VV S.MTR COMPLETE ASSY	48.38	No	NA	No	No
60	EV320-1-PRE CONTROL VALVE COMPLETE ASSY	0.56	No	NA	No	No
61	U-SEALING RING,MACHINED 01050109000/5	9.50	No	NA	No	No
62	U-SEALING RING,01050109000/5 UNMACHINED	13.07	No	NA	No	No
63	STUD,01050209000/5,BHEL	0.49	No	NA	No	No
64	RING,01050609000/1,BHEL	14.00	No	NA	No	No
65	U-SEALING RING UNMACHINED,21051541000/2	8.33	No	NA	No	No
66	HPCV SERVOMOTOR COMPLETE 0-11402-41000	4.31	No	NA	No	No
67	SEAL HOUSING,01090627000/8,BHEL	26.08	No	NA	No	No
68	SEALING RING ASSY,01090627000/7,BHEL	11.14	No	NA	No	No
69	SHAFT AQ-104673,BFP FK,4E36	25.83	No	NA	No	No
70	THRUST BEARING,1-30771-00092&1,K1401-2	8.47	No	NA	No	No
71	COMPLETE CARTRIDGE ASSY BHEL DRGNO 2-42	8.11	No	NA	No	No
72	ROTOR ASSY M04204/2&38,ETK/16-64B	76.19	No	NA	No	No
73	CARRIAGE WHL ASSY F12913/0 PFT1C4H6M1 4	9.15	No	NA	No	No
74	AXIAL PISTON PUMP,R902577511,REXROTH	29.47	No	NA	No	No
75	1125MTPH TRAVEL DRIVE GEARED MOTOR	1.84	No	NA	No	No
76	1400ND PULLEY DXL 630X1600 SHAFT D125	1.78	No	NA	No	No
77	1500TPH HYDRAULIC LUFFING CYLINDER	78.82	No	NA	No	No
78	MAG SEPARATOR ASSY ERIEZ SE775 SC-1	53.10	No	NA	No	No
79	COMPLETE GEARBOX ASSEMBLY TYPE KAN 315	32.92	No	NA	No	No
80	PVC FILL PK CF (1216X1829X305) THK-0.3MM	182.95	No	NA	No	No
81	PVC FILL PK CF (869X1829X305) THK-0.3MM	25.30	No	NA	No	No
82	VEHICLE PLATFORM TRUCK,JOISTS,FWH/FB 40	12.14	No	NA	No	No
83	TORQUE CNVRT ASSY,1951310001,BEML BD355	6.09	No	NA	No	No
84	TRACK SHOE ASSY,130CT00298,BEML DOZER	21.75	No	NA	No	No
85	HYDRA CRANE 12 MT CAP	25.84	No	NA	No	No
86	SCREW COMPRESSOR,11.145.14.321,KBL	14.16	No	NA	No	No
87	CYLINDER HEAD FOR WDG3A LOCOS/10040262	1.94	No	NA	No	No
88	DLWSPR ASSLY,CYL HEAD 251 PLUS	4.88	No	NA	No	No
89	ACB 2500A 3POLE ELECT OPRT STOR ENEG GE	1.23	No	NA	No	No
90	ACB 3200A 3P ELCT OPRT STORED ENERG GE	2.53	No	NA	No	No
91	C&S ACB 1500A, 3 POLES, 415V	1.86	No	NA	No	No
92	SENSOR WAVE TRAP - 400KV,1MH,3150A	19.65	No	NA	No	No
93	XFMR,POWER,400KV,21KV,200MVA,DYN11,OFAP	831.90	No	NA	No	No
94	XFMR,CURR:OSKF-420,400KV,20VA,5	6.43	No	NA	No	No
95	RELAY,NUMERIC/DIGITAL,220VDC,SIEMENS	8.78	No	NA	No	No
96	RELAY DISTURBANCE RECORDER,220VDC,DMT3	6.20	No	NA	No	No
97	BATTERY,RECH NI-CD,1.2V,515AH	128.00	No	NA	No	No
98	BATTERY,RECH NI-CD,1.2V,693AH	39.61	No	NA	No	No
99	CHARGER,BAT,3PH,220VDC,1350A	16.21	No	NA	No	No
100	ART ENERGY METER WITH CT/PT-1A/110V,220V	2.08	No	NA	No	No
101	ANALYZER,1.5-1000V,5-500A,+/-0.1%	4.09	No	NA	No	No
102	CONTROL PANEL ANNUNCIATOR	12.88	No	NA	No	No
103	VALVE,SOL,24VDC,2432581,1302,024,00	11.23	No	NA	No	No
104	MAXBOP PR,TRANSMITTER EJA430AEB54A82EC	0.63	No	NA	No	No
105	24V DC-DC CONVERTER,MODEL-200SI	0.28	No	NA	No	No
106	PROCESSOR MODULE,CP451-10,YOKOGAWA DCS	24.20	No	NA	No	No
	Grand Total	3653.05	No	NA	No	No
	Total for Rihand-I station (B-A*2*500/3*2*500)	1,217.69	No	NA	No	No

damaged/ unserviceable are replaced/ consumed so that the machine continue to perform at expected efficiency on sustained basis. Further as per Regulation 36(5) of TR 2019, capital spares are admissible separately as part of O&M expenses. Therefore, it is prayed that the capital spares consumed by the instant station during the period may please be allowed by Hon'ble Commission.

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

(Petitioner)

Details/Information to be Submitted in respect of Capital Spares

PART-3
FORM-17

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Rihand Super Thermal Power Station Stage-I

Sl. No.	Details of Capital Spares and Expenses in 2022-23		Amount in Rs Lakhs				Remarks
	Name of Spare	Value of the Asset	Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance	Funded through Special Allowance	Claimed as a part of stores and spares	
1	VALVE, GL, RISING SPINDLE, IS10605, BVV, 65MM	40.24	No	NA	No	No	
2	BEARING, ROLLER, SPHERICAL, 28496-EMB	18.89	No	NA	No	No	
3	FLUID COUPLING, CDR-480, COMP ASSY	3.03	No	NA	No	No	
4	FC FLUIDOMAT, HDF-7, COMP ASSY	0.95	No	NA	No	No	
5	COMP ASSY, FLUIDOMAT, COUPLING, SC-10	16.59	No	NA	No	No	
6	COMP ASSY, FLUIDOMAT, COUPLING, SC-14	20.00	No	NA	No	No	
7	COMPLETE ASSY, DAVID BROWN, GEAR BOX	17.40	No	NA	No	No	
8	COMP ASSY, ELECON, GEAR BOX, NK, KCU-225	14.80	No	NA	No	No	
9	COMP ASSY, ELECON, GEAR BOX, SBN250, 14:1	33.27	No	NA	No	No	
10	GEAR BOX ASSY, LOUISE, GEAR BOX, FKJH820	73.85	No	NA	No	No	
11	COMP ASSY, PCT, GEAR BOX, SR 32.2(12.03.1)	48.59	No	NA	No	No	
12	COMP ASSY, PREMIUM ENERGY, GEAR BOX, B232	35.55	No	NA	No	No	
13	COMP ASSY, PREMIUM ENERGY, GEAR BOX, H1-225	8.99	No	NA	No	No	
14	PUMP ASSY, DH 540-1090-38	43.19	No	NA	No	No	
15	THRUST BRG, W70-WEIR, BFP-PR, PUMP, FK4E36	5.96	No	NA	No	No	
16	BEARING, 1050002869, PUMP	31.82	No	NA	No	No	
17	ROTATING ASSY, FLOWMORE, PUMP, F5026	9.58	No	NA	No	No	
18	MECHANICAL SEAL, EAGLE, BURGMANN, PUMP	28.13	No	NA	No	No	
19	PUMP ASSY, KAKATI, KVL-750	46.16	No	NA	No	No	
20	PUMP ASSY, UP, 200/38	8.21	No	NA	No	No	
21	COMPLETE PUMP ASSY, ST, 4MD, 80/2050MAKE	2.01	No	NA	No	No	
22	PUMP ASSY, BTU, 17M	14.78	No	NA	No	No	
23	PUMP ASSY, SAM TURBO, AR, 300/750 AM	24.30	No	NA	No	No	
24	PUMP ASSY, SAM TURBO, BA20B	10.15	No	NA	No	No	
25	PUMP ASSY, ZM II, 830/01	7.78	No	NA	No	No	
26	FK4E36, DE, BEARING, JOURNAL	3.08	No	NA	No	No	
27	FK4E36, NDE, JOURNAL BEARING	0.81	No	NA	No	No	
28	PUMP ASSY, SDC, 250/350	27.10	No	NA	No	No	
29	DISPOSAL, PUMP ASSY, WARMAN, 14/12GAH	124.84	No	NA	No	No	
30	E18TC, COMPLETE ASSY	14.70	No	NA	No	No	
31	2ND STAGE CYLINDER, 2-01-4338, COMPRESSOR	16.30	No	NA	No	No	
32	SCREW ELEMENT ASSY, 46, 001, 890, 00	49.41	No	NA	No	No	
33	COMPRESSOR ASSY, KPCL, 2HA2TERT	45.52	No	NA	No	No	
34	KNIFE GATE, VLV ASSY, 17198101, WEIR VALVES	19.62	No	NA	No	No	
35	KNIFE GATE, VLV ASSY, A1-0-133-508350	25.64	No	NA	No	No	
36	COMPLETE VALVE ASSY, M279420/WPC	90.31	No	NA	No	No	
37	BODY, H85/325&1, HOPKINSON	6.92	No	NA	No	No	
38	ECO INLET HDR, DRAIN-REG, VIV PART, NO, F021	4.06	No	NA	No	No	
39	SB, PRV, 100% MAIN LINE PART, NO, SD24	6.47	No	NA	No	No	
40	WALL BLOWER ASSY	6.03	No	NA	No	No	
41	DRUM EMERGENCY DRAIN, B115, BHEL, BOILER	4.17	No	NA	No	No	
42	COMPLETE DRUM SAFETY VALVE, 1740, WB	10.44	No	NA	No	No	
43	DRUM SAFETY VALVE, 1740, WB	12.00	No	NA	No	No	
44	ERV, 1538VX-10W	34.80	No	NA	No	No	
45	ELECTRO RELIEF VALVE, BHEL, 1525-VX-3	7.37	No	NA	No	No	
46	VALVE, CTRL, A217-W08, CL2500, 3IN, VSC-VA4R	13.34	No	NA	No	No	
47	AXIAL SEAL, SET, 2-52-054-03873, BHEL	0.36	No	NA	No	No	
48	BYPASS SEAL, SET, 2-52-055-01151, REV +	0.93	No	NA	No	No	
49	RADIAL SEAL, SET, 1-52-013-03181, BHEL	7.17	No	NA	No	No	
50	AXIAL SEAL PLATE, F, MAIN, APH	6.70	No	NA	No	No	
51	BEARING SLEEVE, 64100800, HOWDEN	33.04	No	NA	No	No	
52	ROTOR ASSY, 0-55-334-01380&24, BHEL	244.43	No	NA	No	No	

परिमल पीयूष/PARIMAL PIYUS
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOG, A-8A, Sector-28, Noida-201301 (U.)

In order to meet the customers demand and maintain high machine availability at all times by the instant station, units/ equipment are taken under overhaul/ maintenance and inspected regularly for wear and tear. During such works, spares parts of equipment's which become demand/ unavailability are returned.

53	HYD SERVO MOTOR BOILER,500MW	85.34	No	NA	No	No
54	BLADE SET,PAF 15/10 S-2,1-00-100-2175987	59.09	No	NA	No	No
55	WORM GEAR & SHAFT SET OF COAL MILL	117.89	No	NA	No	No
56	JOURNAL SHAFT ASSY,F/XRP 1003 MILL	591.89	No	NA	No	No
57	BELT DRIVE REDUCER,SVM150V150R,500MW	24.74	No	NA	No	No
58	RING 01050609000002	1.08	No	NA	No	No
59	U-SEALING RING UNMACHINED 0105010900003	32.75	No	NA	No	No
60	U-SEALING RING MACHINED 0105010900005	5.90	No	NA	No	No
61	U-SEALING RING MACHINED 0105010900007	13.13	No	NA	No	No
62	U-SEALING RING MACHINED 1105140900006	19.66	No	NA	No	No
63	IP CONTROL VALVE ASSY,1113223800000	200.17	No	NA	No	No
64	DP REGULATING VALVE	16.13	No	NA	No	No
65	AIR SIDE SFAL OIL PUMP SET AC T35T52/54	5.37	No	NA	No	No
66	EMERGENCY GOV ASSY DRG 01162705000-0	2.62	No	NA	No	No
67	FOLLOW UP PISTON HYD AMP 01142305000800	43.70	No	NA	No	No
68	GEAR BOX B/W TDBFP TURBINE & BOOSTER P/P	24.19	No	NA	No	No
69	DRIVE SHAFT ASSY,1 TO 11,PAHARPUR,HP-8.8	6.53	No	NA	No	No
70	BOTTOM CONSEP,ANION REGEN UNIT (ARU) CPU	81.03	No	NA	No	No
71	CENTRIFUGAL SEPARATOR OIL CLEANER	24.78	No	NA	No	No
72	PLATFORM,TRUCK MNT HYD AERIAL	40.00	No	NA	No	No
73	TRACK SHOE ASSY,130CT00288,9FWL,DOZER	21.75	No	NA	No	No
74	ENGINE ASSY,5120000014,BEML,DOZER,BD-155	53.57	No	NA	No	No
75	DELUGE VALVE -100 NB	0.70	No	NA	No	No
76	DELUGE VALVE ASSEMBLY COMPLETE- 150NB	0.86	No	NA	No	No
77	DELUGE VALVE ASSEMBLY SIZE 100 NB	3.86	No	NA	No	No
78	DELUGE VALVE ASSEMBLY SIZE 80 NB	1.67	No	NA	No	No
79	COMPLETE DELUGE VALVE ASSEMBLY 150MM	0.77	No	NA	No	No
80	DLWSPR,ASSLY,CYL HEAD 251 PLUS	9.32	No	NA	No	No
81	CB SFB-11KV,3150A,ABB	4.78	No	NA	No	No
82	CIRCUIT BREAKER,SF6 400KV,4000A,3AT3-1	63.69	No	NA	No	No
83	MOTOR,SGL SQ CAGE IND,3.3KV,DC400F3,4P	20.58	No	NA	No	No
84	MOTOR,SGL SQ CAGE IND,3.3KV,DC450U900,4P	7.12	No	NA	No	No
85	XFMR,POWER,400KV,21KV,200MVA,DYN11,OFAP	1,892.72	No	NA	No	No
86	XFMR,CURR:OSKF-420,400KV,20VA,5	262.72	No	NA	No	No
87	XFMR,POT,CAPACITIVE VOLTAGE,400KV/110V	13.16	No	NA	No	No
88	CONTROL RELAY	2.14	No	NA	No	No
89	RELAY NUMERIC/DIGITAL,5A,7UT SIEMENS	15.08	No	NA	No	No
90	ART ENERGY METER WITH CT/PT-1A/110V,220V	8.32	No	NA	No	No
91	3 PH POWER QUALITY ANALYZER WITH PRINTER	4.20	No	NA	No	No
92	COMPLETE ACTUATOR TYPE ASM 63	8.70	No	NA	No	No
93	ACTUATOR,HYD,ASM250-10,CCI	27.14	No	NA	No	No
94	ACTUATOR,HYD,SULZER,ASM100-10	14.67	No	NA	No	No
95	CONTROLLER,STOCK,GRAVIMETRIC FEEDER,DT-9	22.25	No	NA	No	No
96	ACTUATOR,PNEU,A48FKZ,BLAKEBOROUGH	22.30	No	NA	No	No
97	ACTUATOR,PNEU,GS 700-100 RA,COPES-VULCAN	13.38	No	NA	No	No
98	ACTUATOR,PNEU,GS 700-100 DA,COPES-VULCAN	13.38	No	NA	No	No
99	ACTUATOR,PNEU,SD-700-160L-DA	31.80	No	NA	No	No
100	PNEU,ACTUATOR,MDL 38-41024,SIZE:15" MIL	0.57	No	NA	No	No
101	ANALYZER,WATER,SILICA,0-5000PPB	21.24	No	NA	No	No
102	ELECTRICAL ACTUATORS COMPLETE ACTUATOR	1.74	No	NA	No	No
103	FIELD CONTROL MODULE,AFV30D-S41451	199.89	No	NA	No	No
104	CHANNEL ISO EXT,SOURCE DO MODULE,FBM242	1.20	No	NA	No	No
105	FIBER OPTIC PREPATION TOOL KIT	2.67	No	NA	No	No
	Grand Total	5,543.51	No	NA	No	No
	Total for Rihand-I station (B=A*2*500/(3*2*500))	1,847.84				

consumed so that the machine continue to perform at expected efficiency on sustained basis. Further as per Regulation 35(6) of TR 2019, capital spares are admissible separately as part of O&M expenses. Therefore, it is prayed that the capital spares consumed by the instant station during the period may please be allowed by Hon'ble Commission.



परिमल पीयूष/PARIMOL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-76, Noida-201301, U.P.

Details/Information to be Submitted in respect of Capital Spares

PART-I
FORM-17

Name of the Petitioner: NTPC Limited		Name of the Generating Station: Rihand Super Thermal		Power Station Stage-I		Amount in Rs Lakhs		Remarks
Sl. No.	Details of Capital Spares and Expenses in 2023-24 Name of Spare	Value of the Asset	Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance (If Applicable)	Funded through Special Allowance	Claimed as a part of stores and spares		
1	MOVING BLADE LP 3R DRG 01030741000-7	308.45	No	NA	No	No		
2	MOVING BLADE LP3L DRG 01030741000-3	308.45	No	NA	No	No		
3	THDF 115.500 MW GENERATOR ROTOR (BHEL)	3,953.00	No	NA	No	No		
4	DRUM SAFETY VALVE 1740-WB	24.00	No	NA	No	No		
5	SH SPRAY BRANCH BLOCK VALVE SD4	4.37	No	NA	No	No		
6	SUPER HEATER SPRAY CONTROL VALVE BHEL	29.88	No	NA	No	No		
7	1400 NO PULLEY DXL 630X1600 SHAFT D150	2.26	No	NA	No	No		
8	DAVR R2 SMPS 90-280VAC, 220V-24V DC 10A	0.79	No	NA	No	No		
9	SHF3, SIZE: 162MM COMPLETE MECHANICAL SE	22.50	No	NA	No	No		
10	XFMR CURR. OSKF-420,400KV 20VA, 5	13.83	No	NA	No	No		
11	IN-MOTION WEIGH BRDG 140 MT	63.72	No	NA	No	No		
12	COMP ASSY,PCT,GEAR BOX,SR 32.2(12.83.1)	9.32	No	NA	No	No		
13	BEARING PART NO 69 CLYDE UNION PUMP	31.82	No	NA	No	No		
14	SHAFT NUT,10500015 PUMP	157.47	No	NA	No	No		
15	COMP ASSY,FLUIDOMAT,COUPLING,SC-10	20.11	No	NA	No	No		
16	RELAY PANEL	7.08	No	NA	No	No		
17	TRANSMISSION ASSY,130TM01008 BEML BD355	44.18	No	NA	No	No		
18	COMP ASSY,FLUIDOMAT,COUPLING,SC-14	54.58	No	NA	No	No		
19	BUS CONTROLLER MODULE, FEM100, FOXBORO	0.48	No	NA	No	No		
20	CONTROL PROCESSOR, FCP270, MAKE: FOXBORO	0.71	No	NA	No	No		
21	COMP ASSY,PENBRIL,COUPLING,23SCR24R	12.58	No	NA	No	No		
22	CYLINDER,BARCOCK MOXEY, BM1250/1500	119.25	No	NA	No	No		
23	ROTOR DRUM,161758078,ATLAS COPCO,ZR-250	60.20	No	NA	No	No		
24	HP STAGE&ELEMENT,1610747281,ATLAS COPCO	18.24	No	NA	No	No		
25	LP STAGE&ELEMENT,1616590481,ATLAS COPCO	32.35	No	NA	No	No		
26	JOURNAL SHAFT ASSY,F/XP 1003 MILL	52.77	No	NA	No	No		
27	ROTOR ASSY,M07219/1,EKK 48X114	66.90	No	NA	No	No		
28	SHAFT,12.02.01.01,FLSMIDTH	9.09	No	NA	No	No		
29	PINION+SHAFT ASSY,05.03.03.23,FLSMIDTH	9.89	No	NA	No	No		
30	ACB 1600A 3 POLE ELECT OPRTD GE MAKE	1.32	No	NA	No	No		
31	FAN BLADE ASSY,04-21-0043/M/16 REV+	8.25	No	NA	No	No		
32	COMP ASSY,PCT,GEAR BOX,SR 32.2(12.83.1)	9.32	No	NA	No	No		
33	ENGINE ASSY,51Z0000022,BEML, BD355	133.82	No	NA	No	No		
34	HOIST,ELECTRIC OPER,0.51-1TON,5.01-10M	5.52	No	NA	No	No		
35	HOIST,ELECTRIC OPER,3.01-4TON,55.01-60M	23.78	No	NA	No	No		
36	HOIST,ELECTRIC OPER,4.01-5TON,55.01-70M	6.05	No	NA	No	No		
37	HOIST,ELECTRIC OPER,0.51-1TON,20.01-25M	3.71	No	NA	No	No		
38	HOIST,ELECTRIC OPER,0.51-1TON,10.01-15M	3.41	No	NA	No	No		
39	EL OP. HOIST-4.01-5.0T,ELECT HOIST 5MT	9.05	No	NA	No	No		
40	EL OP. HOIST-4.01-5.0T,LIFT 10.01-15M	18.17	No	NA	No	No		
41	FAN BLADE ASSY,04-21-0043/M/16 REV+	16.42	No	NA	No	No		
42	POWER SUPPLY UNIT FOR MASTER CLOCK SYS	0.48	No	NA	No	No		
43	PUMP ASSY,SAM TURBO 8A20B	10.00	No	NA	No	No		
44	S/BEHLG COMP ASSLY	3.98	No	NA	No	No		
45	CONTROL PROCESSOR, FCP270, MAKE: FOXBORO	0.54	No	NA	No	No		
46	COMP ASSY,FLUIDOMAT,COUPLING,SC-11A	2.90	No	NA	No	No		
47	COMP ASSY,FLUIDOMAT,COUPLING,SC-10	20.11	No	NA	No	No		
48	CONSEP BOTTOM,DWEL/CPU/REGN001,DRIPLEX	84.98	No	NA	No	No		
49	BOTTOM CONSEP ANION REGEN UNIT (ARU) CPU	83.54	No	NA	No	No		
50	TILTING PAD,4177R/127,HAYWARD TYLER	5.96	No	NA	No	No		

परिमल पीयूष/PARIMAL PIYUS
अपर महाप्रबंधक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITE
EOC, A-8A, Sector-24, Noida-201301 (U.I)

51	BEARING ASSY,05-2405,HOWDEN	68.00	No	NA	No	No
52	BEARING SLEEVE,64100600,HOWDEN	33.04	No	NA	No	No
53	VFD - 7.5KW, 415V, FOR RC FEEDER	2.60	No	NA	No	No
54	HEAD PULLEY ASSEMBLY(RCF)	1.29	No	NA	No	No
55	VEE BEE 250NB DUPLEX FILTER ASSY	40.36	No	NA	No	No
56	ELECON ED-8400 COMP ASSY	4.51	No	NA	No	No
57	COMP PUMP ASSY, 12A 19B-C6/TMC/IP/2+	23.17	No	NA	No	No
58	COUPLING ELECON ED3200 COMPL ASSY	1.37	No	NA	No	No
59	BUS CONTROLLER MODULE, FEM100, FOXBORO	0.48	No	NA	No	No
60	DISCRETE I/P MODULE FBM217, MAKE FOXBORO	0.96	No	NA	No	No
61	CONTROL PROCESSOR, FCP270, MAKE FOXBORO	0.71	No	NA	No	No
62	DIGITAL O/P MODULE, FBM237, MAKE FOXBORO	0.36	No	NA	No	No
63	COMP ASSY, FLUIDOMAT, COUPLING, SC-14	54.55	No	NA	No	No
64	ISOLATOR, 420KV, 2000A, HAPAM	138.91	No	NA	No	No
65	U-SEALING RING MACHINED, 110510409000/6	19.66	No	NA	No	No
66	ARRNG OF JRNL BRG, D450X450, 1118164100080	74.37	No	NA	No	No
67	COMP ASSY, PREMIUM ENERGY, GEAR BOX, B232	24.54	No	NA	No	No
68	SERVOMOTOR, 01323505000/00, BHEL, CRH, NRV	6.22	No	NA	No	No
69	FLUID DRIVE HYD C/PLG, 36SCR24R, 960RPM	15.72	No	NA	No	No
70	THDF, 115.500 MW GENERATOR ROTOR (BHEL)	3,953.00	No	NA	No	No
71	MUFF COUPLING, 3450101, BHM-130	95.14	No	NA	No	No
72	U-SEALING RING UNMACHINED, 21051041000/2	4.27	No	NA	No	No
73	U-SEALING RING, 01050109000/05, UNMACHINED	5.90	No	NA	No	No
74	U-SEALING RING MACHINED, 01050109000/7	3.93	No	NA	No	No
75	U-SEALING RING, 01050109000/33, MACHINED	8.12	No	NA	No	No
76	BEARING SEGMENT, 3610101, BHM-125	25.81	No	NA	No	No
77	COMP ASSY, PREMIUM ENERGY, GEAR BOX, B3-400	3.50	No	NA	No	No
78	PILOT VALVE ASSY, DRG 01230725600-09	0.78	No	NA	No	No
79	TRANSMISSION SHAFT, 1840101, BHM-125	11.92	No	NA	No	No
80	IMPELLER SHAFT, 1860101, BHM-125	16.60	No	NA	No	No
81	MOVING COIL, 01142205000865, 11.70, TURBINE	13.24	No	NA	No	No
82	B. SHFT PP ASSY, SS-CF8M, EDWARDS, SHR22500	130.68	No	NA	No	No
83	ROTOR, 270/3, 3KVD/0365-6B/4P, MARATHON	11.59	No	NA	No	No
84	COUPLING BOLT M54 DRG, 11183341000-001	5.99	No	NA	No	No
85	OVERRUNNING CLUTCH ASSEMBLY FOR APH	3.07	No	NA	No	No
86	PUMP ASSY, UP 200/38	9.47	No	NA	No	No
87	ANALYZER, WATER PHOSPHATE, 0.2-10PPM, 4CH	25.96	No	NA	No	No
88	HYDRAULIC PUMP, R902217898, REXROTH	9.99	No	NA	No	No
89	TURBO SUPERCHARGER, 10083479, LOCOMOTIVE	61.75	No	NA	No	No
90	CONT VLV SERVOMOTOR, R222AD/1177, NEI	71.32	No	NA	No	No
91	AIR MOTOR, SAPH-IPM400	3.36	No	NA	No	No
92	HP ELEMENT, 1616580381, COMPRESSOR, ZR-300	22.05	No	NA	No	No
93	LP ELEMENT, 1616630581, COMPRESSOR, ZR-365	82.48	No	NA	No	No
94	TSI SERVER	26.29	No	NA	No	No
95	SEALING RING MACHINED, 01051227000&3, BHEL	18.15	No	NA	No	No
96	U-SEALING RING MACHINED, 01050109000/3	33.97	No	NA	No	No
97	PUMP ASSY, DSM 80/36	6.83	No	NA	No	No
98	OFC TO ETHERNET MEDIA CONVERTOR, STANDARD	0.05	No	NA	No	No
99	COMP ASSY, PCT, GEAR BOX, SR 32.2(12.93.1)	31.28	No	NA	No	No
100	HYDRAULIC PUMP, R902217898, REXROTH	10.76	No	NA	No	No
101	SHAFT, BHEL, SPEED REDUCER, R52290340003	10.51	No	NA	No	No
102	SHAFT, BHEL, SPEED REDUCER, R52290390003	7.96	No	NA	No	No
103	I/H CONVERTER, 43971120, VOITH TURBO	8.24	No	NA	No	No
104	SHAFT BEARING ASSY, 0-55-215-01109&1, BHEL	15.48	No	NA	No	No
105	BELT DRIVE REDUCER, S1W1 60V150R, 500MMV	7.72	No	NA	No	No
106	BEARING HOUSING, 0-55-335-00374, BHEL	49.17	No	NA	No	No
107	SEAL OIL PUMP, TUSHACO, T3S52/54	7.63	No	NA	No	No
108	SHF2/135, COMP MECH, SEAL ASSY	22.31	No	NA	No	No
109	ELECTRO RELIEF VALVE, BHEL, 1525-VX-3	33.25	No	NA	No	No
110	HOIST H-02, CAP 2MT, LIFT 13M, 223-225H	3.60	No	NA	No	No

In order to meet the customers demand and maintain high machine availability at all times by the instant station, units/ equipment are taken under overhaul/ maintenance and inspected regularly for wear and tear. During such works, spares parts of equipment's which became damaged/ unserviceable are replaced/ consumed so that the machine continue to perform at expected efficiency on sustained basis. Further as per Regulation 35(B) of TR 2018, capital spares are admissible separately as part of OSM expenses. Therefore, it is prayed

111	DAVR TY DIODE BDG 12A, VRRM 400-800V	0.10	No	NA	No	No
112	DAVR TY CURT FLOW MONT. CARD	1.48	No	NA	No	No
113	DAVR.R2 DIODE REDWY MODULE	0.14	No	NA	No	No
114	DISPOSAL PUMP ASSY WEIR, 14/12GAH	71.16	No	NA	No	No
115	CAGE FRAME, GN30248114, TKK-4RX114	33.32	No	NA	No	No
116	COMP ASSY ELECON, GEAR BOX, KCN250	25.10	No	NA	No	No
117	HEAD SHAFT, 1850101, BHM-125	15.87	No	NA	No	No
118	IMPELLER SHAFT, 1860101, BHM-125	15.87	No	NA	No	No
119	FLEX GRID COUPLING, RT/GR-1130, BIBBY	11.09	No	NA	No	No
120	COMP ASSY ELECON, GEAR BOX, JU-400, 1:1	19.83	No	NA	No	No
121	PUMP ASSY, EM12TC	7.25	No	NA	No	No
122	MULTI PORT ASSY, 814000011, 03 01, G, BHEL	18.84	No	NA	No	No
123	HYDRAULIC AMPLIFIER ASSLY, 01142801000&00	22.00	No	NA	No	No
124	BATTERY, RECH, NI-CD, 380V, 410AH	35.51	No	NA	No	No
125	RADIAL SEAL, BHEL, 27.5 VIM 2150	9.10	No	NA	No	No
126	RADIAL SEALS SET, CW+CCW, 30 VIM 2000	16.72	No	NA	No	No
127	24V DC-DC CONVERTER, MODEL- 200SI	1.22	No	NA	No	No
128	DRUM SAFETY VALVE, 1740-WB	32.00	No	NA	No	No
129	PUMP ASSY, 2H 100 M1	10.29	No	NA	No	No
130	VEHICLE PLATFORM TRUCK, JOSTS, FWHFB 40	29.62	No	NA	No	No
131	ANGLE DRN VV EXV101, 102-CRHV101-DN50/65	15.12	No	NA	No	No
132	ANGLE DRAIN VV, HRHV109, 110-DN25/40	2.40	No	NA	No	No
133	ANGLE DRN VV EXV101, 102-CRHV101-DN50/65	3.78	No	NA	No	No
134	ASSY, 088/010, VORTH COUPLING, R18KGS1	13.91	No	NA	No	No
135	VALVE, GL, BW, 150MM CI -2500	9.73	No	NA	No	No
136	TY PWR MODULE, CN8085209777, BHEL	8.03	No	NA	No	No
137	ROTOR, 1 02&1 01, PUMP, 2BE1 353 QZY 4	47.82	No	NA	No	No
138	COMPLETE SAFETY VV TYPE 1740WD	13.41	No	NA	No	No
139	SIZE200, WATER RING VACUUM PUMP ASSY	53.49	No	NA	No	No
140	TRANSMISSION SHAFT, 1840101, BHM-130	13.27	No	NA	No	No
141	RELAY, NUMERIC/DIGITAL, 220VDC, SIEMENS	9.54	No	NA	No	No
142	LV BSNG+MTL, PRT&GSKT, 1PH 200MVA, 21/400KV	10.50	No	NA	No	No
143	PLATE STACK, 21, DRESSER MASONELAN	54.14	No	NA	No	No
144	DAVR TY DC TDR DUL 0-80MV, 4-20MA, 220VAC	1.10	No	NA	No	No
145	DAVR.R2 CT370AV1 MEM. CARD	0.47	No	NA	No	No
146	DAVR TY CURT FLOW MONT. CARD	1.48	No	NA	No	No
147	DAVR.R2 DC (-)15V +15V, 4-20MAMP, 240VAC	0.55	No	NA	No	No
148	DAVR.R2 SMPS 90-260VAC, 220V, 24V DC 10A	0.79	No	NA	No	No
149	PUMP ASSY SAM TURBO AR, 300/750 AM	24.85	No	NA	No	No
150	BATTERY, RECH, NI-CD, 220V, 990AH	187.19	No	NA	No	No
151	BEARING PART NO 58, CLYDE UNION PUMP	15.59	No	NA	No	No
152	LP STAGE&ELEMENT, 1810990481, ATLAS COPCO	32.35	No	NA	No	No
153	GEAR COUPLING, ED4500, COMP ASSY ELECON	2.17	No	NA	No	No
154	TRACK SHOE ASSY, 130CT00268, BEML, DOZER	56.34	No	NA	No	No
155	ONLINE OPAC MONITOR, FLUE GAS	13.45	No	NA	No	No
156	PUMP ASSY, 100400+ TPS 3V0	6.06	No	NA	No	No
157	SHAFT BEARING ASSY 0-55, 215-01109&1, BHEL	15.46	No	NA	No	No
158	GEAR COUPLING NO ED 6200	1.16	No	NA	No	No
159	G.CPLG-ELECON-ED 4500, COMP ASSY	2.07	No	NA	No	No
160	CIRCUIT BREAKER, SF6, 420KV, 3150A, 50KA	34.62	No	NA	No	No
161	1400, NO PULLEY DXL630X1600, SHAFT D150	2.26	No	NA	No	No
162	COMPLETE VALVE ASSY, HS450/5, HOPKINSON	45.15	No	NA	No	No
163	1800, DRIVE DXL400X2000X, SHAFT D80	0.52	No	NA	No	No
164	CARTRIDGE ASSY, BHEL, PUMP, F K4E36	153.31	No	NA	No	No
165	COMP ASSY ELECON, GEAR BOX, KBN200	30.99	No	NA	No	No
166	CIRCUIT BREAKER, SF6, 132KV, 1250A	8.87	No	NA	No	No
167	XFMR CURR, 2000/1/1A, 400/420KV	21.80	No	NA	No	No
168	K1401-2, FRONT JOURNAL BEARING	5.89	No	NA	No	No
169	K1401-2, REAR JOURNAL BEARING	5.55	No	NA	No	No
170	COMP ASSY FLUIDOMAT, COUPLING, SC-10	17.15	No	NA	No	No

that the capital spares consumed by the instant station during the period may please be allowed by Hon'ble Commission.



परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

171	PUMP ASSY EM12TC	7.25	No	NA	No	No
172	FLUID DRIVE HYD CPLG 36SCR24R 980RPM	13.91	No	NA	No	No
173	COMP ASSY PREMIUM ENERGY GEAR BOX B3-355	51.04	No	NA	No	No
174	PLATE STACK 21 DRESSER MASONFILAN	32.97	No	NA	No	No
175	EDDY CURRENT CLUTCH 12440115 DLW	10.28	No	NA	No	No
176	ROTOR ASSY PA FAN AP2 23/12	257.76	No	NA	No	No
177	XFMR POT CAPACITIVE VOLTAGE 400KV/110V	13.18	No	NA	No	No
178	PUMP ASSY 9MD 100/250 D	5.78	No	NA	No	No
179	PUMP ASSY ZM II 530/1	8.08	No	NA	No	No
180	HOIST ELECTRIC OPER 1.51-2TON 5.01-10M	10.08	No	NA	No	No
181	EL OP HOIST-1 51-2.0T LIFT 15.01-20M	11.06	No	NA	No	No
182	HOIST ELECTRIC OPER 1.51-2TON 20.01-25M	3.85	No	NA	No	No
183	HOIST ELECTRIC OPER 0.51-1TON 5M	3.28	No	NA	No	No
184	HOIST ELECTRIC OPER 1.51-2TON 50.01-55M	8.88	No	NA	No	No
185	EL OP HOIST-2 01-3.0T LIFT 25.01-30M	14.71	No	NA	No	No
186	EL OP HOIST-1 01-1.5T ELECTRICAL HOIST	3.31	No	NA	No	No
187	HOIST ELECTRIC OPER 3.01-4TON 5.01-10M	4.33	No	NA	No	No
188	HOIST ELECTRIC OPER 0.51-1TON 50.01-55M	12.22	No	NA	No	No
189	FUR WALL DESLAG BLOWER LESS DRIVE UNIT	21.38	No	NA	No	No
190	DRUM SAFETY VALVE 1740-WB	24.00	No	NA	No	No
191	DRUM SAFETY VALVE ASSY 1750-WB	26.95	No	NA	No	No
192	ASSY VOITH COUPLING R18KGS1	1,530.46	No	NA	No	No
193	HEAT EXCHANGER ASSY AP9 APV SR14-AP	443.68	No	NA	No	No
194	CARTRIDGE ASSY FK4E36	479.47	No	NA	No	No
195	ONLINE OPAC MONITOR FLUE GAS	13.45	No	NA	No	No
196	ANGLE DRAIN VV-HRHV109 110-DN2540	4.81	No	NA	No	No
197	SUPER HEATR SPRAY CONTRLW/CAPITALISED)	7.49	No	NA	No	No
198	SH SPRAY BRANCH BLOCK VALVE SD4	8.73	No	NA	No	No
199	PVC FILL PK CF (88X1829X305) THK 0.3MM	0.90	No	NA	No	No
200	PVC FILL PK CF (1218X1829X305) THK 0.3MM	7.44	No	NA	No	No
201	BATTERY RECH NI-CD 220V 990AH	167.19	No	NA	No	No
202	SECTOR PLATE SET C-52-041-00681 BHEL	25.25	No	NA	No	No
203	SECTOR PLATE SET C-52-045-00685 BHEL	22.23	No	NA	No	No
204	NRV/SWING CHECK VALVE ASSY BHEL 8IN	27.81	No	NA	No	No
205	ROTOR 1.02&1.01 PUMP 2BE1 353 OZY 4	95.65	No	NA	No	No
206	COMP ASSY GREAVES GEAR BOX H1-200	19.18	No	NA	No	No
207	GEAR BOX ASLY PREMIUM H1-225 1.98.1	11.43	No	NA	No	No
208	COMP ASSY PEMBRIL COUPLING PST-530	13.27	No	NA	No	No
209	COMP ASSY FLUIDOMAT COUPLING SC-10	40.22	No	NA	No	No
210	XFMR POT CAPACITIVE VOLTAGE 400KV/110V	28.90	No	NA	No	No
	Grand Total	18,065.06				
	Total for Rihand-I station (B=A*2*500/(3*2*500))	5,355.02				


 (Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Non-Tariff Income							PART -1	
							FORM-18	
Name of the Petitioner			NTPC Limited					
Name of the Generating Station			Rihand Super Thermal Power Station Stage-I					
								(in Rs. Lakh)
S. No.	Parameters	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	
1	Income from rent of land or buildings	NA	37.91	44.10	37.39	53.10	52.83	
2	Income from sale of scrap		64.59	243.08	187.74	352.04	263.23	
	Total		102.50	287.17	225.13	405.13	316.06	


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

PART -I

Form-19

Details of Water Charges

Name of the Petitioner NTPC Limited

Name of the Generating Station Rihand Super Thermal Power Station Stage-I

S. No.	Details of Water charges (excluding water cess)		Quantity allocated Unit- Cusec	Normative consumption at 100% PLF Unit-m3	Rate specified (as per govt. notification or agreement)	Spillage of water (in percentage)	Amount (in Rs. Lakh) Claimed (Annualized)	
	Year*	Name of source and quantity						Amount (in Rs. Lakh) (Annualized)
1	2019-20	Rihand Reservoir	37.19	3,07,44,000	Pl. refer Form-19A.	Nil	466.24	
2	2020-21						466.24	
3	2021-22						466.24	
4	2022-23						466.24	
5	2023-24						477.83	
							3,07,44,000	477.83

* Additional Column



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

PART-I
FORM-19A
ADDITIONAL FORM

Details of Water Charges

Name of the Company :	NTPC Limited					
Name of the Power Station :	Rihand Super Thermal Power Station Stage-I					
ITEM	Units	2019-20	2020-21	2021-22	2022-23	2023-24
Type of Cooling Tower	-					
Type of Cooling Water System	-	Open Cycle				
Water Allocation/Contracted	CUSEC	37.19	37.19	37.19	37.19	37.19
Actual water Consumption	CUSEC	37.19	37.19	37.19	37.19	37.19
Rate of Water Charges	Paisa/kWh	295.54	295.54	295.54	295.54	325.10
Water Charges Paid	Rs. Lakhs	466.24	466.24	466.24	466.24	477.83
Total water Charges Paid	Rs. Lakhs	466.24	466.24	466.24	466.24	477.83

Record note of discussion of the meeting held on 03.04.1999 is attached as Annexure-4 as supporting document for rate of water charges.




(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

PART 1

FORM- 20

Details of Statutory Charges

Name of the Petitioner	NTPC Limited		
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I		
Particulars	Unit Rate	No of Units	Amount Claimed
Electricity Duty	NIL		
Water Cess			
 (Petitioner)			

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of decapitalization during 2019-20							PART-2
Name of the Petitioner							FORM-1
Name of the Generating Station							Amount in Rs Lakh
Station COD							
For Financial Year							
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset de-capitalised as per Note 2	Ind AS Adj.	Original Value of the Asset Capitalised, As per IGAAP ignoring carrying cost adjustment i.e. on Gross Basis	Year Put to use	Whether earning RoE at the normal rate of weightage average rate of interest on loan
A. Decap of Spares- Part of Capital Cost							
1	Capital Spares	Claimed under Addcap	10.08	90.76	100.84	1989-90	
		Claimed under Addcap	0.02	0.01	0.03	1996-97	90.76
	Subtotal (A)		10.10	90.77	100.87		9.02
							90.76
B. Decap of MBOA- Part of Capital Cost							
1	Plant & Machinery of MBOA Nature (Wagons Decap)	Claimed under Addcap	6.51	58.55	65.05	1980-91	
	Subtotal (B)		6.51	58.55	65.05		58.55
							58.55
C. Decap of Spares- Not-Part of Capital Cost							
1	Capital Spares	Claimed Under Exclusion	26.26	5.47	30.73	2005-06	Capitalisation of spares was disallowed by Hon'ble commission vide para 21 of Order dtd. 10.07.2008 in Pet. No. 22/2007. Hence, decap has been kept under exclusion.
2			43.40	4.98	48.37	2012-13	Capitalisation of these assets was allowed under exclusion by Hon'ble commission vide para 26 of Order dtd. 29.07.2016 in Pet. No. 317/GT/2020. Hence, decap has been kept under exclusion.
3			74.45	-	74.45	2017-18	Capitalisation of these spares was allowed under exclusion by Hon'ble commission vide para 15 of Order dtd. 27.06.2023 in Pet. No. 230/GT/2020. Hence, decap has been kept under exclusion.
	Subtotal (C)		143.11	10.45	153.55		NA
D. Decap of MBOA- Not-Part of Capital Cost							
1	Furniture & Fixtures	Claimed Under Exclusion	0.20	-	0.20	2015-16	Capitalisation of these assets was allowed under exclusion by Hon'ble commission vide para 19 of Order dtd. 27.06.2023 in Pet. No. 230/GT/2020. Hence, decap has been kept under exclusion.
2			12.64	0.32	12.97	2014-15	
3	EDP, WP Machines, SATCOM		2.75	2.25	5.00	2015-16	Capitalisation of these assets was allowed under exclusion by Hon'ble commission vide para 19 of Order dtd. 27.06.2023 in Pet. No. 230/GT/2020. Hence, decap has been kept under exclusion.
4			3.56	-	3.56	2016-17	

5	Other office Equipment	0.21	-		2015-16	
	Subtotal (D)	19.36	2.58	21.73		
Grand Total of Decap of assets		179.07	162.34	341.20		149.30


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of decapitalization during 2020-21							PART-I	
Name of the Petitioner							FORM-I	
Name of the Generating Station							Amount in Rs Lakh	
Station COD								
For Financial Year								
2020-21								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset de-capitalised as per Note 2	Ind AS Adj.	Original Value of the Asset Capitalised, As per IGAAP ignoring carrying cost adjustment i.e. on Gross Basis	Year Put to use	Depreciation recovered till date of decapitalization	Whether earning RoE at the normal rate of weightage average rate of interest on loan
							Amount in Lacs	
A Decap of Spares: Part of Capital Cost								
1	Capital Spares	Claimed under Addcap	32.64	329.02	355.67	1989-90	320.10	No
2			0.57	5.10	5.67	1990-91	5.10	No
3			5.90	0.25	6.15	1999-00	5.53	No
Subtotal (A)			39.11	328.37	367.49		320.10	
B Decap of MBOA: Part of Capital Cost								
1	P&M of MBOA Nature	Claimed under Addcap	-	9.01	9.01	1989-90		
2	Furniture & Fixtures		4.29	11.16	15.45	1999-00	8.11	No
3	Electrical Installation		0.23	20.49	20.71	1989-90	13.91	No
4			0.15	1.38	1.53	1989-90	18.64	No
Subtotal (B)			4.67	42.03	46.71		1.38	42.04
C Decap of Spares: Not Part of Capital Cost								
1	Capital Spares	Claimed Under Exclusion	10.01	5.15	15.16	2005-06	Capitalisation of spares was dis allowed by Hon'ble commission vide para 21 of Order dtd. 10.07.2008 in Pet. No. 22/2007. Hence, decap has been kept under exclusion.	NA
2			18.60	0.20	18.80	2012-13	Capitalisation of these spares was allowed under exclusion by Hon'ble commission vide para 25 of Order dtd. 29.07.2016 in Pet. No. 317/GT/2014. Hence, decap has been kept under exclusion.	NA
3			32.77	-	32.77	2016-17	Capitalisation of these spares was allowed under exclusion by Hon'ble commission vide para 15 of Order dtd. 27.06.2023 in Pet. No. 230/GT/2020. Hence, decap has been kept under exclusion.	NA
4			69.48	-	69.48	2017-18		NA
5			536.99	-	536.99	2018-19		NA
6			575.82	-	575.82	2019-20	Capitalization of spares beyond cut-off date is not admissible as per Tariff Regulations 2019 accordingly the decapitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
Subtotal (C)			1,243.66	5.36	1,249.01			
D Decap of MBOA: Not Part of Capital Cost								
1	P&M of MBOA Nature		0.05	0.05	0.10	2004-05	Capitalisation of MBOA was dis allowed by Hon'ble commission vide para 21 of Order dtd. 10.07.2008 in Pet. No. 22/2007. Hence, decap has been kept under exclusion.	NA
2			-	0.05	0.05	2008-09		NA

परिमल शीघ्र/PARIMAL PIYUSH
 3000 पश्चिमवर्ती (एन/एन/एन)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

3	Furniture & Fixtures	Claimed Under Exclusion	-	0.05	0.05	2009-10	Capitalisation of these assets was allowed under exclusion by Hon'ble commission vide para 25 of Order dtd. 15.05.2014 in Pet. No. 176/GT/2013. Hence, decap has been kept under exclusion.	NA
4	Other Office Equipments		0.25	-	0.25	2017-18		NA
5			0.50	-	0.50	2018-19	NA	
11			4.07	0.41	4.48	2017-18	Capitalisation of these assets was allowed under exclusion by Hon'ble commission vide para 19 of Order dtd. 27.06.2023 in Pet. No. 230/GT/2020. Hence, decap has been kept under exclusion.	NA
12			2.79	0.29	3.07	2018-19		NA
Subtotal (D)			7.66	0.84	8.49			
E Decap of Assets								
1	EXT.MAIN PLANT FIRE PROTECTION SYSTEM	Claimed Under Exclusion	0.93	8.41	9.35	1992-93	These works related to R&M are executed and capitalised using Special Allowances allowed under Regulation 28 of CERC Tariff Regulations 2019. In such cases, revision of capital cost is not allowed. Therefore, these works alongwith the corresponding decap are kept under exclusion.	No
Subtotal (E)			0.93	8.41	9.35			
F	Decap of Overhauling Assets	Claimed under Exclusion	-406.56	-406.56	-	2020-21	This Decapitalisation entry is on account of Change in Accounting Practice wherein decap during overhauling have been capitalised as per Ind AS with net amount under IGAAP as zero. The same is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.	NA
Subtotal (E)			406.56	-406.56	0.00			
Grand Total of Decap of assets			1,702.59	-21.56	1,681.04			362.13


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of decapitalization during 202-22

PART-I
FORM-I

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I
Station COD	01-01-1991
For Financial Year	2021-22

Decap of Spares - Part of Capital Cost Amount in Rs Lakh

S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Depreciation recovered till date of decapitalization	Whether earning RoE at the normal rate of weightage average rate of interest on loan
A Decap of Spares- Part of Capital Cost								
1	Decap of Spares	Claimed under Additional Capitalization	4.42	183.39	187.81	1989-90		
			0.50	4.51	5.01	1990-91	169.03	No
	Subtotal (A)		4.92	187.91	192.83		4.51	No

B Decap of MBOAs - Part of Capital Cost

1	Furniture and Fixtures	Claimed under Additional Capitalization	-	0.22	0.22	1983-84		
			-	0.02	0.02	1984-85	0.20	No
			-	0.11	0.11	1988-89	0.02	No
			-	6.17	6.17	1989-90	0.10	No
			-	0.03	0.03	1991-92	5.55	No
			0.02	0.17	0.19	1995-97	0.02	No
			1.03	9.23	10.26	1989-90	0.17	No
			24.99	224.95	249.94	1990-91	9.23	No
			0.73	6.66	7.28	1991-92	224.95	No
			0.30	2.69	2.99	1992-93	6.55	No
			0.03	0.25	0.28	1993-94	2.69	No
2	EDP, WP machines & SATCOM equipment	Claimed under Additional Capitalization	2.75	24.77	27.51	1994-95	0.25	No
			0.51	4.62	5.13	1995-96	24.75	No
			0.82	7.37	8.19	1996-97	4.62	No
			0.21	1.96	2.17	1997-98	7.37	No
			0.06	0.50	0.56	1998-99	1.96	No
			0.31	2.79	3.09	1999-2000	0.50	No
			0.58	5.26	5.85	2000-01	2.79	No
			-	0.02	0.02	1983-84	5.26	No
			-	0.05	0.05	1984-85	0.01	No
			-	0.60	0.60	1987-88	0.05	No
			-	0.09	0.09	1988-89	0.54	No
			-	0.09	0.09	1990-91	0.08	No
			-	0.14	0.14	1999-2000	0.08	No
			-	2.57	2.57	2000-01	0.12	No
4	Electrical installations	Claimed under Exclusion	0.04	0.29	0.33	1996-97	2.31	No
5	Hospital Equipment	Claimed under Additional Capitalization	0.10	0.97	1.08	1989-90	0.29	No
			0.22	1.43	1.65	1997-98	0.97	No
6	Other Office Equipment	Claimed under Additional Capitalization	-	0.32	0.32	1989-90	1.49	No
			0.30	2.66	2.96	1993-94	0.29	No
			0.20	0.83	0.83	1996-97	2.66	No
			-	0.01	0.01	1990-91	0.75	No
7	Software	Claimed under Additional Capitalization	-	0.72	0.72	1991-92	0.01	No
			-	0.17	0.17	1992-93	0.65	No
			-	4.18	4.18	1994-95	0.15	No
			-	0.37	0.37	1996-97	3.76	No
							0.33	No

पारिपाल सिंग/परिपाल सिंह
 Addl. General Manager (Commercial)
 एन टी पी लिमिटेड / NTPC LIMITED
 201102A



			-	23.75	23.75	1999-00	21.38	No
	Subtotal (B)		33.19	336.71	369.91		332.92	

C Decap of Spares - Not part of Capital Cost								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Justification	
1	Decap of Spares	Claimed under Exclusion	10.15	-	10.15	2013-14	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 25 of order dtd 29.07.2016 in Petition no 317/GT/2014. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
2			55.60	-	55.60	2015-16	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 15 of	
3			9.37	-	9.37	2017-18		
4			20.93	-	20.93	2020-21		
	Subtotal (C)		96.06	-	96.06			


D Decap of MBOAs - Not part of Capital Cost								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Justification	
1	Furniture and Fixtures	Claimed under Exclusion	-	0.77	0.77	2001-02	Capitalization of these assets were disallowed for capitalization by Hon'ble Commission vide para 11 of order dtd 02.06.2006 in Petition no. 38/2001. Accordingly, decap of these assets is kept under exclusion.	NA
			-	0.78	0.78	2002-03	Hon'ble Commission may be pleased to allow the same.	NA
			-	0.02	0.02	2004-05	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
			-	0.42	0.42	2005-06	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
			5.54	49.88	55.40	2001-02	Capitalization of these assets were disallowed for capitalization by Hon'ble Commission vide para 11 of order dtd 02.06.2006 in Petition no. 38/2001. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
			1.60	14.45	16.05	2002-03		NA
			1.19	10.73	11.93	2003-04		NA

परिमल प्रियुष / PARIMAL PIYUSH
 अवर प्रबन्धक (वित्त/परिचालन)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

2	EDP, WP machines & SATCOM equipment	Claimed under Exclusion					Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
			0.97	8.85	9.82	2004-05		
							Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	* NA
3	Communication equipment	Claimed under Exclusion		1.76	1.76	2001-02	Capitalization of these assets were disallowed for capitalization by Hon'ble Commission vide para 11 of order dtd 10.07.2008 in Petition no. 22/2007. Accordingly, decap of these assets is kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007.	NA
				0.29	0.29	2003-04		NA
				1.79	1.79	2004-05		NA
				2.92	2.92	2005-06		NA
4	Software	Claimed under Exclusion		1.16	1.16	2003-04	Capitalization of these assets were disallowed for capitalization by Hon'ble Commission vide para 11 of order dtd 02.06.2006 in Petition no. 38/2001. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	* NA
				18.16	18.16	2004-05	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 16 of order dtd 10.07.2008 in Petition no. 22/2007.	NA
				20.64	20.64	2005-06	Accordingly, decap of these assets is kept under exclusion.	NA
5	Other Office Equipment	Claimed under Exclusion	0.27	1.58	1.85	2004-05	Hon'ble Commission may be pleased to allow the same.	* NA
Subtotal (D)			10.70	144.38	155.08			
E	Decap pertaining of land lease renewal	Claimed under Exclusion		148.90	148.90	1989-90	The present decap belongs to removal of old land lease accounting asset. The land was already in use since inception, however the land lease agreement could only be signed in 2022. There was no cash outflow against the asset decapped, however undischarged liability was not accrued against the asset. Hon'ble Commission may be pleased to allow the same under exclusion.	No
				148.90	148.90			
Subtotal (E)			-	148.90	148.90			

परिमल पीयूष/PARIMAL PIYUSH
 अवर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A Sector 21, Gurgaon, Haryana (U.P.)



F	Decap of Overhauling Assets	Claimed under Exclusion	1,141	- 1,141	-	2021-22	This Decapitalisation entry is on account of Change in Accounting Practice wherein decap during overhauling have been capitalised as per Ind AS with net amount under IGAAP as zero. The same is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.	No
	Subtotal (E)		1,141.37	-1,141.37	0.00			
	Grand Total of Decap of assets		1,286.25	-323.47	962.78			506.46
 (Petitioner)								

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Details of decapitalization during 2022-23								PART-I FORM-I
Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I						
Station COD		01-01-1991						
For Financial Year		2022-23						
Amount in Rs Lakh								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Depreciation recovered till date of decapitalization	Whether earning RoE at the normal rate of weightage average rate of interest on loan
A Decap of Spares - Part of Capital Cost								
1	Decap of Spares	Claimed under Additional Capitalization	8.83	88.87	107.74	1989-90	98.97	No
			1.34	12.08	13.42	1990-91	12.08	No
	Sub-total (A)		10.22	110.94	121.16		109.04	
B Decap of MBOAs - Part of Capital Cost								
1	Plant and machinery	Claimed under Additional Capitalization	34.20	307.81	342.01	1989-90	307.81	No
			108.57	877.16	1,085.73	1990-91	877.16	No
	Sub-total (B)		142.77	1,284.97	1,427.74		1,284.97	
C Decap of Spares - Not part of Capital Cost								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Justification	
1	Decap of Spares	Claimed under Exclusion	41.20	-	41.20	2015-16	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 15 of order dtd 27.08.2023 in Petition no 230/GT/2020. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
2			64.34	-	64.34	2017-18		
3			234.51	-	234.51	2018-19		
4			47.72	-	47.72	2020-21		
	Sub-total (C)		387.78	-	387.78			
Grand Total of Decap of assets			540.77	1,395.91	1,936.68		1,394.01	

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

(Petitioner)

Details of decapitalization during 2023-24

PART-I
FORM-I

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I
Station COD	01-01-1991
For Financial Year	2023-24

A		Amount in Rs Lakh						
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Depreciation recovered till date of decapitalization	Whether earning RoE at the normal rate of weightage average rate of interest on loan
1	Decap of Spares	Claimed under Additional Capitalization	34.94	314.43	349.37	1989-90		
			1.86	16.76	18.63	1990-91	314.43	No
			20.32	67.85	88.17	1999-2000	16.76	No
			57.12	399.04	456.16		79.35	No
Sub-total (A)							410.58	
B		Decap of MBOAs - Part of Capital Cost						
1	Furnitures and Fixtures	Claimed under Additional Capitalization	-	0.01	0.01	1983-84		
			-	0.28	0.28	1984-85	0.01	No
			-	0.01	0.01	1987-88	0.25	No
			-	0.01	0.01	1988-89	0.01	No
			-	0.46	0.46	1989-90	0.01	No
			-	0.26	0.26	1990-91	0.41	No
2	Communication Equipment	Claimed under Additional Capitalization	-	0.01	0.01	1987-88		
			0.11	0.96	1.07	1995-96	0.01	No
			0.81	6.85	7.67	1999-2000	0.96	No
			0.08	0.34	0.41	2000-01	6.00	No
Sub-total (B)			1.00	9.18	10.18		0.37	No
C		R&M Decap						
1	Decap against R&M of Quarters (B- TYPE) QTRS IN PTS)	Claimed under Exclusion	0.54	5.06	5.59	1987-88		No
2	Decap against R&M of Quarters (C-TYPE QTR IN PTS)	Claimed under Exclusion	0.61	5.86	6.47	1987-88		No
3	Decap against R&M of Quarters (D- TYPE QTR IN PTS)	Claimed under Exclusion	0.87	6.76	7.63	1989-90		No
4	Decap of GRAVIMETRIC FEEDERS	Claimed under Exclusion	6.29	74.23	80.48	1990-91		No
5	Decap of Coal Pulverisers	Claimed under Exclusion	37.74	339.68	377.40	1990-91		No
6	Decap of MILL FEEDER CONTROL SYSTEM	Claimed under Exclusion	24.69	222.23	246.92	1990-91		No
7	Decap of Hoists	Claimed under Exclusion	1.69	15.25	16.95	1989-90		No
Sub-total (C)			74.39	671.66	746.43			No
D		Decap of Spares - Not part of Capital Cost						
							0.06	

परिमल प्रियूष/ PARIMAL PIYUSH
 अवर. महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (II) P 1

S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Justification	
1	Decap of Spares	Claimed under Exclusion	2.18		2.18	2016-17	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 15 of order dtd 27.06.2023 in Petition no 230/GT/2020. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
2			51.71		51.71	2021-22	Capitalization of spares beyond cut-off date is not admissible as per Tariff Regulations 2019 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
3			21.84		21.84	2022-23		NA
4			20.01		20.01	2023-24		NA
Sub-total: (D)			95.74	-	95.74			
E Decap of MBOA - Not part of Capital Cost								
S.N	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Value of the Asset decapitalised as per IndAS	IndAS Adjustment	Value of the Asset decapitalised as per IGAAP	Year Put to use	Justification	
1	Furniture and fixtures	Claimed under Exclusion	-	0.00	0.00	2014-15	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 15 of order dtd 27.06.2023 in Petition no 230/GT/2020. Accordingly, decap of these assets is kept under exclusion. Hon'ble Commission may be pleased to allow the same.	NA
EDP, WP machines & SATCOM equipment	Claimed under Exclusion	0.95	2.04	2.99	2017-18	Capitalization of these assets was kept under exclusion and allowed by Hon'ble Commission vide para 15 of order dtd 27.06.2023 in Petition no 230/GT/2020. Accordingly, decap of these assets is kept under exclusion.	NA	
		1.68	-	1.68	2018-19	Hon'ble Commission may be pleased to allow the same.	NA	
3	Communication Equipment	Claimed under Exclusion	7.24	24.99	32.23	2001-02	Capitalization of these assets were disallowed for capitalization by Hon'ble Commission vide para 11 of order dtd 02.06.2006 in Petition no. 38/2001. Accordingly, decap of these assets is kept under exclusion.	NA
			5.23	21.90	27.13	2002-03		NA
			0.16	0.50	0.66	2003-04		Hon'ble Commission may be pleased to allow the same.
			10.01	18.23	28.24	2004-05	Capitalisation of MBOA was dis allowed by Hon'ble commission vide para 21 of Order dtd. 10.07.2008 in Pet. No. 22/2007. Hence, decap has been kept under exclusion.	NA
			9.12	9.98	19.10	2005-07		NA
			0.43	0.39	0.82	2007-08		NA
0.34	0.19	0.53	2009-10	NA				
Sub-total: (E)			35.17	78.22	113.39			
Grand Total of Decap of assets			283.41	1,187.50	1,428.90			418.71

(Petitioner)

Summary of Gross Block reconciliation

Name of the Petitioner: NTPC Limited
 Name of the Generating Station: Rihand Super Thermal Power Station Stage-I
 COO: 01-01-1991

Sl No	Particular	2019-20	2020-21	2021-22	2022-23	2023-24	Amt in Rs Lacs
1	Closing Gross Block as per IND AS	8,05,796	8,20,448	8,27,676	8,60,117	8,95,141	
2	Add: cumulative Ind AS Adjustment (breakup given below)	3,91,788	3,86,338	3,89,107	3,87,283	3,81,938	
2.1	Adjustment of accumulated depreciation as on 1.4.2015	4,12,944	4,12,944	4,12,944	4,12,944	4,12,944	
2.2	Less: Cumulative Gross block adjustment with regard to Acc. Dep for decapitalisation	7,229	8,314	9,484	11,490	13,581	
2.3	Less: Cumulative capital overhauling/major inspection capitalised out of revenue	15,217	18,624	23,317	32,761	39,610	
2.4	Add: Cumulative Decapitalisation of capital Overhauling	1,629	705	9,335	16,548	19,960	
2.5	Less: spares capitalised out of inventory system circular 126	2,880	2,880	2,880	2,880	2,880	
2.6	Less: spares capitalised out of inventory system circular 148	-	-	-	-	-	
2.7	Less: Cumulative Capitalisation of PV of Future minimum lease obligation in Lease hold land	-	-	-	-	-	
2.8	Less: Cumulative Unwinding expenses Capitalised	63	139	139	181	186	
2.9	Add: Cumulative Vendor Discounting	126	149	151	184	194	
2.10	Add: Borrowing cost adj due to change in interest rate (EIR)	-	-	-	-	-	
2.11	Add/Less: Any other Adj in PPE due to IND AS implementation	-382	-383	-384	2,038	2,228	
2.12	Cumulative Capital spares Capitalised	2,880	2,880	2,880	2,880	2,880	
3	Closing Gross Block as per IGAAP	11,98,584	12,06,787	12,16,783	12,47,400	12,77,080	
4	Opening Gross Block as per IND AS	7,85,394	8,06,796	8,20,448	8,27,676	8,60,117	
5	Add: Cumulative Ind AS Adjustment (breakup given below)	3,98,079	3,91,788	3,86,338	3,89,107	3,87,283	
5.1	Adjustment of accumulated depreciation as on 1.4.2015	4,12,944	4,12,944	4,12,944	4,12,944	4,12,944	
5.2	Less: Cumulative Gross block adjustment with regard to Acc. Dep for decapitalisation	8,843	7,229	8,314	9,484	11,490	
5.3	Less: Cumulative capital overhauling/major inspection capitalised out of revenue	10,269	15,217	18,624	23,317	32,761	
5.4	Add: Cumulative Decapitalisation of capital Overhauling	2,410	1,629	705	9,335	16,548	
5.5	Less: spares capitalised out of inventory system circular 126	2,880	2,880	2,880	2,880	2,880	
5.6	Less: spares capitalised out of inventory system circular 148	-	-	-	-	-	
5.7	Less: Cumulative Capitalisation of PV of Future minimum lease obligation in Lease hold land	-	-	-	-	-	
5.8	Less: Cumulative Unwinding expenses Capitalised	80	83	139	139	181	
5.9	Add: Cumulative Vendor Discounting	87	126	149	151	184	
5.10	Add: Cumulative Borrowing cost adj due to change in interest rate (EIR)	-	-	-	-	-	
5.11	Add/Less: Any other Adj in PPE due to IND AS implementation	-381	-382	-383	-384	2,038	
5.13	Cumulative Capital spares Capitalised	2,880	2,880	2,880	2,880	2,880	
6	Opening Gross Block as per IGAAP	11,83,473	11,98,584	12,06,787	12,16,783	12,47,400	
7	Total Additions as per books (G = 3 - 6)	15,11,089	8,202,381	9,997	30,617	29,880	
8A	Addition as per IGAAP corresponding to Rihand-II	390	955,09	2,396,20	3,701	1,988	
8B	Addition as per IGAAP corresponding to Rihand-III	9,629,75	5,879,73	4,878,70	4,015,38	12,480,21	
9	Net Additions pertaining to instant project/Unit/Stage	5,201,591	1,357,558	2,732	22,900	15,222	
10	Less: Exclusions (items not allowable / not claimed)	5,072	1,599,968	3,213	17,073	13,321	
11	Net Additional Capital Expenditure Claimed (on accrual basis)	129	-242	-482	5,827	1,901	
12	Less: Un-discharged Liabilities (as per IGAAP)	54	33	12	4,847	1,024	
13	Add: Discharges of un-discharged liabilities, corresponding to admitted assets/works (as per IGAAP)	-	87	31	12	61	
14	Net Additional Capital Expenditure Claimed (on cash basis)	75	-189	-473	1,192	937	

(Petitioner)

परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation

PART-I
FORM-K
Amount in Rs. Lakh

Name of the Petitioner: NTPC Limited
 Name of the Generating Station: Rihand Super Thermal Power Station Stage-I
 Date of Commercial Operation: 01-01-1991
 For Financial Year: 2019-20

Sl. No.	Head of Work (Equipment)	Party Name	ACE Claimed (Actual)						Justification
			Accrual basis as per Note-2 of BS	Ind AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 4	Cash basis	IDC included in col. 3	
B	Exclusions	2A	3	3A	3B=2+3A	4	5 = (3B-4)	6	7
B.1	Items Not Claimed								
1	RAM of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	629.86	32.97	662.83	453.07	409.76		These works related to RAM are executed and capitalised using Special Allowances allowed under Regulation 20 of CERC Tariff Regulations 2010.
2	RAM of Stator Water Skid for Generator	GE Power India Ltd	990.76	3.98	994.74	40.17	954.57		Therefore, these works alongwith the corresponding decap are kept under exclusion.
	Subtotal (B.1)		1,620.62	36.95	1,657.57	493.24	1,364.33		
B.2	Capitalization of Capital Spares		2,907.22	0.17	2,907.39	116.63	2,790.77		Capitalization of spares beyond cut-off date is not admissible as per Tariff Regulations 2010 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.
B.3	Decap of MROAs: Not-Part of Capital Cost		-19.35	-2.58	-21.94		-21.94		Justification given in Form-I 19-20
B.4	Decap of Spares: Not-Part of Capital Cost		-143.19	-10.45	-153.65		-153.65		Justification given in Form-I 19-20
B.5	IndAS Adjustment								
1	Overhauling		3,166.91	-3,166.91					This Capitalization is on account of Change in Accounting Practice. Therefore, it is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.
B.6	FERV								
1	Loan ERV	Hitachi Ltd	304.83		304.83		304.83		As per CERC Tariff Regulations 2010, NTPC can directly claim ERV on Foreign Currency Loans from beneficiaries. Therefore, FERV has been kept under exclusion.
2	Package ERV	Hitachi Ltd	178.06		178.06	178.06			The Scheme of Modification of ESP of Stage-I was disallowed by Hon'ble Commission vide para 20 of order dttd. 23.08.2016 in petition no. 2014/ST/2014. Capitalization is restatement of liabilities due to Foreign Exchange Rate variation corresponding to the said work. Hon'ble Commission may be pleased to allow the same under exclusions.
	Subtotal (B.6)		482.91		482.91	178.06	304.83		
B.7	Liability Reversal		-0.03		-0.03	-0.03			Since, tariff is on cash basis, liability reversal is kept under exclusion.
	Total Exclusion (B)		6,215.17	-3,142.82	6,872.35	767.92	4,284.43		



परिमल पीयूष/PARIMAL PIYUSH
 अवर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

		Year wise Statement of Additional Capitalisation after COD							Amount in Rs. Lakh
Name of the Petitioner		NTPC Limited							
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I							
Station COD		01-01-1991							
For Financial Year		2020-21							
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)						Justification
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
1	2	2A	3	3A	3B=3+1A	4	5=2B-4	6	7
B	Exclusions								
B	Exclusions								
B.1	Items Not Claimed								
1	Replacement of Existing Boiler (B-1)	Thyssenkrupp Elevator India	4.59	0.00	4.59	0.00	4.59	0.00	These works related to R&M are executed and capitalised using Special Allowances allowed under Regulation 28 of CERC Tariff Regulations 2019.
2	R&M of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	845.74	-32.97	812.77	1.32	811.46	0.00	
3	R&M of Stator Water Skid for Generator	GE Power India Ltd	990.72	-3.99	994.74	20.09	974.66	0.00	
4	Fire Protection System- Replacement of Fire Spray Pump Decap against S.No.4 above.	Flowmore Ltd	65.79	0.00	65.79	0.00	65.79	0.00	
	Subtotal (B.1)		1913.90	-46.36	1868.54	21.40	1847.14	0.00	Therefore, these works alongwith the corresponding decap are kept under exclusion.
B.2	Interunit Transfers								
1	Other Office Equipments		1.14	0.08	1.22	0.00	1.22	0.00	As per practice, the Hon'ble Commission is not considering the inter unit transfers of temporary nature for tariff, hence kept under exclusion. Hon'ble Commission may be pleased to allow the same.
1.1	From Barh		0.75	0.00	0.75	0.00	0.75	0.00	
1.2	From Badarpur		0.39	0.08	0.47	0.00	0.47	0.00	
2	EDP, WP machines & SATCOM equipment		-1.10	0.00	-1.10	0.00	-1.10	0.00	
2.1	To Vinhyachal		-0.51	0.00	-0.51	0.00	-0.51	0.00	
2.2	To Dadri		-0.59	0.00	-0.59	0.00	-0.59	0.00	
3	Hospital Equipment		-4.99	-1.27	-6.25	0.00	-6.25	0.00	
3.1	To Singrauli		-4.99	-1.27	-6.25	0.00	-6.25	0.00	
	Subtotal (B.2)		-4.94	-1.18	-6.12	0.00	-6.12	0.00	
B.3	Capitalization of Capital Spares		856.24	0.00	856.24	83.96	772.28	0.00	Capitalization of spares beyond out-off date is not admissible as per Tariff Regulations 2019 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.
B.4	Decap of MBOA: Not Part of Capital Cost		-7.65	-0.64	-8.49	0.00	-8.49	0.00	Justification given in 'Forms-I 20-21'
B.5	Decap of Spares: Not Part of Capital Cost		-1249.68	-5.35	-1249.01	0.00	-1249.01	0.00	Justification given in 'Forms-I 20-21'
B.6	Ind AS adjustment								
B.6.1	Overhauling		2843.55	-2843.55	0.00	0.00	0.00	0.00	This Capitalisation is on account of Change in Accounting Practice. Therefore, it is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.
B.6.2	Decap of overhauling Assets		-406.56	406.56	0.00	0.00	0.00	0.00	
	Subtotal (B.6)		2437.00	-2437.00	0.00	0.00	0.00	0.00	
B.7	Loan ERV		138.96	0.00	138.96	0.00	138.96	0.00	As per CERC Tariff Regulations 2019, NTPC can directly claim ERV on Foreign Currency Loans from beneficiaries. Therefore, FERV has been kept under exclusion.

परिचय पत्र/ PARIMAL PIYUSH
 3344 नवीनवापुर (राजस्थान)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-9A, Sector-24, Noida-201301 (U.P.)

B.8	Reversal of Liabilities (ROL)		-0.15	0.00	-0.10	-0.15	0.00	0.00	Since, tariff is on cash basis, liability reversal is kept under exclusion.
	Total Exclusion Claimed (B)		4069.70	-2489.73	1599.97	106.22	1494.76		

(Petitioner)

परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

PART-I									
Form-K									
Year wise Statement of Additional Capitalisation after COD									
Amount in Rs. Lakh									
Name of the Petitioner		NTPC Limited							
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I							
Station COD		01-01-1991							
For Financial Year		2021-22							
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)						Justification
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
1	2	3	4	5	6	7	8	9	10
B	Exclusions								
B.1	Items not claimed								
1	R&M of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	136.88	-	136.88	-	136.88	-	These works related to R&M are executed and capitalised using Special Allowances allowed under Regulation 29 of CERC Tariff Regulations 2019. Therefore, these works alongwith the corresponding decap are kept under exclusion.
	Subtotal(B.1)		136.88	-	136.88	-	136.88	-	
B.2	Capitalization of Capital Spares		2,322.27	-	2,322.27	256.78	2,065.49	-	Capitalization of spares beyond cut-off date is not admissible as per Tariff Regulations 2019 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.
B.3	Decap of MROAs: Not Part of Capital Cost		-10.70	-144.38	-155.08	-	-155.08	-	Justification given in 'Form-I 21-22'
B.4	Decap of Spares: Not Part of Capital Cost		-96.06	-	-96.06	-	-96.06	-	Justification given in 'Form-I 21-22'
B.5	Ind AS Adjustment								This Capitalisation is on account of Change in Accounting Practice.
1	Overhauling		57.87	-57.87	-	-	-	-	Therefore, it is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.
2	Decap of OH Assets		-1,141.37	1,141.37	-	-	-	-	
	Subtotal(B.5)		-1,083.50	1,083.60	-	-	-	-	
B.6	Inter Unit Transfer								
1	Inter Unit Transfer		1,220.73	-	1,220.73	-	1,220.73	-	As per practice, the Hon'ble Commission is not considering the inter unit transfers of permanent nature for tariff, hence kept under exclusion. Hon'ble Commission may be pleased to allow the same.
	Subtotal(B.6)		1,220.73	-	1,220.73	-	1,220.73	-	
B.7	Loan ERV		-66.37	-	-66.37	-	-66.37	-	As per CERC Tariff Regulations 2019, NTPC can directly claim ERV on Foreign Currency Loans from beneficiaries. Therefore, FERV has been kept under exclusion. Hon'ble Commission may be pleased to allow the same.

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
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 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

B.8	Leasehold Land (Asset Decap)	UPJVNL		-148.90	-148.90	-	-148.90		<p>The present decap belongs to removal of old land lease accounting asset. The land was already in use since inception, however the land lease agreement could only be signed in 2022.</p> <p>There was no cash outflow against the asset decapped, however undecapged liability was not accrued against the asset.</p> <p>Hon'ble Commission may be pleased to allow the same under exclusion.</p>
Total Exclusion Claimed (B)			2,423.26	790.21	3,213.47	286.78	2,966.68	-	


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after CDD

Name of the Petitioner		NTPC Limited							
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I							
Station COD		01-01-1991							
For Financial Year		2022-23							
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)					Justification	
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis		IOC included in col. 3
1	2	3	4	5	6	7	8	9	10
B	Exclusions								
B.1	Items not claimed								
1	R&M of Coal Pulverisers	GE Power India Ltd	7,453.91	-8.82	7,445.09	-	7,445.09	-	These works related to R&M are executed and capitalised using Special Allowances allowed under Regulation 26 of CERC Tariff Regulations 2019. In such cases, revision of capital cost is not allowed. Therefore, these works alongwith the corresponding decap are kept under exclusion.
2	R&M Of Gravimetric Feeder	Schenck Process Solutions	939.85	-	939.85	-	939.85	-	
3	R&M Of DW Cooler Flates	SPX Flow Technology India Pvt Ltd	212.29	-	212.29	8.79	203.50	-	
4	R&M Of LP Bypass Internals	Control Component India Pvt Ltd	761.92	0.42	762.34	4.18	758.17	-	
5	R&M of Compressed Air System	EJLGI Equipments Ltd	314.31	-	314.31	-	314.31	-	
6	DG Set & Aux	Jakson Limited	434.89	-	434.89	1.91	432.98	-	
7	Replacement of LT Switchgear	C&S Electric Limited	30.78	-	30.78	-	30.78	-	
8	Replacement of 3.3KV Unit Switch Board	ABB India Ltd	822.46	-	822.46	-	822.46	-	
9	Ext. of Electrical Annex Building-3.3KV Switchgear	Keshari Enterprises/S N Engineering Works	188.44	-	188.44	6.15	182.28	-	
11	Ion Chromatograph	Thermo Fisher Scientific India	44.66	-	44.66	44.66	-	-	
	Subtotal(B.1)		11,183.52	-8.40	11,175.12	65.70	11,109.42	-	
B.2	Capitalization of Capital Spares		6,085.60	-	6,085.60	281.96	5,803.65	-	Capitalization of spares beyond cut-off date is not admissible as per Tariff Regulations 2019 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.
B.3	Decap of MBOAs: Not Part of Capital Cost		-	-	-	-	-	-	
B.4	Decap of Spares: Not Part of Capital Cost		-387.78	-	-387.78	-	-387.78	-	Justification given in Form-I 22-23.
B.5	Ind AS Adjustment								
1	Overhauling		7,694.09	-7,694.09	-	-	-	-	This Capitalisation is on account of Change in Accounting Practice. Therefore, it is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.
2	Decap of OH Assets		-5,556.48	5,556.48	-	-	-	-	
	Subtotal(B.5)		2,137.61	-2,137.61	-	-	-	-	
B.6	Loan ERV		78.45	-	78.45	-	78.45	-	As per CERC Tariff Regulations 2019, NTPC can directly claim ERV on Foreign Currency Loans from beneficiaries. Therefore, FERV has been kept under exclusion. Hon'ble Commission may be pleased to allow the same.

परिमल शर्मा / PARIMAL PIVUSH
 अपर मैनेजर (कार्पोरेट)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

B.7	Reversal of Liability	UPJVNL	-148.90	-	-148.90	-148.90	-	-	Since, tariff is on cash basis, liability reversal is kept under exclusion.
B.8	Inter Unit Transfer								
1	Plant & Machinery:From Vindhyachal		270.40	-	270.40	-	270.40	-	As per practice, the Hon'ble Commission is not considering the Inter unit transfers for tariff, hence kept under exclusion. Hon'ble Commission may be pleased to allow the same.
	Subtotal(B.8)		270.40	-	270.40	-	270.40	-	
	Total Exclusion Claimed (B)		19,218.91	-2,148.02	17,072.90	198.75	16,874.14	-	



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड /NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

PART-I									
Form-K									
Year wise Statement of Additional Capitalisation after COD									
Amount in Rs. Lakh									
Name of the Positioner		NTPC Limited							
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I							
Station COD		01-01-1991							
For Financial Year		2023-24							
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)						Justification
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharge d Liability Included in col. 3	Cash basis	IDC included in col. 3	
1	2	3	4	5	6	7	8	9	10
B Exclusions									
B.1 Items Not Claimed									
1	R&M of Coal Pulverisers	GE Power India Ltd.	3,147.21	-	3,147.21	1,099.90	1,547.25	-	
1a	Decap against B.1.1 above		-37.74	-339.66	-377.40	-	-377.40	-	
2	R&M Of Gravimetric Feeder	Schneck Process Solutions	687.78	-	687.78	-	687.78	-	
2a	Decap against B.1.2 above		-8.25	-74.23	-82.48	-	-82.48	-	
3	R&M of Mill Feeder Control System	Emerson Process Management India	2,127.54	-2.68	2,124.86	105.98	2,018.88	-	
3a	Decap against B.1.3 above		-24.69	-222.23	-246.92	-	-246.92	-	
4	R&M of Hoists in CHP area	Keshari Enterprises/ S N Engineering Works	146.01	-	146.01	16.75	129.25	-	These works related to R&M are executed and capitalised using Special Allowances allowed under Regulation 26 of CERC Tariff Regulations 2019.
4a	Decap against B.1.4 above		-1.69	-15.25	-16.95	-	-16.95	-	
5	Ext. of Electrical Annex Building- 33KV Switchgear	S N Engineering Works	0.01	-	0.01	-	0.01	-	In such cases, revision of capital cost is not allowed. Therefore, these works alongwith the corresponding decap are kept under exclusion.
6	R&M of B-Type Quarters	Santay Enterprises	135.21	-	135.21	24.87	110.34	-	
6a	Decap against B.1.6 above		-0.54	-5.06	-5.59	-	-5.59	-	
7	R&M of C-Type Quarters	Raj Kishan & Co.	227.62	-	227.62	-	227.62	-	
7a	Decap against B.1.7 above		-0.61	-6.88	-8.47	-	-8.47	-	
8	R&M of D-Type Quarters	A K Verma	538.63	-	538.63	67.07	471.55	-	
8a	Decap against B.1.8 above		-0.87	-8.76	-9.63	-	-9.63	-	
9	R&M D/LP Bypass Internals	Control Component India Pvt. Ltd.	0.07	-0.07	-	-	-	-	
10	R&M D/DW Cooler Plates	SPX Flow Technology India Pvt. Ltd.	2.05	0.01	2.07	0.09	1.98	-	
	Subtotal (B.1)		6,937.74	-673.78	6,263.96	1,814.73	4,449.23	-	
B.2	Capitalization of Capital Spares		7,070.89	-	7,070.89	69.60	7,001.29	-	Capitalization of spares beyond out-off date is not admissible as per Tariff Regulations 2019 accordingly the capitalization of these spares are claimed under exclusion. Hon'ble Commission may be pleased to allow the same.
			-16598.43						
B.3	Decap of MBOAs: Not Part of Capital Cost		-35.17	-78.22	-113.39	-	-113.39	-	Justification given in 'Form-I (9B) 23-24'
B.4	Decap of Spares: Not Part of Capital Cost		-95.74	-	-95.74	-	-95.74	-	Justification given in 'Form-I (9B) 23-24'
B.5 Ind AS Adjustment									
1	Overhauling		20.33	-20.33	-	-	-	-	This Capitalisation is on account of Change in Accounting Practice. Therefore, it is kept under exclusion. Hon'ble Commission may be pleased to allow the same under exclusion.
2	Decap of OH Assets		-	-	-	-	-	-	
	Subtotal(B.5)		20.33	-20.33	-	-	-	-	
B.6	Inter Unit Transfer								As per practice, the Hon'ble Commission is not considering the Inter unit transfers for tariff, hence kept under exclusion. Hon'ble Commission may be pleased to allow the same.

परिमल शर्मा / PARIMAL PYUSKOTI
 Addl. General Manager (Commercial)
 एन टी पी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

1	Plant & Machinery- From Talcher Thermal Power Station to Rihand		7.59	-	7.59	-	7.59	-	
	Subtotal(B.6)		7.59	-	7.59	-	7.59	-	
B.7	Loan ERV		187.86	-	187.86	-	187.86	-	As per DERC Tariff Regulations 2018, NTPC can directly claim ERV on Foreign Currency Loans from beneficiaries. Therefore, FERV has been kept under exclusion. Hon'ble Commission may be pleased to allow the same.
B.8	Reversal of Liability		-0.01	-	-0.01	-0.01	-	-	Since, tariff is on cash basis, liability reversal is kept under exclusion.
	Total Exclusion Claimed (B)		14,093.50	-772.33	13,321.17	1,884.33	11,436.84	-	



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-9A, Sector-24, Noida-201301 (U.P.)

Statement of Capital cost

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Nikard Super Thermal Power Station (Stage-I)
COD	01-01-1991
For Financial Year	2019-20

Sl. No.	Particulars	2019-20			2020-21			2021-22			2022-23			2023-24		
		Accrual Basis	Un-discharged Liabilities	Cash Basis	Accrual Basis	Un-discharged Liabilities	Cash Basis	Accrual Basis	Un-discharged Liabilities	Cash Basis	Accrual Basis	Un-discharged Liabilities	Cash Basis	Accrual Basis	Un-discharged Liabilities	Cash Basis
A	ii) Opening Gross Block Amount as per books	2,88,372.69	465.32	2,87,907.37	2,83,574.09	1,583.35	2,91,990.73	2,84,831.64	1,620.90	2,93,911.34	2,87,853.51	1,113.04	2,90,548.47	3,20,893.98	8,876.22	3,14,076.14
	iii) Amount of IDC in (A)ii) above	824.11	-	-	824.11	-	-	824.11	-	-	824.11	-	-	824.11	-	-
	iv) Amount of FD in (A)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v) Amount of FRPV in (A)ii) above	-772.41	-	-	-772.41	-	-	-772.41	-	-	-772.41	-	-	-772.41	-	-
	vi) Amount of Hedging Cost in (A)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii) Amount of BOC in (A)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	ii) Addition in Gross Block Amount during the period (Net of Depreciation)	2,677.24	132.29	1,804.79	-419.64	186.63	-525.47	3,121.97	289.70	2,893.28	0,700.00	4,874	5,034.85	8,427	1,942	1,385.24
	iii) Amount of IDC in (B)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv) Amount of FD in (B)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v) Amount of FRPV in (B)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vi) Amount of Hedging Cost in (B)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii) Amount of BOC in (B)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	ii) Addition in Gross Block Amount during the period (Transferred from CWP)	3,485.95	688.58	2,776.48	3,457.43	32.78	3,424.65	362.65	-	542.88	15,276.34	171.33	15,104.81	9,216.13	1,868	6,348.62
	iii) Amount of IDC in (C)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv) Amount of FD in (C)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v) Amount of FRPV in (C)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vi) Amount of Hedging Cost in (C)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii) Amount of BOC in (C)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	ii) Deletion in Gross Block Amount during the period	341.41	-	341.41	1,881.04	-	1,881.04	862.76	-	862.76	2,085.58	-	2,085.58	1,420.94	-	1,420.94
	iii) Amount of IDC in (D)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv) Amount of FD in (D)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	v) Amount of FRPV in (D)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vi) Amount of Hedging Cost in (D)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii) Amount of BOC in (D)ii) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	ii) Closing Gross Block Amount as per books	3,83,574.09	1,583.35	2,91,990.73	2,84,831.64	1,620.90	2,93,911.34	2,87,853.51	1,113.04	2,90,548.47	3,20,893.98	9,575.22	3,14,076.14	3,35,776.29	8,111.83	3,27,663.41
	iii) Amount of IDC in (E)ii) above	824.11	-	-	824.11	-	-	824.11	-	-	824.11	-	-	824.11	-	-
	iv) Amount of FD in (E)ii) above	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-
	v) Amount of FRPV in (E)ii) above	-772.41	-	-	-772.41	-	-	-772.41	-	-	-772.41	-	-	-772.41	-	-
	vi) Amount of Hedging Cost in (E)ii) above	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-
	vii) Amount of BOC in (E)ii) above	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-	0.00	-	-

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Statement of Capital Works in Progress

Name of the Petitioner		NTPC Limited															
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I															
COD		01-01-1991															
For Financial Year		2019-24															
Sl. No.	Particulars	2019-20			2020-21			2021-22			2022-23			2023-24			(Rs Lakh)
		Accrual Basis	Un-discharge d Liabilities	Cash Basis	Accrual Basis	Un-discharge d Liabilities	Cash Basis	Accrual Basis	Un-discharge d Liabilities	Cash Basis	Accrual Basis	Un-discharge d Liabilities	Cash Basis	Accrual Basis	Un-discharge d Liabilities	Cash Basis	
A	a) Opening CWIP as per books	1,744.07	310.98	1,433.09	3,554.44	451.06	3,103.38	4,418.36	530.32	3,888.05	18,034.82	2,683.27	15,351.55	21,481.19	4,644.77	16,836.42	
	b) Amount of IDC in A(a) above	-	-	-	-	-	-	-	-	-	-	-	-	94.35	-	-	
	c) Amount of FC in A(a) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	d) Amount of FERV in A(a) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	e) Amount of Hedging Cost in A(a) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	f) Amount of IEDC in A(a) above	-	-	-	-	-	-	-	-	-	-	-	-	-	120.47	-	
B	a) Addition in CWIP during the period	5,276.34	881.87	4,394.47	4,321	402	3,919.78	14,179	2,312	11,867.82	18,723	3,752	14,970.38	38,228	5,508	32,830.60	
	b) Amount of IDC in B(a) above	-	-	-	-	-	-	-	-	-	94	-	-	525	-	-	
	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	-	-	-	-	-	-	-	-	-	120	-	-	337	-	-	
	f) Amount of IEDC in B(a) above	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
C	a) Transferred to Gross Block Amount during the period	3,466.96	689.50	2,776.46	3,457	33	3,424.66	563	-	662.68	15,276	172	15,104.81	8,216	1,868	6,348.62	
	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	3,554.44	451.06	3,103.38	4,418.36	530.32	3,888.05	18,034.82	2,683	15,351.55	21,481.19	4,644.77	16,836.42	51,493.43	7,663	43,830.05	
	b) Amount of IDC in E(a) above	-	-	-	-	-	-	-	-	-	94.35	-	-	619.23	-	-	
	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	-	-	-	-	-	-	-	-	-	120.47	-	-	457.66	-	-	



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I						
(Amount in Rs Lakh)								
S. No.	Particulars		2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2		3	4	5	6	7	8
1	Gross Normative loan – Opening	A	1,22,031.07	1,23,070.09	1,23,156.05	1,23,106.81	1,22,888.32	1,24,032.37
2	Cumulative repayment of Normative loan up to previous year	B	1,22,008.75	1,21,867.13	1,21,959.99	1,21,859.44	1,21,692.95	1,21,108.10
3	Net Normative loan – Opening	C=A-B	22.32	1,202.96	1,196.06	1,247.37	1,195.37	2,924.27
4	Add: Increase due to addition during the year / period	D	1,134.88	168.92	96.86	41.45	1,910.18	939.95
5	Less: Decrease due to de-capitalisation during the year / period	E	103.59	82.96	207.09	281.37	774.45	233.17
6	Less: Decrease due to reversal during the year / period	F		-	-	-	-	-
7	Add: Increase due to discharges during the year / period	G	7.74	-	61.00	21.43	8.32	42.72
8	Normative Loan Closing	H=C+D-E-F+G	1061.35	1288.92	1146.82	1028.88	2339.42	3673.79
9	Repayment of Loan during the year	I	44.84	175.82	106.55	114.87	189.60	299.02
10	Repayment adjustment on account of decapitalization	J	186.46	82.96	207.09	281.37	774.45	233.17
11	Net Repayment of loan during the year	K=I-J	-141.62	92.86	-100.54	-166.49	-584.85	65.85
12	Net Normative loan - Closing	L=H-K	1,202.97	1,196.06	1,247.37	1,195.37	2,924.27	3,607.94
13	Average Normative loan	M=Average(C,L)	612.64	1,199.51	1,221.72	1,221.37	2,059.82	3,286.11
14	Weighted average rate of interest	N	8.296%	8.084%	6.750%	6.363%	7.193%	7.570%
15	Interest on Loan	O=MxN	50.82	96.96	82.47	77.71	148.16	247.24
15	Cumulative repayment of Normative loan at the end of the period	P=B+K	1,21,867.13	1,21,959.99	1,21,859.44	1,21,692.95	1,21,108.10	1,21,173.95



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Calculation of Interest on Working Capital

Name of the Company :	NTPC Limited
Name of the Power Station :	Rihand Super Thermal Power Station Stage-I

(Amount in Rs Lakh)

S. No.	Particulars	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Cost of Coal/Lignite	10,725.40	10415.22	10497.99	10461.92	10976.74	11431.14
2	Cost of Main Secondary Fuel O	330.80	366.50	328.70	281.27	359.90	511.42
3	Fuel Cost						*
4	Liquid Fuel Stock						
5	O & M Expenses	1,739.66	2134.18	2257.74	2254.59	2398.94	2778.36
6	Maintenance Spares	4,175.19	5122.03	5418.59	5411.01	5757.45	6668.06
7	Receivables	23,185.61	17381.21	17608.65	17490.31	18387.25	19703.80
8	Total Working Capital	40156.67	35419.13	36111.66	35899.10	37880.27	41092.78
9	Rate of Interest	13.50%	12.05%	11.25%	10.50%	10.50%	12.00%
10	Interest on Working Capital	5421.15	4268.01	4062.56	3769.40	3977.43	4931.13



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Add. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Annexure II Name of the Generating Station									Rs. Lakhs	
Sl. No.	Name of the Party	Name of the work	Year of creation of liability reflected in Annexure II	Unabridged liabilities relating to 01.01.2018	Addition to additional capitalization for 2018-19	Conductance BYI updates	Discharge during the year 2018-19	Total discharge	Unabridged liabilities relating to 01.01.2019	Rs. Lakhs
										20
1	S&S Engineering	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2018-18	1,56,00,000					1,56,00,000	20
2	KOODENNA SHW LTD	GAS ALONG WITH CONTROL SYSTEM PACKAGE FOR RMR SCH- 6-2	2010-11							21
3	S&S ENGINEERS	Replacement of existing TRU (TRU) with with indigenous motor	2013-13							22
4	SCHNEIDER ELECTRIC INDIA PVT LTD		2013-13							23
5	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2013-13	1,36,00,000					1,36,00,000	24
6	LIPTUL	Supply of High Speed Diesel Engine for 1500 KW	2013-13	1,40,00,000					1,40,00,000	25
7	S&S INTERNATIONAL LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2014-14	21,00,000					21,00,000	26
8	S&S INTERNATIONAL LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2014-14							27
9	S&S INTERNATIONAL LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2014-14							28
10	S&S INTERNATIONAL LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2014-14	50,00,000					50,00,000	29
11	KOODENNA SHW LTD	GAS ALONG WITH CONTROL SYSTEM PACKAGE FOR RMR SCH- 6-2	2015-15							30
12	S&S ENGINEERS	Supply of High Speed Diesel Engine for 1500 KW	2015-15							31
13	KOODENNA SHW LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							32
14	S&S INTERNATIONAL LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15	42,14,750					42,14,750	33
15	VINODHA CONSTRUCTION	Supply, installation and commissioning of Gears, Motors and Controllers of Generator Set	2015-15							34
16	LIPTUL ENTERPRISES	Replacement of High Speed Diesel Engine for 1500 KW	2015-15							35
17	Engineering Services	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							36
18	S&S TECHNOLOGY CORP	Procurement & Installation of HR System	2015-15							37
19	SIEMENS CONTROL SYSTEMS INDIA LTD	ELECTRICAL ACTIVATION COMPLETE AND STARTUP	2015-15							38
20	SIEMENS CONTROL SYSTEMS INDIA LTD	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							39
21	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							40
22	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							41
23	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							42
24	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							43
25	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							44
26	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							45
27	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							46
28	LIPTUL ENTERPRISES	Supply of High Speed Diesel Engine for 1500 KW	2015-15							47
29	SCHNEIDER ELECTRIC INDIA PVT LTD	Supply of High Speed Diesel Engine for 1500 KW	2015-15							48
30	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							49
31	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							50
32	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							51
33	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							52
34	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							53
35	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							54
36	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							55
37	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							56
38	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							57
39	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							58
40	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							59
41	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							60
42	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							61
43	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							62
44	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							63
45	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							64
46	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							65
47	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							66
48	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							67
49	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							68
50	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							69
51	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							70
52	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							71
53	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							72
54	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							73
55	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							74
56	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							75
57	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							76
58	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							77
59	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							78
60	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							79
61	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							80
62	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							81
63	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							82
64	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							83
65	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							84
66	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							85
67	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							86
68	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							87
69	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							88
70	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							89
71	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							90
72	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							91
73	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							92
74	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							93
75	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							94
76	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							95
77	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							96
78	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							97
79	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							98
80	S&S ENGINEERS	ESTIMATION OF CAPITAL ASSET UNDER CONSTRUCTION	2015-15							99

परिमल पीयूष / PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)



List of Capital Expenditure							Particulars	
Name of the Generating Station							Account in Rs.	
Sl. No.	Name of the Party	Name of the work	Year of completion of facility registered in Green Book	SDDY in additional capitalization for 2020-21	Contracted SDDY updated	Discharge during the year 2020-21	Total discharge	
							By Payment	By Retained
70	71	72	73	74	75	76	77	78
1	LEAD CONSTRUCTION	PIPE HOLD LAND PLANTHOUSE	2008-09	-	-	-	-	1,80,000
2	YOKOGAWA INDIA LTD	DAS ALONG WITH CONTROL SYSTEM PACKAGE FOR SARA SCA & D	2010-11	-	-	-	-	-
3	SIEMENS LTD	Replacement of existing 1000 station based with automatic breaker	2012-13	-	-	-	-	-
4	SIEMENS ELECTRIC INDIA PVT LTD	10000	2012-13	-	-	-	-	-
5	SACHAL INFRASTRUCTURES	10000	2013-14	-	-	-	-	-
6	SIEMENS	10000	2013-14	-	-	-	-	1,80,000
7	SIEMENS	10000	2013-14	-	-	-	-	1,80,000
8	K N INTERNATIONAL LTD	10000	2014-15	-	-	21,50,000	21,50,000	-
9	SIEMENS ELECTRIC INDIA PVT LTD	10000	2014-15	-	-	-	-	-
10	SIEMENS	10000	2014-15	-	-	-	-	1,80,000
11	YOKOGAWA INDIA LTD	DAS ALONG WITH CONTROL SYSTEM PACKAGE FOR SARA SCA & D	2015-16	-	-	-	-	-
12	SACHAL INFRASTRUCTURES	Basic Work for Testing of MAD (agent)	2015-16	-	-	-	-	-
13	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
14	K N INTERNATIONAL LTD	10000	2015-16	-	-	20,70,000	20,70,000	20,70,000
15	INDIYA CONSTRUCTION	10000	2015-16	-	-	-	-	-
16	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
17	Redbus Capital	10000	2015-16	-	-	-	-	-
18	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
19	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
20	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
21	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
22	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
23	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
24	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
25	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
26	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
27	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
28	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
29	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
30	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
31	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
32	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
33	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
34	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
35	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
36	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
37	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
38	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
39	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
40	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
41	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
42	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
43	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
44	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
45	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
46	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
47	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
48	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
49	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
50	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
51	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
52	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
53	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
54	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
55	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
56	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
57	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
58	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
59	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
60	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
61	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
62	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
63	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
64	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
65	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
66	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
67	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
68	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
69	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
70	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
71	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
72	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
73	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
74	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
75	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
76	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
77	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
78	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-
79	SIEMENS ELECTRIC INDIA PVT LTD	10000	2015-16	-	-	-	-	-

श्री अरवि कुमार / PARIMAL PIYUSH
 Addl. General Manager (Engineering)
 एन टी पी सी लिमिटेड (Commercial)
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)



Part A									
Financial Statement									
Statement of Financial Position (Balance Sheet)									
Particulars									
As at 31st March 2014									
Amount in Rs.									
Sl. No.	Name of the Party	Name of the work	Year of completion of the work as per Bill of Materials	Unbilled amount as per Bill of Materials	Safety in additional applications for 2013-14	Contractors EMI	Outstanding during the year 2013-14	Total discharge	Unbilled amount as per Bill of Materials
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Joint Commission	TRASHES AND PLANTWORK	2008-09	1,00,00,000	-	-	-	-	1,00,00,000
2	YOKOGAWA INDIA LTD	DAS ALONG WITH CONTROL SYSTEM FACADE FOR NEM BCH #2	2010-11	-	-	-	-	-	-
3	SIEMENS LTD	Replacement of existing 110kV Gas Insulated substation	2010-12	-	-	-	-	-	-
4	SCHNEIDER ELECTRIC INDIA PVT LTD	1st RISING OF CENTRAL ASP DOME	2010-12	-	-	-	-	-	-
5	SACHS INFRASTRUCTURE	1st RISING OF CENTRAL ASP DOME	2010-12	-	-	-	-	-	-
6	JOYAL	1st RISING OF CENTRAL ASP DOME	2010-12	1,00,00,000	-	-	-	-	1,00,00,000
7	JOYAL	1st RISING OF CENTRAL ASP DOME	2010-12	1,40,00,000	-	-	-	-	1,40,00,000
8	K H INTERNATIONAL LTD	1st RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
9	MAJOR PHOSPHATE CORPORATION	1st RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
10	MAJOR PHOSPHATE CORPORATION	1st RISING OF MYRINE ASP DOME	2010-12	1,00,00,000	-	-	-	-	1,00,00,000
11	YOKOGAWA INDIA LTD	DAS ALONG WITH CONTROL SYSTEM FACADE FOR NEM BCH #2	2010-12	-	-	-	-	-	-
12	SACHS INFRASTRUCTURE	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
13	CONCEPT ENGINEERING LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
14	K H INTERNATIONAL LTD	2nd RISING OF MYRINE ASP DOME	2010-12	30,00,000	-	30,00,000	-	30,00,000	-
15	VEDAWA CONSTRUCTION	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
16	LOTUS ENTERPRISES	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
17	Electronics Control	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
18	SHI TECHNOLOGY COMSU	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
19	RYDOR CONTROLING	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
20	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
21	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
22	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	1,00,00,000	-	-	-	-	1,00,00,000
23	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	1,40,00,000	-	-	-	-	1,40,00,000
24	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
25	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
26	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
27	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
28	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
29	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
30	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
31	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
32	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
33	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
34	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
35	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
36	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
37	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
38	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
39	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
40	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
41	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
42	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
43	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
44	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
45	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
46	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
47	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
48	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
49	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
50	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
51	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
52	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
53	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
54	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
55	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
56	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
57	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
58	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
59	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
60	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
61	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
62	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
63	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
64	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
65	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
66	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
67	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
68	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
69	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
70	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
71	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
72	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
73	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
74	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
75	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
76	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
77	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
78	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
79	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-
80	SHARAT HEAVY ELECTRICALS LTD	2nd RISING OF MYRINE ASP DOME	2010-12	-	-	-	-	-	-

परिमल शीरुष/परिमल पीयुश
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 ECC, A-8A, Sector-24, Noida-201301 (U.P.)

Annexure Form No. 1										
Name of the Issuing Station										
Name of the Generating Station										
Sl. No.	Name of the Party	Name of the work	Year of Location of facility capitalized in Gross Block	Undertaken facilities relating to 69-110 KV	Addition in additional capital base for 2022-23	Contractual EBIT addition	Discharge during the year 2022-23	Total discharge		Undertaken facilities relating to 69-110 KV
								By Payment	By Receipt	
1	2	3	4	5	6	7	8	9	10	11
1	Joint Commission	PROTECTED LEAD PLANT CONCRETE	2002-03	1,38,78,211	-	-	-	-	-	1,38,78,211
2	KODDRAVA INDA LTD	OAS ALONG WITH CONTROL SYSTEM PACKAGE FOR 8MW GEN -E2	2010-11	-	-	-	-	-	-	-
3	SIEMENS LTD	Replacement of existing 11KV system cable with aluminium cables	2012-13	-	-	-	-	-	-	-
4	KODDRAVA ELECTRIC INDIA PVT LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-9	2012-13	-	-	-	-	-	-	-
5	SACHS INFRASTRUCTURES	REPLACEMENT OF CENTRAL ASH DOME LADDER-9	2012-14	-	-	-	-	-	-	-
6	SIEMENS LTD	OAS FOR 20 MW PLANT CONCRETE	2012-14	1,80,11,441	-	-	-	-	-	1,80,11,441
7	SIEMENS LTD	Replacement of 11KV system cable with aluminium cables	2012-14	1,48,88,200	-	-	1,48,88,200	1,48,88,200	-	-
8	K INTERNATIONAL LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2014-15	-	-	-	-	-	-	-
9	SIEMENS LTD	OAS FOR 20 MW PLANT CONCRETE	2014-15	-	-	-	-	-	-	-
10	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2014-16	9,15,132	-	-	-	-	-	9,15,132
11	KODDRAVA INDA LTD	OAS ALONG WITH CONTROL SYSTEM PACKAGE FOR 8MW GEN -E2	2015-16	-	-	-	-	-	-	-
12	SACHS INFRASTRUCTURES	Subsea Work for Hoisting of 8MW Ladder	2015-16	-	-	-	-	-	-	-
13	KODDRAVA INDA LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
14	K INTERNATIONAL LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
15	VINDHA CONSTRUCTION	Hoisting, Installation and Commissioning of 8MW LADDER-1	2015-16	-	-	-	-	-	-	-
16	LOTUS ENTERPRISES	Replacement of Turbine Drive Shaft Stage 1	2015-16	-	-	-	-	-	-	-
17	INDIANA CHOKER	SHOCK SUPPLY DISTRIBUTION TESTING AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR 8MW GEN & CAP IN LEVEL OF 8MW GEN SET	2015-16	-	-	-	-	-	-	-
18	MS TECHNOLOGY CONSO	Acquisition & Installation of PA System	2015-16	-	-	-	-	-	-	-
19	SIEMENS LTD	ELECTRICAL AUTOMATIC RECOVERY SYSTEM	2015-16	-	-	-	-	-	-	-
20	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
21	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
22	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
23	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
24	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
25	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
26	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
27	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
28	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
29	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
30	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
31	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
32	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
33	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
34	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
35	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
36	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
37	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
38	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
39	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
40	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
41	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
42	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
43	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
44	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
45	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
46	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
47	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
48	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
49	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
50	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
51	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
52	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
53	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
54	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
55	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
56	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
57	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
58	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
59	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
60	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
61	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
62	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
63	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
64	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
65	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
66	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
67	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
68	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
69	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
70	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
71	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
72	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
73	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
74	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
75	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
76	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
77	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
78	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
79	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-
80	SIEMENS LTD	REPLACEMENT OF CENTRAL ASH DOME LADDER-1	2015-16	-	-	-	-	-	-	-


पारिमल पीयूष / PARIMAL PIYUSH
 37/1, गणेश-बजार (पारितोषिक)
 Addl. General Manager (Commercial)
 17/1, पी.पी. सिटी रोड / NTPC LIMITED
 ECC, A-8A, Sector-24, Noida-201301 (U.P.)

Form 5										
Name of Capital Expenditure									Particulars	
Name of the Operating Machine									Amount in Ru.	
Sl. No.	Name of the Firm	Name of the work	Year of creation of liability capitalized in Green Book	Undischarged liability existing to 31.03.2022	Liability in add'l to liability for 2022-23	Contractual SRO updated	Outgoes during the year 2022-23	Total Outgoes	Undischarged liability relating to 31.03.2023	
									By Payment	By Renewal
									100	100
1	UNIT CONSTRUCTION	INSTALLATION OF CENTRAL AIR COND. LOGGERS	2019-20	1,00,00,000						1,00,00,000
2	KHOSLA WINDA WINDA LTD	GAS ALONG WITH CONTROL SYSTEM PACKAGE FOR BM 504-2-2	2018-19	-						-
3	SIEMENS LTD	Installation of cooling ITITV system with overhead cables	2013-15							-
4	SPANDANA ELECTRIC WINDA WINDA LTD		2019-20							-
5	BAGHEL INFRASTRUCTURE	107 RACKING OF CENTRAL AIR COND LOGGERS	2013-15							-
6	SPANDANA	LIARGE HOOD LAMP FLUORESCENCE Replacement (1143 B) work 1	2019-20	1,00,00,000						1,00,00,000
7	SPANDANA	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
8	K & H INTERNATIONAL LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2013-15							-
9	SPANDANA LTD	LIARGE HOOD LAMP FLUORESCENCE Replacement (1143 B) work 2	2019-20							-
10	SPANDANA	LIARGE HOOD LAMP FLUORESCENCE Replacement (1143 B) work 3	2019-20	10,00,000						10,00,000
11	KHOSLA WINDA WINDA LTD	GAS ALONG WITH CONTROL SYSTEM PACKAGE FOR BM 504-2-2	2019-20							-
12	BAGHEL INFRASTRUCTURE	Revised Draw-145 Racking of SRO Loggers	2019-20							-
13	SPANDANA LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
14	K & H INTERNATIONAL LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
15	WINDA CONSTRUCTION	Supply, Installation and Commissioning of LIARGE HOOD LAMP FLUORESCENCE	2019-20							-
16	UDFVA ENTERPRISES	Replacement of Train Screen-20F Stage 1	2019-20							-
17	Electronics Capital	REVISION OF WIRE CONNECTIONS AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
18	BVA TECHNOLOGY CORP	Installation & Maintenance of D4 System	2019-20							-
19	WINDA CONSTRUCTION	ELECTRICAL WORKS - COMPLETE ELECTRICAL	2019-20							-
20	BAGHEL INFRASTRUCTURE	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
21	BAGHEL INFRASTRUCTURE	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
22	SPANDANA	LIARGE HOOD LAMP FLUORESCENCE Replacement (1143 B) work 4	2019-20	9,00,000						9,00,000
23	BAGHEL INFRASTRUCTURE	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
24	WINDA LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
25	WINDA LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
26	UDFVA INDUSTRIAL AGENCIES	RELY MOTOR FOR HOOD LAMP FLUORESCENCE	2019-20							-
27	INDE INDUSTRIES LTD	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
28	WINDA LTD	107 RACKING OF CENTRAL AIR COND LOGGERS	2019-20							-
29	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
30	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
31	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
32	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
33	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
34	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
35	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
36	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
37	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
38	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
39	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
40	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
41	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
42	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
43	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
44	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
45	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
46	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
47	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
48	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
49	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
50	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
51	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
52	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
53	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
54	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
55	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
56	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
57	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
58	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
59	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
60	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
61	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
62	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
63	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
64	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
65	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
66	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
67	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
68	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
69	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
70	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
71	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
72	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
73	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
74	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
75	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
76	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
77	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
78	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
79	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-
80	WINDA ELECTRIC	INSTALLATION AND COMMISSIONING OF COMPLETE VIBRATION MONITORING SYSTEM FOR THE GEB & CED IN WINDA OF STAGE 1	2019-20							-

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Add. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Particulars									Particulars	
Name of the Company									Amount in Rs.	
Sr. No.	Name of the Party	Name of the work	Year of creation of liability reported in Gross Book	Uncharged Subsidies relating to CB 10.01.2019	Liability in addition to capitalised on 10.01.2020	Contributions ERM updation	Discharge during the year 2019-20	Total discharge	Uncharged Subsidies relating to CB 10.01.2020	
									By Demand	By Receipt
									(A)	(B)
									(C)	(D)
80	National Project Construction Co	REPAIRING OF CENTRAL AIRTYME (MACHINERY)	2018-19	10,40,798	-	-	46,99,921.31	46,99,921.31	22,88,811	
81	ADARSH AUTO SALES	REPAIR TOOLS, etc. for Street	2018-19	4,81,532	-	-	48,820.00	48,820.00	5,30,352	
82	ADARSH AUTO SALES	PROCUREMENT OF INDUSTRIAL ELECTRIC	2018-19	900	-	-	900.00	900.00	-	
83	SAKSHI ENGINEERING PVT. LTD.	Procurement of Laboratory Equip.	2018-19	8,88,734	-	-	2,00,750.00	2,00,750.00	-	
84	SAKSHI ENGINEERING PVT. LTD.	BATTERY OPERATED TRUCKLEY	2018-19	48,000	-	-	-	-	48,000	
85	SHREY TEC-SOLUTIONS PVT LTD	SCADA DEVELOPMENT - COMPLETE	2018-19	2,03,000	-	-	2,50,000.00	2,50,000.00	-	
86	VISIONS SCIENTIFIC WORKS	FLUORESCENT STARTERS - HIGH TEMP.	2018-19	20,000	-	-	25,000.00	25,000.00	-	
87	TRACON NETWORKS PVT LTD	WIRELESS LAN CONTROLLER	2018-19	5,48,711	-	-	-	-	5,48,711	
88	MONARCH ELECTRONICS	Supply of Four Speed Pulley with Accessories for Pulley & Lifting of Press	2018-19	5,887	-	-	5,887.00	5,887.00	-	
89	DELTA ELECTRONICAL INDUSTRIES CO POWER AND INDUSTRIAL SOLUTIONS	Supply of 2500V CTs for Metering	2018-19	300	-	-	-	-	300	
90	DELTA ELECTRONICAL INDUSTRIES CO POWER AND INDUSTRIAL SOLUTIONS	Supply of 8000V CTs for Metering	2018-19	1,71,170	-	-	1,47,170.00	1,47,170.00	24,000	
91	LOGIC PLUS INDIA PVT LTD	Procurement of Automatic Metering/Transmit & Access System	2018-19	70,000	-	-	-	-	70,000	
92	OMEGA CONSTRUCTIVE EQUIPMENT	Supply of Diesel For Lift and Fork Lifts	2018-19	5,78,600	-	-	-	-	5,78,600	
93	OP BROAD INDUSTRIES CORPORATION LTD.	Procurement of 25 Tons Diesel Tank, Electric Generator	2018-19	48,378	-	-	40,378.00	40,378.00	-	
94	MASS TECH CONTROLS PVT LTD	Supply and installation of SCADA Charge in LTDC Station	2018-19	1,27,440	-	-	1,24,740.00	2700	1,27,440.00	
95	WATTECHNIK INSTRUMENTATION	Procurement of Logarithmic Gasflow Analyser/Module	2018-19	42,400	-	-	42,400.00	42,400.00	-	
96	ENERGY EFFICIENCY SERVICES LTD	Supply of Energy & Fuel meter	2018-19	48,000.00	-	-	-	-	48,000.00	
97	BATTERY EMPLOYEES CONSUMERS	Procurement of water purifier/RO purifier	2018-19	5,000	-	-	1,980.00	1,980.00	3,020	
98	BATTERY EMPLOYEES CONSUMERS	Procurement of fans for DSR (Television Room, lighting & House Building)	2018-19	2,475	-	-	2,475.00	2,475.00	-	
99	BATTERY EMPLOYEES CONSUMERS	Procurement of 90-ton LED Tils	2018-19	1,300	-	-	1,300.00	1,300.00	-	
100	BATTERY EMPLOYEES CONSUMERS	Procurement of Gas Fryer	2018-19	645	-	-	640.00	640.00	-	
101	CONTROL SYSTEMS CONSULTANTS	Procurement of Laboratory Gas Analyzer	2018-19	1,88,150	-	-	1,88,150.00	1,88,150.00	-	
102	SE POWER INDIA LTD	Procurement of physicochemical equipment	2018-20	-	19,700.00	-	-	-	19,700	
103	SE POWER INDIA LTD	Replacement of SW Shed to 33-1 Generators	2019-20	-	40,17,400.00	-	-	-	40,17,400	
104	SHREY TECH SERVICES	Supply of Diesel, Commissioning "SCADA" System of 200 Tons Diesel	2019-20	-	20,30,000.00	-	-	-	20,30,000	
105	SHARAT HEAVY ELECTRICALS LTD	Procurement of ECONOMIZER BANK FOR 100 TONS BOILER (GRADE 1) ATTPC (BANGALUR)	2019-20	-	94,57,200.00	-	-	-	94,57,200	
106	JAN INDUSTRIAL LIGHTING	Supply of Diesel, Commissioning "SCADA" System of 200 Tons Diesel	2019-20	-	10,88,000.00	-	-	-	10,88,000	
107	TRANGA CONSTRUCTION	Job Contract for Economic Bank Replacement in-r/o associated jobs of	2019-20	-	22,29,200.00	-	-	-	22,29,200	
108	SHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing "SCADA" System of 200 Tons Diesel	2019-20	-	4,50,00,700.00	-	-	-	4,50,00,700	
109	SHREY TECH SERVICES	Supply of Diesel, Commissioning "SCADA" System of 200 Tons Diesel	2019-20	-	9,18,800.00	-	-	-	9,18,800	
110	DELTA TECH-SOLUTIONS PVT LTD	Procurement of SCADA for supply of diesel	2019-20	-	2,81,900.00	-	-	-	2,81,900	
111	NETWORK WALL TECHNOLOGIES PVT. LTD	Supply, installation, Commissioning, PM & O&M of Microsoft Azure Cloud services, Storage, DNS, Route and related infrastructure setup at various sites, DC and DR (Hyderabad/Chennai)	2019-20	-	5,48,500.00	-	-	-	5,48,500	
112	SE POWER INDIA LTD	Replacement of SW Shed to 33-1 Generators	2020-21	-	-	-	-	-	-	
113	TRANGA CONSTRUCTION	Job-Contract for Economic Bank Replacement in-r/o associated jobs of	2020-21	-	-	-	-	-	-	
114	SHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing "SCADA" System of 200 Tons Diesel	2020-21	-	-	-	-	-	-	
115	SHREY CONSTRUCTION EQUIPMENT	Supply of Diesel For Lift and Fork Lifts	2020-21	-	-	-	-	-	-	
116	MASS TECH CONTROLS PVT LTD	Procurement of Battery Charger	2020-21	-	-	-	-	-	-	
117	MASS TECH CONTROLS PVT LTD	REQUIREMENT OF 21.5 TONS GENERATOR FOR LTDC STATION	2020-21	-	-	-	-	-	-	
118	CHIRAB ELECTRICALS PVT LTD	Procurement of Battery Charger	2020-21	-	-	-	-	-	-	
119	CHIRAB ELECTRICALS PVT LTD	Procurement of Two (2) Diesel Aera Pump with 100-150 GPM capacity	2020-21	-	-	-	-	-	-	
120	CHIRAB CONSTRUCTION	Procurement of PIP Meter Pump for LTDC Station, Hyderabad (Grade 1)	2020-21	-	-	-	-	-	-	
121	CHIRAB CONSTRUCTION	Procurement of PIP Meter Pump for LTDC Station, Hyderabad (Grade 1)	2020-21	-	-	-	-	-	-	
122	CHIRAB CONSTRUCTION	Procurement of PIP Meter Pump for LTDC Station, Hyderabad (Grade 1)	2020-21	-	-	-	-	-	-	
123	RAMANI INSTRUMENTS PVT LTD	Replacement of Existing Hydrogen Burn Unit (Hydrogen) System	2020-21	-	-	-	-	-	-	
124	Energy Zone India Pvt Ltd	SCADA SYSTEM COMPLETE ERM SUBMIT	2021-22	-	-	-	-	-	-	
125	JOYTS BRICK COMPANY LTD-INDIA	ROTT TRACK 4004 4 WHEELS	2021-22	-	-	-	-	-	-	
126	KOTH TURBO PVT LTD	MCHRD CONCRETE AGG+ ST-1	2021-22	-	-	-	-	-	-	
127	SHREY ENGINEERING PVT LTD	BATTERY CHARGER 204 220V, 100A	2021-22	-	-	-	-	-	-	
128	SCADA PUMPS LTD	CONCRETE PUMP BODY EXISTING MOTOR STOP	2021-22	-	-	-	-	-	-	
129	SE POWER INDIA LTD	RF STOP/GO STRONGER WITH FIBRE OPTICS	2021-22	-	-	-	-	-	-	
130	KONDA SOLVANT INDIA PVT LTD	20 FAN ASSEMBLY 50" X 1"	2021-22	-	-	-	-	-	-	
131	KONDA SOLVANT INDIA PVT LTD	20 FAN ASSEMBLY SUBSIDIARY 50" X 1"	2021-22	-	-	-	-	-	-	
132	SEGA WASTE HANDLING SUPPLY	De-Mineralizer Plant - 100gality capacity	2021-22	-	-	-	-	-	-	
133	Fluoride Power Ltd	PROCUREMENT OF TE INVERTING ASSEMBLY FOR CAP OF STPC REMARD	2022-23	-	-	-	-	-	-	
134	KONDA SOLVANT INDIA PVT LTD	10 FAN CORE 500 MM 50"	2022-23	-	-	-	-	-	-	
135	SHREY ENGINEERING PVT LTD	SUPPLY OF HYDROGEN PUMP OF FIBRE FEEDERS OF STPC REMARD	2022-23	-	-	-	-	-	-	
136	SEGA WASTE HANDLING SUPPLY	Replacement of Magnet Unit (20" X 1" Ballast Area, Below for	2022-23	-	-	-	-	-	-	
137	SHREY INSTRUMENT CO PVT LTD	PROCUREMENT OF PROSPATE ANALYSER FOR GANDI INVERTING	2022-23	-	-	-	-	-	-	
138	Chirab India Pvt Ltd	Removal and Installation of Fire Detection (In-r/o) Publicity System	2022-23	-	-	-	-	-	-	
139	SEGA LIMITED	Supply of Engine Assembly model 050110-1 subject to SC-10 model 0501	2022-23	-	-	-	-	-	-	
140	MAKAR & CO	PROCUREMENT OF HYDROGEN PUMP PLATFORM PUMP FOR LIGHTING	2022-23	-	-	-	-	-	-	
141	Mi Systems International Pvt Ltd	Engineering, Supply, Erection, Commissioning and Testing of Automatic	2022-23	-	-	-	-	-	-	
142	CONTROL SYSTEMS CONSULTANTS	Procurement of Spare for HP of Battery Station	2022-23	-	-	-	-	-	-	

पारिमल पीयूष / PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Part 1 Part B Account 4.1.1.1									
Type of Capital Expenditure									
Name of the Beneficiary Entity									
Sr. No.	Name of the Party	Name of the work	Year of creation of liability (applicable in Greenfield)	Liability in addition to existing liability for 2020-21	Contract/ ERM initiation	Disbursement during the year 2020-21	Total Discharge	Unchanged liabilities relating to GB till 31.03.2021	
							By Payment	By Renewal	
							070	071	072
							073	074	075
80	Infiniti (Prestige) Construction Co	PRO FACILITY OF CENTRAL RESERVE	2019-19					21,04,813	
81	ADONIS ELECTRO	PROVISION OF 1000V TO 10KV	2019-19					3,06,228	
82	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
83	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
84	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19			40,000	40,000	-	
85	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
86	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
87	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
88	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
89	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
90	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19			30,000	30,000	-	
91	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					10,000	
92	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					5,79,608	
93	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
94	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
95	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
96	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
97	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
98	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
99	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
100	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
101	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
102	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
103	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
104	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
105	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
106	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
107	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
108	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
109	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
110	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
111	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19			4,38,848	4,38,848	1,00,713	
112	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
113	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
114	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
115	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
116	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
117	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
118	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
119	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
120	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
121	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
122	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
123	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
124	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
125	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
126	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
127	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
128	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
129	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
130	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
131	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
132	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
133	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
134	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
135	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
136	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
137	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
138	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
139	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
140	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
141	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
142	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
143	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	
144	ADONIS AUTO-SERVE	PROVISION OF ROBOTIC	2019-19					-	

परिमल पीयूष / PARIMAL PIYUSH
 Addl. General Manager (Commercial)
 एच.टी.पी. सी.पी. सिंगलिंग / NTPC LIMITED
 EOC, A-9A, Sector-24, Noida-201301 (U.P.)

Part I									
Part A									
Scheme in Rs.									
List of Energy services									
Name of the Generating Station									
Sr. No.	Name of the Party	Name of the work	Year of completion of facilities captioned in Order Book	Installment facilities relating to CB 1104 2021	Installment in additional distribution for 2021-22	Compliance 2021 updates	Discharge during the year 2021-22	Total discharge	Discharged facilities relating to CB 1104 2021
						By Payment		By Reverse	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
80	Nature Energy construction co	WPC 600/50 DP-CENTRAL ASH OVER LAYERS-II	2019-19	32,08,812	-	-	-	-	32,08,812
81	MANG TAD SODA LTD	4000+1200V LTA in Island	2018-19	3,38,208	-	-	3,38,208	3,38,208	-
82	MOHARAL AUTO SALES	PROCUREMENT OF IDENTICAL BATTERIES	2018-19	-	-	-	-	-	-
83	SOE HOLDING INDIA PVT LTD	Procurement of Tubular Metal	2018-19	-	-	-	-	-	-
84	INDIANA STEEL AUTO TRUCKS LTD.	BATTERY OPERATED TRUCKS	2018-19	-	-	-	-	-	-
85	ORBIT TECHNOLOGIES PVT LTD.	CONCRETE CURBING, COMPLETE ASST	2018-19	-	-	-	-	-	-
86	WISSONS SCIENTIFIC WORKS	FURNITURE STANDARD-4000 TENDR	2018-19	-	-	-	-	-	-
87	TANTON INSTRUMENTS LTD	INSTALLING LABORATORY EQUIP	2018-19	5,40,111	-	-	5,40,111	5,40,111	-
88	MONARCH ELECTRONICS	Supply of 1000 Series Pump with Accessories for Filling & Filling of Pool Tankers	2018-19	-	-	-	-	-	-
89	ORBIT ELECTRICAL EQUIPMENTS	Supply of 1500V Latching Assembly	2019-19	100	-	-	100	100	-
90	CO POWER 4 IND-INDUSTRIAL SOLUTIONS	Supply of 400V CTs for Island	2019-19	-	-	-	-	-	-
91	LOGAN PUMP PUMP INDIA PVT LTD	Procurement of Assembly Working Chemical & Analysis System	2018-19	18,000	-	-	18,000	18,000	-
92	OMEGA CONSTRUCTION EQUIPMENT	Supply of Diesel Pumps and Accessories	2019-20	5,78,600	-	-	5,78,600	5,78,600	-
93	CP SMALL INDUSTRIES CONSTRUCTION LTD.	Procurement of 20 Tons, Sensor Tank, Battery Storage	2019-19	-	-	-	-	-	-
94	MANUTECH CONTROLS PVT LTD	Supply and installation of AC/DC Converter at VTC, Bhubaneswar	2018-18	-	-	-	-	-	-
95	HEARTTECH AMAL CONSTRUCTION	Procurement of topography of various locations	2018-18	-	-	-	-	-	-
96	ENERGY EFFICIENCY SERVICES LTD	Supply of Energy Efficient fan	2019-19	-	-	-	-	-	-
97	INSTRIP EMPLOYEES CONSUMERS	Procurement of water purifier (Hospital Block)	2019-19	3,000	-	-	3,000	3,000	-
98	INSTRIP EMPLOYEES CONSUMERS	Procurement of items for CDF (Children, Pregnant, Widows & Handicapped)	2019-19	-	-	-	-	-	-
99	INSTRIP EMPLOYEES CONSUMERS	Procurement of 50 inch LED TV	2019-19	-	-	-	-	-	-
100	INSTRIP EMPLOYEES CONSUMERS	Procurement of Diesel Pumps	2019-19	-	-	-	-	-	-
101	CHROMAL & INSTRUMENTS CORPORATION	Procurement of Laboratory Coal Pulveriser	2019-19	-	-	-	-	-	-
102		Procurement of physicochemical (CPM) Plant & (CPM) Analyser	2019-20	19,700	-	-	-	-	19,700
103	DC POWER INDIA LTD	Replacement of 500 kVA in 5+1 Generators	2019-20	40,11,400	-	-	-	-	40,11,400
104	NEW ENDS ENTERPRISES	Supply, Erection, Commissioning 1000 HP Turbine at 3000000W	2018-20	1,07,308	-	-	1,07,308	1,07,308	-
105	BHARAT HEAVY ELECTRICALS LTD	Procurement of 10000KVA BANK FOR 600 MVA BOILER STAGE I (VTRC BANGALORE)	2019-20	-	-	-	-	-	-
106	JAIN INDUSTRIAL LIGHTING	Supply, Erection, Commissioning 1000 HP Turbine at 3000000W	2019-20	2,70,000	-	-	2,70,000	2,70,000	-
107	TRANGA CONSTRUCTION	Job Carded for Economic Bulk Replacement 1000 HP Assistant jobs of	2019-20	6,26,874	-	-	-	-	6,26,874
108	BHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing 1000 HP Turbine at 3000000W	2019-20	60,20,000	-	-	-	-	60,20,000
109	TRANGA CONSTRUCTION	Job Carded for Economic Bulk Replacement 1000 HP Assistant jobs of	2019-20	6,26,874	-	-	-	-	6,26,874
110	DE POWER INDIA LTD	Replacement of 500 kVA in 5+1 Generators	2020-21	20,26,726	-	-	20,26,726	20,26,726	-
111	TRANGA CONSTRUCTION	Job Carded for Economic Bulk Replacement 1000 HP Assistant jobs of	2020-21	20,50,891	-	-	14,70,218	14,70,218	6,80,673
112	BHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing 1000 HP Turbine at 3000000W	2020-21	1,71,825	-	-	-	-	1,71,825
113	OMEGA CONSTRUCTION EQUIPMENT	Supply of Diesel Pumps and Accessories	2020-21	24,18,208	-	-	20,67,498	20,67,498	3,50,710
114	MANUTECH CONTROLS PVT LTD	Procurement of Battery Chargers	2020-21	33,000	-	-	33,000	33,000	-
115	M.K. ASSOCIATES	Procurement of 400 LITRE TANK (BANGALORE FOR LOGIC BANGALORE)	2020-21	26,98,171	-	-	20,00,072	20,00,072	6,98,099
116	OMNIB ELECTRONICS PVT LTD	Procurement of Battery Charge	2020-21	68,428	-	-	44,328	44,328	24,100
117	CREATIVE CONNECTION	Procurement of Two 1000000 KVA Pumps (2000 HP) for 20000000W	2020-21	1,10,000	-	-	-	-	1,10,000
118	SOE SERVICE TECHNOLOGIES PVT LTD	Procurement of 1000 HP Pump for Tanker (SOLING, Assam at Stage 1)	2020-21	23,71,800	-	-	23,71,800	23,71,800	-
119	LAFRON INDUSTRIAL INDUSTRIES	Procurement of Portable HTP Analyser	2020-21	-	-	-	-	-	-
120	RAMAN INSTRUMENTS PVT LTD	Replacement of Cooling Water Pump (at Mahanadi Pump Station)	2020-21	6,07,898	-	-	6,07,898	6,07,898	-
121	Chitra Zonal India Pvt Ltd	REPAIR & COMPLETE LINE ASSEMBLY	2021-22	-	8,26,888	-	-	-	8,26,888
122	COPTO ENGG COMPANY LTD (BONGAI)	800 TRUCK 4000 4 WHEELER	2021-22	-	18,188	-	-	-	18,188
123	VOITH TURBO PVT LTD	CONCRETE CURBING ASST ST-1	2021-22	-	88,841	-	-	-	88,841
124	OMEGA ENGINEERING PVT LTD	BATTERY CHARGER 3PH, 330V, 1200A	2021-22	-	1,77,400	-	-	-	1,77,400
125	WATER PUMPS LTD	CONCRETE PUMP/ASST/CONCRETE MIXER/GENERATOR	2021-22	-	8,79,188	-	-	-	8,79,188
126	DC POWER INDIA LTD	HP 5000 KVA STEAMER WITH PUMPS AND TANKS	2021-22	-	81,14,800	-	-	-	81,14,800
127	WATER SOLVENT INDIA PVT LTD	50 FAX ASP 800 ASST ST-1	2021-22	-	88,38,000	-	-	-	88,38,000
128	WATER SOLVENT INDIA PVT LTD	50 FAX ASP 800 SUBSESS ST-1	2021-22	-	87,28,000	-	-	-	87,28,000
129	WATER SOLVENT INDIA PVT LTD	50-Maintenance Pump-1000hp capacity	2021-22	-	11,72,840	-	-	-	11,72,840
130	Water Pump Ltd	PROCUREMENT OF 1000 HP SUBSTATION ASSEMBLY FOR 5000 HP AT 1000000W	2021-22	-	-	-	-	-	-
131	WATER SOLVENT INDIA PVT LTD	50 FAX 800 800 500 500	2021-22	-	-	-	-	-	-
132	ROCKE BELMOUTH HEAVY FRANKS LIMITED	SUPPLY OF HYDRAULIC PUMP OF PRODUCE PULPERS OF 4700 (BONGAI)	2021-22	-	-	-	-	-	-
133	S & S ENGINEERING WORKS	Concrete of Stage, Level 1000 HP & 12000A (Assam, Bongaigaon)	2021-22	-	-	-	-	-	-
134	ANALYSIS INSTRUMENT CO PVT LTD	PROCUREMENT OF PHOSPHATE ANALYSER FOR 20000 HP AT 1000000W	2021-22	-	-	-	-	-	-
135	Tarjivon India Pvt Ltd	Installation and Maintenance of Fire Detection and/or Detection System	2021-22	-	-	-	-	-	-
136	WMA LIMITED	Supply of Engine Assembly (1000000 HP) 1.4 units for 1000000 HP (BONGAI)	2021-22	-	-	-	-	-	-
137	SHARMA & CO	PROCUREMENT OF HYDRAULIC PUMP PLATFORM TRUCK FOR LIGHTING BONGAI	2021-22	-	-	-	-	-	-
138	W Systems International Pvt Ltd	Engineering, Supply, Operation, Commissioning and Testing of Automatic	2021-22	-	-	-	-	-	-
139	CONCRETE COMPONENT INDIA PVT LTD	Procurement of Spares for HP of 1000000W	2021-22	-	-	-	-	-	-

परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (वार्ड/डिवीजन)
 Addl. General Manager (Commercial)
 एन टी सी वी लिमिटेड / NTPC LIMITED
 ECC, A-8A, Sector-24, Noida-201301 (U.P.)

(Handwritten Signature)

List of Capital Expenditure										Particulars
Name of the Operating Entity										Amount (₹ Lakhs)
Sl. No.	Name of the Party	Name of the work	Year of creation of liability reflected in Gross Block	Uncharged liabilities relating to Q3 21/24/2021	Addition in additional liabilities for 2022-23	Contractor's EBITD available	Discharge during the year 2022-23		Total discharge	Uncharged liabilities relating to Q3 21/24/2023
							By Payment	By Renewal		
1	2	3	4	5	6	7	8	9	10	11
89	Noida Power Generation Co	960 KW/HR OF CENTRAL ASPHE (MCC001-1)	2015-16	22,08,813	-	-	22,08,813	-	22,08,813	-
91	WASH TECH INDIA LTD	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
92	ADARSH AUTO SALES	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
93	DAE ELECTRO INDIA PVT LTD	PROVISION OF BATTERY CHARGER	2015-16	-	-	-	-	-	-	-
94	MANNING & BLAIR HYDRO TRUCKS LTD	PROVISION OF BATTERY CHARGER	2015-16	-	-	-	-	-	-	-
95	ORBIT TECHNOLOGIES PVT LTD	9600 CALCULATOR-COMplete ASSET	2015-16	-	-	-	-	-	-	-
96	SHREYAS SCIENTIFIC GEARED	ALUMINUM STEWARD 4-HDR TRUCK	2015-16	-	-	-	-	-	-	-
97	THE COLLECTOR PVT LTD	PROVISION OF BATTERY CHARGER	2015-16	-	-	-	-	-	-	-
98	MOHANCH ELECTRONICS	Supply of Four Shaver Plug with Accessories for Plating & Using of Power	2015-16	-	-	-	-	-	-	-
99	THE USE OF ELECTRICAL SOLUTIONS	Supply of 4000 WATTING ASSEMBLY	2015-16	-	-	-	-	-	-	-
100	THE USE OF ELECTRICAL SOLUTIONS	Supply of 4000 WATTING ASSEMBLY	2015-16	-	-	-	-	-	-	-
101	LOGIC PLUS INDIA PVT LTD	PROVISION OF ASSEMBLY MONITORING (ASSEMBLY) & ANALYSIS SYSTEM	2015-16	-	-	-	-	-	-	-
102	WIPAC CONSTRUCTION EQUIPMENT	Supply of Good For Life and Make-type	2015-16	3,87,300	-	-	-	-	3,87,300	-
103	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
104	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
105	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
106	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
107	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
108	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
109	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
110	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
111	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
112	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
113	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
114	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
115	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
116	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
117	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
118	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
119	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
120	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
121	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
122	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
123	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
124	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
125	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
126	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
127	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
128	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
129	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
130	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
131	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
132	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
133	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
134	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
135	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
136	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
137	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
138	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
139	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
140	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
141	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
142	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
143	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
144	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
145	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-
146	WIPAC CONSTRUCTION EQUIPMENT	PROVISION OF 2000 LTR BY BRAND	2015-16	-	-	-	-	-	-	-

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परिमल पीयूष/PRIMAL PIYUSH
 अपर मनिजमन्तर (मनिजमन्तर)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Form of Charge Certificate										Part A (Annexure I)	
Name of the Generating Station										Annexure II	
Sl. No.	Name of the Party	Name of the work	Year of creation of liability crystallized in Gross Block	Undepreciated liability value as on 31.03.2023	Liability in Additional contribution FY 2023-24	Contractual term (years)	Discharge during the year 2023-24		Total Discharge	Undepreciated liability value as on 31.03.2024	
							By Payment	By Residual			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
87	Nature Power Construction Co	WORKING OF GENERAL USE PVZ (ASSETS)	2016-17	-	-	-	-	-	-	-	
88	Nature TEC S&S	WORKING OF PVZ	2016-17	-	-	-	-	-	-	-	
89	AMRINAL AUTO SALES	PROCUREMENT OF INDUSTRIAL FUSELITE	2016-17	-	-	-	-	-	-	-	
90	SON HOLDINGS PVT LTD	Procurement of Tubular Man	2016-17	-	-	-	-	-	-	-	
91	MAHINDRA STILLER AUTO TRUCKS LTD	BATTERY CHARGER TROLLEY	2016-17	-	-	-	-	-	-	-	
92	ORBIT TECHNOLOGIES PVT LTD	SCHEMATIC DRAWINGS COMPLETE	2016-17	-	-	-	-	-	-	-	
93	WYDOWS SCIENTIFIC WORKS	FLUORANCE STANDARDS HIGH TEMP.	2016-17	-	-	-	-	-	-	-	
94	INDUSTRIAL WORKS PVT LTD	ASSEMBLY AND COMMISSIONING	2016-17	-	-	-	-	-	-	-	
95	HEMARCH ELECTRONICS	Supply of Power Cable with Accessories for Pump & Lifting of Power Transformer	2016-17	-	-	-	-	-	-	-	
96	DELTA ELECTRONICS INDUSTRIES	Supply of 11KV Lighting System	2016-17	-	-	-	-	-	-	-	
97	DELTA ELECTRONICS INDUSTRIES	Supply of 400V CTs for Meter	2016-17	-	-	-	-	-	-	-	
98	LOGIC PLUS PLUS INDIA PVT LTD	Procurement of Assets Monitoring (Automatic) & Analysis System	2016-17	-	-	-	-	-	-	-	
99	OMEGA CONSTRUCTION EQUIPMENT	Supply of Diesel Pumps and Mobile Pumps	2016-17	5,87,400	-	-	-	-	-	5,87,400	
100	OP SMALL INDUSTRIES CORPORATION LTD	Procurement of 30 nos. 1000 WATT	2016-17	-	-	-	-	-	-	-	
101	MAAT TECH CONTROLS PVT LTD	Supply and Installation of AC Drives of 5HP	2016-17	-	-	-	-	-	-	-	
102	PROFIT TECH SYSTEMS	Procurement of Upgradation of Variable Frequency Drives	2016-17	-	-	-	-	-	-	-	
103	ENERGY EFFICIENCY SERVICES LTD	Supply of Energy Efficient fan	2016-17	-	-	-	-	-	-	-	
104	WESTPH EMPLOYEES CONSUMERS	Procurement of water purifier (Industrial)	2016-17	-	-	-	-	-	-	-	
105	WESTPH EMPLOYEES CONSUMERS	Procurement of fan for CDP (Industrial) (Pump/Drumming & Press)	2016-17	-	-	-	-	-	-	-	
106	WESTPH EMPLOYEES CONSUMERS	Procurement of 30 nos LED T8s	2016-17	-	-	-	-	-	-	-	
107	WESTPH EMPLOYEES CONSUMERS	Procurement of Gas Pumps	2016-17	-	-	-	-	-	-	-	
108	CHEMICAL & INSTRUMENTS CORPORATION	Procurement of Laboratory Gas Pumps	2016-17	-	-	-	-	-	-	-	
109	GE POWER INDIA LTD	Procurement of 2000kVA 11KV/0.4KV & 2000kVA	2016-20	9,750	-	-	-	-	-	9,750	
110	GE POWER INDIA LTD	Replacement of 200 MVA 11KV Generators	2016-20	-	-	-	-	-	-	-	
111	NEW LEVEL ENTERPRISES	Supply, Erection, Commissioning, O&M, TESTING OF 2000KVA	2016-20	3,87,500	-	-	3,87,500	3,87,500	-	-	
112	SHARAT HEAVY ELECTRICALS LTD	Procurement of 2000KVA 11KV/0.4KV	2016-20	-	-	-	-	-	-	-	
113	JAN INDUSTRIAL LIGHTING	Supply, Erection, Commissioning, O&M, TESTING OF 2000KVA	2016-20	-	-	-	-	-	-	-	
114	TRINAGA CONSTRUCTION	Job Contract for Economic Bank Replacement (Supply Associated Jobs of)	2016-20	8,28,874	-	-	-	-	-	8,28,874	
115	SHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing, O&M, TESTING OF 2000KVA	2016-20	47,90,000	-	-	-	-	-	47,90,000	
116	ORBIT	Supply, Erection, Commissioning, O&M, TESTING OF 2000KVA	2016-20	87,30,000	-	-	-	-	-	87,30,000	
117	DUNARK TECHNOLOGIES PVT LTD	Engineering for the work of smooth functioning of CDP	2016-20	-	-	-	-	-	-	-	
118	NETWORK BULLS TECHNOLOGIES PVT. LTD	Supply, Installation, Commissioning, O&M and GM of 2000kVA 11KV/0.4KV	2016-20	1,06,710	-	-	1,06,710	1,06,710	-	-	
119	GE POWER INDIA LTD	Replacement of 200 MVA 11KV Generators	2020-23	-	-	-	-	-	-	-	
120	TRINAGA CONSTRUCTION	Job Contract for Economic Bank Replacement (Supply Associated Jobs of)	2020-23	8,82,310	-	-	-	-	-	8,82,310	
121	SHARAT HEAVY ELECTRICALS LTD	Design, Engineering, Manufacturing, O&M, TESTING OF 2000KVA	2020-23	1,27,828	-	-	-	-	-	1,27,828	
122	OMEGA CONSTRUCTION EQUIPMENT	Supply of Diesel Pumps and Mobile Pumps	2020-23	3,49,000	-	-	-	-	-	3,49,000	
123	MAAT TECH CONTROLS PVT LTD	Procurement of Battery Charger	2020-23	-	-	-	-	-	-	-	
124	M.A. ASSOCIATES	PROCUREMENT OF 2000 KVA TYPE GENERATOR FOR STPC PHASE	2020-23	-	-	-	-	-	-	-	
125	ORBIT ELECTRONICS PVT LTD	Procurement of Battery Charger	2020-23	-	-	-	-	-	-	-	
126	CREATIVE COMBINATION	Procurement of 2000kVA 11KV/0.4KV	2020-23	1,45,000	-	-	-	-	-	1,45,000	
127	STEAMER TECHNOLOGIES PVT LTD	Procurement of 1000 KVA Pump for 10000 gallons. Installed at 2000	2020-23	-	-	-	-	-	-	-	
128	MAHINDRA ANALYTICAL INSTRUMENTS	Procurement of Portable HPLC Analyser	2020-23	-	-	-	-	-	-	-	
129	MAHINDRA ANALYTICAL INSTRUMENTS	Procurement of Online Petroleum Drum Leak Detection System	2020-23	-	-	-	-	-	-	-	
130	Shree Jeeva India Pvt Ltd	WORKING OF COMPLETE LMS	2021-23	-	-	-	-	-	-	-	
131	JOYTS ENGG COMPANY LTD-INDIA	BUY TRUCK 4TON 4 WHEELS	2021-23	-	-	-	-	-	-	-	
132	JOYTS ENGG COMPANY LTD-INDIA	MOBILE COMPLETE 45HP ST-1	2021-23	80,848	-	-	-	-	-	80,848	
133	DUNARK TECHNOLOGIES PVT LTD	BATTERY CHARGER 3PH, 200V, 1000 A	2021-23	1,27,400	-	-	1,27,400	1,27,400	-	-	
134	SOFT PUMPS LTD	COMPLETE WORKING EXPLOSIVE MOTOR PUMP	2021-23	-	-	-	-	-	-	-	
135	GE POWER INDIA LTD	REPLACEMENT OF 2000KVA 11KV/0.4KV GENERATOR	2021-23	-	-	-	-	-	-	-	
136	SCORER SOLVENT INDIA PVT LTD	REPLACEMENT OF 2000KVA 11KV/0.4KV	2021-23	-	-	-	-	-	-	-	
137	SCORER SOLVENT INDIA PVT LTD	REPLACEMENT OF 2000KVA 11KV/0.4KV	2021-23	-	-	-	-	-	-	-	
138	ORBIT BATTERY CHARGERS LLP	Battery Charger 3PH, 200V, 1000 A	2021-23	4,07,700	-	-	4,07,700	4,07,700	-	-	
139	Fluoride Private Ltd	REPLACEMENT OF 2000 KVA 11KV/0.4KV ASSEMBLY FOR CDP OF STPC PHASE	2020-23	38,81,800	-	-	-	-	-	38,81,800	
140	SCORER SOLVENT INDIA PVT LTD	REPLACEMENT OF 2000KVA 11KV/0.4KV	2020-23	3,45,000	-	-	-	-	-	3,45,000	
141	SCORER SOLVENT INDIA PVT LTD	SUPPLY OF HYDRAULIC PUMP OF 1000 LITERS FOR STPC PHASE	2020-23	1,98,880	-	-	1,98,880	1,98,880	-	-	
142	S H ENGINEERING WORKS	Procurement of 2000 KVA 11KV/0.4KV	2020-23	1,53,280	-	-	-	-	-	1,53,280	
143	ANALYSER INSTRUMENT CO PVT LTD	PROCUREMENT OF ANALYSER ASSEMBLY FOR 2000 KVA STPC PHASE	2020-23	28,98,000	-	-	28,98,000	28,98,000	-	28,98,000	
144	VALVED INDIA PVT LTD	Removal and Installation of 2000 KVA 11KV/0.4KV	2020-23	38,21,040	-	-	38,21,040	38,21,040	-	38,21,040	
145	SEAL LIMITED	Supply of 2000 KVA 11KV/0.4KV	2020-23	38,98,800	-	-	38,98,800	38,98,800	-	38,98,800	
146	MAHINDRA CO	PROCUREMENT OF HYDRAULIC PRESS PLATFORM TRUCK FOR 100 TONS	2020-23	1,41,700	-	-	1,41,700	1,41,700	-	1,41,700	
147	SA Systems International Pvt Ltd	Engineering, Supply, Erection, Commissioning and Testing of Petroleum	2020-23	38,48,000	-	-	38,48,000	38,48,000	-	38,48,000	
148	ORBIT ELECTRONICS PVT LTD	Procurement of 2000 KVA 11KV/0.4KV	2020-23	75,100	-	-	-	-	-	75,100	

परिमल पीयूष/PRIMAL PIYUSH
 3347 महाराष्ट्र (वित्तियोग्य)
 Addl. General Manager (Commercial)
एन टी पी वी लिमिटेड/NTPC LIMITED
 P.O. A.S.A. Sector-24, Noida-201301 (U.P.)

Date of Order/Invoice				# of		# of		# of	
Name of the Contract/Job/Order				Additional		Additional		Additional	
Sl. No.	Name of the Party	Name of the work	Year of a portion of work completed in Gross Sales	Quantity of additional capitalization for 2023-24	Contract/Service updates	Outstanding during the year 2023-24	Total due/owed	Final due/owed	Unchanged liability ending on 31.03.2024
				By Payment		By Payment		By Payment	
				(10)	(11)	(12)	(13)	(14)	(15)
146	CONTROL COMPONENT INDIA PVT LTD	SUPPLY OF SPARE PARTS FOR RIVER CONTROL SYSTEM AT NTPC BHARAD	2023-23						
147	CONTROL COMPONENT INDIA PVT LTD	Supply and erection of Island Right LP	2023-23						
148	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of PLC controller at Stage 1	2023-23						
149	TECHNO POWER SOLUTIONS PVT. LTD.	Procurement of PLC controller	2023-23						
150	Infocore Limited	Procurement of PLC controller comprising 404-4x feeding Jul 23	2023-23						
151	LAT KROMER PVT LTD	Procurement of PPE for River intake and Borehole cleaning - STC STAGE	2023-23						
152	SAVI DROWN OUT SYSTEMS INDIA PVT	Supply of DRO for sea water pump at STC STAGE	2023-23						
153	HEAVY ENTERPRISES	Supply and erection of Diesel, 110HP and 8.5 KW Diesel engine	2023-23						
154	GLOBAL WATER SOLUTIONS PVT LTD	Supply for River Gate Valve with 1000V Supply for STC STAGE	2023-23						
155	EXECUTIVE ENGINEER ELECTRICITY IAS	SUPPLY AND ERECTION OF LAND LEASE ROOF	2023-23						
156	WACH INDIA INDIA PRIVATE LIMITED	Procurement of flow analyser for STC STAGE	2023-23						
157	INDUSTRIAL TRADE LINKS	Procurement of Control Motor with associated cable for STC	2023-23						
158	SHIBIRI LTD	Procurement of 30 KW 400V/440V Single phase Diesel Transformer	2023-23						
159	SOBEL INSTRUMENTS INDIA PVT LTD	Procurement of Digital Time Phase Power Quality Analyser for STC STAGE	2023-23						
160	TECHNOLOGYS SECURITY SYSTEMS PVT	Supply, installation and commissioning of CCTV camera at STC	2023-23						
161	SE POWER INDIA LTD	Job Contract for Design, Engineering, Manufacturing, Supply of cable	2023-24						
162	SE POWER INDIA LTD	Supply of 150 KW Diesel and 10 KW Diesel generator for STC STAGE	2023-24						
163	SE POWER INDIA LTD	SUPPLY OF TRANSFORMER FOR STC STAGE AT STC STAGE	2023-24						
164	SAMMY ENTERPRISES	Repair and Maintenance of 6 and 10 KW Diesel generator for STC	2023-24						
165	S A VERMA	Repair Maintenance and erection of 0.75 KW generator for STC	2023-24						
166	THE RAYONS TEAM PVT LTD	Procurement of 10 KW Diesel generator and erection of 0.75 KW generator for STC	2023-24						
167	THE RAYONS TEAM PVT LTD	Augmentation of fire tender and protection system for STC STAGE	2023-24						
168	LAND COMPLETION - BHARAD	Supply for 30 KW Diesel generator Land	2023-24						
169	LAND COMPLETION - BHARAD	Supply for 30 KW Diesel generator Land	2023-24						
170	ADAR POWERTECH LTD	Procurement high voltage reactor capacitor for STC STAGE	2023-24						
171	FORBES WARDHULL PVT LTD	SUPPLY OF DIESEL ANALYSER FOR CO CO2 SO2 NOX & FLUE GAS AT STC STAGE	2023-24						
172	PROTECTOR CORPORATION OF INDIA	Procurement of 10 KW Diesel generator and 0.75 KW generator for STC	2023-24						
173	Industrials & Services Group	Procurement of 10 KW Diesel generator for STC	2023-24						
174	BARTHELEMY SERVICES PRIVATE LIMITED	PROCUREMENT OF 15 KW DIESEL A.C GENERATOR	2023-24						
175	Shree Haree Electricals Ltd	SUPPLY OF REACTOR PLATES FOR MAIN SOLENOID VALVE FOR STC	2023-24						
176	Shree Haree Electricals Ltd	SUPPLY OF TRANSFORMER for STC STAGE	2023-24						
177	SIEMENS LTD	SUPPLY OF SIMATIC INVERTER DRIVES FOR STC STAGE	2023-24						
178	SIEMENS LTD	SUPPLY OF SIMATIC INVERTER DRIVES FOR STC STAGE	2023-24						
179	REACHER SYSTEMS	Supply of 40 KW LSP for STC Island	2023-24						
180	SIEMENS LTD	Procurement of 10 KW Diesel generator for STC STAGE	2023-24						
181	Quora & Bopar MG Co. Ltd	Procurement of Diesel generator for STC STAGE under standard agreement	2023-24						
182	ADMIRA AUTO SALES	Procurement of Diesel generator for STC STAGE under standard agreement	2023-24						
183	AN HERRICK HERON PVT LTD	SUPPLY OF HERON MAIN SOLENOID VALVE FOR STC STAGE	2023-24						
184	AMAZON CONTROL TECHNOLOGY	SUPPLY OF ABSORBER SCOPING ACTUATOR FOR ACTOR DRAIN EFF. AT STC STAGE	2023-24						
185	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of PLC controller at Stage 1	2023-24						
186	Value Green Pvt.Ltd	SUPPLY AND RE-ELECTRIFICATION OF MOTOR FOR STAGE-1 GPH. STC STAGE	2023-24						
187	PARISH SANSAR SYSTEMS PVT LTD	Supply of 10 KW LSP for STC Island	2023-24						
188	CONCO SERVICES LLC	Supply of CONCO Make Condensate Tube Cleaning Pump System for STC Island	2023-24						
189	SAPS POWER EQUIPMENTS PVT LTD	SUPPLY OF CAPITAL SPARE PARTS FOR STAGE-1 STC STAGE	2023-24						
190	IF SCIENCE SYSTEMS TECHNOLOGIES	Procurement of ITP module	2023-24						
191	HELICON INDIA PVT LTD	Supply of ITP for Stage 1	2023-24						
192	VEDA PROJECTS & CONTROL PVT LTD	Procurement supply and commissioning of PLC controller for STC STAGE	2023-24						
193	WEGHTRAK INDIA PVT LTD	SUPPLY, RE-ELECTRIFICATION, COMMISSIONING AND START-UP OF STAGE-1 STC STAGE	2023-24						
194	GLOBAL ONE TECHNOLOGIES	Procurement of PLC controller system for STC STAGE	2023-24						
TOTAL				13877.811	-	10007.000	3870.811	7014.811	6867.811

परिवाल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 FOC B-86 Sector-78 Noida-201301 (N.D.)

Final of Capital Services										
Name of the Contracting Agency										
Name of the Contracting Agency										
Sl. No.	Name of the Party	Name of the work	Year of initiation of supply as notified to Govt. of India	Contracted Value as notified to Govt. of India	Value of work completed as on 31.03.2024	Contract Value as notified to Govt. of India	Discharge during the year 2023-24	Total discharge	Contracted Value as notified to Govt. of India	Value of work completed as on 31.03.2024
						By Payment				
						By Revenue				
						By Cash				
146	CONTROL COMPONENT NDA PVT LTD	SUPPLY OF SPARE PARTS FOR Bypass System at NTPC ROWAD STPS	2020-21	-	38,48,700	-	-	-	-	38,48,700
147	CONTROL COMPONENT NDA PVT LTD	Supply and installation of related SPS/P LPS spares and accessories for NTPC ROWAD STPS	2020-21	-	4,17,000	-	-	-	-	4,17,000
148	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of 06 LVMS (type of 200T)	2023-24	-	8,76,867	-	-	-	-	8,76,867
149	THEIRAC SYSTEMS PVT. LTD.	Commissioning of 06 LVMS	2023-24	-	24,00,000	-	-	-	-	24,00,000
150	Arjan Limited	Preventive/Corrective/ Emergency maintenance work for 1 No. 2 nos. of 2 nos.	2023-24	-	1,50,573	-	-	-	-	1,50,573
151	LET HOWDEN PVT LTD	PROVISION OF FID Far Sizing valve and related spares at LTPSC	2023-24	-	8,87,217	-	-	-	-	8,87,217
152	OWTO BROTHER DEAR SYSTEMS INDIA PVT	Supply of spare part for auxiliary systems of 1 No. NTPC STPS	2023-24	-	2,891	-	-	-	-	2,891
153	HERMAN ENTERPRISES	Spares parts of Generator, MAF, AVR, and 3. Motor/Generator	2023-24	-	4,05,112	-	-	-	-	4,05,112
154	GREEN WATER SOLUTIONS PVT LTD	Supply of 400-060 (Type 400) and 400-060 (Type 400) for NTPC ROWAD STPS	2023-24	-	1,08,198	-	-	-	-	1,08,198
155	EXCLUSIVE ENGINEER ELECTRICITY	Supply of 400-060 (Type 400) and 400-060 (Type 400) for NTPC ROWAD STPS	2023-24	-	48,77,94,350.00	-	-	-	-	48,77,94,350
156	NACA SHRI NDA PRIVATE LIMITED	Preventive of valve spares for NTPC ROWAD	2023-24	-	21,24,000	-	-	-	-	21,24,000
158	INDUSTRIAL TRACE LINE	Preventive of Castings Machine under contract under contract for NTPC ROWAD	2023-24	-	48,300	-	-	-	-	48,300
157	SM MECH LTD	Preventive of 2000V MVA Transformer single phase Generator Transformer	2023-24	-	41,93,000	-	-	-	-	41,93,000
158	GOBEL INSTRUMENTS INDIA PVT LTD	Preventive of Digital Time Phase Meter under contract for NTPC ROWAD	2023-24	-	12,800	-	-	-	-	12,800
159	VARSOON PROCESS MANAGEMENT INDIA	Preventive of 06 LVMS under contract for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
160	TRICODMATS SECURITY SYSTEMS PVT	SUPPLY & INSTALLATION OF 06 LVMS UNDER CONTRACT FOR NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
161	UC POWER INDIA LTD	100 Contract for Design, Engineering, Manufacturing, Supply of Spares	2023-24	-	-	-	-	-	-	-
162	UC POWER INDIA LTD	Supply of 100 Contract for Design, Engineering, Manufacturing, Supply of Spares	2023-24	-	-	-	-	-	-	-
163	UC POWER INDIA LTD	Supply of 100 Contract for Design, Engineering, Manufacturing, Supply of Spares	2023-24	-	-	-	-	-	-	-
164	AMAY ENTERPRISES	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
165	A & VERMA	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
166	THEIRAC SYSTEMS PVT LTD	Augmentation of the protection and protection system for 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
167	THEIRAC SYSTEMS PVT LTD	Augmentation of the protection and protection system for 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
168	LAVO COMPRESSION - ROWAD NDA	Supply of 06 LVMS for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
169	LAVO COMPRESSION - ROWAD NDA	Supply of 06 LVMS for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
170	HOOR POWERFLOW LTD	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
171	FORBES SAMBHAL PVT LTD	Supply of 06 LVMS for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
172	MAGNETICA CORPORATION OF INDIA	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
173	SAVYAR SERVICES PRIVATE LIMITED	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
174	Omni Heavy Electricals Ltd	SUPPLY OF SPARE PARTS FOR NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
175	Omni Heavy Electricals Ltd	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
176	SIDERS LTD	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
177	SIDERS LTD	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
178	RAJ POWER SYSTEMS	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
179	SIEMENS LTD	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
180	Dabry & Bhaiy. Mg. Co. Ltd	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
181	ADARSH AUTO SALES	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
182	SA HERONER HERON PVT LTD	SUPPLY OF HERON MAIL SOLLEND VALVES FOR NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
183	AMAZON CONTROL TECHNOLOGY	SUPPLY OF 06 LVMS FOR NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
184	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of related spares for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
185	OMNI DATA PVT LTD	SUPPLY AND INSTALLATION OF 06 LVMS FOR STAGE-1 OF NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
186	PARTR ENERGY SYSTEMS PVT LTD	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
187	CONCO SERVICES LLC	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
188	SAFE POWER EQUIPMENTS PVT LTD	SUPPLY OF SPARE PARTS FOR NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
189	F SQUARE SYSTEMS TECHNOLOGIES	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
190	KLIVON INDIA PVT LTD	Supply of Spare Parts for NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
191	SCODIA PROJECTS & CONTROL PVT LTD	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
192	HEGHTRACK INDIA PVT LTD	SUPPLY AND INSTALLATION OF 06 LVMS FOR STAGE-1 OF NTPC ROWAD STPS	2023-24	-	-	-	-	-	-	-
193	GLOBAL CHEM TECHNOLOGIES	Preventive and Maintenance of 06 and 03 type Spares parts for NTPC ROWAD	2023-24	-	-	-	-	-	-	-
TOTAL				111,12,57,000	88,92,17,000	-	1,08,52,274	1,48,88,390	8,12,45,800	26,75,20,000
Total assets shown in Rule 4 of Financial Accounting Rules of India as on 31.03.2024										
Year-2024										

परिमल प्रियुष/ PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Add. General Manager (Commercial)
एन टी पी सी लिमिटेड/ NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

List of Capital Expenditure				Particulars		Particulars				
Name of the Company/Entity				Amount in Rs.		Amount in Rs.				
Sl. No.	Name of the Party	Name of the work	Year of creation of liability capitalised to Group Assets	Unwound charges liability relating to OR 01/04/2023	Liability in additional contribution for 2023-24	Contribution BPP updated	Settlement during the year 2023-24	Total discharge	Unwound charges liability relating to OR 01/04/2024	
By Payment				By Revenue						
(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	(X)	
146	CONTROL COMPONENT INDIA PVT LTD	SUPPLY OF SPARE PARTS FOR 400KV SYNCHRO SYSTEM AT NTPC BHAND STB	2023-24	3000703	-	-	3000703	3000703	-	
147	CONTROL COMPONENT INDIA PVT LTD	Supply and erection of related high LP cables, spares and accessories	2023-24	177000	-	-	-	-	477000	
148	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of 200 MW (stage II) SCADA	2023-24	476007	-	-	-	-	476007	
149	THERMOSYSTEMS PVT LTD	Procurement of 200 MW SCADA	2023-24	4196100	-	-	4196100	4196100	-	
150	Ajanta Limited	Procurement of 200 MW SCADA	2023-24	1000000	-	-	-	-	1000000	
151	LET INDIA PVT LTD	Procurement of 200 MW SCADA and related services	2023-24	887317	-	-	-	-	887317	
152	DAVID BROWN-GEAR SYSTEMS INDIA PVT	Supply of Gear box for each coupling present at 110 kV NTPC Bhhand	2023-24	2800	-	-	-	-	2800	
153	RESEARCH ENTERPRISES	Station work of 200 MW (Stage I) and 200 MW (Stage II)	2023-24	403122	-	-	-	-	403122	
154	SHRIJAI WATER SOLUTIONS PVT LTD	Supply of 200 MW Water Pumps and related services	2023-24	181700	-	-	-	-	181700	
155	INDIATECH ENGINEERING ELECTRICITY	200 MW NTPC BHAND STB	2023-24	48778433	-	-	-	-	48778433	
156	WACK INDIA PRIVATE LIMITED	Procurement of 200 MW NTPC Bhhand	2023-24	2124000	-	-	2124000	2124000	-	
157	INDIATECH LTD.	Procurement of 200 MW NTPC Bhhand	2023-24	4190000	-	-	4190000	4190000	-	
158	SOMEL INDIA PRIVATE LIMITED	Procurement of 200 MW NTPC Bhhand	2023-24	12000	-	-	-	-	12000	
159	INDIATECH PRIVATE LIMITED	Procurement of 200 MW NTPC Bhhand	2023-24	1000000	-	-	-	-	1000000	
160	TECHNOLOGY SECURITY SYSTEMS PVT	SUPPLY, INSTALLATION AND COMMISSIONING OF CCTV SYSTEM OF	2023-24	-	3052200	-	-	-	3052200	
161	GE POWER INDIA LTD	Job Contract for Design, Engineering, Procurement, Supply of 200 MW	2023-24	-	10000000	-	-	-	10000000	
162	GE POWER INDIA LTD	Supply of 200 MW Control Valve and 200 MW Valve Spares, Spare Parts	2023-24	-	44200	-	-	-	44200	
163	GE POWER INDIA LTD	SUPPLY OF THERMAL PROTECTIVE PCB FOR 200 MW NTPC BHAND STB	2023-24	-	600000	-	-	-	600000	
164	RAMY ENTERPRISES	Repair and Maintenance of 200 MW NTPC Bhhand	2023-24	-	2487100	-	-	-	2487100	
165	A K VERMA	Repair Maintenance and replacement of 200 MW NTPC Bhhand	2023-24	-	670700	-	-	-	670700	
166	THERMOSYSTEMS PVT LTD	Augmentation of the protection and protection system for 200 MW (Stage I)	2023-24	-	2338000	-	-	-	2338000	
167	THERMOSYSTEMS PVT LTD	Augmentation of the protection and protection system for 200 MW (Stage II)	2023-24	-	96100	-	-	-	96100	
168	LAND CONSTRUCTION - RANOLD NAGAR	Land for 200 MW NTPC Bhhand	2023-24	-	43838300	-	-	-	43838300	
169	LAND CONSTRUCTION - RANOLD NAGAR	Land for 200 MW NTPC Bhhand	2023-24	-	43838300	-	-	-	43838300	
170	ACCOR POWERTECH LTD	Procurement of 200 MW NTPC Bhhand	2023-24	-	130000	-	-	-	130000	
171	FORBES WHEELS PVT LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	110000	-	-	-	110000	
172	ASSISTED CONSTRUCTION OF 200 MW	Procurement of 200 MW NTPC Bhhand	2023-24	-	271100	-	-	-	271100	
173	Shreeganes & Shreeganes India	Procurement of 200 MW NTPC Bhhand	2023-24	-	1100700	-	-	-	1100700	
174	SAVVAR SERVICES PRIVATE LIMITED	PROCUREMENT OF 200 MW NTPC BHAND STB	2023-24	-	84000	-	-	-	84000	
175	DAVID BROWN GEARBOXES	SUPPLY OF GEARBOX FOR 200 MW NTPC BHAND STB	2023-24	-	100000	-	-	-	100000	
176	Shree Hary Enterprises Ltd	Supply of 200 MW NTPC Bhhand	2023-24	-	50400	-	-	-	50400	
177	SIEMENS LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	25000	-	-	-	25000	
178	SIEMENS LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	36000	-	-	-	36000	
179	GE POWER SYSTEMS	Supply of 200 MW NTPC Bhhand	2023-24	-	100000	-	-	-	100000	
180	SIEMENS LTD	Procurement of 200 MW NTPC Bhhand	2023-24	-	170000	-	-	-	170000	
181	DAVID BROWN GEAR BOX CO. IN	Procurement of 200 MW NTPC Bhhand	2023-24	-	80000	-	-	-	80000	
182	AGARWAL AUTO SALES	Procurement of 200 MW NTPC Bhhand	2023-24	-	100000	-	-	-	100000	
183	RESEARCH ENTERPRISES PVT LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	11000	-	-	-	11000	
184	AMAZON CONTROL TECHNOLOGY	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	20000	-	-	-	20000	
185	AMAZON CONTROL TECHNOLOGY	Supply installation and commissioning of 200 MW (Stage II) SCADA	2023-24	-	8700	-	-	-	8700	
186	VISHVAKS PVT LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	500000	-	-	-	500000	
187	PARVATI ENERGY SYSTEMS PVT LTD	Supply of 200 MW NTPC Bhhand	2023-24	-	100000	-	-	-	100000	
188	CONCO SERVICES LTD	Supply of 200 MW NTPC Bhhand	2023-24	-	200000	-	-	-	200000	
189	SARS POWER EQUIPMENTS PVT LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	300000	-	-	-	300000	
190	SECURE SYSTEMS TECHNOLOGIES	Procurement of 200 MW NTPC Bhhand	2023-24	-	100000	-	-	-	100000	
191	ADVION INDIA PVT LTD	Supply of 200 MW NTPC Bhhand	2023-24	-	200000	-	-	-	200000	
192	COOSA PROJECTS & CONTROL SOLUTIONS	Procurement of 200 MW NTPC Bhhand	2023-24	-	100000	-	-	-	100000	
193	WEIGHTWASH INDIA PVT LTD	SUPPLY OF 200 MW NTPC BHAND STB	2023-24	-	100000	-	-	-	100000	
194	GLOBAL ONE TECHNOLOGIES	Procurement of 200 MW NTPC Bhhand	2023-24	-	60000	-	-	-	60000	
Total				88702100	3052200	-	8700000	500	8700000	3052200

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Summary of Gross Block reconciliation (2019-20)

Sr. No.	Particular	Rihand-I	Rihand-II	Rihand-III	TOTAL GROSS BLOCK (Rs)
1	Closing Gross Block as per Audited Balance Sheet 31.03.2020 (Ind-AS)	8,47,30,31,973	16,68,32,16,186	55,52,33,45,571	80,67,95,93,729
2	Opening Gross Block as per Audited Balance Sheet 01.04.2019 (Ind-AS)	7,62,35,89,943	16,41,85,05,564	54,49,73,21,325	78,53,94,16,832
3	Addition During the Year (1-2) (Ind-AS)	84,94,42,030	26,47,10,622	1,02,60,24,246	2,14,01,76,898
4	Ind-AS Adjustment	-32,92,82,886	-22,67,35,283	-7,30,49,003	-62,90,67,173
5	Addition During the Year (3+4) (IGAAP)	52,01,59,144	3,79,75,339	95,29,75,243	1,51,11,09,725



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Rihand Super Thermal Power Station Stage-I
Date of Commercial Operation	01-01-1991
For Financial Year	2019-20

Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed					Cash basis	IDC included in col. 3
			Accrual basis as per Note-2 of BS	Ind AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 4			
1	2	3	4	5	6	7	8	9	
A Claims									
A.1 Claimed/Allowed Items									
1	Freehold Land Plant/Office		9,14,893.00	-	9,14,893	9,14,893.00	-	-	
2	LED Based LVS System	Barco Electronics Systems Pvt Ltd	41,00,500.00	-	41,00,500	-	41,00,500	-	
3	High Mast lighting System	Various Parties	1,03,54,500	-	1,03,54,500	36,10,000	67,44,500		
4	1st Raising Of Mithini Ash Dyke Lagoon-1	K N International Ltd	13,86,550		13,86,550		13,86,550		
5	2nd Raising Of Central Ash Dyke Lagoon 1	K N International Ltd	37,79,570		37,79,570		37,79,570		
6	2nd Raising of Central Dyke Lagoon - II	National Prestige Construction Co.	6,65,870		6,65,870		6,65,870		
7	1st Raising Of Mithini Ash Dyke Lagoon-II	Baghel Infrastructures	3,69,399		3,69,399		3,69,399		
8	3rd Raising Of Central Ash Dyke Lagoon-I	National Prestige Construction Co.	26,68,011		26,68,011		26,68,011		
	Subtotal (A.1)		2,42,39,293.27	-	2,42,39,293.27	45,24,893.00	1,97,14,400.27	-	
A.2 Capitalization of MBOAs									
			53,46,073.42	-69,680	52,76,394	6,59,442.00	44,16,952	-	
A.3 Decap of MBOAs: Part of Capital Cost									
			-6,50,508.30	-88,54,574.70	-65,05,083	-	-65,05,083	-	
A.4 Decap of Spares: Part of Capital Cost									
			-10,09,926.64	-90,76,873.00	-1,00,86,802	-	-1,00,86,802	-	
TOTAL Claim (A)			2,79,24,930	-1,60,01,127	1,29,23,802	53,84,335	75,39,467	0	


परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (पारिचालिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

B	Exclusions							
B.1	Items Not Claimed							
1	R&M of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	8,29,86,211	32,96,646	8,62,82,858	4,53,06,750	4,09,76,108	
2	R&M of Stator Water Skid for Generator	GE Power India Ltd	9,90,76,225	3,98,001	9,94,74,226	40,17,452	9,54,56,774	
	Subtotal (B.1)		18,20,62,437	36,94,647	18,57,57,084	4,93,24,202	13,64,32,882	
B.2	Capitalization of Capital Spares		29,07,22,222.15	17,247.76	29,07,39,470	1,16,62,847.00	27,90,76,623	
B.3	Decap of MBOAs: Not-Part of Capital Cost		-19,36,152.52	-2,57,927.67	-21,94,060		-21,94,060	
B.4	Decap of Spares: Not-Part of Capital Cost		-1,43,10,706.47	-10,44,673.91	-1,53,55,380		-1,53,55,380	
B.5	IndAS Adjustment							
1	Overhauling		31,66,91,052	-31,66,91,052	-		-	
B.6	FERV							
1	Loan ERV	Hitachi Ltd	3,04,83,193		3,04,83,193		3,04,83,193	
2	Package ERV	Hitachi Ltd	1,78,07,755		1,78,07,755	1,78,07,755	-	
	Subtotal (B.6)		4,82,90,948	-	4,82,90,948	1,78,07,755	3,04,83,193	
B.7	Liability Reversal		(2,700)	-	-2,700	-2,700	-	
	Total Exclusion (B)		82,15,17,100	-31,42,81,769	50,72,35,341	7,87,92,104	42,84,43,237	-
	Grand Total (A+B)		84,94,42,030	-32,92,82,886	52,01,59,144	8,41,76,439	43,59,82,705	-


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

					Part-I Form-II ADDITIONAL FORM
Summary of Gross Block reconciliation (2020-21)					
Sr. No.	Particular	Rihand-I	Rihand-II	Rihand-III	TOTAL GROSS BLOCK (Rs)
1	Closing Gross Block as per Audited Balance Sheet 31.03.2021 (Ind-AS)	8,89,48,00,715.66	16,97,82,37,098.28	56,17,18,17,079.44	82,04,48,54,893.38
2	Opening Gross Block as per Audited Balance Sheet 01.04.2020 (Ind-AS)	8,47,30,31,972.86	16,68,32,16,185.67	55,52,33,45,570.75	80,67,95,93,729.28
3	Addition During the Year (1-2) (Ind-AS)	42,17,68,743	29,50,20,913	64,84,71,509	1,36,52,61,164.10
4	Ind-AS Adjustment	-28,60,12,968	-19,85,11,841	-6,04,98,238	- 54,50,23,047.08
5	Addition During the Year (3+4) (IGAAP)	13,57,55,774.93	9,65,09,071.55	58,79,73,270.54	82,02,38,117.02


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD								
								Amount in Rs.
Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I						
Station COD		01-01-1991						
For Financial Year		2020-21						
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)					
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3
1	2	3	4	5	6	7	8	9
A Claims								
A.1 Claimed/Allowed Items								
1	Upgradation of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd.	95,34,115	-	95,34,115	8,07,976	87,26,139	
2	HFO to LDO conversion Stage-1	Bharat Heavy Electricals Ltd	16,91,204		16,91,204		16,91,204	
3	1st Raising Of Mithini Ash Dyke Lagoon-I	K N International Ltd	2,73,611		2,73,611		2,73,611	
4	1st Raising Of Mithini Ash Dyke Lagoon-II	Baghel Infrastructures	85,331		85,331		85,331	
5	3rd Raising Of Central Ash Dyke Lagoon-I	National Prestige Construction Co	1,79,360		1,79,360		1,79,360	
	Subtotal (A.1)		1,17,63,621	-	1,17,63,621	8,07,976	1,09,55,645	-
A.2	Capitalization of MBOAs	Various Parties	54,14,058	-	54,14,058	25,32,958	28,81,100	
A.3	Decap of MBOAs: Part of Capital Cost		-4,67,361	-42,03,225	-46,70,586	-	-46,70,586	-
A.4	Decap of Spares: Part of Capital Cost		-39,11,130	-3,28,37,015	-3,67,48,145	-	-3,67,48,145	-
	Total claim (A)		1,27,99,188	-3,70,40,239	-2,42,41,052	33,40,934	-2,75,81,985	-
B Exclusions								
B.1 Items Not Claimed								
1	Replacement of Existing Boiler lift-1	Thyssenkrupp Elevator India	4,58,765	-	4,58,765	-	4,58,765	
2	R&M of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	8,45,73,789	-32,96,646	8,12,77,142	1,31,623,000	8,11,45,517	
3	R&M of Stator Water Skid for Generator	GE Power India Ltd	9,98,72,227	-3,98,001	9,94,74,226	20,08,726,000	9,74,65,500	
4	Fire Protection System- Replacement of Fire Spray Pump	Flowmore Ltd	65,79,000	-	65,79,000	-	65,79,000	
	Decap against S.No.4 above.		-63,472	-8,41,249	-9,34,721	-	-9,34,721	
	Subtotal (B.1)		19,13,90,308	-45,36,896	18,68,54,412	21,40,351	18,47,14,061	-
B.2 Interunit Transfers								
1	Other Office Equipments		1,14,095	8,305	1,22,400	-	1,22,400	-
1.1	From Barh		75,000	-	75,000	-	75,000	-
1.2	From Baderpur		39,095	8,305	47,400	-	47,400	-
2	EDP, WP machines & SATCOM equipment		(1,09,794)	-	(1,09,794)	-	(1,09,794)	-
2.1	To Vindhyachal		(50,805)		(50,805)		(50,805)	
2.2	To Dadri		(58,989)		(58,989)		(58,989)	
3	Hospital Equipment		(4,98,500)	(1,26,500)	(6,25,000)	-	(6,25,000)	-
3	To Singrauli		(4,98,500)	(1,26,500)	(6,25,000)		(6,25,000)	
	Subtotal (B.2)		-4,94,199	-1,18,195	-6,12,394	-	-6,12,394	-
B.3	Capitalization of Capital Spares		8,58,24,188	-	8,58,24,188	83,96,328	7,72,27,840	

परिमल पीयूष / PARIMAL PIYUSH
आपका विश्वसनीय (आर्थिक) सहायक
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड / NTPC LIMITED

B.4	Decap of MBOA: Not Part of Capital Cost	-7,64,956	-83,966	-8,48,952		-8,48,952	
B.5	Decap of Spares: Not Part of Capital Cost	-12,43,66,267	-5,34,836	-12,49,01,103		-12,49,01,103	
B.6	Ind AS adjustment						
B.6.1	Overhauling	28,43,55,335	-28,43,55,335	-		-	
B.6.2	Decap of overhauling Assets	-4,06,55,519	4,06,55,510	-		-	
	Subtotal (B.7)	24,36,99,816	-24,36,99,816	-	-	-	
B.7	Loan ERV	1,38,95,799		1,38,95,799		1,38,95,799	
B.8	Reversal of Liabilities (ROL)	-15,104	-	-15,104	-15,104	-	
	Total Exclusion Claimed (B)	40,89,88,555	-24,89,72,729	15,99,98,828	1,05,21,575	14,94,75,251	-
	Grand Total (A+B)	42,17,88,743	-28,60,12,968	13,57,55,775	1,38,62,509	12,18,93,266	-

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Summary of Gross Block reconciliation (2021-22)

Sr. No.	Particular	ST-I	ST-II	ST-III	TOTAL GROSS BLOCK (Rs)
1	Closing Gross Block as per Audited Balance Sheet 31.03.2022 (Ind-AS)	9,14,03,90,328	16,90,11,03,703	56,72,61,40,041	82,76,76,34,072
2	Opening Gross Block as per Audited Balance Sheet 01.04.2021 (Ind-AS)	8,89,48,00,715.66	16,97,82,37,098.28	56,17,18,17,079.44	82,04,48,54,893
3	Addition During the Year (1-2) (Ind-AS)	24,55,89,612	- 7,71,33,395	55,43,22,962	72,27,79,179
4	Ind-AS Adjustment	2,65,97,002	31,67,53,445	- 6,64,53,197	27,68,97,250
5	Addition During the Year (3+4) (IGAAP)	27,21,86,615	23,96,20,050	48,78,69,765	99,96,76,429


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I						
Station COD		01-01-1991						
For Financial Year		2021-22						Amount in Rs.
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)					
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3
1	2	3	4	5	6	7	8	9
A	Claims							
A.1	Claimed/ Allowed Items							
1	Bio-Methanation Plant	Xeon Waste Managers LLP	33,02,443	20,909	33,23,352	11,72,945	21,50,407	
2	Upgradation of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd.	1,77,773	-	1,77,773		1,77,773	
3	2nd Raising Of Central Ash Dyke Lagoon - I	K.N International Ltd	-	3,07,229	-	3,07,229	-	3,07,229
4	2nd Raising of Central Dyke Lagoon - II	National Prestige Construction Co	8,538		8,538		8,538	
5	3rd Raising Of Central Ash Dyke Lagoon-I	National Prestige Construction Co	570		570		570	
	Subtotal (A.1)		31,82,095	20,909	32,03,004	11,72,945	20,30,059	-
A.2	Capitalization of MBOAs	Various Parties	38,03,444	17,012	39,10,456	19,198	38,91,258	
A.3	Decap of MBOAs: Part of Capital Cost		33,10,413	3,36,71,340	3,69,80,753		3,69,80,753	
A.4	Decap of Spares: Part of Capital Cost		4,92,018	1,87,90,808	1,92,82,826		1,92,82,826	
	Total claim (A)		32,64,108	5,24,24,027	4,91,59,919	11,92,143	5,93,52,062	-
B	Exclusions							
B.1	Items not claimed							
1	R&M of Primary Air Pre-Heater	Bharat Heavy Electricals Ltd	1,36,88,001		1,36,88,001		1,36,88,001	
	Subtotal(B.1)		1,36,88,001	-	1,36,88,001	-	1,36,88,001	-
B.2	Capitalization of Capital Spares		23,22,27,152		23,22,27,152	2,56,78,271	20,65,48,881	
B.3	Decap of MBOAs: Not Part of Capital Cost		10,70,131	1,44,38,339	1,55,08,470		1,55,08,470	
B.4	Decap of Spares: Not Part of Capital Cost		96,05,860		96,05,860		96,05,860	
B.5	Ind AS Adjustment							
1	Overhauling		57,87,486	57,87,486				
2	Decap of OH Assets		11,41,37,144	11,41,37,144				
	Subtotal(B.5)		10,83,49,658	10,83,49,658	-	-	-	-
B.6	Inter Unit Transfer							
1	Inter Unit Transfer		12,20,73,051		12,20,73,051		12,20,73,051	
	Subtotal(B.6)		12,20,73,051	-	12,20,73,051	-	12,20,73,051	-
B.7	Loan ERY		66,37,050		66,37,050		66,37,050	
B.8	Leasehold Land (Asset Decap)	LP/JNL		1,48,90,290	1,48,90,290		1,48,90,290	
	Total Exclusion Claimed (B)		24,23,25,505	7,90,21,030	32,13,46,534	2,56,78,271	29,56,68,263	-
	Grand Total (A+B)		24,55,89,612	2,66,97,002	27,21,86,515	2,68,70,414	24,53,16,201	-

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Summary of Gross Block reconciliation (2022-23)

Sr. No.	Particular	ST-I	ST-II	ST-III	TOTAL GROSS BLOCK (Rs)
1	Closing Gross Block as per Audited Balance Sheet 31.03.2023 (Ind-AS)	11,54,24,33,972	17,17,86,90,156	57,29,05,75,027	86,01,16,99,155
2	Opening Gross Block as per Audited Balance Sheet 01.04.2022 (Ind-AS)	9,14,03,90,328	16,90,11,03,703	56,72,61,40,041	82,76,76,34,072
3	Addition During the Year (1-2) (Ind-AS)	2,40,20,43,644	27,75,86,453	56,44,34,986	3,24,40,65,083
4	Ind-AS Adjustment	- 11,20,58,291	9,25,55,750	- 16,28,96,642	- 18,23,99,183
5	Addition During the Year (3+4) (IGAAP)	2,28,99,85,354	37,01,42,203	40,15,38,344	3,06,16,65,900


(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD

								Amount in Rs.
Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I						
Station COD		01-01-1991						
For Financial Year		2022-23						
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual for 2022-23)					
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3
1	2	3	4	5	6	7	8	9
A Claims								
A.1 Claimed/ Allowed Items								
1	Augmentation of Fire detection & Protection System	Technico India Pvt Ltd	1,30,89,648		1,30,89,648	29,21,540	1,01,78,100	
2	Leasehold Land	LP/JNL	36,19,75,426.86	24,21,34,323.02	62,41,09,750	49,77,94,232.00	16,63,15,518	
3	Bio-Methanation Plant	Xison Waste Managers LLP	5,56,665.00		5,56,665		5,56,665	
4	Upgradation Of HMI System Of DCS	Yokogawa India Ltd	7,78,27,858.00		7,78,27,858		7,78,27,858	
5	Upgradation of Boiler Drum Level Measurement System	Raman Instruments Pvt Ltd	1,91,573.00		1,91,573		1,91,573	
6	3rd Raising Of Central Ash Dyke Lagoon-I	National Prestige Construction Co	6,13,366		6,13,366		6,13,366	
7	2nd Raising of Central Dyke Lagoon - II	National Prestige Construction Co	19,221		19,221		19,221	
8	Automatic Foam Protection System for fuel storage tanks	MX Systems International Pvt Ltd	1,05,85,949		1,05,85,949	38,45,000	1,27,40,943	
Total: (A1)			49,08,69,706	24,21,34,323	73,38,04,029	46,45,60,786	28,84,43,243	
A.2	Capitalization of MBOAs	Various Parties	45,81,822.00	-	45,81,822	1,41,702.00	44,40,120	
A.3	Decap of MBOAs: Part of Capital Cost		-	1,42,77,427.67	-12,64,90,850	-	14,27,74,277	-
A.4	Decap of Spares: Part of Capital Cost		-	10,21,696.14	-1,10,94,173.93	-	1,21,15,870	-
Total claim (A)			48,01,52,406	10,25,43,300	58,26,95,794	46,47,02,468	11,76,93,216	
B Exclusions								
B.1 Items not claimed								
1	R&M of Coal Pulverisers	GE Power India Ltd	74,59,91,250	-852483.31	74,45,08,767		74,45,08,767	
2	R&M Of Gravimetric Feeder	Schenck Process Solutions	9,39,85,146		9,39,85,146		9,39,85,146	
3	R&M Of DWI Cooler Plates	SPX Flow Technology India Pvt Ltd	2,12,28,637		2,12,28,637	8,78,887	2,03,49,750	
4	R&M Of LP Bypass Internals	Control Component India Pvt Ltd	7,01,92,396	42070.28	7,02,34,466	4,17,600	7,58,18,866	
5	R&M of Compressed Air System	IL GI Equipments Ltd	3,14,31,215		3,14,31,215		3,14,31,215	
6	DG Set & Aux.	Jakson Limited	4,34,88,730		4,34,88,730	1,90,572	4,32,98,158	
7	Replacement of LT Switchgear	C&S Electric Limited	30,78,201		30,78,201		30,78,201	
8	Replacement of 3.3KV Unit Switch Board	ABB India Ltd	8,22,46,011		8,22,46,011		8,22,46,011	
9	Ext. of Electrical Annex Building-3.3KV Switchgear	Keshan Enterprises/ S N Engineering Works	1,68,44,084		1,68,44,084	6,16,405	1,62,27,679	
11	Ion Chromatograph	Thermo Fisher Scientific India	44,00,469		44,00,469		44,00,469	
Subtotal(B.1)			1,11,83,82,139	- 8,40,413	1,11,75,11,726	65,69,933	1,11,09,41,793	
B.2	Capitalization of Capital Spares		60,85,60,407	0	60,85,60,407	2,81,90,504.20	58,03,64,853	
B.3	Decap of MBOAs: Not Part of Capital Cost							
B.4	Decap of Spares: Not Part of Capital Cost		-	3,87,77,899	-	3,87,77,899	-	3,87,77,899
B.5 Ind AS Adjustment								
1	Overhauling		70,94,09,338.13	- 70,94,09,338.13	-			
2	Decap of OH Assets		-	55,56,48,160.73	55,56,48,160.73	-		
Subtotal(B.5)			21,37,61,177	- 21,37,61,177	-	-	-	-
B.6	Loan ERV		78,45,444		78,45,444		78,45,444	
B.7	Reversal of Liability	LP/JNL	-1,48,90,280.56	-	1,48,90,290	-	1,48,90,290	

परिमल पीयूष / PARIMAL PIYUSH
 श्रेय मंत्रालय (कारिगरे)
 Addl. General Manager (Commercial)
 एन टी सी पी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (I. D.)

B.6	Inter Unit Transfer							
1	Plant & Machinery From Vindhyachal		2,70,40,261	-	2,70,40,261		2,70,40,261	
	Subtotal(B.8)		2,70,40,261	-	2,70,40,261		2,70,40,261	
	Total Exclusion Claimed (B)		1,92,18,91,240	-	21,46,01,590	1,70,72,89,649	1,98,75,188	1,68,74,14,452
	Grand Total (A+B)		2,40,20,43,644	-	11,20,58,291	2,28,99,85,354	48,46,77,686	1,80,54,07,888



(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Summary of Gross Block reconciliation (2023-24)

Sr. No.	Particular	ST-I	ST-II	ST-III	TOTAL GROSS BLOCK (Rs)
1	Closing Gross Block as per Audited Balance Sheet 31.03.2024 (Ind-AS)	13,16,35,30,327	17,74,63,49,420	58,60,42,69,767	89,51,41,49,514
2	Opening Gross Block as per Audited Balance Sheet 01.04.2023 (Ind-AS)	11,54,24,33,972	17,17,86,90,156	57,29,05,75,027	86,01,16,99,155
3	Addition During the Year (1-2) (Ind-AS)	1,62,10,96,354	56,76,59,264	1,31,36,94,740	3,50,24,50,359
4	Ind-AS Adjustment	- 9,89,09,046	- 37,08,74,154	- 6,46,73,679	- 53,44,56,879
5	Addition During the Year (3+4) (IGAAP)	1,52,21,87,309	19,67,85,110	1,24,90,21,061	2,96,79,93,479

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Year wise Statement of Additional Capitalisation after COD


								Amount in Rs.
Name of the Petitioner		NTPC Limited						
Name of the Generating Station		Rihand Super Thermal Power Station Stage-I						
Station COD		01-01-1991						
For Financial Year		2023-24						
Sl. No.	Head of Work /Equipment	Party Name	ACE Claimed (Actual)					
			Accrual basis as per Note-2 of BS	IND AS Adj	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3
1	2	3	4	5	6	7	8	9
A	Claims							
A.1	Claimed/ Allowed Items							
1	Leasehold Land	UPJVNL	7,77,36,827.45	1,90,14,159.29	9,67,50,787	9,27,94,829.97	39,65,956.77	
2	Augmentation of the Fire Detection and Protection System (CHP)	Thermosystems Pvt. Ltd.	2,52,72,731.31		2,52,72,731	24,56,060.00	2,28,17,671.31	
3	Security related works: CCTV System	Technocrats Security Systems Pvt.	8,02,82,218.43	98,291.57	8,03,80,510	20,52,260.00	7,83,28,250.00	
4	In-Motion Weigh Bridge (140MT)	Weightrack India Pvt. Ltd.	83,72,000.00		83,72,000.00	16,20,000.00	47,52,000.00	
5	Online-Analyser for CEMS for CO, CO2, Sox, Nox	Forbes Marshall Pvt. Ltd.	47,04,306.00		47,04,306.00	1,19,601.00	45,84,705.00	
	Subtotal (A.1)		19,43,87,883	1,91,12,451	21,34,80,334	9,90,41,781	11,44,38,583	-
A.2	Capitalization of MBOAs	Various Parties	2,31,89,801.77	34,520.57	2,32,24,322.34	33,82,264.10	1,98,42,058.24	-
A.3	Decap of MBOAs: Part of Capital Cost		- 99,550.40	- 9,18,478.60	- 10,18,029.00	-	- 10,18,029.00	-
A.4	Decap of Spares: Part of Capital Cost		- 57,12,105.82	- 3,99,04,281.30	- 4,56,16,387.12	-	- 4,56,16,387.12	-
	Total claim (A)		21,17,46,029	- 2,16,75,788	19,00,70,240	10,24,24,015	5,76,45,225	-
B	Exclusions							
B.1	Items Not Claimed							
1	R&M of Coal Pulverisers	GE Power India Ltd.	31,47,20,750.00		31,47,20,750.00	15,99,96,058.12	15,47,24,681.88	
1a	Decap against B. 1.1 above		- 37,73,979.29	- 3,39,85,813.84	(3,77,39,792.93)	-	- 3,77,39,792.93	
2	R&M Of Gravimetric Feeder	Schneck Process Solutions	6,87,78,071.00		6,87,78,071.00		6,87,78,071.00	
2a	Decap against B. 1.2 above		(8,24,753.42)	(74,22,780.82)	(82,47,534.24)	-	- 82,47,534.24	
3	R&M of Mill Feeder Control System	Emerson Process Management India	21,27,54,474.30	- 2,68,035.50	21,24,86,438.80	1,05,98,198.00	20,18,88,252.80	
3a	Decap against B. 1.3 above		(24,68,215.22)	(2,22,22,938.99)	(2,46,82,152.21)	-	- 2,46,82,152.21	
4	R&M of Hoists in CHP area	Keshari Enterprises/ S N Engineering Works	1,46,00,639.01		1,46,00,639.01	16,75,362.00	1,29,25,277.01	
4a	Decap against B. 1.4 above		(1,69,454.10)	(15,25,086.95)	(16,94,541.05)	-	- 16,94,541.08	
5	Ext. of Electrical Annex Building-3.3KV Switchgear	S N Engineering Works	980.88		980.88		980.66	
6	R&M of B-Type Quarters	Samay Enterprises	1,35,20,764.21		1,35,20,764.21	24,87,163.27	1,10,33,600.94	
6a	Decap against B. 1.6 above		(53,551.67)	(5,05,626.77)	(5,59,178.44)	-	- 5,59,178.44	
7	R&M of C-Type Quarters	Raj Kishan & Co.	2,27,62,342.11		2,27,62,342.11		2,27,62,342.11	
7a	Decap against B. 1.7 above		(60,728.54)	- 5,86,391.58	(6,47,120.12)	-	- 6,47,120.12	
8	R&M of D-Type Quarters	A K Verma	5,38,62,500.70		5,38,62,500.70	67,07,308.00	4,71,55,192.70	
8a	Decap against B. 1.8 above		(86,860.18)	(8,78,002.54)	(9,62,862.72)	-	- 9,62,862.72	
9	R&M Of LP Bypass Internals	Control Component India Pvt. Ltd.	6,705.40	- 6,705.40	-		-	
10	R&M Of DW Cooler Plates	SPX Flow Technology India Pvt. Ltd.	2,06,336.14	1,163.88	2,08,500.00	8,750.00	1,97,750.00	
	Subtotal (B.1)		69,37,74,021.11	(5,73,78,216.36)	62,63,95,804.75	18,14,72,837.39	44,49,22,967.36	-
B.2	Capitalization of Capital Spares		70,70,89,261		70,70,89,261.25	69,60,406	70,01,28,854.84	
		- 16,568	70,71,05,890					

परिमल पीयूष/ PARIMAL PIYUSH
 अपर महापंचायत (वार्ड/विार्ड)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड/ NTPC LIMITED
 EOC, A-5A, Sector-24, Noida-201301 (U.P.)

B.3	Decap of MBOAs: Not Part of Capital Cost	-	35,16,904	-78,22,175.48	-	1,13,39,080	-	1,13,39,080	
B.4	Decap of Spares: Not Part of Capital Cost	-	95,73,578		-	95,73,578.45		95,73,578.45	
B.5	Ind AS Adjustment								
1	Overhauling		20,32,865.32	-20,32,865.32		-		-	
2	Decap of OH Assets					-		-	
	Subtotal(B.5)		20,32,865	-20,32,865		-		-	
B.6	Inter Unit Transfer								
1	Plant & Machinery- From Talcher Thermal Power Station to Rihand		7,59,000.00			7,59,000.00		7,59,000.00	
	Subtotal(B.6)		7,59,000.00	0.00		7,59,000.00	0.00	7,59,000.00	0.00
B.7	Loan ERV		1,87,86,248			1,87,86,248.60		1,87,86,248.60	
B.8	Reversal of Liability		-500			590.00		-500	
	Total Exclusion Claimed (B)		1,40,93,50,325	-7,72,33,267		1,33,21,17,068	18,84,32,664	1,14,36,84,415	-
	Grand Total (A+B)		1,62,10,96,354	-9,89,09,046		1,52,21,87,309	29,08,56,669	1,23,13,30,640	-

(Petitioner)

परिमल पीयूष/PARIMAL PIYUSH
अपर महाप्रबन्धक (वाणिज्यिक)
Addl. General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED
EOC, A-8A, Sector-24, Noida-201301 (U.P.)

Summary of issue involved in the petition						PART-I FORM-T
Name of the Company :		NTPC Limited				
Name of the Power Station :		Rihand Super Thermal Power Station Stage-I				
1	Petitioner:	NTPC Limited				
2	Subject	Determination of Tariff for 2019-24 period				
3	Prayer:	i) Approve revised tariff of Rihand St-I for the tariff period 2019-24 as per provision of Regulation 13 of Tariff Regulations 2019. ii) Allow the Petitioner to recover the additional O&M cost for ash transportation. iii) Allow the reimbursement of water charges, capital spares and security expenses for the instant station, as claimed by the Petitioner. iv) Pass any other order as it may deem fit in the circumstances mentioned above.				
4	Respondents					
Name of Respondents						
1. Uttar Pradesh Power Corp. Ltd. (UPPCL)						
2. Rajasthan Urja Vikas Nigam Limited (RUVNL)						
3. Tata Power Delhi Distribution Limited						
4. BSES Rajdhani Power Limited.						
5. BSES Yamuna Power Limited,						
6. Haryana Power Purchase Centre						
7. Haryana Power Purchase Centre						
8. Himachal Pradesh State Electricity Board Limited,						
9. Power Development Department						
10. Electricity Department of Chandigarh						
11. Uttarakhand Power Corporation Limited,						
5	Project Scope					
Capital Cost as on 01.04.2024 (Rs. Lakh)		244965.98				
Date of Station COD		01-01-1991				
Claim (Rs Lakh)		2019-20	2020-21	2021-22	2022-23	2023-24
AFC		53368.95	55487.98	56721.97	59896.24	69363.63
Capital Cost		243460.57	243403.92	243073.13	243432.58	244497.24
Initial spare		N/A				
NAPAF (Gen)		85%				
Any Specific						
 (Petitioner)						

परिमल पीयूष / PARIMAL PIYUSH
 अपर महाप्रबन्धक (वाणिज्यिक)
 Addl. General Manager (Commercial)
 एन टी पी सी लिमिटेड / NTPC LIMITED
 EOC, A-8A, Sector-24, Noida-201301 (U.P.)

AUDITOR CERTIFICATE

S. No	Details	Amount (in Rs.)
Station:	Rihand Super Thermal Power Station	
Month:	Apr-2022 to Mar-2023	
1	Cumulative Ash transportation expenditure incurred (as per MOEF&CC Notification dt. 31.12.2021) including any adjustments in respect of any prior months. Such expenditure shall include liability, if any. (X)	1,181,027,313
2A	Opening balance of ash sale revenue as on 01.04.2022 (O)	0.00
2B	Cumulative Ash sale revenue / proceeds received including any adjustments in respect of any prior months. (Y)	549433
3	Cumulative Net Ash transportation expenses of Station (Z= X-Y-O)	1180477879
4	Billable Cumulative ash transportation expenses of Station (A = Z * F * 0.9)	1055607059
RHTPS-1		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	321,960,804
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_N = \text{Cum SG}_{\text{beneficiary N}} / \text{Cum SG}_{\text{commercial stage}} * [C]$
	AJMER	8,223,236
	AVVNL-NSM	3,210,680
	BRPL	22,556,306
	HARYANA	21,207,093
	HPSEB	12,870,046
	JAIPUR	12,070,098
	JDVVNL-NSM	4,088,332
	JODHPUR	10,469,795
	JVVNL-NSM	4,712,319
	MP	1,246,847
	NCR NVVN COAL	15,927,799
	NDMC	375,681
	NDPL	10,181,169
	NVVN-BPDB	8,282,740
	PDD J&K	25,342,688
	PGRH	267,400
	PUNJAB	36,270,565
	UP	106,343,960
	UPPCL-NSM	1,830,345
	UTCHD	3,218,332
	UTTARAKHAND	13,265,375

RHTPS-2		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	378,967,176
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_N = \text{Cum SG}_{\text{beneficiaryN}} / \text{Cum SG}_{\text{commercial stage}} * [C]$
	AJMER	10,162,833
	AVVNL-NSM	4,075,781
	BRPL	21,282,746
	BYPL	12,491,064
	HARYANA	21,770,752
	HPSEB	15,057,643
	JAIPUR	14,920,522
	JDVVNL-NSM	5,192,461
	JODHPUR	12,945,742
	JVVNL-NSM	5,983,547
	MP	1,534,583
	NCR NVVN COAL	20,303,425
	NDMC	483,762
	NDPL	15,063,382
	NVVN-BPDB	5,825,016
	PDD J&K	38,502,462
	PUNJAB	39,502,111
	UP	114,027,751
	UPPCL-NSM	2,356,044
	UTCHD	3,207,571
	UTTARAKHAND	14,277,981


 Anil Kumar (Signature)
 Add. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

RHTPS-3		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	354,679,079
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_N = \text{Cum SG}_{\text{beneficiary N}} / \text{Cum SG}_{\text{commercial stage}} * [C]$
	AJMER	10,998,149
	AVVNL-NSM	4,234,702
	BRPL	28,133,412
	BYPL	19,568,814
	HARYANA	19,995,169
	HPSEB	13,023,390
	JAIPUR	16,156,595
	JDVVNL-NSM	5,396,453
	JODHPUR	14,014,337
	JVVNL-NSM	6,220,823
	MP	1,153,775
	NCR NVVN COAL	21,069,063
	NDMC	463,856
	PDD J&K	26,495,800
	PUNJAB	30,138,770
	UP	117,755,824
	UPPCL-NSM	2,457,583
	UTCHD	2,395,961
	UTTARAKHAND	15,006,608

For
Management (NTPC)



Thota Vinodh Kumar
General Manager (Finance)
Date: 25/05/2023



For
Diwanji and Associates

FRN : 100227



CMA Sweety Shah

(Partner)

M.No.: 45648

UDIN:2345648B2NYJMXOUYW



Adil General Manager (Commercial)
For & on behalf of NTPC Limited

AUDITOR CERTIFICATE

Station:	Rihand Super Thermal Power Station	
Month:	Apr-2023 to MAR 2024	
S. No	Details	Amount (In Rs.)
1	Cumulative Ash transportation expenditure incurred (as per MOEF&CC Notification dt 31.12.2021) including any adjustments in respect of any prior months. Such expenditure shall include liability, if any. (X)	2127718201
2A	Opening balance of ash sale revenue as on 01.04.2023 (O)	0.00
2B	Cumulative Ash sale revenue / proceeds received including any adjustments in respect of any prior months. (Y)	4409268
3	Cumulative Net Ash transportation expenses of Station (Z= X-Y-O)	2123308933
4	Billable Cumulative ash transportation expenses of Station (A = Z * F * 0.9)	1910978039
RHTPS-1		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	65,42,54,581
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_N = \text{Cum SG}_{\text{beneficiary N}} / \text{Cum SG}_{\text{Commercial stage}} * [C]$
	AJMER	1,76,59,772
	AVVNL-NSM	67,29,896
	BRPL	4,81,48,783
	GUJARAT	9,67,756
	HARYANA	4,38,70,272
	HPSEB	2,66,13,631
	JAIPUR	2,35,73,665
	JVVNL-NSM	82,19,908
	JODHPUR	2,15,63,789
	JVVNL-NSM	89,85,346
	MP	85,50,560
	NBPDCI - NTPC	54,416
	NCR NVVN COAL	3,18,15,339
	NOMC	1,37,432
	NDPL	2,07,80,128
	NVVN-BPOB	1,69,94,019
	PDD J&K	5,44,97,828
	PGRH	5,44,074
	PUNJAB	7,33,67,163
	SBPDCL - NTPC	63,878
	UP	20,13,19,748
	UPPCL-NSM	36,82,334
	UTCHD	80,37,959

UTTARAKHAND		3,01,06,885
RHTPS-2		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	60,81,24,997
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_N = \text{Cum SG}_{\text{beneficiary N}} / \text{Cum SG}_{\text{commercial stage}} * [C]$
	AJMER	1,70,33,916
	AVVNL-NSM	67,40,046
	BRPL	3,42,71,674
	BYPL	1,99,73,437
	GUJARAT	10,67,596
	HARYANA	3,55,50,694
	HPSEB	2,49,17,675
	JAIPUR	2,28,35,025
	JDVVNL-NSM	82,81,344
	JODHPUR	2,09,24,118
	JVVNL-NSM	90,37,010
	MP	57,62,383
	NBPDCL - NTPC	60,567
	NCR NVVN COAL	3,19,79,167
	NDMC	1,62,497
	NDPL	2,41,52,029
	NVVN-BPDB	94,08,256
	PDD J&K	6,51,24,543
	PUNJAB	6,30,13,641
	SBPDCL - NTPC	71,399
	UP	17,26,14,827
	UPPCL-NSM	37,01,294
	UTCHD	66,26,327
	UTTARAKHAND	2,49,15,632
RHTPS-3		
5.1	Billable Cumulative Ash transportation expenses of Commercial Stage (C = A * Cum SG Commercial stage / Cum SG station)	64,85,98,465
6.1	Cumulative Ash transportation expenses billed to beneficiary N	$B_b = \text{Cum SG}_{\text{beneficiary N}} / \text{Cum SG}_{\text{commercial stage}} * [C]$
	AJMER	2,11,14,953
	AVVNL-NSM	60,59,593
	BRPL	6,21,40,994
	BYPL	3,59,41,517
	GUJARAT	12,70,235
	HARYANA	3,78,55,257
	HPSEB	2,37,56,112


 Ashwini Kumar (Commercial)
 Ash. General Manager (Commercial)
 एन डी डी लिमिटेड/NTPC LIMITED



	JAIPUR	2,82,50,430
	JVVNL-NSM	98,80,398
	JODHPUR	2,58,65,803
	JVVNL-NSM	1,07,88,963
	MP	21,01,291
	NBPDCL - NTPC	69,143
	NCR NVVN COAL	3,81,87,408
	NDMC	1,84,491
	PDO J&K	5,19,48,373
	PUNJAB	5,54,97,034
	SBPDCL - NTPC	81,167
	UP	20,45,66,584
	UPPCL-NSM	44,19,841
	UTCHD	57,99,232.00
	UTTARAKHAND	3,08,19,646.00

For
Management (NTPC)



Thota Vinodh Kumar
General Manager (Finance)




अध्यक्ष (वित्त) /
Addl. General Manager (Commercial)
एन टी सी लिमिटेड / NTPC LIMITED



THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA

(Set up by an Act of Parliament)

Ref: TD/EAC/1507/13

October 1, 2014

CA. Sipan Garg
Sr. Manager (Finance)
NTPC Limited
NTPC Bhawan, Scope Complex,
7, Institutional Area,
Lodi Road,
NEW DELHI – 110 003.

Dear Sir,

We are enclosing herewith the opinion of the Expert Advisory Committee of the Institute on the query raised by you on the subject 'Accounting treatment of interest on enhanced land compensation.'

Thanking you,

Yours faithfully,

(Parul Gupta)
Secretary
Expert Advisory Committee
Phone:30110563
Email: eac@icai.org

अनिल कुमार सिंह (अभिनिवृत्त)
Anil Kumar Singh (Retired)
एन टी सी लिमिटेड / NTPC LIMITED



THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA
(Set up by an Act of Parliament)

Opinion

EAC/1507/13

Querist: CA. Sipan K. Garg, NTPC Limited, New Delhi

Subject: Accounting treatment of interest on enhanced land compensation.

A. Facts of the Case

1. A Government of India company (hereinafter referred to as the 'company') is engaged in the construction and operation of thermal power plants in the country. The company has also diversified into hydro power generation, solar power generation, coal mining and oil & gas exploration, etc. The company is registered under the Companies Act, 1956. The company is also governed by the provisions of the Electricity Act, 2003 in respect of generation of electricity business. The company prepares its annual financial statements as per the provisions of the Companies Act, 1956. The company is also listed with the Bombay Stock Exchange and National Stock Exchange.

2. The company is functioning in a regulated environment. The tariff for sale of energy from its stations is determined by the Central Electricity Regulatory Commission (CERC). Tariff for sale of energy comprises of two components, namely, annual capacity (fixed) charges and energy (variable) charges. The capacity charges mainly consist of interest on loan capital, depreciation, return on equity, operation and maintenance expenses, interest on working capital etc. and to a large extent depend on the admitted capital cost of a generating station. The energy charges consist of primary fuel cost as stipulated in the tariff regulations.

3. The querist has provided the background of the issue raised as below:

(a) Land Acquisition Act, 1894 (hereinafter referred to as 'the Act') is applicable for acquisition of private land through the State Government for the projects of the

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whichever is earlier and solatium, as determined by the LAO in terms of section 23 of the Act are treated as land cost.

(b) Where the land losers approach the Court demanding compensation higher than that awarded by the LAO and if the Court awards higher compensation, keeping in view the principles of conservatism and prudence, liability is provided for the enhanced compensation awarded by the court, including interest if any thereon, irrespective of fact whether the decisions are contested by the company or by the land losers before higher courts.

(c) Interest on the compensation awarded by the Court is recognised in the statements of profit and loss. Interest upto the date of commercial declaration of the first unit of the stage for which land has been acquired is capitalised as 'Expenditure during Construction (EDC)', since during that period the entire project was under construction. Though this interest is not in the nature of borrowing costs, the accounting treatment followed by the company similar to the provisions of paragraph 16 of Accounting Standard (AS) 16, 'Borrowing Costs', which states that "... borrowing costs incurred while land is under development are capitalised during the period in which activities related to the development are being undertaken. ." (Emphasis supplied by the querist.)

(d) In respect of cases pending before the District Court (appeals against the amounts awarded by the LAO), the financial effect is disclosed as contingent liability after considering the following:

- (i) In case the claims of some of the land losers are disposed off by a Court, the contingent liability in respect of the pending claims is disclosed considering the rate awarded by the Court in respect of cases in the same/adjacent locality.
- (ii) If none of the cases have been decided by the Courts, opinion of the legal counsel dealing with the case is obtained with regard to tenability of the claims made and the amounts likely to be admitted by the Court taking into consideration the rate awarded by the land acquisition officer, decisions of the courts for land acquisition cases in the project vicinity and other relevant factors.

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- (e) Where interim payments are made as per directions of the Court, interest liability ceases on such payments from the date of payment into the Court, unless otherwise provided in the orders of the Court.
- (f) In case a superior Court modifies the award of the lower Court, suitable updation of liability is carried out in the accounts in line with the decision of the superior Court, even though any appeals filed against such decision are pending.

5. The accounting treatment of land followed by the company is explained by way of an example as under:

Land acquired by the company (10 land losers 10 acres each)	= 100 acres
Market value of land awarded by the LAO	= Rs. 100 per acre
Date of publication of Notice u/s 4 of the Act	= 1 st January, 2010
Date of possession of land by the company	= 31 st March, 2010
Date of award by the LAO	= 31 st March, 2010
Date of commercial declaration of first unit of the station	= 31 st January, 2012
Amount deposited with LAO for land (calculated as under):	= Rs. 13,300/-
Market value of land	= Rs. 10,000/-
12% on market value upto the date of possession (10,000 X 0.12 X 3/12)	= Rs. 300/-
30% Solatium	= Rs. 3,000/-

	= Rs. 13,300/-

The amount of Rs. 13,300/- is capitalised as cost of land in the books of account.

After accepting the compensation awarded by the LAO, 5 land losers approach the District Court for enhancing the market value of land from Rs. 100 per acre to Rs.

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200 per acre on 30th September, 2010 with consequential benefits. Further, the balance 5 land losers also approach Court for enhancing the market value of land from Rs. 100 per acre to Rs. 200 per acre on 31st December, 2010 with consequential benefits. The District Court after hearing the prayer of first 5 land losers enhances the market value of land from Rs. 100 per acre to Rs. 150 per acre on 30th November, 2012 along-with other entitlements as per the Act. The Court directs the collector to recalculate balance amount payable to the land losers. Such orders along-with the calculations for payments are received by the company from the office of the collector on 31st December, 2012. On 1st January, 2013, the company deposits the balance amount of Rs. 4,497/- with the LAO for payments to the land losers. The calculation of Rs. 4,497 is as under:

Differential market value of land	= Rs. 2,500/-
12% on market value upto the date of possession (2,500 X 0.12 X 3/12)	=Rs. 75/-
30% solatium	=Rs. 750/-

	=Rs. 3,325/-
Interest @ 9 % from 1 st April, 2010 to 31 st March, 2011 (3,325 X 0.09)	=Rs. 299/-
Interest @15% from 1 st April, 2011 to 1 st January, 2013 (3,325 X 0.15 X 21/12)	=Rs. 873/-
Total amount deposited with the LAO for 5 land losers	=Rs. 4,497/-

The enhanced compensation of Rs. 3,325/- is capitalised as cost of land. Interest of Rs. 299/- and Rs. 873/- is debited to the statement of profit and loss. Out of this, interest of Rs. 299/- (9% for one year) and Rs. 374/- (15% from 1st April, 2011 to 1st January, 2012

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i.e., the date of commercial declaration of the station) is capitalised as BDC since the entire project during this period was under construction

6. The querist has stated that considering the guidelines given in paragraph 4 (d) above, claims of the land losers have been disclosed as under:

Financial Year 2010-11

Contingent liability of Rs. 14,497/- (differential market value of land with 12% on market value, 30% solatium and 9% interest from 1st April, 2010 to 31st March, 2011, i.e., Rs. 10,000/- (+) Rs. 300/- (+) Rs. 3,000/- (+) Rs. 1,197/-) is disclosed.

Financial Year 2011-12

Contingent liability of Rs. 14,497/- appearing in the accounts as at 31st March, 2011 is updated with 15% interest for the year 2011-12 and the amount of Rs. 16,492/- (i.e., differential market value of land with 12% on market value, 30% solatium, 9% interest for one year and 15% interest from 1st April, 2011 to 31st March, 2012, i.e., Rs. 10,000/- (+) Rs. 300/- (+) Rs. 3,000/- (+) Rs. 1,197/- (+) Rs. 1,995/-) is disclosed.

Financial Year 2012-13

On receipt of the judgment of the District Court on 31st December, 2012, an amount of Rs. 4,497/- is paid to the LAO based on the order of District Court. Contingent liability towards the claims of balance 5 land losers is updated based on the judgment of the Court in similar cases and disclosed at Rs. 4,622. (i.e., differential market value of land awarded by the district court along-with 12% on market value, 30% solatium, 9% interest for one year and 15% interest from 1st April, 2011 to 31st March, 2013, i.e., Rs. 2,500/- (+) Rs. 75/- (+) Rs. 750/- (+) Rs. 299/- (+) Rs. 998/-).

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7. *New developments:*

In April 2012, the EAC of the Institute of Chartered Accountants of India (ICAI) pronounced another opinion which was finalised on 10th October, 2011 (hereinafter referred to as 'port trust case') relating to accounting for payments made in respect of land pending execution of conveyance deeds and borrowing costs incurred in respect thereof. The opinion related to the State Port Trust (SPT), entrusted with the construction of a new port by the Government of India (GOI) and subsequently handover it to a company as per the directions of the GOI. In the opinion, the Committee referred to paragraphs 49 (a), 58 and 88 of the Framework for the Preparation and Presentation of Financial Statements, issued by the ICAI and opined that the company should capitalise the total amount (including the interest) as cost of land as the interest in substance is part of the consideration of land.

8. *Points for Consideration*

The company is of the view that keeping in view the opinion of the EAC in the port trust case, there is a need to review the existing practice of accounting for interest on enhanced land compensation and the entire amount of enhanced compensation together with interest awarded by the Court should be treated as cost of land for the following reasons:

(a) As per paragraph 9.1 of Accounting Standard (AS) 10, 'Accounting for Fixed Assets', *"The cost of an item of fixed asset comprises its purchase price, including import duties and other non-refundable taxes or levies and any directly attributable cost of bringing the asset to its working condition for its intended use; any trade discounts and rebates are deducted in arriving at the purchase price. Examples of directly attributable costs are:*

- (i) *site preparation;*
- (ii) *initial delivery and handling costs;*
- (iii) *installation cost, such as special foundations for plants; and*
- (iv) *professional fees, for example fees of architects and engineers.*

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The cost of a fixed asset may undergo changes subsequent to its acquisition or construction on account of exchange fluctuations, price adjustments, changes in duties or similar factors" (Emphasis supplied by the querist.)

In the context of the land acquired under the Act, the price is initially determined by the LAO. The Act also has provisions for the land losers to make an application to the collector to refer the matter to the Court for determination of the compensation if they are not satisfied with the award of the LAO. The collector is obligated to make such reference and the Court thereupon determines the compensation taking into account various factors as provided in the Act. The decision of the Court can be challenged before the High Court and thereafter, in the Supreme Court as per the Code of Civil Procedure. Further, the Act also provides that if even in a single case the Court determines enhanced compensation compared to that awarded by the LAO, the other land losers can make an application for re-determination even though they have not previously made an application to the collector for reference to the Court. It is observed that invariably the award of the LAO is challenged and the land losers approach for enhanced compensation on various grounds. While there is a prescribed time for the collector to make an award, there is no such time limit for the Court to determine the compensation. Due to these reasons, the cost of the land acquired does not get finality for a considerable period of time.

It is observed that in many instances, with a view to expedite the project development, possession of the land is handed over to the company pending issuance of award by the LAO on deposit of 80% of the estimated compensation decided by the LAO. The awards are issued by the LAO subsequently following the procedure under the Act. Under the circumstances, the company provisionally capitalises the land in its books as per the best estimate of the cost incurred which is updated from time to time depending upon the developments in each case. Where the awards are challenged before courts, the cost of land is adjusted in the books as and when decisions of the courts are received. The above accounting treatment is similar to adjustment in the cost of assets provisionally capitalised pending final

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receipt of bills from the suppliers/contractors where upon receipt of final bills, adjustments are made in the asset cost as per the admitted bill amounts. This is also disclosed through accounting policy of the company which states that "In the case of assets put to use, where final settlement of bills with contractors is yet to be effected, capitalisation is done on provisional basis subject to necessary adjustment in the year of final settlement" (emphasis supplied by the querist). AS 10 also recognises that the cost of a fixed asset may undergo changes subsequent to its acquisition or construction on account of exchange fluctuations, price adjustments, changes in duties or similar factors. The enhanced compensation awarded by the courts in the case of land acquisition together with interest thereon are in the nature of price adjustments subsequent to initial recognition as provided in AS 10 and should be recognised as cost of land.

(b) The compensation for land is determined by the collector or the Court considering various aspects including market value, standing crop, buildings, trees, wells, etc. on the land and any damages to the other property of the land loser. The market value of land is to be increased by 12% per annum for the period commencing on and from the date of publication of the notification under section 4 of the Act to the date of award of the collector or the date of taking possession of the land whichever is earlier. Solatium @ 30% of the market value is also to be paid due to the compulsory acquisition of the land. In cases where the Court enhances the compensation, it may order payment of interest on such excess @ 9% p.a. for the first year and 15% p.a. for the subsequent period till the payment of such excess into Court. It is submitted that all the above elements differ from one another only in the method by which they are computed and are in reality consideration paid for the acquisition of land. Accordingly, they should be treated as cost of land in terms of AS 10 since these payments are directly attributable to the acquisition of land. While AS 10 does not define 'directly attributable', drawing reference to the 'avoidability test' given in AS 16, it can be said that since all the above elements of cost, including interest, could have been avoided only if the company had not made the land acquisition, these are directly attributable costs. It may be appreciated that the competent authority to determine the compensation for the land acquired is the

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LAO or the Court (including the High Court or Supreme Court, where appeals are made) and until such determination is made by them, the cost is not finally known to the company. The company cannot avoid any such amount as finally determined by the courts and therefore, the same is a directly attributable cost for the land.

(c) As to the element of interest included in the compensation awarded by the Court, it may not be correct to term the same to be 'in the nature of cost for delay in the payment of enhanced compensation' since such interest arises due to the very process of determining the compensation specified in the Act which is inherently a time consuming affair. The amount of interest awarded by the courts does not constitute a penalty. Even assuming these are arising due to delays, such delays cannot be attributed to the company as primarily interest arises due to the time taken by various authorities for determination of the compensation and not due to any delay in payment of the compensation amount by the company. Even in those instances where the company appeals against the enhanced compensation awarded by a Court, the time taken by the higher Court for disposal of the appeal cannot be said to be a delay on the part of the company since the company, as a commercial organisation, is required to take all necessary actions to protect its interests. The company has also a moral obligation to ensure that the electricity tariffs for its customers do not go up on account of enhanced compensation awarded by the courts considered as unreasonable or excessive by it. In many instances the company has also seen that the enhanced compensation awarded by a lower Court has been rejected or significantly reduced by the higher courts.

(d) The views expressed by the EAC in the oil company opinion that the interest costs do not generate any future economic benefit are not substantiated. Land acquired under the Act is freehold land which is a non-depreciable asset with indefinite life. One of the reasons for not depreciating land is that usually land prices appreciate and therefore, there is no diminution in its value to be recognized in the financial statements. Drawing from the principles of Accounting Standard (AS) 23, 'Impairment of Assets', the economic benefit could be in the form of 'value in use' or 'net realisable value'. In any case, the cost of land would form part of the related

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cost generating unit and would be subjected to impairment testing as per AS 28. Therefore, it may not be fair to automatically conclude that the amounts paid as interest do not yield any future economic benefit.

The argument that there is no future economic benefit is particularly not relevant in the case of the company since tariffs for sale of energy are regulated by the Central Electricity Regulatory Commission (CERC). As per the Tariff Regulations issued by the CERC, the company is allowed to recover the capital cost incurred for generation of power by way of depreciation, interest on borrowed funds and a specified return on equity over the useful life of the asset. Where courts order payment of enhanced compensation for the land acquired, the company is entitled to approach the CERC for revision of the project cost for tariff purposes and the same would be considered by the CERC as per the Tariff Regulations providing 'future economic benefits'.

(e) For the sake of argument, let us assume that the LAO or Court determines the compensation as a lump sum amount without providing break-up for various elements considered. In such case, the entire amount would be treated as cost of land without the need to charge any portion thereof as 'interest' to the statement of profit and loss. The methodology followed by the LAO or Court in determining the amounts payable for the land acquired should not guide the accounting in the books of the company. Applying the principle of substance over form, from the company's perspective the entire amount is a cost for the land acquired.

(f) In the port trust case also, the EAC has been guided by the substance over form principle and has stated that the entire amount paid should be treated as cost of land even though in arriving at the amount payable, an interest element was identified by the Government. While the facts of the port trust case are different from that of the oil company case (which squarely deals with land acquisition under the Act), certain important similarities are relevant. Firstly, the port company, from the beginning, obtained possession of the land though the price thereof was not fixed. Secondly, the SPT and the port company, undertook to be bound by the decision of

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the GOI on the cost of the land. In the case of land acquired by the company under the Land Acquisition Act, also (i) the possession of land is available pending final determination of compensation amount and (ii) the compensation amount is determined by an independent agency which is the LAO or the Court. The EAC in its opinion in the put trust case has been guided by the 'substance over form' principle and observed that "for accounting purposes, the transactions and events should be recorded in accordance with their substance and economic reality rather than legal form". Referring to paragraph 88 of the Framework for the Preparation and Presentation of Financial Statements, issued by the ICAI which states that "An asset is recognised in the balance sheet when it is probable that the future economic benefits associated with it will flow to the enterprise *and the asset has a cost or value that can be measured reliably*", the EAC noted that "until and unless the Government issued a final order that the title to the land can be obtained by the company alongwith determining the final payments that the company would make to SPT, *the cost of land cannot be measured reliably*". Accordingly, in accordance with paragraph 88 of the framework, as reproduced above, the Committee was of the view that "*although in the extant case, the land may meet the criteria of an asset for the company, but before the financial year 2007-08 when the said order was issued by the Government of India, it cannot be recognised in the books of the company*". The EAC also opined that even though the compensation required to be paid by the part company included interest element, the same is not a borrowing cost nor it is payment for any delays on the part of the company. The EAC was of the view that "*... rate of interest is only as a reference point for determination of final sale consideration of the land and does not automatically lead to an inference that the amount so computed is of the nature of interest. In substance, the company is paying the total amount as a consideration to obtain the title to land*". It may be seen that the EAC opinion stresses on the fact that pending the Government order the cost of land could not be measured reliably. Drawing the same analogy, in the case of land acquired by the company, the acquisition is done as per the provisions of the Act where the LAO or the courts are the competent authorities to determine the compensation. The modus operandi for such determination is not relevant as in substance, all amounts paid by the company are consideration to obtain the title to

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land. As opposed to the port trust case, where perhaps the compensation amount was not disputed, in the case of land acquired by the company, the awards of the LAC are more often than not disputed before courts. Pending final determination of the compensation amount by the appropriate Court, the company provisionally recognises the payments made in respect of land in possession as land cost which is subsequently adjusted for increases/decreases ordered by the courts.

(Emphasis supplied by the querist.)

According to the querist, considering the above, it is submitted that the company is paying the total amount including interest to the land losers as consideration to obtain the title to land. Accordingly, the total amount should be recognised as cost of land in the books of account.

B. Query

9. The querist has sought the opinion of the Expert Advisory Committee on the following issues:

- (a) Whether interest on enhanced land compensation awarded by the courts should be included in the capital cost of land.
- (b) If answer to question (a) is negative, whether the current accounting practice of the company is in order.
- (c) If answer to question (b) is also negative, what shall be the correct accounting treatment of such interest?

C. Points considered by the Committee

10. The Committee notes that the basic issue raised by the querist relates to accounting treatment of interest on enhanced land compensation. The Committee has, therefore, considered only this issue and has not examined any other issue that may be contained in

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the Facts of the Case, such as, accounting treatment of enhanced compensation and additional payments as mentioned in paragraph 3(a) above, accounting policy of the company for providing liability or disclosing contingent liability for the probable/possible enhancement in land compensation and interest thereon, propriety of capitalisation of land on provisional basis and updation of the same from time to time depending on the developments, etc. Further, the Committee's opinion expressed hereinafter is purely from accounting point of view and not from the angle of interpretation of various legal enactments, such as, Land Acquisition Act, etc. The Committee has also not examined the issue from the angle of tariff regulations issued by the CERC as the considerations for tariff determination may be different from accounting considerations. The Committee also wishes to point out that though the expression 'enhanced compensation' normally means original compensation plus increase in compensation, for sake of convenience, the Committee uses the expression 'enhanced compensation' as the difference between final compensation awarded by the Court (excluding 9% interest/15% interest) and the original compensation awarded by the Land Acquisition Officer (LAO).

11. At the outset, the Committee notes the earlier opinions of the Committee referred to by the querist in paragraph 3(c) above (viz., oil company case) and paragraph 7 above (viz., port trust case). The Committee also notes the arguments of the querist with respect to the earlier opinions of the Committee and is of the view that these deal with two different situations (as also admitted by the querist) as explained below:

- (i) In the oil company case, initially the award for acquisition of land was given by the Land Acquisition Officer which was enhanced by the Court. Further, the Court also directed to pay interest @ 9%/15% on enhanced compensation for the period from the date of award/dispossession till the date of payment, though determined at a later date. Thus, the facts of that case were similar to the facts given in the present case.
- (ii) In the port trust case, although the company in question had been handed over the possession of land by the transferor entity who had originally incurred certain costs for acquisition of land but at that time it was not clear

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that which party will own that land, viz., the transferor entity or the company to whom the possession of the land was handed over (viz. the company in question). After few years, the Government decided that the land would be owned by the company in question and also determined the sale consideration by adding an amount equivalent to the interest at the rate of SBI PLR to the cost incurred by the transferor entity. Thus, the Committee had opined that SBI PLR was used as a benchmark to arrive at consideration for the transfer of land.

Since the facts are different in the two cases as discussed above, the opinion expressed on the oil company case differs from the opinion on the port trust case. However, though the facts of the case in oil company case are similar to facts of the extant case, the Committee notes that the earlier opinion in oil company case had apparently focused on the delay in payment of compensation by the company rather than on delay in the process of arriving at the final decision.

12. The Committee notes that section 18 of the 'Act' provides for reference to the Court by the Collector, at the instance of any interested person who has not accepted the award, for the determination by the Court of certain matters, which include the amount of the compensation. Sections 23 and 24 of the 'Act' specify the matters to be considered and matters to be neglected respectively by the Court in determining the amount of compensation to be awarded. As per section 25 of the 'Act', the amount of compensation awarded by the Court shall not be less than the amount awarded by the Collector under section 11. Section 28 of the 'Act' reads as below:

"28. Collector may be directed to pay interest on excess compensation: If the sum which, in the opinion of the Court, the Collector ought to have awarded as compensation is in excess of the sum which the Collector did award as compensation, the award of the Court may direct that the Collector shall pay interest on such excess at the rate of nine per centum per annum from the date on which he took possession of the land to the date of payment of such excess into Court:

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Provided that the award of the Court may also direct that where such excess or any part thereof is paid into Court after the date of expiry of a period of one year from the date on which possession is taken, interest at the rate of fifteen per centum per annum shall be payable from the date of expiry of the said period of one year on the amount of such excess or part thereof which has not been paid into Court before the date of such expiry."

13. From the above, the Committee notes that since the award notified by the Land Acquisition Officer (LAO) may be enhanced by the Court in case reference is made to the Court, the compensation towards the acquisition of the land becomes final only on the date of the final award by the Court. The Committee further notes that the Land Acquisition Act itself recognises that the amount awarded by the LAO may not be final or acceptable to the land owners and accordingly, considering the long process of determination of final value of land, it envisages for the payment of various elements apart from the enhanced compensation such as interest @ 9% and 15% from the date of possession till the payment into the Court. The Committee also notes that till the final award of the Court, the quantum of interest to be paid cannot be determined as even the principal amount on which such interest payments are to be made is not determined and therefore, such interest is the result of the process of acquisition of land as per the Act. Accordingly, the Committee is of the view that 'interest' in the extant case is a part of the process for determination of purchase price of land and, therefore, in substance, should be considered as a component of purchase/ acquisition price only, to the extent the interest payments relate to the period of final determination of the price by the Court. Any interest beyond such period, viz., after the date of final award till the date of payment should not be capitalised and charged to the statement of profit and loss, since, interest after the date of Court's award is to compensate for delay in the payment of the enhanced compensation as finally awarded by the Court.

14. As regards the policy of the company to capitalise the interest on enhanced occupation incurred for the period before commercial declaration of the first unit of the stage for which land is acquired on the basis of the principles enunciated in AS 16, the Committee is of the view that any expenditure incurred during construction cannot be capitalised or expensed on the basis of the principles of AS 16. AS 16 prescribes principles

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for accounting treatment of borrowing costs. In the extant case, the interest payments cannot be considered as a 'borrowing cost' as there is no borrowing of funds by the company.

D. Opinion

15. On the basis of the above, the Committee is of the following opinion on the issues raised by the querist in paragraph 9 above:

- (a) The interest payments on enhanced land compensation awarded by the Court should be included as cost of the land to the extent they relate to the period upto the date of Court's award. Any interest beyond that period should be treated as revenue expenditure and charged to the statement of profit and loss for the year of incurrance, as discussed in paragraph 13 above.
- (b) No, the current accounting practice of the company is not in order, as discussed in paragraphs 13 and 14 above.
- (c) See (a) above.

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**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 230/GT/2020

Coram:

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri Pravas Kumar Singh, Member

Date of Order: 27th June, 2023

IN THE MATTER OF

Petition for truing-up of tariff of Rihand STPS, Stage-I (1000 MW) for the period 2014-19.

AND

IN THE MATTER OF

NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003

.... Petitioner

Vs

1. Uttar Pradesh Power Corporation Limited,
Shakti Bhawan, 14, Ashok Marg,
Lucknow 226001
2. Rajasthan Urja Vika Nigam Limited,
(on behalf of DISCOMs of Rajasthan)
Vidyut Bhawan, Janpath, Jaipur 302005
3. Tata Power Delhi Distribution Limited,
Grid Substation, Hudson Road,
Kingsway Camp, Delhi- 110019
4. BSES Rajdhani Power Limited,
2nd Floor, B-Block, BSES Bhawan,
Nehru Place, New Delhi- 110019
5. BSES Yamuna Power Limited,
Shakti Kiran Building,
Karkardooma, Delhi- 110092
6. Haryana Power Purchase Center,
Shakti Bhawan, Sector-VI,
Panchkula, Haryana - 134109



28. The matter has been considered. It has been observed that the Petitioner has claimed the expenditure of Rs. 0.75 lakh, as a discharge of liability in nature of balance payment under Regulation 14(3)(v) of the 2014 Tariff Regulations. However, it is observed that these liabilities do not form part of the undischarged liabilities approved by the Commission in its earlier tariff orders, and has only been brought out and claimed in the present petition. Further, the Petitioner has not stated reference of any court order or any other adjudicating authority based on which compensation has been paid. Accordingly, the claim of the Petitioner for additional capitalisation of the compensation payment made to Sh. Lakshman Singh/Puja Singh is **not allowed**.

Freehold land plant/ office

29. The Petitioner has claimed additional capital expenditure of Rs.0.74 lakh in 2015-16, Rs. 0.00 lakh in 2016-17, Rs.0.13 lakh in 2017-18 and Rs.3.00 lakh in 2018-19 on cash basis, along with undischarged liabilities of Rs. 367.92 lakh in 2014-15, Rs.10.74 lakh in 2015-16, Rs. 9.17 lakh in 2016-17, Rs. 7.80 lakh in 2017-18 and Rs.9.15 lakh in 2018-19, towards free hold land for Plant and Office under Regulations 14(3)(i), 14(3)(ii) 14(3)(v) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that the interest portion paid/payable towards enhanced compensation for land, as per various court orders, was earlier not indicated in the cost of land, as accounting standards did not permit the same. It has however stated, that after the receipt of opinion of the Expert Advisory Committee of Institute of Chartered Accountants of India and as opined, the interest paid/ payable has been capitalised now as cost of land. Accordingly, the Petitioner has stated that the amount has been capitalised as interest, which would be payable for settlement of Land compensation cases, pending in various courts. It has also stated that some cases are still pending in various courts.



30. The Petitioner has submitted the copy of the opinion received from the Expert Advisory Committee of Institute of Chartered Accountants of India, wherein, it has been opined as follows:

“The interest portion on the enhanced compensation awarded by the court should be included as cost of the land to extent they relate to the period upto the date of court’s award. Any interest beyond the period should be treated as revenue expenditure and charged to profit and loss account from the year of incurrence. “

31. **In view of the above, the claim of the Petitioner towards free hold land along with the corresponding undischarged liabilities, is allowed.**

Effluent Quality Monitoring System (EQMS)

32. The Petitioner has claimed additional capital expenditure of Rs.34.61 lakh towards EQMS, main equipment supplies on cash basis under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that continuous monitoring of effluent quality has been made mandatory by Central Pollution Control Board (CPCB) vide its direction dated 5.2.2014 for the units including thermal power plant. The Petitioner has also submitted the copy of the directions dated 5.2.2014 received from CPCB.

33. The Respondent UPPCL has submitted that the Petitioner is eligible for Special allowance from 2015-16 and the Petitioner has claimed the benefits of Special Allowance from 2015-16 hence, these expenses should be met out of the Special Allowance.

34. The matter has been considered. It is noticed that CPCB vide its direction dated 5.2.2014 has mandated the Petitioner to install EQMS. Since the claim of the Petitioner is for compliance to the existing law and in terms of the directions of the statutory authority, the claim of the Petitioner for EQMS **is allowed** under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

Reference No-	2387
To: Mr. IG/IES	गुप्त
To: Mr. DIG/IES	
To: Mr. JIA/IG/IES	
जाति निरीक्षक, Head Clerk/IT	

महानिदेशालय
 Directorate General
 केन्द्रीय औद्योगिक सुरक्षा बल
 Central Industrial Security Force
 (गृह मंत्रालय)
 (Ministry of Home Affairs)

ब्लॉक न0-13, के.स.का. परिसर
 Block No. 13, C.G.O. Complex,
 लोधी रोड, नई दिल्ली-110 003
 Lodhi Road, New Delhi-110 003

आसूचना शाखा / Intelligence Branch

पत्रांक आई-13019/आसू.अनुशासकीयक (रि)/आई की निरीक्षण/पूछ/21-39,21 दिनांक: 03 /12/2021
 सेवा में,

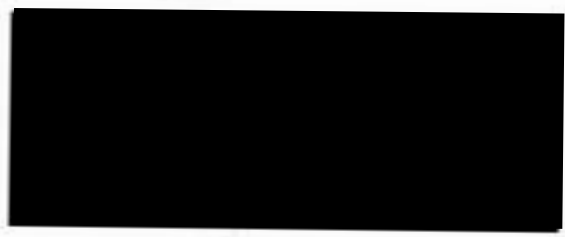
श्री / सतार
 केंद्राधिकारि महापालपुर परिसर, नई दिल्ली

विषय :- आसूचना ब्यूरो की आईएसआई टीम द्वारा किये गए सुरक्षा निरीक्षण की रिपोर्ट का प्रेषण ।

आसूचना ब्यूरो की आईएसआई टीम द्वारा दिनांक 26-27 अगस्त 2021 को Rihand Super Thermal Power Station (RSTPS), Rihand Nagar, District Sonbhadra, Uttar Pradesh के संदर्भ में किये गए सुरक्षा निरीक्षण की रिपोर्ट आसूचना ब्यूरो (गृह मंत्रालय) से इस निदेशालय को प्राप्त हुई है। उक्त रिपोर्ट की प्रति इस पत्र के साथ संलग्न कर सुरक्षात्मक अनुशंसाओं को क्रियान्वित किये जाने हेतु प्रेषित किया जाता है।

02. इस संबंध में अनुरोध है कि आसूचना ब्यूरो की आईएसआई टीम द्वारा उक्त निरीक्षण रिपोर्ट में की गई अनुशंसाओं के क्रियान्वयन हेतु अपने स्तर एवं संबंधित प्रबंधन से सम्पर्क कर आवश्यक कारवाई की जाए। इस निदेशालय के परिषद संख्या 03/2004 दिनांक 27.01.2004 के तहत जारी निर्देशों के परिप्रेक्ष्य में वैधानिक प्रणाली रिपोर्ट इस निदेशालय को प्रेषित की जाए।

संलग्नक :- 02 (संलग्नक)



आंतरिक वितरण :-
 1. महानिरीक्षक/पूछ

2. उप महानिरीक्षक/ऑफिस व न.म.
 केंद्राधिकारि मुख्यालय, नई दिल्ली।

कृपया उपरोक्त निरीक्षण रिपोर्ट की एक प्रति सूचनार्थ एव अग्रिम कारवाई हेतु प्रेषित ह।
 -तथैव-

20-12-21 018

16/12

[REDACTED]

(b) Security Lighting

(i) Lighting arrangements on the perimeter, minimum lux, height of poles, overlap of illumination zones, dark zones if any: Illumination arrangements along perimeter were found satisfactory. Adequate security lighting is provided by high masts/focus flood lights at intermittent locations. However, perimeter lighting at few places in BHEL yard area was non functional.

[REDACTED]

Upgrading a Mobrey™ Hydrastep 2457/2467 to a Mobrey Hydrastep 2468

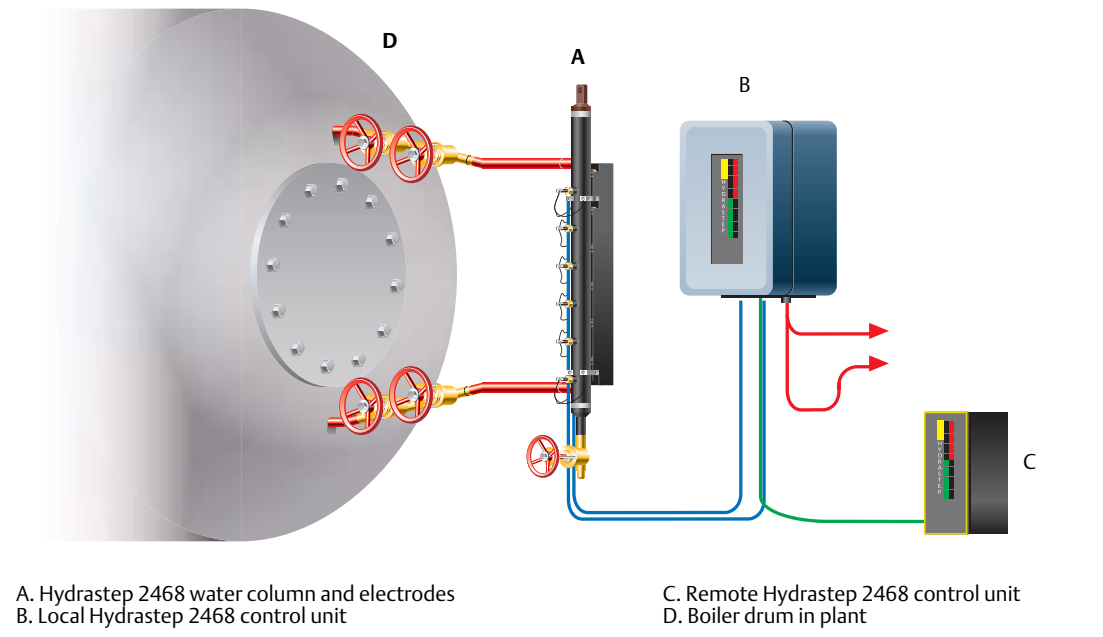
1.1 Introduction

The original Hydrastep was developed in co-operation with the power industry in the 1960's, and has since gone through many design changes and iterations. These changes resulted in the Mobrey Hydrastep 2468 Electronic Gauging System (Figure 1-1), which was launched in 1993 and is still an industry-standard today.

Prior to the Hydrastep 2468 system, the Hydrastep 7 range with the Hydrastep 2457 and Hydrastep 2467 systems were produced. Many of these previous-generation systems are still in operation today, which is a testament to their reliability. However, as there is no longer any support for these in terms of spares availability and repair capability, it is a concern that they are still being used in safety critical applications.

This technical note explains the differences between the present Hydrastep 2468 system and the previous-generation Hydrastep 7 systems, and provides an understanding of the benefits in upgrading to the present system.

Figure 1-1. Mobrey Hydrastep 2468 Electronic Gauging System



1.2 Advantages of the Hydrastep 2468 over the Hydrastep 7 range of systems

The Hydrastep 2468 offers a number of improvements over its predecessors to deliver a more robust system and a more flexible solution.

A study conducted by Factory Mutual Research in the USA (Methodology for the Reliability Evaluation of an Electric Gauging System Used for Safety in Power Boilers) had concluded that the probability of a missed trip incident occurring was dominated by short-circuits on the detection probes being misinterpreted as water.

The Hydrastep 7 range of systems were unable to detect this fault condition. However, the Hydrastep 2468 system provides short-circuit detection on all electrodes using an additional sense-wire connected to the electrodes in water, and a number of other electronics design changes.

The Hydrastep 7 range of systems were limited to twelve electrodes and, therefore, had a limited resolution, especially when being used over a wider site range. Their fault-detection methodology assumed that half the electrodes were in water and the other half were in steam. Electrodes had to be installed such that the 'normal water level' (NWL) was between electrodes numbered 6 and 7, otherwise it could miss certain fault conditions. The Hydrastep 2468 system was designed to accommodate up to thirty-two electrodes, and the NWL could be at any point within that range, without compromising fault detection.

There were further improvements to the Hydrastep 2468 such as adding serial communications between the controller and remote display. This enabled the connection of multiple remote displays at distances of up to 1 km from the controller, doubling the previous distance allowed and reducing the number of conductors needed. Fault-indication was also improved with the LEDs flashing between red and green to show where a specific electrode fault is located.

Table 1-1. Faults Displayed Using LEDs

Hydrastep System	Electrodes	Open-circuit disconnected or broken lead	Short-circuit fouled electrode or high conductivity	Comments
2457/2467	Electrodes 1 to 6 (water)	Steam below water. Amber fault LED flashes	No indication	Except at steam/water interface
	Electrodes 7 to 12 (steam)	Water above steam. Amber fault LED flashes	Water above steam. Amber fault LED flashes	Except at steam/water interface
2468	All electrodes	Red/green LED flashes to indicate specific electrode. Amber fault LED on.	Red/green LED flashes to indicate specific electrode. Amber fault LED on.	No exceptions

Note

For the 2457/2467, the above conditions are only valid when the steam/water interface is between electrodes 6 and 7.

A summary of the advantages of the current-generation Hydrastep 2468 over the previous-generation Hydrastep 7 range of systems:

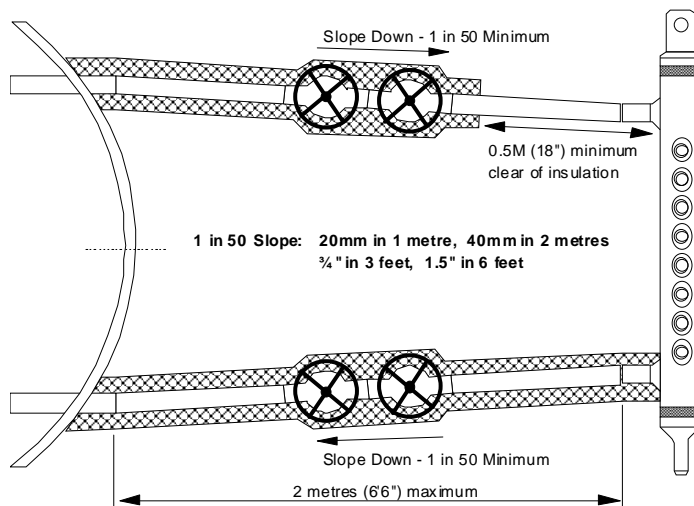
- Currently supported with spare parts, factory repair, and on-site service.
- Improved fault detection, including a fouled electrode in water.
- Improved fault indication with electrode LED indicating the fault position.
- Installation of up to thirty-two electrodes (with previous systems limited to twelve).
- Normal water level (NWL) is not restricted and can be at any position on the column.
- Greater choice of electrode types.
- Greater choice of remote displays (with previous systems limited to one type).
- Installation of up six remote displays (with previous systems limited to one)
- Remote displays are serial driven, reducing the number of conductors needed.
- Remote display maximum cable distance of 1 km (with previous systems limited to 500 m).

1.3 Upgrading from Hydrastep 7 systems to Hydrastep 2468 systems

The Hydrastep 2468 has improved sensitivity to fault conditions. This also means that it is essential that it is installed correctly. Therefore, if upgrading from an older system to a new system, it is important to review the existing installation and ensure that our recommendations are followed.

A common mistake is to omit the slope (Figure 1-2) from the water and steam legs. While an earlier Hydrastep 7 system may tolerate this, the current Hydrastep 2468 may not and so this requirement becomes critical.

Figure 1-2. Recommended Slope



A cable upgrade is required to compensate for the single-wire connections to electrodes 1 to 6 because the 2468 must have a two-wire connection to all electrodes. New electrode cables will need to be supplied and fitted to provide the two-wire connection.

Any existing water column will have been in place since 1993 or before and will have been subject to high temperatures and pressures for many years. It is therefore highly recommended that this is replaced by a new column.

1.3.1 Items required for an upgrade

- Water column
- Electrodes
- Electrode cables
- Hydrastep controller
- Remote display(s) (optional)

Note

See Product Data Sheet BP2468 for all item part numbers. This is available electronically by visiting the web site page at delta-mobrey.com. At the Mobrey home page, click on the link “Product Data Sheets” (from the Documentation section) and then the link “Electromechanicals”.

1.3.2 Points to consider prior to upgrade

- Are the existing steam and water legs suitable, with sufficient range and with the slope as described above?
- Is any existing remote display cabling suitable for digital communications (shielded, or free from interference)?
- Is the same number of electrodes required, or should this be increased for greater resolution?
- The Hydrastep 2468 4-20mA output is single ended (one side is grounded) while the 2457 was floating - ensure that this can be accommodated.

1.4 Hydrastep web site page




For all product information and documentation downloads, see the on-line Mobrey Hydrastep web site page at delta-mobrey.com. At the Mobrey home page, click on the link “Electromechanical” (from the products section) and then the link “Mobrey Hydrastep 2468”.

Standard Terms and Conditions of Sale can be found on the [Terms and Conditions of Sale page](#).

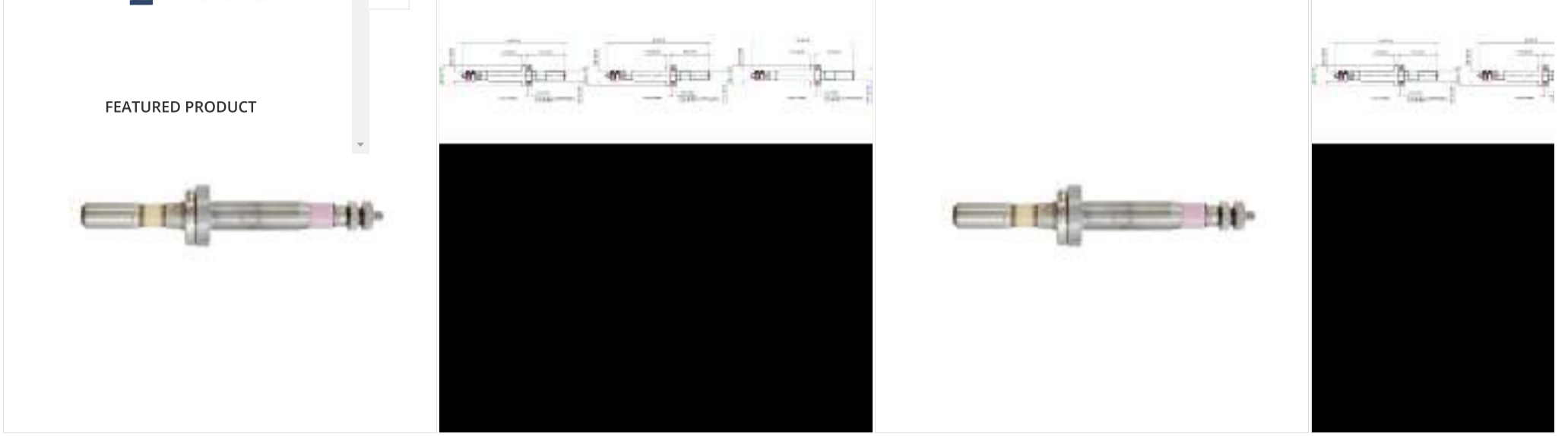
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 sales@delta-mobrey.com

Home » Categories » Electrodes » 100% MONEY BACK GUARANTEE



Electrode 459600201



Ceramic and exotic metal high pressure Hydrastep™ electrode (part no. 459600201).

Availability: Out of stock

SKU: 459600201

SHARE

FEATURES & BENEFITS SPECIFICATION

Spare High Pressure flange connection electrode for flanged water columns, since discontinued circa 1990. Suitable for up to 210 bar and 370°C. Only for use as a replacement spare part for older systems. Limited availability – plant should consider replacing the water column with present design to ensure ongoing supply.

Ceramic and exotic metal high pressure Hydrastep™ electrode.

- Swagelok style union with Zirconia insulator.
- 3/4 inch thread.
- Suitable for use up to 210 Bar and 370°C (includes gasket).

WARNING: If using electrode 459600201 your water column design is over 30 years old. Your Hydrastep controller will be model 2457 / 2467 or earlier. These models are no longer supported and your plant is at risk. Please contact your Delta Mobrey sales office to discuss an upgrade.





OEM product, part number 459600201 – direct from the manufacturer.

Designed and manufactured in the UK.

About Delta Mobrey's Hydrastep™

Trusted worldwide with over 6,000 installations globally, Delta Mobrey's Hydrastep™ system designed for totally reliable operation. Hydrastep™ is both fail-safe and fault tolerant – the ideal 'fit and forget' solution to overcome the problems associated with unreliable and maintenance-intensive gauge glasses.

YOU MAY ALSO LIKE...

 <p>OUT OF STOCK</p> <p>Electrode Gasket</p> <p> READ MORE</p>	 <p>OUT OF STOCK</p> <p>Electrode 459600602</p> <p> READ MORE</p>	 <p>OUT OF STOCK</p> <p>Electrode 246781ZA</p> <p> READ MORE</p>	 <p>OUT OF STOCK</p> <p>Electrode 246785A</p> <p> READ MORE</p>
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WORKING DAYS/HOURS:
Mon - Fri / 8:30 AM - 5:00 PM



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U.P. Pollution Control Board

CONSENT ORDER

Ref No. -
71822/UPPCB/Sonebhadra(UPPCBRO)/CTO/air/SONBHADRA/2019

Dated : 22/04/2020

To ,

Shri RANJAN KUMAR
M/s NTPC RIHAND STAGE I (2 x 500 MW)
NTPC RIHAND STAGE - I, PO - RIHANDNAGAR, DIST - SONBHADRA, PIN - 231223,
UTTAR PRADESH,SONBHADRA,231223
SONBHADRA

Sub : Consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. NTPC RIHAND STAGE I (2 x 500 MW)

Reference Application No. 6393588

Dated : 22/04/2020

1. With reference to the application for consent for emission of air pollutants from the plant of M/s NTPC RIHAND STAGE I (2 x 500 MW). under Air Act 1981. It is being authorised for said emissions, as per the standards, in environment, by the Board as per enclosed conditions .
2. This consent is valid for the period from 01/01/2020 to 31/12/2021 .
3. Inspite of the conditions and provisions mentioned in this consent order UP Pollution Control Board reserves its right and powers to reconsider/amend any or all conditions under section 21 (6) of the Air (Prevention and Control of Pollution) Act, 1981 as amended.
This consent is being issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board

Chief Environmental Officer (circle-2)

**Enclosed : As above
(condition of consent):**

Copy to: Regional Officer, U.P. Pollution Control Board, Sonbhadra with direction to send the compliance report of consent conditions on quarterly basis.

Chief Environmental Officer (circle-2)

1. This consent is valid for electricity generation-1000 MW (2x500 MW).
2. Industry shall submit the Bank Guarantee of Rs. 18.36 Lacs UPPCB share equivalent to 40% of the Environmental Compensation amount of Rs. 45.90 Lacs imposed by UPPCB vide letter No. H42337/C-2/NGT-40/O.A. N.-453/2019 Dated 04-10-2019. Industry has filed a petition in Hon'ble Supreme Court against Hon'ble NGT order dated 11.10.2019. If the industry does not get relief from Hon'ble Supreme Court, industry shall deposit 40% share of Environmental Compensation of Rs. 45.90 Lac immediately to UPPCB otherwise this bank guarantee will be forfeited.
3. The industry shall comply with the Stack emission standards notified by MoEF&CC vide notification dated 07-12-2015 and Ambient air quality standard 2009 notified by CPCB on 18-11-2009.
4. The industry shall operate and maintain Online Continuous Emission Monitoring System effectively and data shall be transmitted to CPCB and UPPCB server. OCEMS system should be calibrated on 6 monthly basis through recognized agency and calibration certificate should be submitted to UPPCB.
5. The industry shall comply with the conditions of Environmental Clearance issued by MoEF&CC Govt of India and its compliance report shall be submitted to CPCB and UPPCB from time to time.
6. Industry shall comply with the Fly Ash notification no. S.O. 254(E) dated 25-01-2016 of MoEF&CC, Govt. of India and detail of Fly ash disposal shall be submitted on quarterly basis to UPPCB.
7. Industry shall maintain effective dust separation /collection system at Coal Handling and Transportation point in such manner so that Ambient Air Quality is not affected at near by places and Ambient air quality shall be monitored on regular basis and its report shall be submitted on quarterly basis to the UPPCB.
8. Industry shall submit the Stack emission and Ambient Air quality monitoring report of Board's Laboratory/NABL accredited Laboratory on quarterly basis.
9. Bottom Ash shall be disposed as per guidelines of MoEF&CC and report shall be submitted to the Board with in 01 month.
10. Industry shall cover the open coal yard of capacity 2.5 Lac within 3 months.
11. Industry shall install sufficient number of water sprinkling system around the coal crusher area and coal stock yard and operate it effectively to suppress the dust.
12. Industry shall install coal fog dust suppression system on coal crusher within 03 month.
13. Industry shall develop and maintain green belt as per the guidelines issued by the Board vide office order dated 16/02/2018, which is available on Board's Website- www.uppcb.com.
14. Industry shall comply with various provisions of Hazardous and Other waste (Management & Trans-boundary Movement) Rule 2016. Detail of hazardous waste disposal shall be submitted in Form-10.
15. Consent fees if revised, shall be payable by industry from the date of its applicability.
16. Industry shall submit environmental statement in prescribed format as per rule 14 of Environment (Protection) Act, 1986.
17. Industry shall abide by directions given by Hon'ble Courts, MoEF&CC, Central Pollution Control Board and UPPCB for protection and safe guard of environment from time to time.
18. Industry shall comply the recommendation of core committee, constituted by Hon'ble NGT.
19. Industry shall ensure the compliance of directions given by Hon'ble Oversight committee from time to time.
20. Industry shall comply with the relevant provisions of Environmental Laws.
21. If closure order is issued by CPCB or UPPCB against the unit, then CTO issued earlier will remain suspended during the closure period and after ensuring the compliance and after revocation of closure order, the CTO will automatically be effective with additional conditions mentioned in the closure revocation order.

Issued with the permission of competent authority .

For and on behalf of U.P. Pollution Control Board .

Chief Environmental Officer (circle-2)


 अधीन प्रमुख प्रदूषण नियंत्रण बोर्ड (व्यावसायिक)
 A.M. General Manager (Commercial)
 एन पी सी लिमिटेड / NPPC LIMITED



भारत का राजपत्र

The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

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नई दिल्ली, शुक्रवार, अप्रैल 8, 2016/चैत्र 19, 1938

No. 861]

NEW DELHI, FRIDAY, APRIL 8, 2016/CHAITRA 19, 1938

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय**अधिसूचना**

नई दिल्ली, 8 अप्रैल, 2016

का.आ. 1357(अ).—ठोस अपशिष्ट प्रबंधन नियम, 2015 का प्ररूप भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना सं. सा.का.नि.451 (अ) तारीख 3 जून, 2015 को भारत के राजपत्र भाग II, खंड-3, उप खंड (i) में उसी तारीख को प्रकाशित किए गए थे, जिसमें उनसे प्रभावित होने वाले संभावित व्यक्तियों से नगरीय ठोस अपशिष्ट (प्रबंधन और हथालन) नियम 2000 को अधिक्रांत करते हुए उक्त अधिसूचना के द्वारा ठोस अपशिष्ट प्रबंधन नियम, 2015 के प्रकाशन की तारीख से साठ दिनों की अवधि की समाप्ति से पूर्व आक्षेप और सुझाव आमंत्रित किए थे।

उक्त राजपत्र की प्रतियां जनता को तारीख 3 जून, 2015 को उपलब्ध कराई गई थीं;

निर्धारित अवधि के भीतर उक्त प्रारूप नियमों पर प्राप्त आपत्तियों तथा टिप्पणियों पर केन्द्र सरकार द्वारा सम्यक रूप से विचार किया गया था;

पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3, 6 और 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और नगरीय ठोस अपशिष्ट (प्रबंधन और हथालन) नियम, 2000, उन बातों के सिवाय अधिक्रांत करते हुए जिन्हें ऐसे अधिक्रमणों से पहले किया गया है या किए जाने का लोप किया गया है, केन्द्रीय सरकार ठोस अपशिष्टों का प्रबंधन करने के लिए निम्नलिखित नियम बनाती है अर्थात् :

1. संक्षिप्त नाम और प्रारंभ.-

- (1) इन नियमों का संक्षिप्त नाम ठोस अपशिष्ट प्रबंधन नियम, 2016 है।
- (2) ये राजपत्र में इनके प्रकाशन की तारीख से प्रवृत्त होंगे।

2. लागू होना- ये नियम प्रत्येक शहरी स्थानीय निकाय, शहरी क्षेत्रों के विस्तार, भारत के महारजिस्ट्रार और जनगणना आयुक्त द्वारा यथा घोषित जनगणना नगरों, अधिसूचित क्षेत्रों, अधिसूचित औद्योगिक नगरी, भारतीय रेल के अधीन क्षेत्रों, विमानपत्तनों, वायुयान बेस, बंदरगाह और हारबर, रक्षा स्थापनाओं, विशेष आर्थिक जोन, राज्य और केन्द्रीय सरकारों के संगठनों, समय-समय पर क्रमशः राज्य सरकार द्वारा यथा अधिसूचित तीर्थ, धार्मिक तथा ऐतिहासिक महत्व के स्थानों और जिसमें औद्योगिक अपशिष्ट, परिसंकटमय अपशिष्ट, परिसंकटमय रसायन, जैव चिकित्सा अपशिष्ट, ई-अपशिष्ट, सीस-अम्ल बैटरियां और रेडियो सक्रिय अपशिष्ट पर्यावरण (संरक्षण) अधिनियम, 1986 के अधीन अलग से बनाए गए नियमों के अधीन आते हैं, के सिवाय प्रत्येक घरेलू, सांस्थानिक, वाणिज्यिक और किसी भी अन्य गैर-आवासीय ठोस अपशिष्ट जनितों पर लागू होंगे:-

3. परिभाषाएं- (1) इन नियमों में, जब तक कि संदर्भ से अन्यथा अपेक्षित न हो,- (1) **"वातजीवी कम्पोस्टीकरण"** से ऑक्सीजन की विद्यमानता में जैविक पदार्थ का सूक्ष्म जैवकीय विघटन अंतर्वलित कोई नियंत्रित प्रक्रिया अभिप्रेत है;

2. **"अवायुजीवी उपचारण"** से ऑक्सीजन के अभाव में जैविक पदार्थ का सूक्ष्म जैवकीय विघटन अंतर्वलित कोई नियंत्रित प्रक्रिया अभिप्रेत है;
3. **"प्राधिकार"** से यथास्थिति, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा किसी प्रसुविधा के प्रचालक या शहरी स्थानीय प्राधिकरण या ठोस अपशिष्ट के प्रसंस्करण और निपटान के उत्तरदायी किसी अन्य अभिकरण को दी गई अनुज्ञा अभिप्रेत है;
4. **"जैविक रूप से अपघटित अपशिष्ट"** से कोई ऐसी कार्बनिक सामग्री अभिप्रेत है जिसे सूक्ष्म जीव द्वारा सरलतर टिकाऊ सम्मिश्रण में निम्नीकृत किया जा सकता है;
5. **"जैविक मिथेनीकरण"** से ऐसी प्रक्रिया अभिप्रेत है जिसमें मिथेन से भरपूर जैव गैस का उत्पादन करने के लिए सूक्ष्मजीवी क्रिया द्वारा कार्बनिक पदार्थ का इंजाइमी अपघटन को अपरिहार्य बनाता है;
6. **"ब्रांडस्वामी"** से कोई व्यक्ति या कंपनी अभिप्रेत है जो किसी रजिस्ट्रीकृत ब्रांड लेवल के अधीन कोई वाणिज्यिक विक्रय करता है;
7. **"मध्यवर्ती परिक्षेत्र"** से ऐसा विकास रहित परिक्षेत्र अभिप्रेत है जिसमें 5 टीपीडी से अधिक की संस्थापित क्षमता वाली ठोस अपशिष्ट प्रसंस्करण तथा निपटान सुविधा के चारों ओर अनुरक्षित किया जाएगा। इसे ठोस अपशिष्ट के प्रसंस्करण तथा निपटान संबंधी सुविधा के लिए आवंटित कुल क्षेत्र के भीतर अनुरक्षित किया जाएगा;
8. **"भारी मात्रा में अपशिष्ट उत्पादक"** से अभिप्रेत है और इसके अंतर्गत औसतन 100 कि.ग्रा. प्रतिदिन की दर से अधिक अपशिष्ट उत्पादित करते हैं तथा इनसे केन्द्रीय सरकार के विभागों अथवा उपक्रमों, राज्य सरकार के विभागों या उपक्रमों, स्थानीय निकायों, सार्वजनिक या प्राइवेट सेक्टर की कंपनियों, अस्पतालों, नर्सिंग होम, स्कूलों, कॉलेजों, विश्वविद्यालयों, अन्य शैक्षिक संस्थाओं, छात्रावासों, होटलों, वाणिज्यिक स्थापनाओं, बाजारों, पूजा स्थलों, स्टेडियमों और खेल परिसरों द्वारा अधिकृत भवन भी है;
9. **"उप-विधि"** से स्थानीय निकाय, जनगणना शहर और अधिसूचित क्षेत्र टाउनशिप द्वारा, अपने अधिकारिता वाले क्षेत्र में इन नियमों को प्रभावी ढंग से कार्यान्वित करने को सुविधाजनक बनाने के लिए, अधिसूचित नियामक ढांचा अभिप्रेत है;
10. **"जनगणना नगर"** से भारत के महारजिस्ट्रार और जनगणना आयुक्त द्वारा यथा परिभाषित शहरी क्षेत्र अभिप्रेत है;

11. "ज्वलनशील अपशिष्ट" से प्लास्टिक, काष्ठ लुगदी आदि जैसी क्लोरोनीकृत सामग्री को छोड़कर गैर-जैवअवक्रमणीय, गैर-पुनर्चक्रणीय, गैर-पुनःउपभोज्य, गैर-परिसंकटमय ठोस अपशिष्ट अभिप्रेत है जिनका 1500 किलो कैलोरी प्रति कि.ग्रा. से न्यूनतम कैलोरिफिक मान हो;
12. "कम्पोस्टीकरण" से जैविक पदार्थ का सूक्ष्मजीवी अपघटन अंतर्वलित की एक ऐसी नियंत्रित प्रक्रिया अभिप्रेत है;
13. "ठिकेदार" से ऐसा व्यक्ति या फर्म अभिप्रेत है जो कोई सेवा करने के लिए या सेवा प्रदाता प्राधिकारी के लिए कार्य करने के लिए सामग्री या श्रम प्रदान करने की संविदा करता है या करती है;
14. "सह प्रसंस्करण" से प्राकृतिक खनिज संसाधनों और औद्योगिक प्रक्रियाओं में जीवाश्म ईंधनों को प्रतिस्थापित करने या उन्हें अनुपूरित, दोनों को करने के लिए कच्ची सामग्री के रूप में या ऊर्जा के स्रोत के रूप में 1500 किलो कैलोरी से अधिक कैलोरिफिक मूल्य वाले गैर-जैव अवक्रमणीय और गैर-पुनर्चक्रणीय ठोस अपशिष्ट का उपयोग अभिप्रेत है;
15. "विकेंद्रित प्रसंस्करण" से जैव अवक्रमणीय अपशिष्ट के प्रसंस्करण को अधिकतम करने के लिए विखरी हुई सुविधाओं की स्थापना और उत्पादन के स्रोत से निकटतम पुनर्चक्रण योग्य सामग्रियों की प्रतिप्राप्ति करना अभिप्रेत है ताकि प्रसंस्करण या निपटान के लिए अपशिष्ट का न्यूनतम परिवहन करना पड़े;
16. "निपटान" से भूजल, सतही जल, परिवेशी वायु के संदूषण तथा पशुओं या पक्षियों के आकर्षण को रोकने के लिए अनुसूची 1 में यथा विनिर्दिष्ट भूमि पर प्रसंस्करण के उपरांत अवशिष्ट ठोस अपशिष्ट और निष्क्रिय गली का कूड़ा, करकट और सतही नाले की गाद का अंतिम तथा सुरक्षित निपटान अभिप्रेत है;
17. "घरेलू परिसंकटमय अपशिष्ट" से घरेलू स्तर पर उत्पन्न संक्रामक अपशिष्टों जैसे फेंके हुए पेंट के ड्रम, कीटनाशी के डिब्बे, सीएफएल बल्ब, ट्यूब लाइटें, अवधि समाप्त औषधियां, टूटे हुई पारा वाले थर्मामीटर, प्रयुक्त बैटरियां, प्रयुक्त सूइयां, तथा सिरिंज और संदूषित पट्टियां आदि अभिप्रेत हैं;
18. "द्वार-द्वार संग्रहण" से घरों, दुकानों, वाणिज्यिक प्रतिष्ठानों, कार्यालयों, संस्थागत या किसी अन्य गैर आवासीय परिसरों से द्वार तक जाकर ठोस अपशिष्ट का संग्रहण करना और जिसके अंतर्गत किसी आवासीय सोसायटी, बहुमंजिले भवन या अपार्टमेंट, बड़े आवासीय, वाणिज्यिक या संस्थागत कॉम्प्लेक्स या परिसरों में भूतल पर प्रवेश द्वार या किसी अभिहित स्थल से ठोस अपशिष्ट का संग्रहण करना भी अभिप्रेत है;
19. "शुष्क अपशिष्ट" से जैव-निम्नीकरण अपशिष्ट और निष्क्रिय गली का कूड़ा-करकट से भिन्न अपशिष्ट अभिप्रेत है और जिसके अंतर्गत पुनर्चक्रणीय अपशिष्ट, गैर पुनर्चक्रणीय अपशिष्ट, दाह्य अपशिष्ट और स्वास्थ्यकर नैपकिन और डायपर आदि अपशिष्ट भी है;
20. "क्षेपण स्थल" से जिसका स्वास्थ्यकर भूमिभरण के लिए सिद्धांतों को पालन किए बिना ठोस अपशिष्ट के निपटान के लिए शहरी स्थानीय निकाय द्वारा उपयोग की गई कोई भूमि अभिप्रेत है;
21. "विस्तारित उत्पादक दायित्व" से पैकेजिंग उत्पादों के जीवन काल के अंत तक पर्यावरण की दृष्टि से अनुकूल प्रबंधन के लिए, पैकेजिंग उत्पादों जैसे प्लास्टिक, टिन, कांच और कॉरुगेटेड बक्सों इत्यादि के किसी उत्पादक के उत्तरदायित्व अभिप्रेत है;
22. "सुविधा" से ऐसा कोई स्थापन अभिप्रेत है जिसमें ठोस अपशिष्ट प्रबंध प्रक्रियाएं अर्थात् पृथक्करण पुनःप्राप्ति, भंडारण, संग्रहण, पुनर्चक्रण, प्रसंस्करण, उपचार या सुरक्षित निपटान किया जाता है;

23. "जुर्माना" से इन नियमों तथा/अथवा उप-विधियों के निदेशों के अनुपालन के लिए उपविधियों के अधीन अपशिष्ट जनित्रों या अपशिष्ट प्रसंस्करण के प्रचालकों और निपटान सुविधाओं पर लगाए गए जुर्माना अभिप्रेत है;
24. "प्ररूप" से इन नियमों से उपाबद्ध प्ररूप अभिप्रेत है;
25. "प्रहस्तन" के अंतर्गत ठोस अपशिष्टों की छंटाई, पृथक्करण, सामग्री की पुनःप्राप्ति, संग्रहण, गौण भंडारण, काटना, गद्दा बनाना, दलन, लदाई, उतराई, परिवहन, प्रसंस्करण तथा निपटान से संबंधित सभी क्रियाकलाप भी हैं;
26. "निष्क्रिय" से ऐसा अपशिष्ट अभिप्रेत है जो जैव अपघटनीय, पुनःचक्रणीय या दाह्य नहीं है, गली की सफाई तथा सतही नालियों से निकाली गई धूल तथा गाद भी हैं;
27. "भस्मीकरण" से उच्च तापमान पर अपशिष्ट सामग्रियों को तापीय रूप से निम्नीकृत करने के लिए ठोस अपशिष्ट का जलाना या दहन अंतर्वलित इंजीनियरीकृत प्रक्रिया अभिप्रेत है;
28. "अनौपचारिक अपशिष्ट संग्राहक" के अंतर्गत व्यक्ति, संगम ऐसे या अपशिष्ट व्यापारी सम्मिलित है जो पुनर्चक्रणीय सामग्रियों की छंटाई, विक्रय और खरीद से अंतर्वलित है;
29. "निक्षालितक" से ऐसा द्रव अभिप्रेत है जो ठोस अपशिष्ट के माध्यम से या अन्य माध्यम से रिसता है जिसमें उसमें घुली हुई या निलंबित सामग्री का सत्व है;
30. "स्थानीय निकाय" से अभिप्रेत इन नियमों के प्रयोजन के लिए और जिसके अंतर्गत म्युनिसिपल कॉरपोरेशन, नगर निगम, म्युनिसिपल कौंसिल, नगरपालिका, नगरपालिका परिषद, म्युनिसिपल बोर्ड, नगर पंचायत, और टाउन पंचायत, जनगणना नगर, अधिसूचित क्षेत्र और भारत के विभिन्न राज्यों और संघ राज्य क्षेत्रों में औद्योगिक नगरी चाहे उसका कोई भी नाम से पुकारा जाए, भी है;
31. "सामग्री पुनर्प्राप्ति सुविधा (एमआरएफ)" से ऐसी सुविधा अभिप्रेत है जहां गैर कंपोस्टीय ठोस अपशिष्ट को स्थानीय निकाय या नियम 2 में वर्णित कोई अन्य अस्तित्व या इसमें से किसी के द्वारा प्राधिकृत कोई व्यक्ति या अभिकरण जो अपशिष्ट को प्रसंस्करण या निपटान के लिए उसे परिदान या देने के पूर्व इस प्रयोजन के लिए स्थानीय निकाय या नियम 2 में वर्णित अस्तित्व द्वारा नियोजित अपशिष्ट चुनने वाले, अनौपचारिक पुनर्चक्रणकर्ता या कोई अन्य नियोजित कार्यबल को प्राधिकृत अनौपचारिक सेक्टर द्वारा अपशिष्ट के विभिन्न संघटकों से पृथक्करण, छंटाई या पुनर्चक्रण योग्य की पुनर्प्राप्ति की प्रसुविधा है;
32. "अजैविक निम्नीकरण योग्य अपशिष्ट" से कोई ऐसा अपशिष्ट अभिप्रेत है जिसका सूक्ष्म जीव द्वारा सरलतर स्थायी यौगिक में निम्नीकरण नहीं किया जा सकता है;
33. "सुविधा का प्रचालक" से ऐसा व्यक्ति या अस्तित्व अभिप्रेत है जो ऐसे ठोस अपशिष्ट के प्रहस्तन के लिए सुविधा का स्वामी है या प्रचालित करता है जिसके अंतर्गत स्थानीय निकाय और स्थानीय निकाय द्वारा नियुक्त कोई अन्य अस्तित्व या अभिकरण भी है;
34. "प्राथमिक संग्रहण" से पृथक्कृत ठोस अपशिष्ट को उसके उत्पादन के स्रोत जिसके अंतर्गत घर, दुकानें, कार्यालय और कोई अन्य गैर आवासीय परिसर भी हैं से या किसी संग्रहण बिंदु या शहरी स्थानीय निकाय द्वारा विनिर्दिष्ट किसी अन्य अवस्थान से संगृहीत करना, उठाना या हटाना अभिप्रेत है;
35. "प्रसंस्करण" से कोई वैज्ञानिक प्रक्रिया जिसके द्वारा ठोस अपशिष्ट को पुनः उपयोग, पुनः चक्रित या नए उत्पादों में परिवर्तित करने के प्रयोजन के लिए हथालित करना अभिप्रेत है;

36. "पुनर्चक्रण" से पृथक्कृत ठोस अपशिष्ट को अजैव निम्नीकृत नए पदार्थ या उत्पाद या नए उत्पादों का उत्पादन करने के लिए कच्ची सामग्री के रूप में परिवर्तित करने की प्रक्रिया अभिप्रेत है, जिसमें मूल उत्पादों को समरूप किया जा सकेगा या नहीं किया जा सकेगा;
37. "पुनर्विकास" से जहां विद्यमान भवन और अन्य अवसंरचनाएं जीर्णशीर्ण हो गई हैं वहां उसी स्थल पर पुरानी आवासीय या वाणिज्यिक भवनों का पुनर्निर्माण अभिप्रेत है;
38. "कचरा व्युत्पन्न ईंधन (आरडीएफ)" से ठोस अपशिष्ट, जैसे प्लास्टिक, काष्ठ, लुगदी या कार्बनिक अपशिष्ट, क्लोरीनीकृत पदार्थों से भिन्न ठोस अपशिष्ट को सुखाकर कतरन, निर्जलीकरण और संहनन द्वारा गुटिका या रोएं के कप में उत्पादित बाह्य अपशिष्ट प्रभाजी से व्युत्पन्न ईंधन अभिप्रेत है;
39. "अवशिष्ट ठोस अपशिष्ट" से और उसके अंतर्गत ऐसी ठोस अपशिष्ट प्रसंस्करण सुविधाओं, जो पुनर्चक्रण या अतिरिक्त प्रसंस्करण के लिए उपयुक्त नहीं हैं, से प्राप्त अपशिष्ट और अस्वीकृत भी अभिप्रेत है;
40. "स्वास्थ्यकर भूमिभरण" से अवशिष्ट ठोस अपशिष्ट के अंतिम और सुरक्षित निपटान और भूजल, सतही जल या क्षणभंगुर वायु धूल, हवा से उड़ा हुआ कूड़ाकरकट, दुर्गंध, अग्नि परिसंकट, पशुओं का खतरा, पक्षियों का खतरा, नाशकजीव, कृतकनाशी, ग्रीनहाउस गैस उत्सर्जन, सतत जैव प्रदूषणकारी तत्व प्रावण्य अस्थिरता तथा अपरदन के प्रदूषण के प्रति संरक्षात्मक उपायों सहित प्रकल्पित सुविधा में भूमि पर निष्क्रिय अपशिष्ट अभिप्रेत है;
41. "स्वास्थ्यकर अपशिष्ट" से प्रयोग किए गए डायपर, स्वास्थ्यकार तौलिए या नैपकिन, टैम्पोन, कन्डोम, इनकंटीनेंस शीट और कोई अन्य समरूप अपशिष्ट से मिलकर बना अपशिष्ट अभिप्रेत है;
42. "अनुसूची" से इन नियमों से उपाबद्ध अनुसूची अभिप्रेत है;
43. "गौण भंडारण" से प्रसंस्करण या निपटान सुविधा को अपशिष्ट के आगे परिवहन के लिए गौण भंडारण डिपो या एमआरएफ या आधानों पर संग्रहण के पश्चात ठोस अपशिष्ट का अस्थायी संदूषक अभिप्रेत है;
44. "पृथक्करण" से ठोस अपशिष्ट के विभिन्न संघटकों अर्थात् जैविक निम्नीकरण अपशिष्ट जिसके अंतर्गत कृषि और दुग्धपालन अपशिष्ट अजैविक निम्नीकरण अपशिष्ट जिसके अंतर्गत पुनःचक्रणयोग्य अपशिष्ट, गैर पुनःचक्रणयोग्य दाह्य योग्य अपशिष्ट, स्वास्थ्यकर अपशिष्ट और गैर चक्रण योग्य कूड़ाकरकट अपशिष्ट, घरेलू परिसंकटमय अपशिष्ट तथा सन्निर्माण और विध्वंस अपशिष्ट भी है, की छंटाई और पृथक् भंडारण अभिप्रेत है;
45. "सेवा प्रदाता" से जल, मलवहन, विद्युत, टेलीफोन, सड़क, जल निकास आदि अभिप्रेत हैं;
46. "ठोस अपशिष्ट" से ठोस या अर्द्धठोस घरेलू अपशिष्ट अभिप्रेत है और इसके अंतर्गत स्थानीय प्राधिकरण और नियम 2 में वर्णित अन्य अस्तित्व के अधीन क्षेत्र में उत्पन्न स्वास्थ्यकर अपशिष्ट, वाणिज्यिक अपशिष्ट, सांस्थानिक अपशिष्ट, खानपान और बाजार अपशिष्ट तथा अन्य गैर-आवासीय अपशिष्ट, गली की सफाई, सतह नालियों से हटाई गई या एकत्रित गाद, उद्यान कृषि अपशिष्ट, कृषि और डेयरी अपशिष्ट, औद्योगिक अपशिष्ट को छोड़कर उपचारित जैव चिकित्सक अपशिष्ट और ई-अपशिष्ट, बैटरी अपशिष्ट, रेडियो सक्रिय अपशिष्ट भी अभिप्रेत है;
47. "छंटाई करना" से मिश्रित अपशिष्ट से पुनःचक्रणयोग्य विभिन्न संघटकों और प्रवर्गों जैसे कागज, प्लास्टिक, गत्ता, धातु, कांच आदि को समुचित पुनःचक्रण सुविधा में पृथक् करना अभिप्रेत है;
48. "स्थिरीकरण" से जैव निम्नीकरण अपशिष्ट को जैवीय अपघटन को स्थायी अवस्था में परिवर्तित करना अभिप्रेत है जहां वह निक्षालन या अरुचिकर सुगंध उत्पन्न नहीं करता है और कृषि भूमि, भू-कटाव नियंत्रण तथा भूमि उपचार के लिए उपयुक्त है;

49. **"मार्गविक्रेता"** से किसी गली, लेन, पार्श्व पथ, पैदल पथ, खडंजा, सार्वजनिक उद्यान या किसी अन्य सावर्जनिक स्थान या प्राइवेट क्षेत्र, अस्थायी रूप से निर्मित संरचना या स्थान से स्थान घूमकर साधारण जनता को दैनिक उपयोग के वस्तु, माल, सौदा, खाद्य मद या वाणिज्यिक वस्तु के विक्रय करने या उन्हें एक स्थान से दूसरे स्थान तक स्थानांतरित करने में लगे व्यक्ति अभिप्रेत हैं जिसके अंतर्गत फेरीवाला, पैकार, आबादकर तथा ऐसी सभी अन्य समानार्थी पद जो स्थानीय या विनिर्दिष्ट क्षेत्र में हो सकते हैं, भी है और "मार्ग विक्रय" शब्दों को उनके व्याकरणिक रूप भेदों और सजातीय पदों का अर्थ तदनुकूल किया जाएगा;
50. **"बख्शीश फीस"** से स्थानीय प्राधिकरण या राज्य सरकार द्वारा प्राधिकृत कोई राज्य अभिकरण द्वारा कोई फीस या समर्थन मूल्य अभिप्रेत है जो ठोस अपशिष्ट प्रसंस्करण सुविधा के ग्राही या प्रचालक या भूमिभरण पर ठोस अपशिष्ट के निपटान के लिए अवधारित संदात्त है;
51. **"अंतरण स्थल"** से संग्रह क्षेत्रों से ठोस अपशिष्ट प्राप्त करने को सृजित सुविधा और अपशिष्ट प्रसंस्करण और, या निपटान सुविधा को आच्छादित यानों या आधानों में बड़ी मात्रा में परिवहन अभिप्रेत है;
52. **"परिवहन"** से ठोस अपशिष्ट चाहे वह या तो उपचारित आंशिक उपचारित या अनुपचारित को एक स्थान से दूसरे स्थान पर किसी पर्यावरणीय रूप से युक्ति युक्त रीति में विशिष्ट रूप से अभिहित और आच्छादित परिवहन प्रणाली जैसे दुर्गंध, कूड़ा कचरा और घृणित दशा को रोकने के लिए प्रवहन अभिप्रेत है;
53. **"उपचार"** से किसी अपशिष्ट के भौतिक, रसायनिक या जैविक लक्षणों या संघटन में रूपांतरण की अभिहित पद्धति, तकनीक या प्रक्रिया अभिप्रेत है जिससे उसके आयतन और क्षितिकारक क्षमता को कम करता है;
54. **"उपयोक्ता फीस"** से ठोस अपशिष्ट संग्रहण, परिवहन प्रसंस्करण और निपटान सेवाओं को उपलब्ध कराने की कुल या आंशिक लागत को प्राप्त करने में अपशिष्ट जनित पर स्थानीय निकाय और नियम 2 में वर्णित किसी अस्तित्व द्वारा अधिरोपित फीस अभिप्रेत है;
55. **"कृमि कम्पोस्ट बनाना"** से केचुओं का प्रयोग करते हुए कम्पोस्ट में संपरिवर्तित करने की जैव निम्नीकरण प्रक्रिया अभिप्रेत है;
56. **"अपशिष्ट जनित्र"** से और इसके अंतर्गत सम्मिलित से, रेल तथा रक्षा स्थापनाओं सहित प्रत्येक व्यक्ति या व्यक्तियों का समूह या प्रत्येक आवासीय परिसर तथा गैर आवासीय स्थापनाएं भी है, जो ठोस अपशिष्ट उत्पन्न करते हैं, अभिप्रेत है;
57. **"अपशिष्ट की क्रमबद्धता"** से ऐसा प्राथमिकता क्रम अभिप्रेत है जिसके अनुसार ठोस अपशिष्ट का प्रबंधन निवारण, कटौती, पुनःउपयोग, पुनर्चक्रण, पुनः प्राप्ति और निपटान पर बल देकर किया जाना चाहिए जिसमें निवारण को सर्वाधिक प्राथमिकता और भू-भरण में निपटान को न्यूनतम वरीयता का विकल्प होगा;
58. **"अपशिष्ट चुनने वाला"** से ऐसा व्यक्ति या व्यक्तियों का समूह अभिप्रेत है जो अपशिष्ट उत्पादन के स्रोत से पुनः उपयोजनीय तथा पुनर्चक्रण योग्य ठोस अपशिष्ट के संग्रहण और साथ ही पुनर्चक्रकों को उनकी आजीविका अर्जित करने के लिए सीधे या उनके मध्यवर्तियों के माध्यम से विक्रय के लिए गलियों, डिब्बों, प्रसंस्करण तथा अपशिष्ट निपटान सुविधाओं से अपशिष्ट को उठाने में औपचारिक रूप से लगे हुए हैं;
- (2) इसमें प्रयुक्त जिन शब्दों और पदों का अर्थ परिभाषित नहीं किया गया है, परंतु जो पर्यावरण (संरक्षण) अधिनियम 1986, जल (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1974 जल (प्रदूषण निवारण और नियंत्रण) उपकर अधिनियम 1977 तथा वायु (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1981 में परिभाषित है, के अर्थ होंगे जो संबंधित अधिनियमों में हैं।

4. अपशिष्ट उत्पन्नकर्ताओं के कर्तव्य. प्रत्येक अपशिष्ट उत्पन्नकर्ता,-

(क) उनके द्वारा उत्पन्न किए गए अपशिष्ट को पृथक्कृत और तीन पृथक शाखाओं अर्थात् जैव निम्नीकरणयोग्य, गैर निम्नजीकरणयोग्य और घरेलू परिसंकटमय अपशिष्ट के तीन अलग-अलग डिब्बों में भंडारित करेगा और समय-समय पर स्थानीय प्राधिकरणों द्वारा निदेश या अधिसूचना के अनुसार पृथक किए गए अपशिष्टों को प्राधिकृत अपशिष्ट चुनने वालों या अपशिष्ट संग्रहकर्ताओं को सौंपेगा;

(ख) प्रयोग किए गए स्वास्थ्यकर अपशिष्ट जैसे डायपरो और स्वास्थ्यकर पैडों आदि इन उत्पादों के निर्माताओं या ब्रांड स्वामियों द्वारा उपलब्ध कराई गई थैली में या स्थानीय प्राधिकारियों द्वारा यथा निर्देशित उपयुक्त लपेटन सामग्री में शुष्क अपशिष्ट या अजैविक निम्नीकरण अपशिष्ट के लिए बनाए गए डिब्बे में उसे डालेगा;

(ग) संनिर्माण और विध्वंस अपशिष्ट को पृथक रूप से अपने ही परिसर में भंडारित करेगा, जब कभी वह उत्पन्न होता हो, और उसे संनिर्माण और विध्वंस अपशिष्ट नियम, 2016 के अनुसार निपटान करेगा; और

(घ) अपने परिसर से उत्पन्न कृषि उद्यान अपशिष्ट और उद्यान अपशिष्ट को अपने ही परिसर में पृथक रूप से भंडारित करेगा और समय-समय पर स्थानीय निकाय द्वारा निदेशानुसार इसका निपटान करेगा;

(2) कोई अपशिष्ट जनित्र उसके द्वारा उत्पन्न अपशिष्ट को गली, खुले सार्वजनिक स्थानों, नाली या जलाशयों में न फेंकेगा, न जलाएगा और न गाड़ेगा;

(3) सभी अपशिष्ट उत्पन्नकर्ता ऐसी उपयोक्ता फीस का संदाय करेंगे जो ठोस अपशिष्ट प्रबंधन के लिए स्थानीय निकायों की उपविधियों में विनिर्दिष्ट किया जाए;

(4) कोई व्यक्ति अग्रिम रूप से कम से कम तीन कार्य दिवस पूर्व स्थानीय निकाय को सूचित किए बिना किसी गैर अनुज्ञप्ति वाले स्थान पर एक सौ व्यक्तियों से अधिक का ऐसा कोई आयोजन या समारोह आयोजित नहीं करेगा। ऐसा व्यक्ति या ऐसे आयोजन का आयोजक स्रोत पर अपशिष्ट के पृथक्करण की व्यवस्था करेगा और पृथक्कृत अपशिष्ट को स्थानीय निकाय द्वारा अभिहित अपशिष्ट चुनने वाले को या अपशिष्ट संग्रहण अभिकरण को सौंपेगा;

(5) प्रत्येक मार्ग विक्रेता अपने कार्यकलाप के दौरान उत्पन्न अपशिष्ट जैसेकि खाद्य अपशिष्ट प्रयोज्य (डिस्पोजेबल) प्लेटों, कपों, डिब्बों, रैपरों, नारियल के छिलकों, शेष बचे भोजन, सब्जियों, फलों आदि के लिए उपयुक्त पात्र रखेगा और ऐसे अपशिष्ट को स्थानीय प्राधिकरण द्वारा यथा अधिसूचित अपशिष्ट भंडारण डिपो या पात्र या वाहन में डालेगा;

(6) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष से अंदर सभी आवास कल्याण और बाजार संघ स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर पृथक करने, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रहण करने में सहायता और पुनर्चक्रणीय सामग्री को प्राधिकृत अपशिष्ट उठाने वालों अथवा प्राधिकृत पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव-अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित, उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरण द्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को दिया जाएगा;

(7) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष के अंदर 5,000 वर्ग मीटर से अधिक क्षेत्रफल वाले सभी गेट लगे समुदाय और संस्थान स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर ही पृथक करना, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रहण करने में सहायता करना तथा पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित, उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरण द्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को सौंप दिया जाएगा;

(8) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष के अंदर सभी होटल और रेस्टोरेंट स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर पृथक करना, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रह करने में सहायता करना तथा पुनर्चक्रणीय सामग्री को प्राधिकृत अपशिष्ट उठाने वालों अथवा प्राधिकृत

पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव-अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरण द्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को दिया जाएगा।

5. पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के कर्तव्य.- (1) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय देश में इन नियमों के अनुपालन की मॉनीटरी के लिए उत्तरदायी होगा। यह सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अध्यक्षता के अधीन केन्द्रीय मॉनीटरी समिति का गठन करेगा, जिसमें निम्नलिखित अधिकारी शामिल होंगे जो संयुक्त सचिव या सलाहकार की पंक्ति से निम्न के नहीं होंगे अर्थात् :

- (1) शहरी विकास मंत्रालय
- (2) ग्रामीण विकास मंत्रालय
- (3) रसायन एवं उर्वरक मंत्रालय
- (4) कृषि मंत्रालय
- (5) केन्द्रीय प्रदूषण नियंत्रण बोर्ड
- (6) तीन राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति, चक्राणुक्रम द्वारा
- (7) तीन राज्य सरकारों के शहरी विकास विभाग, चक्राणुक्रम द्वारा
- (8) दो राज्य सरकारों के ग्रामीण विकास विभाग, चक्राणुक्रम द्वारा
- (9) तीन शहरी स्थानीय निकाय, चक्राणुक्रम द्वारा
- (10) दो जनगणना (सेंसस) शहर, चक्राणुक्रम द्वारा
- (11) एफआईसीसीआई, सीआईआई
- (12) दो विषय विशेषज्ञ

2. इस केन्द्रीय मानीटरी समिति की बैठक इन नियमों के अनुपालन का मॉनीटर करने और पुनर्विलोकन करने के लिए एक वर्ष में कम से कम एक बार होगी। पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय दो विशेषज्ञों को, यदि आवश्यक हो, सहयोजित कर सकेगा। समिति का प्रत्येक तीन वर्ष में नवीकरण किया जाएगा।

6. शहरी विकास मंत्रालय के कर्तव्य.- (1) शहरी विकास मंत्रालय राज्य सरकारों तथा संघ राज्य क्षेत्र के प्रशासनों के साथ निम्नलिखित के लिए समन्वय करेगा, -

(क) ठोस अपशिष्ट प्रबंधन व्यवहारों को सुधारने के लिए राज्यों तथा स्थानीय निकायों द्वारा किए गए उपायों तथा मंत्रालय और बाह्य अभिकरणों द्वारा वित्त पोषित ठोस अपशिष्ट प्रबंधन परियोजनाओं के निष्पादन का वर्ष में कम से कम एक बार आवधिक पुनर्विलोकन करेगा तथा सुधारात्मक उपाय करने पर सलाह देगा;

(ख) इन नियमों की अधिसूचना की तारीख से छह मास के भीतर पणधारियों के साथ परामर्श से ठोस अपशिष्ट प्रबंधन पर राष्ट्रीय नीति तथा रणनीति तैयार करना, जिसके अंतर्गत अपशिष्ट से ऊर्जा की नीति भी है;

(ग) राष्ट्रीय ठोस अपशिष्ट प्रबंधन नीति और राष्ट्रीय शहरी स्वच्छता नीति पर आधारित ठोस प्रबंध के संबंध में राज्य नीति और रणनीति को तैयार करने में राज्यों तथा संघ राज्य क्षेत्रों का मार्गदर्शन करना और उन्हें सुकर बनाना;

(घ) ठोस अपशिष्ट प्रबंध सेक्टर में अनुसंधान और विकास को प्रोत्साहन देना तथा राज्यों और स्थानीय निकायों के लिए सूचना का प्रसार करना;

(ङ) स्थानीय निकायों और अन्य पणधारियों को प्रशिक्षण देना और उनका क्षमता निर्माण करना; और

(च) समय सीमाओं और मानकों को सुकर बनाने के लिए ठोस अपशिष्ट प्रबंधन पर राज्यों, संघ राज्य क्षेत्रों और स्थानीय निकायों को तकनीकी मार्गदर्शी सिद्धांत तथा परियोजना वित्त प्रदान करना;

7. उर्वरक विभाग, रसायन और उर्वरक मंत्रालय के कर्तव्य.- (1) उर्वरक विभाग समुचित क्रियाविधि के माध्यम से, -

(क) नगर कम्पोस्ट के बाजार विकास में सहायता उपलब्ध कराएगा; और

(ख) कंपनियों को विपणन के लिए इस सीमा तक उपलब्ध कराना कि उर्वरक कंपनियों द्वारा 3 से 4 थैले: 6 से 7 थैले के अनुपात में रासायनिक उर्वरकों के साथ कम्पोस्ट के सह विपणन का संवर्धन सुनिश्चित हो।

8. कृषि मंत्रालय, भारत सरकार के कर्तव्य :- कृषि मंत्रालय समुचित तंत्र के माध्यम से:-

(क) कंपोस्ट के विनिर्माण एवं बिक्री के लिए उर्वरक नियंत्रण आदेश को लचीलापन प्रदान करेगा;

(ख) कृषि भूमि पर कंपोस्ट के उपयोग को बढ़ावा देगा;

(ग) स्थानीय प्राधिकारियों या उनकी प्राधिकृत एजेंसियों द्वारा उत्पादित कंपोस्ट की गुणता जांच के लिए प्रयोगशालाएं स्थापित करेगा;

(घ) कंपोस्ट की गुणता बनाए रखने और कृषि भूमि पर कंपोस्ट का उपयोग करते समय कंपोस्ट की तुलना में रासायनिक उर्वरकों के उपयोग के अनुपात के लिए समुचित मार्गदर्शक सिद्धांत जारी करेगा।

9. विद्युत मंत्रालय के कर्तव्य.- विद्युत मंत्रालय समुचित तंत्र के माध्यम से :- (क) ठोस अपशिष्ट पर आधारित अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों से उत्पादित विद्युत के लिए टैरिफ या प्रभार निर्धारित करेगा;

(ख) ऐसे अपशिष्ट से उत्पन्न विद्युत की खरीद को वितरण कंपनियों द्वारा ऊर्जा संयंत्रों के लिए अनिवार्य बनाएगा।

10. नवीन और नवीकरणीय ऊर्जा स्रोत मंत्रालय के कर्तव्य.- नवीन और नवीकरणीय ऊर्जा स्रोत मंत्रालय समुचित तंत्र के माध्यम से :-

(क) अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों के लिए अवसंरचना सृजन को सुविधाजनक बनाएगा; और

(ख) ऐसे अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों के लिए समुचित सब्सिडी या प्रोत्साहन प्रदान करेगा।

11. राज्यों और संघ राज्य क्षेत्रों में शहरी विकास के प्रभारी सचिव के कर्तव्य.-

(1) राज्य या संघ राज्य क्षेत्र में सचिव, राज्य शहरी विकास विभाग म्युनिसिपल प्रशासन के आयुक्त या निदेशक या स्थानीय निकायों के निदेशक के माध्यम से निम्नलिखित सुनिश्चित करेगा :

(क) इन नियमों से सुसंगत अपशिष्ट प्रबंधन के क्षेत्र में अपशिष्ट चुनने वालों के प्रतिनिधियों, स्वयं सहायता समूह और समान समूहों सहित पणधारियों के परामर्श से राज्य या संघ राज्य क्षेत्र के लिए राज्य नीति और ठोस अपशिष्ट प्रबंधन रणनीति तैयार करना जो इन नियमों की अधिसूचना की तारीख से एक वर्ष की अवधि के भीतर शहरी विकास मंत्रालय को राष्ट्रीय ठोस अपशिष्ट प्रबंधन नीति और राष्ट्रीय शहरी स्वच्छता नीति से समरूप होगी;

(ख) ठोस अपशिष्ट प्रबंधन के संबंध में राज्य नीति और रणनीति तैयार करते समय भूमिभरण में जाने वाले अपशिष्ट का न्यूनीकरण को सुनिश्चित करने तथा राज्य नीति और ठोस अपशिष्ट प्रबंधन रणनीति में मानव स्वास्थ्य और पर्यावरण पर ठोस अपशिष्ट के प्रभाव को न्यूनीकृत करने के लिए ठोस अपशिष्ट के विभिन्न संघटकों के अपशिष्ट में कमी, पुनःउपयोग, पुनर्चक्रण, वसूली और अनुकूलतम उपयोग पर बल देगा;

(ग) राज्य नीतियों और रणनीतियों में कूड़ा चुनने वालों एवं अपशिष्ट संग्रहकर्ताओं और पुनर्चक्रण उद्योग के अनौपचारिक सेक्टर द्वारा अपशिष्ट को कम करने में निर्भाई गई महत्वपूर्ण भूमिका को स्वीकार किया जाना और अपशिष्ट प्रबंधन प्रणाली में अपशिष्ट चुनने वालों या अनौपचारिक अपशिष्ट संग्रहकर्ताओं के एकीकरण के बारे में विस्तृत मार्गदर्शक सिद्धांत उपलब्ध कराना;

(घ) सभी स्थानीय प्राधिकरणों द्वारा इन नियमों के उपबंधों के क्रियान्वयन को सुनिश्चित करना;

(ड.) राज्य के शहरी योजना विभाग को यह सुनिश्चित करने के लिए निदेश देना कि उन शहरों को छोड़कर जो साझा अपशिष्ट प्रसंस्करण सुविधा या शहरों के एक समूह के लिए क्षेत्रीय स्वच्छता भूमिभरण के सदस्य हैं, राज्य या संघ राज्य क्षेत्र में प्रत्येक शहर की मास्टर प्लान में ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाएं स्थापित करने के लिए प्रावधान हैं;

(च) ठोस अपशिष्ट के लिए प्रसंस्करण और निपटान सुविधाएं स्थापित करने के लिए एक वर्ष के अंदर स्थानीय निकायों के वास्ते उपयुक्त भूमि की पहचान और आवंटन सुनिश्चित करना और उन्हें महानगर एवं जिला योजना समितियों या नगर एवं ग्राम योजना विभाग के माध्यम से राज्य/शहरों की मास्टर योजना (भूमि उपयोग की योजना) में शामिल करना;

(छ) राज्य और स्थानीय निकायों के शहरी योजना विभाग को यह सुनिश्चित करने के लिए निदेश देना कि 200 से अधिक आवास वाले या 5,000 वर्ग मीटर से अधिक क्षेत्रफल के प्लॉट वाली गुप हाउसिंग या वाणिज्यिक, सांस्थानिक या अन्य गैर-आवासीय परिसर के लिए विकास योजना में ठोस अपशिष्ट के पृथक्करण, भंडारण, विकेंद्रित प्रसंस्करण के लिए एक अलग स्थल चिन्हित किया जाता है;

(ज) विशेष आर्थिक जोन, औद्योगिक संपदा, औद्योगिक पार्क के विकासकों को निदेश देना कि प्लॉट के कुल क्षेत्रफल का कम से कम 5 प्रतिशत प्लॉट या शैड वसूली या पुनर्चक्रण सुविधा के लिए आरक्षित करें;

(झ) लागत भागीदारी आधार पर क्षेत्रीय सुविधा से 50 कि. मी. (या अधिक) की दूरी के अन्तर्गत आने वाले शहरों और नगरों के समूह के साझा क्षेत्रीय स्वास्थ्यकर भूमिभरण की स्थापना को सुकर बनाना और ऐसे स्वास्थ्यकर भूमिकरणों के वृत्तिक प्रबंधन को सुनिश्चित करना;

(ञ) ठोस अपशिष्ट के प्रबंधन में शहरी स्थानीय निकायों के क्षमता निर्माण तथा स्रोत पर अपशिष्ट के पृथक्करण एवं परिवहन या प्रसंस्करण की व्यवस्था करना;

(ट) राज्य प्रदूषण नियंत्रण बोर्ड के साथ परामर्श करके 5 टन प्रतिदिन से अधिक के ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाओं के लिए बफर जोन अधिसूचित करना; और

(ठ) अपशिष्ट चुनने वालों और अपशिष्ट के व्यापारियों के पंजीकरण के संबंध में एक योजना शुरू करना ।

12. जिला मजिस्ट्रेट या जिला कलक्टर या उपायुक्त के कर्तव्य.- यथा स्थिति, जिला मजिस्ट्रेट या जिला कलक्टर या उपायुक्त,

(क) इन नियमों की अधिसूचना की तारीख से एक वर्ष के भीतर राज्य शहरी विकास विभाग के प्रभारी सचिव के निकट समन्वय से अपने जिले में स्थानीय निकायों को ठोस अपशिष्ट प्रसंस्करण तथा निपटान सुविधाओं की स्थापना करने के लिए नियम 11 के खंड (च) के अनुसार उपयुक्त भूमि की पहचान तथा आवंटन को सुकर बनाएगा;

(ख) अपशिष्ट के पृथक्करण, प्रसंस्करण, उपचार और निपटान पर एक तिमाही में कम से कम तीन मास में एक बार स्थानीय निकायों के अनुपालन का पुनर्विलोकन करेगा और निदेशक या नगरपालिका प्रशासन के आयुक्त या स्थानीय निकायों के निदेशक और राज्य शहरी विकास के प्रभारी सचिव के साथ परामर्श करके उपचारात्मक उपाय करेगा ।

13. राज्य और संघ राज्य क्षेत्र में ग्राम पंचायत या ग्रामीण विकास विभाग के प्रभारी सचिव के कर्तव्य.- (1) उन क्षेत्रों के लिए जो इन नियमों के अधीन आते हैं और उनके अधिकार क्षेत्र में हैं, राज्य और संघ राज्य क्षेत्र में ग्राम पंचायत या शहरी विकास विभाग के प्रभारी सचिव के कर्तव्य वहीं होंगे जो राज्य या संघ राज्य क्षेत्र में शहरी विकास के प्रभारी सचिव के हैं ।

14. केन्द्रीय प्रदूषण नियंत्रण बोर्ड के कर्तव्य.- केन्द्रीय प्रदूषण नियंत्रण बोर्ड -

(क) इन नियमों के कार्यान्वयन के लिए राज्य प्रदूषण नियंत्रण बोर्डों और प्रदूषण नियंत्रण समितियों के साथ समन्वय करेगा और स्थानीय निकायों द्वारा विहित मानकों का पालन करेगा;

(ख) सभी ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाओं की बाबत भूजल, परिवेशी वायु, ध्वनि प्रदूषण, निक्षालन के लिए मानक निश्चित करेगा;

- (ग) ठोस अपशिष्ट प्रसंस्करण सुविधाओं या उपचार प्रौद्योगिकियों के लिए विहित पर्यावरणीय मानकों और सन्नियमों का पुनर्विलोकन करना और जब कभी भी अपेक्षित हो, उनको अद्यतन करना;
- (घ) ठोस अपशिष्ट प्रसंस्करण सुविधाओं या उपचार प्रौद्योगिकियों के लिए विहित पर्यावरणीय मानकों के कार्यान्वयन को वर्ष में कम से कम एक बार राज्य प्रदूषण नियंत्रण बोर्डों/प्रदूषण नियंत्रण समितियों के माध्यम से पुनर्विलोकन और उनके द्वारा मॉनीटर किए गए आंकड़ों का संकलन करना;
- (ङ.) ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण और उपचार के लिए किसी नई प्रौद्योगिकी के प्रयोग पर राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के प्रस्तावों का पुनर्विलोकन करना और छः माह के अंदर उनके लिए निष्पादन मानक, उत्सर्जन मानदंड विहित करना;
- (च) स्थानीय निकायों द्वारा इन नियमों के कार्यान्वयन को राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के माध्यम से मॉनीटर करना;
- (छ) राज्य प्रदूषण नियंत्रण बोर्डों और समितियों से प्राप्त रिपोर्टों के आधार पर इन नियमों के कार्यान्वयन पर वार्षिक रिपोर्ट तैयार करना और उसे पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को प्रस्तुत करना तथा यह रिपोर्ट लोक अधिकार क्षेत्र में भी रखी जाएगी;
- (ज) प्रतिदिन 5 टन से अधिक ठोस अपशिष्ट का प्रबंधन करने वाली सुविधाओं के विभिन्न आकारों के लिए अपशिष्ट प्रसंस्करण और निपटान सुविधाओं की बाहरी सीमाओं से किसी आवासीय, वाणिज्यिक या किसी अन्य संनिर्माण संबंधी क्रियाकलाप को प्रतिबंधित करने वाले बफर जोन को बनाए रखने के लिए मार्गदर्शक सिद्धांतों को प्रकाशित करना;
- (झ) इन नियमों के प्रावधानों का अनुपालन करने के लिए ठोस अपशिष्ट के शहरी स्थानीय निकायों के समर्थ बनाने के लिए प्रसंस्करण और निपटान के पर्यावरणीय पहलुओं पर समय-समय पर मार्गदर्शक सिद्धांत प्रकाशित करना; और
- (ञ) अपशिष्ट के अंतरराज्यीय संचलन पर राज्यों या संघ राज्य क्षेत्रों को मार्गदर्शन प्रदान करना ।

15. स्थानीय निकायों, और जनगणना नगरों की ग्राम पंचायतों तथा शहरी समूहों के कर्तव्य और उत्तरदायित्व.- (1)
स्थानीय निकाय और पंचायतें :-

- (क) राज्य नीति और रणनीति की अधिसूचना की तारीख से छह मास के भीतर ठोस अपशिष्ट प्रबंधन पर राज्य नीति और रणनीति के अनुसार ठोस अपशिष्ट प्रबंध योजना तैयार करना और उसकी एक प्रति राज्य सरकार या संघ राज्य प्रशासन द्वारा राज्य सरकार या संघ राज्य प्रशासन द्वारा प्राधिकृत अभिकरण से उसे अनुमोदित कराना;
- (ख) मलिन बस्तियों तथा अनौपचारिक बसावटों, वाणिज्यिक, संस्थागत और अन्य गैर आवासीय परिसरों सहित सभी घरों से पृथक्कृत ठोस अपशिष्ट का द्वार-द्वार के संग्रहण की व्यवस्था करना। बहु मंजिलों भवनों, बड़े वाणिज्यिक परिसरों, मॉलों, आवासीय परिसरों इत्यादि से अपशिष्ट का संग्रहण प्रवेश द्वार या किसी अन्य अभिहित स्थान किया जा सकता है;
- (ग) कूड़ा चुनने वालों/अनौपचारिक अपशिष्ट संग्रहकर्ताओं के संगठनों को मान्यता प्रदान करने की प्रणाली स्थापित करना और द्वार-द्वार जाकर अपशिष्ट संग्रह करने सहित ठोस अपशिष्ट के प्रबंधन में इनकी भागीदारी को सुकर बनाने के लिए इन प्राधिकृत चुनने वालों और अपशिष्ट संग्रहकर्ताओं के एकीकरण के लिए एक प्रणाली स्थापित करना;
- (घ) स्वयं सहायता समूह बनाने को सुकर बनाना, पहचान पत्र उपलब्ध कराना और तदुपरांत घर-घर जाकर अपशिष्ट संग्रह करने सहित ठोस अपशिष्ट प्रबंधन में एकीकरण को प्रोत्साहन देना;
- (ङ.) इन नियमों की अधिसूचना की तारीख से एक वर्ष के भीतर इन नियमों के उपबंधों को समाविष्ट करते हुए उपविधियां बनाना और समय पर कार्यान्वयन सुनिश्चित करना;

(च) उपयोक्ता फीस, जो समुचित समझी जाए, समय-समय पर विहित करना और स्वयं या प्राधिकृत अभिकरण के माध्यम से ठोस अपशिष्ट उत्पन्नकर्ताओं से फीस का संग्रह करना;

(छ) अपशिष्ट उत्पन्नकर्ताओं को निदेश देना कि कूड़ा करकट न फैलाएं अथवा कागज, पानी की बोतलें, पेय पदार्थों के केनों, टेट्रा पैक्स, फलों के छिलके, रैपर आदि या सड़क खुले सार्वजनिक स्थान, नालों अपशिष्ट निकायों पर न जलाए या कुंड में न फेंके या उनका निपटान न करें तथा इन नियमों के अधीन विहित किए गए अनुसार स्रोत अपशिष्ट को अलग-अलग करें और पृथक किए गए अपशिष्ट को स्थानीय निकाय द्वारा प्राधिकृत अपशिष्ट चुनने वालों या प्राधिकृत अपशिष्ट संग्रहकर्ता को सौंप दें;

(ज) पुनर्चक्रणीय सामग्रियों छंटाई करने के लिए पर्याप्त स्थान के साथ सामग्री वसूली सुविधाएं या गौण भंडारण सुविधाएं स्थापित करना ताकि अनौपचारिक या प्राधिकृत अपशिष्ट चुनने वाले और अपशिष्ट संग्रह करने वाले अपशिष्ट में से पुनर्चक्रणीय सामग्रियों को अलग कर सकें या उत्पादन के स्रोत से या सामग्री वसूली सुविधाओं से कागज, प्लास्टिक, धातु, शीशा, कपड़ा आदि जैसे पृथक किए गए पुनर्चक्रणीय अपशिष्ट को संग्रह करने के लिए अपशिष्ट चुनने वालों और पुनर्चक्रकों को सुलभ मार्ग उपलब्ध कराना; जैव निम्नीकरण अपशिष्ट के भंडारण के लिए डिब्बे हरे रंग से मुद्रित होंगे, जो पुनर्चक्रण के अपशिष्ट के भंडारण के लिए सफेद रंग से मुद्रित होंगे और अन्य अपशिष्ट के भंडारण के लिए काले रंग से मुद्रित होंगे;

(झ) घरेलू परिसंकटमय अपशिष्ट के लिए अपशिष्ट निक्षेपण केंद्रों की स्थापना करना और अपशिष्ट उत्पन्नकर्ताओं को निदेश देना कि घरेलू परिसंकटमय अपशिष्टों निक्षेपण परिसंकटमय अपशिष्ट निपटान सुविधा में उसके सुरक्षित निपटान के लिए इस केंद्र में करें। ऐसी सुविधा की स्थापना किसी शहर या नगर में इस ढंग से की जाएगी कि एक केंद्र की स्थापना बीस किलोमीटर क्षेत्रफल या उसके भाग के लिए हो जाए और इन केंद्रों में घरेलू परिसंकटमय अपशिष्ट प्राप्त करने के समय अधिसूचित होगा;

(ञ) परिसंकटमय अपशिष्ट निपटान सुविधा तक घरेलू परिसंकटमय अपशिष्ट का सुरक्षित भंडारण और परिवहन सुनिश्चित करना या जो राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति द्वारा निर्देश किया जाए;

(ट) गली के सफाई कर्मचारियों को निदेश देना कि गली की सफाई से संग्रहीत पेड़ के पत्तों को न जलाएं तथा उन्हें अलग से भंडारण करे और स्थानीय निकाय द्वारा प्राधिकृत अपशिष्ट संग्रहकर्ता या अभिकरण को सौंपे;

(ठ) अपशिष्ट चुनने वालों और अपशिष्ट संग्रहकर्ताओं को ठोस अपशिष्ट प्रबंधन का प्रशिक्षण देना;

(ड) दिन-प्रतिदिन आधार पर बाजारों से सब्जियों, फलों, फूलों, मांस, कुक्कुट पालन और मछली बाजार से अपशिष्ट संग्रह करना और स्वास्थ्यकर स्थिति सुनिश्चित करने के लिए बाजारों में उचित स्थानों पर या बाजारों के आस-पास विकेंद्रीकृत कंपोस्ट प्लांट या जैव मिथेनीकरण प्लांट की स्थापना को प्रोत्साहन देना;

(ढ) जनसंख्या के घनत्व, वाणिज्यिक क्रियाकलाप और स्थानीय स्थिति पर निर्भर करते हुए दैनिक या वैकल्पिक दिवसों या सप्ताह में दो बार सड़कों, मार्गों, गलियों और उप-गलियों की सफाई के अपशिष्ट को पृथक रूप से संग्रह करना;

(ण) सड़क की सफाई के कूड़े और सतही नालियों से निकाली गई गाद को जिन मामलों में इन अपशिष्टों का सीधा संग्रह करने के लिए परिवहन वाहन सुविधाजनक व्यवहार्य नहीं है, अस्थाई रूप से भंडारण करने के लिए आच्छादित गौण भंडारण सुविधा स्थापित करना। इस प्रकार संग्रह किए गए अपशिष्ट का संग्रह और निपटान स्थानीय निकाय द्वारा यथा निर्धारित नियमित अंतराल पर किया जाएगा;

(त) बागवानी, उद्यानों और बगीचों के अपशिष्ट को पृथक रूप से संग्रह करना और जहां तक संभव हो उसका प्रसंस्करण पार्कों और बगीचों में करना;

(थ) पृथक किए गए जैव निम्नीकरणीय अपशिष्ट का परिवहन प्रसंस्करण सुविधाओं जैसे कंपोस्ट प्लांट, जैव मिथेनीकरण संयंत्र या ऐसी कोई सुविधा तक करना। ऐसे अपशिष्ट के स्थल पर प्रसंस्करण को अधिमान्यता दी जानी चाहिए;

(द) क्रमवर्ती प्रसंस्करण सुविधा या सामग्री पुनःप्राप्ति सुविधाओं या द्वितीयक भंडारण सुविधा को गैर जैव निम्नीकरणीय अपशिष्ट को परिवहन करना;

(ध) निर्माण और विध्वंस अपशिष्ट का परिवहन समय-समय पर यथासंशोधित निर्माण और विध्वंस अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार करना;

(न) समुदाय सुविधा के आस-पास दुर्गंध के नियंत्रण और स्वास्थ्य रक्षक स्थितियों के अनुरक्षण के अध्यक्षीन समुदाय स्तर पर घरेलू कंपोस्टिंग, बायोगैस उत्पादन, अपशिष्ट के विकेंद्रित प्रसंस्करण में समुदायों को अंतर्वलित करना;

(प) दो वर्षों के भीतर रासायनिक खाद के उपयोग को चरणबद्ध रूप से समाप्त करना और स्थानीय निकायों द्वारा अनुरक्षित सभी उद्यानों, बगीचों में कंपोस्ट का प्रयोग करना और जहां कहीं संभव हो इसके अधिकारिता के अधीन अन्य स्थानों पर भी ऐसा करना अनौपचारिक अपशिष्ट पुनर्चक्रण क्षेत्र द्वारा की जाने वाली पुनर्चक्रण पहलों को प्रोत्साहन उपलब्ध कराए जा सकते हैं;

(फ) उपयुक्त प्रौद्योगिकी जिसके अंतर्गत निम्नलिखित प्रौद्योगिकियां भी हैं, को अंगीकृत करते हुए और समय-समय पर शहरी विकास मंत्रालय द्वारा समय-समय पर जारी मार्गदर्शी सिद्धांतों और केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी दिशानिर्देशों का पालन करते हुए ठोस अपशिष्ट के विभिन्न अवयवों के उचित उपयोग के लिए स्वयं या निजी क्षेत्र के सहभागी या किसी अभिकरण के माध्यम से ठोस अपशिष्ट प्रसंस्करण सुविधाओं और संबंधित अवसंरचना के संनिर्माण, प्रचालन और अनुरक्षण को सुकर बनाना: परिवहन लागत और पर्यावरणीय आघात को न्यूनतम करने के लिए विकेन्द्रीयकृत प्रसंस्करण को अधिमान्यता देना जैसे.-

(क) जैव-मिथैनिकरण, सूक्ष्म जैविक कंपोस्टिंग, वर्मी कंपोस्टिंग, अनारोबिक डार्इजेशन या जैव निम्नकरणीय-अपशिष्टों के जैव स्थिरीकरण के लिए कोई अन्य समुचित प्रसंस्करण;

(ख) अपशिष्ट के दहनशील भाग के लिए अवशिष्ट जनित ईंधन सहित अपशिष्ट से ऊर्जा प्रक्रियाएं या अपशिष्ट आधारित विद्युत प्लांटों या सीमेंट भट्टियों को फीड स्टॉक के रूप में आपूर्ति;

(ब) इन नियमों के अधीन विहित रीति से अवशेष अपशिष्टों के निपटान के लिए अनुसूची-1 के अनुसार स्वास्थ्यकर भरण स्थलों और आनुषंगिक अवसंरचना का निर्माण, प्रचालन और अनुरक्षण स्वयं या किसी अन्य अभिकरण के माध्यम से करना;

(भ) वार्षिक बजट में पूंजी निवेश के साथ-साथ ठोस अपशिष्ट प्रबंधन सेवाओं के प्रचालन और अनुरक्षण के लिए निधियों का पर्याप्त उपबंध करना और यह सुनिश्चित करना कि स्थानीय निकाय के वैवेकिक कृत्यों के लिए निधियां ठोस अपशिष्ट प्रबंधन तथा इन नियमों के अनुसार स्थानीय निकाय के अन्य बाध्यकारी कृत्यों के लिए आवश्यक निधियों की अपेक्षा पूर्ण करने के पश्चात् की आबंटित की जाएं;

(म) प्ररूप-1 में अपशिष्ट प्रसंस्करण, शोधन या निस्तारण सुविधा स्थापित करने के लिए प्राधिकार अनुदत्त करने के लिए आवेदन करना जिसके अंतर्गत यथास्थिति राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति से स्वास्थ्यकर भरण स्थल सहित प्रतिदिन 5 मीट्रिक टन से अधिक अपशिष्ट हो;

(य) प्राधिकार की विधिमान्यता समाप्त होने से कम से कम साठ दिन पूर्व प्राधिकार के नवीकरण के लिए आवेदन करना;

(यक) उत्तरवर्ती वर्ष के 30 अप्रैल या उसके पूर्व आयुक्त या निदेशक, नगरपालिका प्रशासन को या प्राधिकृत अधिकारी को प्ररूप-4 में वार्षिक रिपोर्ट तैयार और प्रस्तुत करना;

(यख) वार्षिक रिपोर्ट प्रत्येक वर्ष के 31 मई तक शहरी विकास विभाग के प्रभारी सचिव या ग्राम पंचायत या ग्रामीण विकास विभाग और संबंधित राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति को भेजी जाएगी;

(यग) कार्मिकों जिसके अंतर्गत संविदा कार्मिकों और पर्यवेक्षकों भी हैं, को पृथक किए गए अपशिष्ट के द्वार-द्वार से संग्रहण के लिए और प्रसंस्करण या निपटान सुविधा को प्राथमिक और द्वितीयक परिवहन के दौरान अमिश्रित अपशिष्ट के संबंध में प्रशिक्षण;

(यघ) यह सुनिश्चित करना कि प्रसुविधा का प्रचालक व्यक्तिगत सुरक्षा उपकरण अर्थात् वर्दी, प्रदीप्त जैकेट, हाथ के दस्ताने, बरसाती, समुचित जूते और मास्क ठोस अपशिष्ट के प्रहस्तन में लगे सभी कार्मिकों को उपलब्ध कराए और कार्यबल द्वारा इनका उपयोग सुनिश्चित किया जाए;

(यड.) किसी ग्रुप हाउसिंग सोसाइटी या मार्केट काम्पलैक्स की निर्माण योजना के अनुमोदन से पूर्व सुनिश्चित करने की भवन योजना में पृथक किए गए अपशिष्टों के संग्रहण, पृथक्करण और भंडारण के लिए अपशिष्ट संग्रहण केन्द्र स्थापित किया जाना सुनिश्चित किया जाए;

(यच) कचरा फैलाने वाले या इन नियमों के उपबंधों का अनुपालन करने में असफल रहने वाले व्यक्तियों के लिए स्थल ही जुर्माना लगाने के लिए उपविधि बनाना और मापदंड विहित करना तथा बनाई गई उपविधियों के अनुसार स्थल पर ही जुर्माना लगाने की शक्तियां उचित अधिकारियों या स्थानीय निकायों को प्रत्यायोजित करना; और

(यछ) सूचना, शिक्षण और संचार अभियान के माध्यम से लोक जागरूकता का सृजन करना और निम्नलिखित के संबंध में अपशिष्ट उत्पन्न करने वालों को जानकारी देना;

- i. कचरा न फैलाना;
- ii. कम अपशिष्ट उत्पन्न करना;
- iii. संभव सीमा तक अपशिष्ट का पुनःउपयोग;
- iv. अपशिष्ट का जैव निम्नीकरणीय, गैर-जैव निम्नीकरणीय (पुनर्चक्रण योग्य तथा दहनयोग्य), स्वास्थ्यकर अपशिष्ट और घरेलू परिसंकटमय अपशिष्ट के रूप में स्रोत पर पृथक्करण;
- v. घरेलू कंपोस्टिंग, वर्मिन कंपोस्टिंग, बायोगैस उत्पादन या समुदाय स्तरीय कंपोस्टिंग/बायोगैस उत्पादन का व्यवहार करना;
- vi. उपयोग हुए प्रसाधन अपशिष्ट को ब्रांड स्वामियों द्वारा उपलब्ध कराए गए पाउचों या स्थानीय निकाय द्वारा विहित उपयुक्त लपेटने वाली सामग्री में लपेटना और इसे गैर जैव निम्नीकरणीय अपशिष्ट के लिए रखे गए डिब्बों में डालना;
- vii. स्रोत पर पृथक्कृत अपशिष्टों का अलग-अलग डिब्बों में भंडारण करना;
- viii. अपशिष्ट चुनने वालों, अपशिष्ट संग्राहकों, पुनःचक्रणकर्ताओं या अपशिष्ट संग्रहण अभिकरणों को पृथक्कृत अपशिष्ट सौंपना; और
- ix. अपशिष्ट एकत्र करने वालों या स्थानीय निकायों या स्थानीय निकाय द्वारा प्राधिकृत किसी अन्य व्यक्ति को ठोस अपशिष्ट प्रबंधन के लिए मासिक उपयोक्ता फीस या प्रभार का संदाय करना।

(यज) स्वास्थ्यकर स्थल की स्थापना और प्रचालन के लिए नियम 23 में यथाविनिर्दिष्ट समय सीमा के समाप्त होने के तुरंत पश्चात् मिश्रित अपशिष्ट से भरण स्थल को भरना या एकत्र करना बंद किया जाए;

(यझ) अपशिष्ट प्रसंस्करण सुविधाओं से केवल अप्रयोजनीय, गैर-पुनर्चक्रणयोग्य, गैर-जैवनिम्नीकरणीय, गैर-दहनशील और गैर-सक्रिय अपशिष्ट और पूर्व प्रसंस्करण अपशिष्टों तथा अवशिष्टों को ही स्वास्थ्यकर भरण स्थल पर जाने देने की अनुमति दी जाए और स्वास्थ्यकर भरण स्थलों द्वारा अनुसूची 1 में दी गई विशिष्टियों का अनुपालन किया जाएगा। तथापि, अवशिष्टों का यथासंभव पुनर्चक्रण या पुनःप्रयोग किए जाने के प्रयास किए जाने चाहिए ताकि भरण स्थल तक शून्य अपशिष्ट जाने के अपेक्षित लक्ष्य की प्राप्ति हो सके;

(यच) सभी पुराने खुले मलबा स्थलों तथा विद्यमान प्रचालनरत मलबा स्थलों के जैव-खनन तथा जैव-उपचार की संभाव्यता के लिए जांच और विश्लेषण करना और जहां कहीं व्यवहार्य हो स्थलों के जैव-खनन या जैव-उपचार हेतु आवश्यक कार्रवाई करना;

(यट) मलबा स्थल के जैव-खनन और जैव-उपचार की संभाव्यता न होने की स्थिति में पर्यावरण को होने वाली क्षति को रोकने के लिए इसे भरण स्थल कैपिंग मानकों के अनुसार वैज्ञानिक रूप से आच्छादित जाएगा।

16. राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति के कर्तव्य.- (1) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा -

(क) अपनी-अपनी अधिकारिता में स्थानीय निकायों के माध्यम से राज्य में इन नियमों का प्रवर्तन किया जाएगा तथा संबंधित नगरपालिका प्रशासन निदेशालय या राज्य शहरी विकास विभाग के प्रभारी सचिव के निकट समन्वय से वर्ष में कम से कम दो बार इन नियमों के क्रियान्वयन की समीक्षा की जाएगी;

(ख) अपशिष्ट प्रसंस्करण और निस्तारण स्थलों के लिए अनुसूची I और अनुसूची II के अधीन यथा विनिर्दिष्ट पर्यावरणीय मानकों को मॉनीटर करना तथा शर्तों का पालन करना;

(ग) स्थानीय निकाय या स्थानीय निकाय द्वारा प्राधिकृत किसी अन्य अभिकरण से प्ररूप 1 में आवेदन की प्राप्ति के पश्चात् प्रस्ताव का परीक्षण करना और ऐसी जांच करना जो उचित समझा जाए;

(घ) प्राधिकार के प्रस्ताव की जांच करते समय, संबंधित अधिनियमितियों के अधीन सहमति की अपेक्षा और अन्य अभिकरणों जैसे राज्य शहरी विकास विभाग, नगर और ग्राम योजना विभाग, जिला योजना समिति या महानगरीय क्षेत्र योजना समिति, जैसा लागू हो, विमानपत्तन या एयरवेस प्राधिकरण, भू-जल बोर्ड, रेलवे, विद्युत वितरण कंपनियां, राजमार्ग विभाग और अन्य संबंधित अभिकरणों के विचारों को ध्यान में रखा जाएगा और उन्हें अपने विचार, यदि कोई हों, देने के लिए चार सप्ताह का समय दिया जाएगा;

(ङ.) स्थानीय निकाय या किसी सुविधा प्रचालक या स्थानीय प्राधिकरण द्वारा प्राधिकृत किसी अन्य अभिकरण को प्ररूप 2 में साठ दिन की अवधि के भीतर प्राधिकार जारी करना जिसमें यथाआवश्यक अन्य शर्तों सहित अनुसूची 1 और 2 में यथाविनिर्दिष्ट अनुपालन मापदंड और पर्यावरण मानक अधिकथित हों;

(च) ऐसे प्राधिकार की विधिमान्यता सहमतियों की विधिमान्यता के साथ समकालिक होगी;

(छ) यदि स्थानीय प्राधिकरण या सुविधा प्रचालक सुविधा का प्रचालन विहित शर्तों के अनुसार करने में असफल रहता है तो राज्य प्रदूषण नियंत्रण बोर्ड द्वारा खंड (क) के अधीन जारी उक्त प्राधिकार को निलंबित या रद्द किया जा सकेगा;

परंतु यथास्थिति, स्थानीय निकाय या प्रचालक को सूचना दिए बिना ऐसा कोई प्राधिकार निलंबित या रद्द नहीं किया जाएगा; और

(ज) नवीकरण के लिए आवेदन की प्राप्ति पर, प्रत्येक आवेदन को गुणागुण के आधार पर परीक्षा करने के पश्चात् और इस शर्त के अधीन रहते हुए कि सुविधा के प्रचालन में नियमों के सभी उपबंधों, प्राधिकार, सहमति या पर्यावरण अनापत्ति में विनिर्दिष्ट मानकों या शर्तों को पूर्ण कर दिया है, अगले पांच वर्षों के लिए प्राधिकार का नवीकरण करेगा;

(2) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति आवेदक को सुने जाने का युक्तियुक्त अवसर देने के पश्चात् और लिखित में कारणों को लेखबद्ध करने के पश्चात् प्राधिकार अनुदत्त करने या नवीकरण करने से इंकार कर सकेगा।

(3) नई प्रौद्योगिकियों के मामले में, जहां यथास्थिति, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा कोई मानक विहित नहीं किया गया है, मानक विनिर्दिष्ट करने के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड से निवेदन करेगा।

(4) यथास्थिति, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति जब कभी उचित समझा जाए किन्तु वर्ष में कम से कम एक बार, यथाअभिहित या अधिकथित मानकों तथा यथाअनुमोदित उपचार प्रौद्योगिकी तथा प्राधिकार में निर्दिष्ट शर्तों और इन नियमों के अधीन अनुसूची-1 और अनुसूची-2 में विनिर्दिष्ट मानकों का अनुपालन मॉनीटर करेगा।

(5) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति परिसंकटमय अपशिष्ट भंडारण सुविधाओं में अपशिष्ट उत्पादकों द्वारा एकत्रित घरेलू परिसंकटमय अपशिष्ट के सुरक्षित प्रहस्तन और निस्तारण के लिए स्थानीय निकायों को निदेश देगा।

(6) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा अपशिष्ट के अंतर राज्य प्रचालन को विनियमित किया जाएगा।

17. निपटानयोग्य उत्पादों तथा स्वास्थ्यकर नैपकिनों और डायपरों के विनिर्माताओं या ब्रांड स्वामियों के कर्तव्य.- (1) निपटान योग्य उत्पादों जैसे टिन, कांच, प्लास्टिक पैकेजिंग इत्यादि के सभी निर्माता या ऐसे उत्पादों को बाजार में लाने वाले ब्रांड स्वामी अपशिष्ट प्रबंधन प्रणाली की स्थापना के लिए स्थानीय निकायों को आवश्यक वित्तीय सहायता उपलब्ध कराएंगे।

(2) गैर जैव-निम्नीकरणीय पैकेजिंग सामग्री में अपने उत्पादों की बिक्री या विपणन करने वाले ऐसे सभी ब्रांड स्वामी उनके उत्पाद के कारण उत्पन्न हुए पैकेजिंग अपशिष्ट को वापस ग्रहण करने के लिए प्रणाली की व्यवस्था करेंगे।

(3) स्वास्थ्यकर नैपकिनों तथा डायपरों के विनिर्माताओं या ब्रांड स्वामियों या विपणन कंपनियों द्वारा अपने उत्पादों में सभी पुनर्चक्रणयोग्य सामग्रियों के प्रयोग की संभाव्यता का पता लगाएंगे या अपने स्वास्थ्यकर उत्पादों के पैकेट के साथ प्रत्येक नैपकिन या डायपर के निस्तारण के लिए एक पाउच या रैपर उपलब्ध कराएंगे।

(4) ऐसे सभी विनिर्माताओं, ब्रांड स्वामियों या विपणन कंपनियों द्वारा अपने उत्पादों को लपेटने और उनका निस्तारण करने के संबंध में लोगों को जानकारी दी जाएगी।

18. कचरा व्युत्पन्न ईंधन से सौ कि.मी. के अंदर अवस्थित औद्योगिक इकाइयों और ठोस अपशिष्ट आधारित ऊर्जा संयंत्रों के कर्तव्य.- ईंधन का प्रयोग करने वाली और ठोस अपशिष्ट आधारित कचरा व्युत्पन्न ईंधन संयंत्र से सौ कि.मी. के भीतर अवस्थित सभी औद्योगिक इकाइयों इस प्रकार उत्पन्न कचरा व्युत्पन्न ईंधन द्वारा अपनी ईंधन अपेक्षा के कम से कम 5 प्रतिशत का प्रतिस्थापन करने के लिए इन नियमों की अधिसूचना की तारीख से छह मास के भीतर व्यवस्था करेंगे।

19. ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधा की स्थापना के लिए मानदंड.- (1) भूमि समनुदेशन कार्य आबंटन विभाग ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं की स्थापना के लिए उपयुक्त भूमि उपलब्ध कराने और राज्य सरकार या संघ राज्य क्षेत्र प्रशासन से ऐसे स्थलों को अधिसूचित करने के लिए उत्तरदायी होंगे।

(2) सुविधा का प्रचालक समय-समय पर इस संबंध में केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी तकनीकी मार्गदर्शी सिद्धांतों और शहरी विकास मंत्रालय द्वारा तैयार किए गए ठोस अपशिष्ट प्रबंधन संबंधी मैनुअल के अनुसार सुविधा का डिजाइन करेगा और इसकी स्थापना करेगा।

(3) सुविधा के प्रचालक द्वारा राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति से आवश्यक अनुमोदन प्राप्त किया जाएगा।

(4) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं के प्रचालन के पर्यावरण मानकों की मॉनीटरिंग की जाएगी।

(5) सुविधा के प्रचालक का उत्तरदायित्व समय-समय पर केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी मार्गदर्शी सिद्धांतों और समय-समय पर शहरी विकास मंत्रालय द्वारा प्रकाशित नगरीय ठोस अपशिष्ट प्रबंधन संबंधी मैनुअल के अनुसार ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं के पर्यावरण के दृष्टि से अनुकूल प्रचालन की होगी।

(6) ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधा के प्रचालक द्वारा राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति और स्थानीय प्राधिकरण को प्रत्येक वर्ष 30 अप्रैल तक प्ररूप 3 में वार्षिक रिपोर्ट प्रस्तुत करेगा।

20. पर्वतीय क्षेत्रों में ठोस अपशिष्ट प्रबंधन के मानदंड और की जाने वाली कार्रवाईयां.- पर्वतीय क्षेत्रों में स्थानीय प्राधिकरणों के कर्तव्य और दायित्व निम्नलिखित अतिरिक्त खंडों के सहित नियम 15 में उल्लिखित के समान होंगे :

(क) पर्वत पर भरण स्थल के संनिर्माण से बचना होगा। प्रसंस्करण सुविधा से अवशिष्ट अपशिष्ट और निष्क्रिय अपशिष्ट का संग्रहण करने के लिए एक उपयुक्त निकटतम अवस्थान पर एक अंतरण स्थान स्थापित किया जाएगा। स्वास्थ्यकर भरण की स्थापना करने के लिए 25 किलोमीटर के भीतर पहाड़ी के नीचे समतल भूमि क्षेत्र में योग्य भूमि का पहचान की जाएगी। अंतरण स्थान से अवशिष्ट अपशिष्ट का निपटान इस स्वास्थ्यकर भरण स्थल पर किया जाएगा।

(ख) ऐसी भूमि उपलब्ध न होने पर की दशा में निष्क्रिय और अवशिष्ट अपशिष्ट के लिए क्षेत्रीय स्वास्थ्यकर भरण स्थल स्थापित करने के प्रयास किए जाएंगे।

(ग) स्थानीय निकाय उपविधि बनाएगा और नागरिकों को गलियों में अपशिष्ट फैकने से प्रतिषिद्ध करने तथा पर्यटकों को गलियों में या पहाड़ियों से नीचे न फैकने किसी अपशिष्ट जैसे कागज, पानी की बोतल, शराब की बोतल, सॉफ्ट ड्रिंक के केन, टेट्रा पैक, अन्य कोई प्लास्टिक या कागज अपशिष्ट के स्थान पर सभी पर्यटक स्थलों पर स्थानीय निकाय द्वारा रखे गए कूड़ेदान में फैकने के निर्देश देना।

(घ) स्थानीय निकाय द्वारा, पर्वतीय क्षेत्रों का भ्रमण करने वाले सभी पर्यटकों को उपविधियों के अधीन ठोस अपशिष्ट प्रबंधन के उपबंधों को नगर में प्रवेश बिंदु के साथ-साथ होटलों तथा अतिथि गृहों इत्यादि के माध्यम से, जहां वे ठहरते हैं और पर्यटन स्थलों पर उपयुक्त विज्ञापन बोर्ड लगाकर, व्यवस्था करेगा।

(ङ.) स्थानीय निकाय ठोस अपशिष्ट प्रबंधन सेवाएं संवहनीय बनाने को प्रवेश द्वार पर पर्यटक से ठोस प्रबंधन प्रभार उदगृहीत कर सकेगा।

(च) भूमि समनुदेशन का प्रभारी विभाग विकेन्द्रीकृत अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना के लिए पर्वतों पर उपयुक्त स्थल की पहचान और आबंटन करेगा। स्थानीय निकाय द्वारा ऐसी सुविधाएं स्थापित की जाएंगी। पर्वतीय स्थान का अनुकूलतम उपयोग करने के लिए सीढ़ी उद्यान प्रणाली को अपनाया जा सकेगा।

21. अपशिष्ट से उर्जा प्रसंस्करण के लिए मानदंड - (1) 1500 कि./कैल./कि.ग्रा. या अधिक के कैलोरिफिक मान रखने वाले गैर पुनःचक्रण अपशिष्टों को भरण स्थलों में निस्तारित नहीं किया जाएगा और उनका उपयोग या तो केवल व्युत्पन्न ईंधन

अवशेष के माध्यम से या अवशेष व्युत्पन्न ईंधन तैयार करने के लिए फीड स्टॉक के रूप में देकर या ऊर्जा का उत्पादन करने के लिए ही किया जाएगा।

- (2) उच्च कैलोरिफिक अपशिष्टों का उपयोग सीमेंट या ताप विद्युत संयंत्रों में सह-प्रसंस्करण के लिए किया जाएगा।
- (3) स्थानीय निकाय या सुविधा का प्रचालक या उनके द्वारा नामनिर्दिष्ट अभिकरण जो पांच टन प्रतिदिन से अधिक प्रसंस्करण क्षमता वाली सुविधा के अपशिष्ट के ऊर्जा संयंत्र की स्थापना करना चाहते हों, वे यथास्थिति, राज्य प्रदूषण नियंत्रक बोर्ड या प्रदूषण नियंत्रण समिति को प्राधिकार के लिए प्ररूप-1 में आवेदन प्रस्तुत करेंगे।
- (4) अपशिष्ट से ऊर्जा सुविधा की स्थापना करने के लिए ऐसे आवेदनों की प्राप्ति पर राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति उसका परीक्षण करेगा और साठ दिनों के अंदर अनुमति प्रदान करेगा।

22. क्रियान्वयन की समय-सीमा - इन नियमों के क्रियान्वयन के लिए आवश्यक अवसंरचना यथास्थिति, स्थानीय निकायों और अन्य संबंधित प्राधिकरणों द्वारा प्रत्यक्ष तथा स्वयं या नियोजित अभिकरणों द्वारा निम्नलिखित विनिर्दिष्ट समय-सीमा में सृजित की जाएंगी :

क्रम सं.	क्रियाकलाप	नियमों की अधिसूचना की तारीख से समय-सीमा
(1)	ठोस अपशिष्ट प्रसंस्करण सुविधा को स्थापित करने के लिए उपयुक्त स्थलों की पहचान करना	1 वर्ष
(2)	0.5 करोड़ जनसंख्या से कम के स्थानीय निकायों के योग्य उपयुक्त समूह के लिए साझा क्षेत्रीय स्वास्थ्यकर भरण सुविधा को स्थापित करने के लिए और 0.5 करोड़ या अधिक की जनसंख्या वाले सभी स्थानीय प्राधिकरणों द्वारा साझा क्षेत्रीय स्वास्थ्यकर भरण स्थल सुविधाओं या एकल भरण सुविधाओं की स्थापना करने के लिए उपयुक्त स्थलों की पहचान।	1 वर्ष
(3)	ठोस अपशिष्ट प्रसंस्करण सुविधा और स्वास्थ्यकर भरण स्थल सुविधाओं के लिए उपयुक्त स्थलों का उपापन।	2 वर्ष
(4)	जैव निम्नीकरणीय, पुनःचक्रण योग्य, दहन योग्य, स्वास्थ्यकर अपशिष्ट, घरेलू परिसंकटमय तथा निष्क्रिय ठोस अपशिष्टों का स्रोत पर पृथक्करण के लिए चलन के लिए अपशिष्ट उत्पन्नकर्ताओं को बाध्य करना ।	2 वर्ष
(5)	पृथक्कृत अपशिष्ट घर-घर से एकत्र करके और प्रसंस्करण या निपटान सुविधाओं का परिवहन आच्छादित वाहनों में सुनिश्चित करना।	2 वर्ष
(6)	संनिर्माण तथा विध्वंस अपशिष्टों का अलग-अलग भंडारण, संग्रहण और परिवहन सुनिश्चित करना।	2 वर्ष
(7)	100000 से अधिक जनसंख्या वाले सभी स्थानीय निकायों द्वारा ठोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना करना।	2 वर्ष
(8)	100000 से कम जनसंख्या वाले स्थानीय निकायों और नगरों द्वारा ठोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना करना।	3 वर्ष
(9)	इन नियमों के अधीन यथा अनुज्ञात प्रसंस्करण सुविधाओं से केवल ऐसे अपशिष्ट अपशिष्टों के साथ-साथ अशोधित निष्क्रिय अपशिष्ट के निपटान के	3 वर्ष

	लिए 0.5 करोड़ या उससे अधिक की जनसंख्या वाले सभी स्थानीय निकायों द्वारा या के लिए सम्मिलित या एकल भरण की स्थापना।	
(10)	इन नियमों के अधीन अनुज्ञात अपशिष्ट के निपटान के लिए 0.5 करोड़ से कम के अधीन सभी स्थानीय निकायों और जनसंख्या नगरों द्वारा सम्मिलित या क्षेत्रीय भरण स्थलों की स्थापना।	3 वर्ष
(11)	पुराने या परित्यक्त कूड़ा स्थलों का जैविक उपचार करना या उन्हें ढकना।	5 वर्ष

23. राज्य स्तरीय सलाहकार निकाय.- (1) संबंधित राज्य सरकार या संघ राज्य क्षेत्र प्रशासन के स्थानीय निकायों का प्रत्येक विभाग प्रभारी इन नियमों की अधिसूचना की तारीख से छह मास के भीतर एक राज्य स्तरीय सलाहकार समिति का गठन करेगा जिसमें निम्नलिखित सदस्य शामिल होंगे:-

क्रम संख्या	पदनाम	सदस्य
(1)	(2)	(3)
1.	राज्य के शहरी विकास विभाग/स्थानीय स्वशासन विभाग के सचिव	अध्यक्ष, पदेन
2.	राज्य सरकार के पंचायत या ग्रामीण विकास विभाग का संयुक्त सचिव से अन्यून पंक्ति का एक प्रतिनिधि	सदस्य, पदेन
3.	राज्य सरकार के राजस्व विभाग का एक प्रतिनिधि	सदस्य, पदेन
4.	पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
5.	शहरी विकास मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
6.	ग्रामीण विकास मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
7.	केंद्रीय प्रदूषण नियंत्रण बोर्ड का एक प्रतिनिधि	सदस्य, पदेन
8.	राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति का एक प्रतिनिधि	सदस्य, पदेन
9.	भारतीय प्रौद्योगिकी संस्थान या राष्ट्रीय प्रौद्योगिकी संस्थान का एक प्रतिनिधि	सदस्य, पदेन
10.	राज्य का मुख्य नगर नियोजक	सदस्य
11.	स्थानीय निकायों के चक्रानुक्रम द्वारा तीन प्रतिनिधि,	सदस्य
12.	जनगणना नगरों/शहरी समुदायों के दो प्रतिनिधि	सदस्य
13.	अपशिष्ट चुनने वालों/अनौपचारिक पुनर्चक्रणकर्ता या ठोस अपशिष्ट प्रबंधन के लिए काम करने वाले विख्यात गैर सरकारी संगठन या सिविल सोसायटी का एक प्रतिनिधि	सदस्य

14.	राज्य या केन्द्रीय स्तर पर उद्योगों का प्रतिनिधित्व करने वाले निकाय का एक प्रतिनिधि	सदस्य
15.	अपशिष्ट पुनर्चक्रण उद्योग का एक प्रतिनिधि	सदस्य
16.	दो विषय विशेषज्ञ	सदस्य
17.	राज्य सरकार के राजस्व विभाग, कृषि विभाग और श्रम विभाग का सहयोजित एक प्रतिनिधि	सदस्य

(2) इन नियमों के क्रियान्वयन से संबंधित सभी विषयों, ठोस अपशिष्ट प्रबंध संबंधी राज्य की नीति तथा कार्यनीति की समीक्षा करने और इन नियमों के त्वरित और समुचित क्रियान्वयन के लिए आवश्यक उपाय करने के लिए राज्य सरकार को सलाह देने के लिए राज्य स्तरीय सलाहकार निकाय प्रत्येक छह माह में कम से कम एक बैठक करेगी।

(3) समीक्षा रिपोर्ट की प्रतियां आवश्यक कार्रवाई हेतु राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति को अग्रेषित की जाएंगी।

24. वार्षिक रिपोर्ट.- (1) सुविधा के प्रचालक द्वारा प्रत्येक वर्ष 30 अप्रैल को या इससे पूर्व प्ररूप III में स्थानीय निकाय को वार्षिक रिपोर्ट प्रस्तुत की जाएगी।

(2) स्थानीय नगरीय निकाय प्ररूप IV में अपनी वार्षिक रिपोर्ट राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण समिति और संबंधित राज्य या संघ राज्य क्षेत्र के शहरी विकास विभाग के प्रभारी सचिव या मेट्रोपालिटिन नगर की दशा में नगर पालिका प्रशासन के निदेशक या नगरपालिका प्रशासन के आयुक्त या राज्य के अन्य सभी स्थानीय निकायों के मामले में राज्य के स्थानीय निकायों प्रभारी अधिकारी को प्रत्येक वर्ष के 30 जून या उससे पहले अग्रेषित करेगी।

(3) यथास्थिति, प्रत्येक राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति, इन नियमों के क्रियान्वयन और अनुपालन न करने वाले स्थानीय निकायों पर की गई कार्रवाई की समेकित वार्षिक रिपोर्ट प्ररूप V में तैयार करेगी और प्रत्येक वर्ष के 31 जुलाई तक केन्द्रीय प्रदूषण नियंत्रण बोर्ड और शहरी विकास मंत्रालय को प्रस्तुत करेगी।

(4) केन्द्रीय प्रदूषण नियंत्रण बोर्ड, देश में स्थानीय निकायों द्वारा इन नियमों के क्रियान्वयन की स्थिति पर एक समेकित समीक्षा रिपोर्ट तैयार की जाएगी और शहरी विकास मंत्रालय और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को अपनी सिफारिशों के साथ प्रत्येक वर्ष 31 अगस्त से पहले अग्रेषित की जाएगी।

(5) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा केन्द्रीय निगरानी समिति की बैठक के दौरान वार्षिक रिपोर्ट का पुनर्विलोकन किया जाएगा।

25. दुर्घटना की रिपोर्ट देना - किसी ठोस अपशिष्ट प्रसंस्करण या सुविधा केंद्र या भराव भूमि स्थल पर कोई दुर्घटना होने की दशा में, तब सुविधा का प्रभारी अधिकारी प्ररूप VI में घटना की रिपोर्ट स्थानीय निकाय को भेजेगा। स्थानीय निकाय द्वारा समीक्षा की जाएगी और सुविधा के प्रभारी अधिकारी को अनुदेश, यदि कोई हो, जारी किया जाएगा।

अनुसूची I

[नियम 15 (ब), (घ), 16(1)(ख)(ड.), 16(4) देखें]

स्वास्थ्यकर भरण स्थलों के लिए विनिर्देश

क. स्थल चयन के लिए मानदंड. -

- (i) भूमि निर्धारण के कार्य आबंटन में विभाग द्वारा ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं की स्थापना करने के लिए उपयुक्त स्थल उपलब्ध कराया जाएगा और ऐसे स्थलों को अधिसूचित किया जाएगा।
- (ii) भूमि भरण स्थल योजनाबद्ध, तथा निर्माण योजना के साथ-साथ चरणबद्ध रीति से बंदी योजना के उचित प्रलेखन के साथ अभिकल्पित और विकसित किए जाएंगे। किसी विद्यमान भूमि भरण स्थल से लगी हुई कोई नई भूमि भरण सुविधा तैयार किए जाने की दशा में विद्यमान भूमि भरण स्थल की बंदी योजना, ऐसे नए भूमि भरण स्थल के प्रस्ताव का भाग होगी।
- (iii) भरण स्थलों का चयन आसपास की अपशिष्ट प्रसंस्करण सुविधाओं का प्रयोग करने के लिए किया जाएगा। अन्यथा अपशिष्ट प्रसंस्करण सुविधा की योजना भरण स्थल के अभिन्न भाग के रूप में बनाई जाएगी।
- (iv) भूमि भरण स्थल शहरी विकास मंत्रालय, भारत सरकार और केन्द्रीय प्रदूषण नियंत्रण बोर्ड के मार्गदर्शी सिद्धांतों के अनुसार स्थापित किए जाएंगे।
- (v) विद्यमान भूमि भरण स्थल, जो पांच वर्षों से अधिक से उपयोग में हैं, इस अनुसूची में दिए गए विनिर्देशों के अनुसरण में उन्नत किए जाएंगे।
- (vi) भूमि भरण स्थल कम से कम 20-25 वर्षों तक चलने के लिए पर्याप्त रूप से बड़े होंगे तथा जल जमाव और दुरुपयोग को रोकने के लिए चरणबद्ध रीति से "भूमि भरण सेल" विकसित किए जाएंगे।
- (vii) भूमि भरण स्थल नदी से 100 मीटर, तालाब से 200 मीटर, राजमार्गों, आवास स्थलों, सार्वजनिक उद्यानों और जल आपूर्ति कुंओं से 200 मीटर तथा विमानपत्तनों या हवाई अड्डे से 20 किमी की दूरी पर होंगे। तथापि, विशेष मामले में, भूमि भरण स्थल को नागर विमानन प्राधिकरण/वायु सेना, जैसा भी मामला हो, से अनापत्ति प्रमाण पत्र प्राप्त कर लेने के बाद विमानपत्तन/हवाईअड्डे से 10 और 20 किमी की दूरी के अंदर स्थापित किया जा सकता है। तटीय विनियम जोन, नमभूमि, महत्वपूर्ण आवासीय क्षेत्रों, संवेदनशील पारि-भंगुर क्षेत्रों और गत 100 वर्षों से यथा दर्ज बाढ़ के मैदानों के अंदर भूमि भरण स्थल के लिए अनुमति नहीं दी जाएगी।
- (viii) भरण स्थल और ठोस अपशिष्ट के शोधन तथा निस्तारण के लिए स्थलों को नगर आयोजना विभाग की भूमि उपयोग योजनाओं में शामिल किया जाएगा।
- (ix) पांच टन प्रतिदिन से अधिक की संस्थापित क्षमता वाली ठोस अपशिष्ट प्रसंस्करण तथा निस्तारण सुविधा के आसपास गैर विकास का बफर जोन बनाए रखा जाएगा। इसका अनुरक्षण ठोस अपशिष्ट प्रसंस्करण तथा निस्तारण सुविधा के कुल क्षेत्र के अंदर किया जाएगा। बफर जोन का निर्धारण स्थानीय प्राधिकरण द्वारा संबंधित राज्य प्रदूषण नियंत्रण बोर्ड के परामर्श से मामला दर मामला आधार पर किया जाएगा।
- (x) जैव-चिकित्सीय अपशिष्ट का निपटान समय-समय पर यथा संशोधित जैव-चिकित्सीय अपशिष्ट प्रबंधन नियम, 2016 के अनुसार किया जाएगा। परिसंकटमय अपशिष्टों का प्रबंधन समय-समय पर यथासंशोधित परिसंकटमय और अन्य अपशिष्ट (प्रबंधन और सीमा-पारीय संचलन) नियम, 2016 के अनुसार किया जाएगा। ई-अपशिष्टों का प्रबंधन समय-समय पर यथासंशोधित ई-अपशिष्ट (प्रबंधन) नियम, 2016 के अनुसार किया जाएगा।

- (xi) अपशिष्ट प्रसंस्करण का कार्य न हो पाने और आपातकाल या प्राकृतिक आपदाओं के दौरान अपशिष्ट को रखने के लिए प्रत्येक भरण स्थल पर ठोस अपशिष्ट के लिए अस्थाई भंडारण सुविधा स्थापित की जाएगी।

ख. स्वास्थ्यकर भरण स्थलों पर सुविधाओं के विकास के लिए मानदंड :-

- (i) भूमि भरण स्थल पर चार-दीवारी या बाड़ होगी और अंदर आने वाले वाहनों की निगरानी करने, अनधिकृत व्यक्तियों तथा आवारा पशुओं के प्रवेश को रोकने के लिए उचित उपयुक्त दरवाजा लगाया जाएगा।
- (ii) वाहनों और अन्य मशीनरी का मुक्त संचलन सुनिश्चित करने के लिए पहुंच और/आंतरिक सड़कें ठोस या पक्की बनाई जाएगी ताकि वाहनीय संचलन के कारण धूल कणों को उड़ने से रोका जा सके।
- (iii) भूमि भरण स्थल पर भूमि भरण के लिए लाए जाने वाले अपशिष्ट की मॉनीटरी करने के लिए अपशिष्ट निरीक्षण सुविधा, अभिलेख रखने के लिए कार्यालय सुविधा तथा प्रदूषण मॉनीटरी उपस्कर सहित उपस्कर और मशीनरी रखने के लिए आश्रय स्थल होंगे। सुविधा का प्रचालक अपशिष्ट प्राप्ति, प्रसंस्करण और निपटान का लेखा-जोखा रखेगा।
- (iv) भूमि भरण स्थल पर लाए जाने वाले अपशिष्ट की मात्रा को मापने के लिए धर्मकांटा, अग्नि सुरक्षा उपस्कर और अन्य सुविधाएं, जो भी अपेक्षित हों, जैसे प्रावधान किए जाएंगे।
- (v) पेयजल और स्वास्थ्य सुविधाओं (अधिमानत: कर्मचारियों के लिए धोने/नहाने की सुविधाओं) जैसी उपयोगिताओं और सहज भूमि भरण प्रचालनों, जब रात्रि के समय किए जाते हैं, के लिए प्रकाश व्यवस्था का प्रावधान होगा।
- (vi) भूमि भरण स्थलों पर कार्मिकों के स्वास्थ्य की जांच सहित सुरक्षा प्रावधान किए जाएंगे।
- (vii) परिवहन वाहनों की पार्किंग और सफाई या धुलाई के लिए प्रावधान किए जाएंगे। इस प्रकार उत्पन्न मल जल का शोधन विनिर्दिष्ट मानकों को पूरा करने के लिए किया जाएगा।

ग. भूमि भरण प्रचालनों और भूमि भरण पूर्ण होने पर उनको बंद करने के विनिर्देशों के लिए मानदण्ड:-

- (i) अपशिष्ट का उच्च घनत्व प्राप्त करने के लिए भूमि भरण किए जाने वाले अपशिष्ट को भारी कम्पेक्टरों का प्रयोग करते हुए पतली परतों में संहत किया जाएगा। अधिक वर्षा वाले क्षेत्रों, जहां भारी कम्पेक्टरों का प्रयोग नहीं किया जा सकता, में वैकल्पिक उपाय अपनाए जाएंगे।
- (ii) अपशिष्टों को तत्काल या प्रत्येक कार्य दिवस के अंत में कम से कम 10 सेमी मिट्टी, अक्रिय मलबे या निर्माण सामग्री से उस समय तक ढक दिया जाएगा जब तक कि कम्पोस्टिंग या पुनर्चक्रण या ऊर्जा पुनर्प्राप्ति के लिए अपशिष्ट प्रसंस्करण सुविधाएं स्थापित न कर दी जाएं।
- (iii) मानसून ऋतु के आरंभ होने से पूर्व भूमि भरण स्थल पर मानसून के दौरान पानी के रिसाव को रोकने के लिए उचित संहनन और श्रेणीकरण के साथ 40-65 सेमी मोटी मिट्टी का मध्यवर्ती आवरण बिछा दिया जाएगा। भूमि भरण स्थल के प्रभावी क्षेत्र से पानी के बहाव को विपथित करने के लिए उचित निकास नालियों का निर्माण किया जाएगा।
- (iv) भूमि भरण स्थल के पूरा हो जाने के पश्चात उसके रिसाव और अपरदन को न्यूनतम करने के लिए अंतिम आवरण डिजाइन किया जाएगा। अंतिम आवरण निम्नलिखित विनिर्देशों के अनुसार होगा, अर्थात् -
- (क) अंतिम आवरण में 1×10^{-7} सेमी/सेकंड से कम के पारगम्यता गुणांक सहित 60 सेमी की चिकनी मिट्टी या शोधित मिट्टी से युक्त अवरोधक मिट्टी की परत होगी।

- (ख) अवरोधक मिट्टी की परत के ऊपर 15 सेमी की एक निकास परत होगी।
- (ग) निकास परत के ऊपर प्रकृतिजन्य पादपों की वृद्धि में सहायता करने और अपरदन को कम करने के लिए 45 सेमी की एक वनस्पतिक परत होगी।

घ. प्रदूषण निवारण के मानदंड.- भूमि भरण प्रचालनों से प्रदूषण समस्याओं को रोकने के क्रम में निम्नलिखित प्रावधान किए जाएंगे, अर्थात्-

- (i) तूफान जल नाले को इस तरीके से डिजाइन और निर्मित किया जाए कि सतही जल बहाव, भूमि भरण स्थल से विपथित हो जाए और ठोस अपशिष्ट स्थानों से निक्षालक, सतही जल बहाव में मिश्रित न हो। निक्षालक उत्पत्ति को कम करने और सतही जल के प्रदूषण को रोकने तथा बाढ़ और दलदली स्थितियों से बचने के लिए भी तूफान जल प्रवाह नालियों के विपथन का प्रावधान किया जाएगा।
- (ii) अपशिष्ट निपटान क्षेत्र के आधार और दीवारों पर गैर-पारगम्य लाइनिंग प्रणाली का निर्माण। ऐसी अपशिष्ट प्रसंस्करण सुविधाओं के अवशिष्ट अथवा मिश्रित अपशिष्ट या खतरनाक सामग्रियों (जैसे कि ऐरोसोल, ब्लीच, पालिश, बैटरी, अपशिष्ट तेल, पेंट उत्पाद और कीटनाशक) के संदूषण वाले अपशिष्ट को भरने के लिए प्रयुक्त होने वाले भरण स्थलों के लिए न्यूनतम लाइनर विनिर्देश, एक ऐसा मिश्र अवरोधक होगा जो 1.5 मिमी मोटी उच्च घनत्व वाली पॉलीईथाइलीन (एचडीपीई) जियो-मेम्ब्रेन या जियो-सिंथेटिक लाइनर या उसके समतुल्य होगा तथा मिट्टी (चिकनी अथवा शोधित मिट्टी) के 90 सेमी के ऊपर होगी तथा इसका पारगम्यता गुणांक 1×10^{-7} सेमी/सेकंड से अधिक नहीं होगा। जल सारणी का अधिकतम स्तर, भूमि भरण स्थलों के निचले भाग पर उपलब्ध कराई गई चिकनी अथवा शोधित मिट्टी के अवरोधक परत के आधार से कम से कम दो मीटर नीचे होगा।
- (iii) निक्षालकों के संग्रहण और शोधन सहित इनके प्रबंधन के लिए प्रावधान किए जाएंगे। शोधित निक्षालक, अनुसूची-II में निर्दिष्ट मानकों को पूरा करने के पश्चात् पुनर्चक्रित या उपयोग में लाए जाएंगे। अन्यथा इन्हें मलनिर्यास लाइन में विमुक्त कर दिया जाएगा। किसी भी हाल में निक्षालक को खुले वातावरण में विमुक्त नहीं किया जाएगा।
- (iv) भूमि भरण क्षेत्र से बहने वाले जल को किसी नाले, धारा, नदी, झील या तालाब में प्रवेश करने से रोकने की व्यवस्था की जाएगी। जल बहाव के निक्षालक या ठोस अपशिष्ट के साथ मिश्रित होने के मामले में, समस्त मिश्रित जल को संबंधित प्राधिकरण द्वारा शोधित किया जाएगा।

ड. जल गुणवत्ता मॉनीटरिंग के लिए मानदंड.-

- (i) किसी भूमि भरण स्थल को स्थापित करने से पूर्व, क्षेत्र में भूमि जल गुणवत्ता के मूलाधार आंकड़े एकत्रित किए जाएंगे और उन्हें भविष्य में संदर्भ के लिए रिकार्ड में रखा जाएगा। भूमि भरण स्थल की परिधि के 50 मीटर के अंदर भूमि जल गुणवत्ता को वर्ष में विभिन्न ऋतुओं अर्थात् ग्रीष्म, मानसून और मानसून-पश्चात् अवधि के दौरान आवधिक रूप से मॉनीटर किया जाएगा ताकि यह सुनिश्चित हो सके कि भू-जल, स्वीकार्य सीमा से अधिक संदूषित न हो।
- (ii) किसी भी प्रयोजन (पेय जल और सिंचाई सहित) के लिए भूमि भरण स्थलों में और उनके आस-पास भूमि जल के उपयोग पर उसकी गुणवत्ता को सुनिश्चित करने के बाद विचार किया जाएगा। मॉनीटरिंग प्रयोजन के लिए पेयजल गुणवत्ता हेतु निम्नलिखित विनिर्देश लागू होंगे, अर्थात् :-

क्र.सं.	पैरामीटर	आईएस 10500:2012, संस्करण 2.2 (2003-09) बांछनीय सीमा (मिग्रा/ली., पीएच को छोड़कर
(1)	(2)	(3)
(1)	आर्सेनिक	0.01
(2)	कैडमियम	0.01
(3)	क्रोमियम (Cr ⁶⁺ के रूप में)	0.05
(4)	तांबा	0.05
(5)	साइनाइड	0.05
(6)	सीसा	0.05
(7)	पारा	0.001
(8)	निकल	-
(9)	नाइट्रेट, एनओ ₃ के रूप में	45.0
(10)	पीएच (pH)	6.5-8.5
(11)	लोहा	0.3
(12)	कुल कठोरता (सीएसीओ ₃ के रूप में)	300.0
(13)	क्लोराइड	250
(14)	बिलीन ठोस	500
(15)	फेनोलिक यौगिक (सी ₆ एच ₅ ओएच के रूप में)	0.001
(16)	जस्ता	5.0
(17)	सल्फेट (एसओ ₄ के रूप में)	200

च. परिवेशी वायु गुणवत्ता की मानीटरी के लिए मानदंड. -

- (i) भूमि भरण स्थल पर दुर्गंध को कम करने, गैसों को अपस्थलीय फैलने से रोकने, पुनर्वासित भूमि भरण स्थल सतह पर उगाई गई वनस्पति को बचाने के लिए गैस संग्रहण प्रणाली सहित भूमि भरण गैस नियंत्रण प्रणाली संस्थापित की जाएगी। भूमि भरण गैस पुनर्प्राप्ति को बढ़ाने के लिए गैस संग्रहण कुओं के साथ आच्छादन प्रणालियों में जियो मेम्ब्रेन के प्रयोग पर विचार किया जाएगा।

- (ii) भूमि भरण स्थल पर निकलने वाली मीथेन गैस का सान्द्रण, निम्न विस्फोटक सीमा (एलईएल) के 25 प्रतिशत से अधिक नहीं होगा।
- (iii) किसी भूमि भरण स्थल पर संग्रहण सुविधा से प्राप्त भूमि भरण गैस का उपयोग व्यवहार्यता के अनुसार या तो सीधे तापीय अनुप्रयोगों या विद्युत उत्पादन में किया जाएगा। अन्यथा, भूमि भरण गैस को जला (प्रदीप्त) दिया जाएगा और सीधे वायुमंडल में या अवैध रूप से निकासी के लिए नहीं छोड़ा जाएगा। यदि इसका उपयोग या प्रदीप्त संभव न हो तो निष्क्रिय निकास की अनुमति दी जाएगी।
- (iv) भूमि भरण स्थल पर और इसके आसपास परिवेशी वायु गुणवत्ता के नियमित रूप से माँनीटरी की जाएगी। परिवेशी वायु गुणवत्ता औद्योगिक क्षेत्र के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा विहित मानकों के अनुसार होगी।

छ. भूमि भरण स्थल पर पौधरोपण के लिए मानदंड.- तैयार स्थल के ऊपर निम्नलिखित विनिर्देशों के अनुसार वनस्पतिक आवरण बनाया जाएगा, अर्थात् :

- (क) स्थानीय रूप से अंगीकृत अखाद्य बारहमासी पौधों, जो सूखे तथा अत्यधिक तापमान के प्रतिरोधी हैं, को उगाया जाएगा;
- (ख) पौधे ऐसे प्रजाति के होंगे कि उनकी जड़ें 30 सेमी से अधिक गहरी न हों। यह शर्त, भूमि भरण स्थल के स्थिर होने तक लागू रहेगी;
- (ग) चयनित पौधों में न्यूनतम पोषक वृद्धि के साथ न्यून-पोषक मिट्टी में पनपने की क्षमता होगी;
- (घ) मिट्टी के अपरदन को कम करने के लिए पर्याप्त घनत्व में पौधरोपण किया जाएगा;
- (ङ.) राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के परामर्श से भूमि भरण स्थल की सीमा के चारों ओर हरित क्षेत्र विकसित किए जाएंगे।

ज. भूमि भरण स्थल पर पश्चात्कर्ती देखरेख के लिए मानदंड. - (1) भूमि भरण स्थल की बंदी-पश्च देखरेख कम से कम पंद्रह वर्षों के लिए की जाएगी और दीर्घकालिक माँनीटरी या देखरेख योजना निम्नलिखित से युक्त होगी, अर्थात् :-

- (क) सबसे ऊपरी परत की अखंडता और प्रभाविता को बनाए रखना, मरम्मत करते रहना तथा सबसे ऊपरी परत को अपरदन या अन्य प्रकार के नुकसान के जारी रहने और बहने को रोकना;
- (ख) अपेक्षानुसार निक्षालक संग्रहण प्रणाली की माँनीटरी करना;
- (ग) भरण स्थल में और इसके आसपास भू-जल की माँनीटरी करना;
- (घ) मानकों के अनुरूप भूमि भरण गैस संग्रहण प्रणाली का अनुरक्षण और प्रचालन करना।
- (2) पंद्रह वर्ष की बंदी-पश्च माँनीटरी के बाद बंद पड़े भूमि भरण स्थलों के उपयोग पर मानव बस्ती या अन्यथा प्रयोग किए जाने के बारे में यह सुनिश्चित करने के बाद ही विचार किया जाएगा कि गैसीय उत्सर्जन और निक्षालक गुणवत्ता विश्लेषण, विनिर्दिष्ट मानकों के अनुपालन में हैं और मृदा स्थिरता सुनिश्चित की गई है।

झ. पहाड़ी क्षेत्रों के लिए विशेष प्रावधानों हेतु मानदंड - पहाड़ों पर बसे नगरों और शहरों में स्थानीय प्राधिकरण द्वारा संबंधित राज्य बोर्ड या प्रदूषण नियंत्रण समिति के अनुमोदन से ठोस अपशिष्ट के अंतिम निपटान के लिए विकसित की गई स्थान-विशिष्ट पद्धतियां अपनाई जाएंगी। नगरपालिका प्राधिकरण जैवअवक्रमणीय जैविक अपशिष्ट को उपयोगी बनाने के लिए प्रसंस्करण सुविधाएं स्थापित करेगा। गैर-जैवअवक्रमणीय पुनर्चक्रण योग्य सामग्रियों का भण्डारण किया जाएगा और

इन्हें पुनर्चक्रण के लिए आवधिक रूप से भेजा जाएगा। अक्रिय और गैर-जैवअवक्रमणीय अपशिष्ट का उपयोग, सड़कें बनाने या पहाड़ों पर उपयुक्त क्षेत्रों की भराई करने के लिए किया जाएगा। पहाड़ी क्षेत्रों में पर्याप्त भूमि प्राप्त करने में आ रही कठिनाईयों के कारण सड़क पर बिछाने या भराई के लिए उपयुक्त न पाए गए अपशिष्ट का निपटान मैदानी क्षेत्रों में क्षेत्रीय भरण स्थलों में किया जाएगा।

घ. पुराने मलबा स्थलों को बंद और बहाल करना - ठोस अपशिष्ट के मलबा स्थल जिन्होंने अपनी क्षमता पूरी कर ली है या नए और उपयुक्त रूप से डिजाइन किए गए भरण स्थलों की स्थापना के बाद जिनमें अतिरिक्त अपशिष्ट नहीं डाले जाते हैं, उन्हें बंद कर दिया जाना चाहिए और निम्नलिखित विकल्पों की जांच करने के बाद बहाली की जानी चाहिए :

- (i) जैव खनन और अपशिष्ट प्रसंस्करण द्वारा अपशिष्ट को कम करना जिसके बाद नए भरण स्थलों या नीचे (ii) के अनुसार आच्छादन में अवशिष्टों को रखा जाएगा।
- (ii) ग्रीन हाऊस गैसों के संग्रहण और चमकाने/उपयोग में समर्थ बनाने के लिए ठोस अपशिष्ट आवरण या जियो मेम्ब्रेन से संवर्धित ठोस अपशिष्ट आवरण से आच्छादित किया जाना।
- (iii) ऊपर (ii) के अनुसार अतिरिक्त उपायों (जलोद्भू और अन्य खुरदरी दानेदार मिट्टियों में) जैसे संदूषित भू-जल को निकालने और शोधित करने के लिए कट-ऑफ वॉल और निष्कर्षण कुओं में आच्छादन।
- (iv) स्वीकार्य स्तर तक पर्यावरणीय प्रभाव को कम करने के लिए उपयुक्त कोई अन्य पद्धति।

अनुसूची II

[नियम 16(1), (ख), (ड.), 16(4) देखें]

ठोस अपशिष्ट के प्रसंस्करण और शोधन के मानक

क. खाद के मानक.- अपशिष्ट प्रसंस्करण सुविधाओं में जैव अवक्रमणीय अपशिष्ट के प्रसंस्करण हेतु प्रौद्योगिकियों में से एक के रूप में कंपोस्टिंग शामिल होगा। कंपोस्ट संयंत्र से होने वाले प्रदूषण को रोकने के उद्देश्य से निम्नलिखित का पालन किया जाएगा अर्थात् :

- (क) स्थल पर पहुंचने वाले जैविक अपशिष्ट का आगे के प्रसंस्करण से पूर्व समुचित रखरखाव किया जाएगा। जहां तक संभव हो, अपशिष्ट भण्डारण क्षेत्र ढका हुआ होना चाहिए। यदि ऐसा भण्डारण खुले में किया गया हो तो निक्षालक शोधन और निपटान सुविधा तक पहुंचने वाले पंक्तिबद्ध तालों में निक्षालक और सतही जल बहाव को एकत्रित करने की सुविधा के साथ अपारगम्य आधार उपलब्ध कराया जाना चाहिए;
- (ख) गंध, मक्खियों, कृंतकों, पक्षी के खतरे और आग के जोखिम की बाधा को कम करने के लिए आवश्यक सावधानियां बरती जाएंगी;
- (ग) संयंत्र के ब्रेकडाउन या रखरखाव के मामले में, अपशिष्ट अंतर्ग्राही को बंद कर दिया जाएगा और अपशिष्ट को अस्थायी प्रसंस्करण स्थल या अस्थायी भूमि भरण स्थलों की दिशा में विपथित करने की व्यवस्था की जाएगी, जिनका संयंत्र के ठीक-ठाक हो जाने पर पुनः प्रसंस्करण किया जाएगा;
- (घ) प्रसंस्करण सुविधा से प्रक्रिया पूर्व और प्रक्रिया-पश्च अवशिष्टों को नियमित आधार पर हटा दिया जाएगा और स्थल पर इकट्ठा नहीं होने दिया जाएगा। पुनर्चक्रण योग्य सामग्री, उपयुक्त विक्रेताओं के माध्यम से भेजी जाएगी। गैर-पुनर्चक्रण योग्य उच्च तापजनक अंशों को पृथक किया जाएगा और सीमेंट संयंत्रों में या विद्युत संयंत्रों को आरडीएफ उत्पादन, सह-प्रसंस्करण के लिए भेजा जाएगा। भूमि भरण स्थलों में केवल सभी प्रक्रियाओं के अवशिष्ट भेजे जाएंगे।

- (ड.) अपारगम्य आधार के साथ विंडो क्षेत्र उपलब्ध कराया जाएगा। ऐसा आधार बजरी या ठोस चिकनी मिट्टी, 50 सेमी मोटी, जिसका पारगम्यता गुणांक 10^{-7} सेमी/सेकंड से कम हो, का बनाया जाएगा। आधार में 1 से 2 प्रतिशत ढाल होगी और निक्षालक या सतही बहाव का संग्रहण करने के लिए इसकी चारों तरफ नालियों का घेरा होगा।
- (च) परिवेशी वायु गुणवत्ता की नियमित रूप से मॉनीटरिंग की जाएगी। प्रसंस्करण संयंत्र की बाहरी दीवार पर या नीचे की हवा की दिशा में गंध की समस्या की भी नियमित रूप से जांच की जाएगी।
- (छ) नमी बनाए रखने के लिए खाद संयंत्र में निक्षालक को पुनःपरिचालित किया जाएगा।
- (ज) अंतिम उत्पाद खाद, समय-समय पर अधिसूचित उर्वरक नियंत्रण आदेश के अंतर्गत विनिर्दिष्ट मानकों के अनुसार होगा।
- (झ) खाद का सुरक्षित अनुप्रयोग सुनिश्चित करने हेतु खाद गुणवत्ता के लिए निम्नलिखित विनिर्देशों को पूरा किया जाएगा, अर्थात् :-

पैरामीटर	जैविक खाद (एफसीओ 2009)	फॉस्फेट संपन्न जैविक खाद (एफसीओ 2013)
(1)	(2)	(3)
आर्सेनिक (मिग्रा/किग्रा)	10.00	10.00
कैडमियम (मिग्रा/किग्रा)	5.00	5.00
क्रोमियम (मिग्रा/किग्रा)	50.00	50.00
तांबा (मिग्रा/किग्रा)	300.00	300.00
सीसा (मिग्रा/किग्रा)	100.00	100.00
पारा (मिग्रा/किग्रा)	0.15	0.15
निकल (मिग्रा/किग्रा)	50.00	50.00
जस्ता (मिग्रा/किग्रा)	1000.00	1000.00
सी/एन अनुपात	<20	20:1 से कम
पीएच (pH)	6.5-7.5	(1:5 घोल) अधिकतम 6.7
नमी, भार का प्रतिशत, अधिकतम	15.0-25.0	25.0
थोक घनत्व (ग्राम/सेमी ³)	<1.0	1.6 से कम
कुल जैविक कार्बन, भार द्वारा प्रतिशत, न्यूनतम	12.0	7.9
कुल नाइट्रोजन (एन के रूप में), भार द्वारा प्रतिशत, न्यूनतम	0.8	0.4

कुल फॉस्फेट (पी ₂ ओ ₅ के रूप में) भार द्वारा प्रतिशत, न्यूनतम	0.4	10.4
कुल पोटेशियम (के ₂ ओ के रूप में), भार द्वारा प्रतिशत, न्यूनतम	0.4	-
रंग	गहरे भूरे से काले तक	-
गंध	बदबू की अनुपस्थिति	-
कण आकार	कम से कम 90% सामग्री, 4.0 मिमी आईएस छलनी से होकर गुजरनी चाहिए	कम से कम 90% सामग्री, 4.0 मिमी आईएस छलनी से होकर गुजरनी चाहिए
प्रवाहकत्व (डीएसएम-1 के रूप में), से कम	4.0	8.2

*उपरोक्त कथित संकेन्द्रण सीमाओं से अधिक वाली खाद (अंतिम उत्पाद) का उपयोग खाद्य फसलों के लिए नहीं किया जाएगा। तथापि, इसका उपयोग खाद्य फसलों को उगाने से भिन्न प्रयोजनों के लिए किया जा सकता है।

ख. शोधित निक्षालकों के लिए मानक. - शोधित निक्षालकों के निपटान में निम्नलिखित मानकों का पालन किया जाएगा, अर्थात्:-

क्र.सं.	मापदंड	मानक (निपटान का तरीका)		
		अंतर्देशीय सतही जल	सार्वजनिक सीवर	भूमि निपटान
(1)	(2)	(3)	(4)	(5)
1.	निलंबित ठोस, मिग्रा/ली, अधिकतम	100	600	200
2.	विलीन ठोस (अजैविक), मिग्रा/ली, अधिकतम	2100	2100	2100
3.	पीएच (ph) मान	5.5 से 9.0	5.5 से 9.0	5.5 से 9.0
4.	अमोनिकल नाइट्रोजन (एन के रूप में) मिग्रा/ली., अधिकतम	50	50	--
5.	कुल केलडाल नाइट्रोजन (एन के रूप में) मिग्रा/ली, अधिकतम	100	--	--

6.	जैव रासायनिक ऑक्सीजन मांग (27 ⁰ से पर 3 दिन) अधिकतम (मिग्रा/ली)	30	350	100
7.	रासायनिक ऑक्सीजन मांग, मिग्रा/ली, अधिकतम	250	--	--
8.	आर्सेनिक (एएस के रूप में), मिग्रा/ ली, अधिकतम	0.2	0.2	0.2
9.	पारा (एचजी के रूप में), मिग्रा/ली, अधिकतम	0.01	0.01	--
10.	सीसा (पीबी के रूप में), मिग्रा/ली, अधिकतम	0.1	1.0	--
11.	कैडमियम (सीडी के रूप में), मिग्रा/ली, अधिकतम	2.0	1.0	--
12.	कुल क्रोमियम (सीआर के रूप में), मिग्रा/ली, अधिकतम	2.0	2.0	--
13.	तांबा (सीयू के रूप में), मिग्रा/ली, अधिकतम	3.0	3.0	--
14.	जस्ता ((जेडएन के रूप में), मिग्रा/ली, अधिकतम	5.0	15	--
15.	निकल (एनआई के रूप में), मिग्रा/ली, अधिकतम	3.0	3.0	--
16.	साइनाइड (सीएन के रूप में), मिग्रा/ली, अधिकतम	0.2	2.0	0.2
17.	क्लोराइड (सीएल के रूप में), मिग्रा/ली, अधिकतम	1000	1000	600
18.	फ्लोराइड (एफ के रूप में), मिग्रा/ली, अधिकतम	2.0	1.5	--
19.	फेनोलिक यौगिक (सी ₆ एच ₅ ओएच के रूप में), मिग्रा/ली, अधिकतम	1.0	5.0	--

नोट : आंतरिक सतही जल-निकायों में शोधित निक्षालकों को बहाते समय, बहाए जाने वाले निक्षालकों की मात्रा और प्राप्त करने वाले जल निकाय में उपलब्ध मिश्रित जल की मात्रा पर उचित रूप से ध्यान दिया जाएगा ।

ग. **भस्मीकरण के मानक :** ठोस अपशिष्ट शोधन/निपटान सुविधा में भस्मकों/ताप प्रौद्योगिकियों से होने वाले उत्सर्जन में निम्नलिखित मानकों का अनुपालन किया जाएगा, अर्थात् :

मानदण्ड	उत्सर्जन मानक	
	(1)	(2)
विविक्त-कण	50 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
एचसीएल	50 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
एसओ2	200 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
सीओ	100 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
	50 मिग्रा/एनएम ³	मानक का अर्थ दैनिक औसत मान से है
कुल जैविक कार्बन	20 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
एचएफ	4 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
एनओएक्स (एनओ2 के रूप में व्यक्त एनओ और एनओ2)	400 मिग्रा/एनएम ³	मानक का अर्थ आधे घंटे के औसत मान से है
कुल डाइऑक्साइड और फ्यूरन	0.1 एनजी टीईक्यू/एनएम ³	मानक का अर्थ 6-8 घंटे के नमूने से है। कृपया कुल विषाक्त समतुल्यता प्राप्त करने के लिए विषाक्त समतुल्यता मानों हेतु 17 संबंधित समप्रकारी वस्तु के दिशानिर्देशों का संदर्भ लें।
सीडी+टीएच+उनके यौगिक	0.05 एमजी/एनएम ³	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
एचजी और इसके यौगिक	0.05 एमजी/एनएम ³	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
एसबी+एस+पीबी+सीआर+ सीओ+सीयू+एमएन+एनआई+वी+ उनके यौगिक	0.5 एमजी/एनएम ³	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
नोट : सभी मानों में शुष्क आधार पर 11% ऑक्सीजन तक शुद्धि की गई है।		

टिप्पणी :

- (क) उपरोक्त उत्सर्जन सीमाओं को प्राप्त करने के लिए भस्मीकरण यंत्र के साथ उपयुक्त प्रकार के डिजाइन किए गए प्रदूषण नियंत्रण उपकरण संस्थापित या पुनःसंयोजित किए जाएंगे।
- (ख) भस्मीकृत किए जाने वाले अपशिष्ट को किसी क्लोरीनयुक्त कीटाणुनाशक के साथ रासायनिक तरीके से शोधित नहीं किया जाएगा।

- (ग) क्लोरीनयुक्त प्लास्टिक के भस्मीकरण को दो वर्षों के अंदर क्रमबद्ध रूप से समाप्त किया जाएगा।
- (घ) यदि भस्मीकरण राख में विषाक्त धातुओं की सांद्रता समय-समय पर यथासंशोधित परिसंकटमय अपशिष्ट (प्रबंधन, हथालन और सीमा-पारीय संचलन) नियम, 2008 में यथाविनिर्दिष्ट सीमाओं से अधिक हो तो ऐसे राख को परिसंकटमय अपशिष्ट शोधन, भंडारण और निपटान सुविधा को भेजा जाएगा।
- (ङ.) भस्मीकरण-यंत्र में ईंधन के रूप में केवल एलडीओ, एलएसएचएस, डीजल, बायोमास, कोयला, एलएनजी, सीएनजी, आरडीएफ और बायोगैस जैसे निम्न सल्फर ईंधन का ही प्रयोग किया जाएगा।
- (च) अधोवायु गैस में सीओ₂ संकेन्द्रण 7% से अधिक नहीं होगा।
- (छ) ट्विन चैम्बर भस्मीकरण-यंत्रों में सभी सुविधाएं इस प्रकार से डिजाइन की जाएंगी कि द्वितीय ज्वलन चैम्बर में 950° से. के न्यूनतम तापमान को प्राप्त करने के लिए और 2 (दो) सेकंड से अधिक के द्वितीय ज्वलन चैम्बर में गैस रह सके।
- (ज) भस्मीकरण संयंत्र (दहन चैम्बर) ऐसे तापमान, अवधारण समय और विक्षोभ के साथ परिचालित किए जाएंगे ताकि लावा और तलहटी राखों में कुल जैविक कार्बन (टीओसी) तत्व को 3% से कम किया जा सके या प्रज्वलन पर उनकी क्षति सूखे वजन के 5% से कम हो।
- (झ) स्थलों से निकलने वाली गंध का प्रबंधन केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा समय-समय पर जारी मार्गदर्शी सिद्धांतों के साथ किया जाएगा।

प्ररूप -I

[नियम 15 (म), 16(1)(ग), 21(3) देखें]

**ठोस अपशिष्ट के प्रसंस्करण/पुनर्चक्रण/शोधन और निपटान के लिए
ठोस अपशिष्ट प्रबंधन नियमों के अंतर्गत प्राधिकार प्राप्त करने के लिए आवेदन**

सेवा में,

..... के

सदस्य सचिव

राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति

महोदय,

मैं/हम ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण, शोधन और निपटान के लिए ठोस अपशिष्ट नियम, 2016 के अंतर्गत प्राधिकार के लिए एतद्वारा आवेदन करता हूँ/करते हैं।

1.	उनके/सुविधा के प्रचालक द्वारा नियुक्त स्थानीय निकाय/अभिकरण का नाम	
2.	पत्राचार का पता दूरभाष सं. फैक्स सं.	

	ई-मेल	
3.	नोडल अधिकारी और पदनाम (प्रसंस्करण/शोधन या निपटान सुविधा के प्रचालन के लिए उत्तरदायी स्थानीय निकाय या अभिकरण द्वारा प्राधिकृत अधिकारी)	
4.	सुविधा की स्थापना करने और प्रचालन के लिए अपेक्षित प्राधिकार (कृपया निशान लगाएं)	i. अपशिष्ट प्रसंस्करण ii. पुनर्चक्रण iii. शोधन iv. भूमि भरण स्थल पर निपटान
5.	इन दस्तावेजों की प्रतियां संलग्न करें	i. स्थल स्वीकृति (स्थानीय प्राधिकरण) ii. पर्यावरणीय स्वीकृति का प्रमाण iii. स्थापना के लिए अनुमति iv. नगरपालिका प्राधिकरण और प्रचालन अभिकरण के बीच करार v. परियोजना में निवेश और अपेक्षित आय
6.	ठोस अपशिष्ट का प्रसंस्करण/पुनर्चक्रण/शोधन i. प्रतिदिन प्रसंस्करित अपशिष्ट की कुल मात्रा क) पुनर्चक्रित किए जाने वाले अपशिष्ट की मात्रा ख) शोधित किए जाने वाले अपशिष्ट की मात्रा ग) भूमिभरण स्थल में निपटाए जाने वाले अपशिष्ट की मात्रा ii. प्रसंस्करित अपशिष्ट के लिए उपयोगिता कार्यक्रम (उत्पाद उपयोग) iii. निपटान के लिए कार्य-पद्धति (ब्यौरा संलग्न करें) क) निक्षालक की मात्रा ख) निक्षालक के लिए शोधन प्रौद्योगिकी iv. पर्यावरणीय प्रदूषण के निवारण और नियंत्रण के लिए किए जाने वाले उपाय v. संयंत्र में कार्यरत कर्मकारों की सुरक्षा के लिए किए जाने वाले उपाय vi. ठोस अपशिष्ट प्रसंस्करण/पुनर्चक्रण/शोधन/	

	निपटान सुविधा संबंधी ब्यौरा (संलग्न किया जाए)	
7.	ठोस अपशिष्ट का निपटान अभिज्ञात स्थलों की संख्या प्रतिदिन निपटाए जाने वाले अपशिष्ट की मात्रा स्थल चयन के लिए अपनाई गई कार्य-पद्धति या मानदण्ड का ब्यौरा (संलग्न करें) प्रचालन के अंतर्गत विद्यमान स्थल का ब्यौरा भूमि भरण की कार्य-पद्धति और प्रचालनात्क ब्यौरा पर्यावरणीय प्रदूषण को रोकने के लिए किए गए उपाय	
8.	कोई अन्य सूचना	

हस्ताक्षर :.....

पदनाम

तारीख :

स्थान :

प्ररूप-II

[नियम 16(1)(ड.) देखें]

प्राधिकार जारी करने के लिए प्रपत्र

फाइल सं. : _____

दिनांक : _____

प्राधिकार सं. : _____

सेवा में,

संदर्भ : आपका आवेदन सं. _____ दिनांक _____

_____ राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति द्वारा प्रस्ताव का परीक्षण करने के पश्चात _____ को जिनका प्रशासनिक कार्यालय _____ में है, पर अपशिष्ट प्रसंस्करण/पुनर्चक्रण/शोधन/ निपटान सुविधा स्थापित और प्रचालित करने के लिए प्राधिकृत किया जाता है।

यह प्राधिकार ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण, शोधन और निपटान के लिए सुविधा के प्रचालन हेतु प्रदान किया जाता है।

यह प्राधिकार नीचे उल्लिखित निबंधन एवं शर्तों और इन नियमों में अन्यथा यथानिर्दिष्ट ऐसी शर्तों और इन नियमों के अंतर्गत अनुसूचियों I और II में विनिर्धारित मानकों के अध्वधीन है।

_____ राज्य प्रदूषण नियंत्रण बोर्ड/संघ राज्य क्षेत्र प्रदूषण नियंत्रण समिति द्वारा किसी भी समय, प्राधिकार के अंतर्गत लागू किसी शर्त को रद्द किया जा सकता है और इसकी लिखित सूचना दी जाएगी।

ठोस अपशिष्ट प्रबंधन नियम, 2016 के उपबंध का उल्लंघन होने पर पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) के दंडात्मक उपबंध लागू होंगे।

दिनांक :

(सदस्य सचिव)

स्थान :

राज्य प्रदूषण नियंत्रण बोर्ड/संघ राज्य क्षेत्र

प्रदूषण नियंत्रण समिति

(हस्ताक्षर और पदनाम)

प्ररूप-III

[नियम 19(6), 24(1) देखें]

सुविधा के प्रचालक द्वारा स्थानीय निकाय को प्रस्तुत किए जाने के लिए वार्षिक रिपोर्ट का प्रपत्र

1.	शहर/नगर का नाम	
2.	जनसंख्या	
3.	क्षेत्रफल वर्ग किलो मीटर में	
4.	स्थानीय निकाय का नाम और पता दूरभाष सं. फैक्स ई-मेल :	
5.	सुविधा के प्रचालक का नाम और पता	
6.	सुविधा के प्रभारी अधिकारी का नाम दूरभाष सं. फैक्स ई-मेल :	

7.	शहर/नगर में परिवारों की संख्या शहर में गैर आवासीय परिसरों की संख्या शहर/नगर में चुनाव/प्रशासनिक वार्डों की संख्या	
8.	ठोस अपशिष्ट की मात्रा	
	प्रति दिन स्थानीय निकाय के क्षेत्र में उत्पन्न ठोस अपशिष्ट की अनुमानित मात्रा मीट्रिक टन में	/टीपीडी
	प्रतिदिन संग्रहित ठोस अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन संग्रहित प्रति व्यक्ति अपशिष्ट	/ग्रा./दिन
	प्रसंसकृत ठोस अपशिष्ट की मात्रा	/टीपीडी
	भरण स्थल पर निपटान किए गए ठोस अपशिष्ट की मात्रा	/टीपीडी
9.	ठोस अपशिष्ट प्रबंधन सेवा की स्थिति	
	स्रोत पर अपशिष्ट का पृथक्करण और भंडारण	हां/नहीं
	क्या घरेलू/वाणिज्यिक/संस्थागत बिनों में स्रोत पर ठोस अपशिष्ट का भंडारण किया जाता है, यदि हां	%
	घरेलू बिनों में स्रोत पर अपशिष्ट के भंडारण की घरेलू रीति की प्रतिशतता	%
	वाणिज्यिक/संस्थागत बिनों में स्रोत पर अपशिष्ट का गैर आवासीय परिसरों में भंडारण करने की प्रतिशतता	%
	गलियों में घरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	गलियों में गैर आवासीय परिसरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	क्या ठोस अपशिष्ट को स्रोत पर पृथक्कृत स्वरूप में भंडारित किया जाता है	हां/नहीं
	यदि हां, तो स्रोत पर अपशिष्ट का पृथक्करण करने वाले परिसरों की प्रतिशतता	%
	ठोस अपशिष्ट का घर-घर जाकर संग्रहण	
	क्या शहर/नगर में ठोस अपशिष्ट का घर-घर जाकर संग्रहण किया जाता है	हां/नहीं
	यदि हां, तो अपशिष्ट के घर-घर जाकर संग्रहण किए जाने में शामिल वार्डों की संख्या	
	शामिल किए गए घरों की संख्या	
	शामिल किए गए वाणिज्यिक संस्थापनाओं, होटलों, रेस्तराओं, शैक्षिक संस्थाओं/कार्यालय इत्यादि सहित गैर आवासीय परिसरों की संख्या	
	निम्न के माध्यम से घर-घर जाकर संग्रहण किए जाने में शामिल आवासीय और गैर आवासीय परिसरों की प्रतिशतता : मोटरकृत वाहन कंटेनरकृत तिपहिया साइकिल/हैंड कार्ट अन्य साधन	

		%										
		%										
		%										
यदि नहीं, तो संग्रहण में अपनाई गई प्राथमिक पद्धति												
गलियों में झाड़ू लगाया जाना												
शहर में सड़कों, गलियों, लेनों, बाइलेनों की लम्बाई जिनकी सफाई किए जाने की आवश्यकता है		कि.मी.										
गली में झाड़ू लगाए जाने की बारंबारता और लाभान्वित जनसंख्या की प्रतिशतता	<table border="1"> <tr> <td>बारंबारता</td> <td>रोजाना</td> <td>एकांतर दिवस पर</td> <td>सप्ताह में दो बार</td> <td>कभी-कभी</td> </tr> <tr> <td>लाभान्वित जनसंख्या की प्रतिशतता</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	बारंबारता	रोजाना	एकांतर दिवस पर	सप्ताह में दो बार	कभी-कभी	लाभान्वित जनसंख्या की प्रतिशतता					
बारंबारता	रोजाना	एकांतर दिवस पर	सप्ताह में दो बार	कभी-कभी								
लाभान्वित जनसंख्या की प्रतिशतता												
प्रयुक्त साधन		%										
हाथ से झाड़ू लगाया जाना		%										
यांत्रिक रूप से झाड़ू लगाया जाना												
क्या सफाई कर्मचारियों द्वारा लंबी हैंडल वाले झाड़ू का प्रयोग किया जाता है		हां/नहीं										
क्या प्रत्येक सफाई कर्मचारी को अपशिष्ट का संग्रहण करने के लिए हैंडकार्ट/तिपहिया साइकिल दी जाती है		हां/नहीं										
क्या हैंडकार्ट/तिपहिया साइकिल में कंटेनर लगा है		हां/नहीं										
क्या संग्रहण का साधन प्रयोग किए गए संग्रहण/अपशिष्ट भंडारण के कंटेनरों समकालिक है		हां/नहीं										
द्वितीयक अपशिष्ट भंडारण सुविधाएं												
शहर/नगर में अपशिष्ट भंडारण डिपो की संख्या और प्रकार खुले अपशिष्ट भंडारण स्थल चिनाई किए गए बिन		संख्या क्षमता घन मीटर में										

<p>सीमेंट कंक्रीट सिलिंडर के बिन ढलाव/ढके हुए कक्ष/स्थान ढके हुए धातु/प्लास्टिक के कंटेनर 1.1 घन मीटर तक के बिन 2 से 5 घन मीटर के बिन 5 घन मीटर से बड़े कंटेनर बिन रहित शहर</p>	
बिन/जनसंख्या अनुपात	
<p>अपशिष्ट भंडारण डिपो का वार्डवार विवरण (संलग्न करें) :</p> <p>वार्ड सं. :</p> <p>क्षेत्रफल :</p> <p>जनसंख्या :</p> <p>रखे हुए बिनों की संख्या</p> <p>रखे गए बिनों का कुल आयतन</p>	
अपशिष्ट भंडारण सुविधाओं की कुल भंडारण क्षमता घन मीटर में	
अपशिष्ट भंडारण डिपो में प्रतिदिन वास्तविक रूप से भंडारित कुल अपशिष्ट	
डिपो से अपशिष्ट के संग्रहण की बारंबारता बताएं	बारंबारता
साफ किए गए बिनों की संख्या	बिनों की संख्या
	प्रतिदिन
	एकांतर दिवस
	सप्ताह में दो बार
	सप्ताह में एक बार
	कभी-कभी
क्या भंडारण डिपो में पृथक्कृत अपशिष्ट को हरे, नीले और काले बिनों में भंडार करके रखने की सुविधा है	<p>हां/नहीं</p> <p>(यदि हां तो विवरण दें)</p> <p>हरे बिनों की संख्या :</p> <p>नीले बिनों की संख्या :</p> <p>काले बिनों की संख्या :</p>
भंडारण डिपो से ठोस अपशिष्ट उठाने का कार्य हाथ से किया जाता है	

या यांत्रिक तरीके से? प्रतिशत बताएं ठोस अपशिष्ट को हाथ से उठाए जाने की प्रतिशतता यांत्रिक तरीके से उठाने की प्रतिशतता	% %
यदि यांत्रिक है तो प्रयुक्त पद्धति का स्पष्ट उल्लेख करें	फ्रंट-एंड लोडर/टॉप लोडर
क्या ठोस अपशिष्ट को घर-घर से उठाया जाता है और पृथक्कृत स्वरूप में सीधे शोधन संयंत्र तक भेजा जाता है	हां/नहीं (यदि हां तो स्पष्ट उल्लेख करें)
प्रतिदिन अपशिष्ट का परिवहन प्रयोग किए गए वाहनों का प्रकार और संख्या (कृपया टिक करें या जोड़ें) पशु गाड़ी ट्रैक्टर नॉन टीपिंग ट्रक टीपिंग ट्रक डम्पर प्लेसर अवशिष्ट संग्राहक कम्पैक्टर अन्य जेसीबी - लोडर	अपशिष्ट का परिवहन करने में लगाए गए फेरों की संख्या
अपशिष्ट के परिवहन की बारंबारता	बारंबारता परिवहन किए गए अपशिष्ट का प्रतिशत प्रतिदिन एकांतर दिवस पर सप्ताह में दो बार सप्ताह में एक बार कभी-कभी
प्रत्येक दिन परिवहन किए गए अपशिष्ट की मात्रा	/टीपीडी
प्रतिदिन परिवहन किए गए कुल अपशिष्ट की प्रतिशतता	%
प्रयोग की गई अपशिष्ट शोधन प्रौद्योगिकियां	
क्या ठोस अपशिष्ट का प्रसंस्करण किया जाता है	हां/नहीं

यदि हां, तो प्रतिदिन प्रसंस्करण किए गए अपशिष्ट की मात्रा	/टीपीडी
अपशिष्ट प्रसंस्करण के लिए स्थानीय निकाय के पास उपलब्ध भूमि (हेक्टेयर में)	
अपशिष्ट प्रसंस्करण के लिए वर्तमान में प्रयुक्त भूमि	
प्रचालनरत ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
निर्माणाधीन ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
शहर/नगर की सीमा से प्रसंस्करण सुविधाओं की दूरी	
अपनाई गई प्रौद्योगिकियों का विवरण	
कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
वर्मी कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
बायो-मिथेनेशन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
अवशिष्ट जनित ईंधन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
अपशिष्ट से ऊर्जा प्रौद्योगिकी जैसे कि भष्मीकरण, गैसीकरण, पाइरोलेसिस या कोई अन्य प्रौद्योगिकी (विवरण दें)	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
सह-प्रसंस्करण	प्रसंस्करण की गई कच्ची सामग्री
सीमेंट संयंत्र को आपूर्तित दहनशील अपशिष्ट	

	ठोस अपशिष्ट आधारित विद्युत संयंत्रों को आपूर्ति दहनशील अपशिष्ट	
	अन्य	मात्रा
	ठोस अपशिष्ट निपटान सुविधाएं	
	स्थानीय निकाय के पास उपलब्ध मलबा स्थलों की संख्या	
	स्थानीय निकाय के पास उपलब्ध स्वास्थ्यकर भरण स्थलों की संख्या	
	अपशिष्ट के निपटान हेतु उपलब्ध ऐसे प्रत्येक स्थल का क्षेत्रफल	
	अपशिष्ट के निपटान के लिए वर्तमान में प्रयुक्त भूमि का क्षेत्रफल	
	शहर/नगर से मलबा स्थल/भरण सुविधा की दूरी	कि.मी.
	निकटतम वसावट से दूरी	कि.मी.
	जल निकाय से दूरी	कि.मी.
	राज्य/राष्ट्रीय राजमार्ग से दूरी	कि.मी.
	विमानपत्तन से दूरी	कि.मी.
	महत्वपूर्ण धार्मिक स्थलों या ऐतिहासिक स्मारक से दूरी	कि.मी.
	क्या यह बाढ़ संभावित क्षेत्र में पड़ता है	हां/नहीं
	क्या यह भूकंप संभावित क्षेत्र में पड़ता है	हां/नहीं
	प्रत्येक दिन भरण में डाले गए अपशिष्ट की मात्रा	टीपीडी
	क्या भरण स्थल को घेरा गया है	हां/नहीं
	क्या स्थल पर रोशनी की सुविधा उपलब्ध है	हां/नहीं
	क्या धर्मकांटा सुविधा उपलब्ध है	हां/नहीं
	भरण स्थल पर प्रयुक्त वाहन और उपकरण (स्पष्ट करें)	उपलब्ध बुलडोजर, कम्पैक्टर इत्यादि
	भरण स्थल पर नियोजित जनशक्ति	हां/नहीं (यदि हां तो विवरण संलग्न करें)
	क्या ढकने का काम दैनिक आधार पर किया जाता है	हां/नहीं
	यदि नहीं, तो भरण स्थल पर जमा अपशिष्ट को ढकने की बारंबारता	
	ढकने के लिए प्रयुक्त सामग्री	
	क्या ढकने की पर्याप्त सामग्री उपलब्ध है	हां/नहीं
	क्या गैस निकलने की व्यवस्था की गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
	निक्षालन संग्रहण का प्रावधान	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
10.	क्या शहर में ठोस अपशिष्ट प्रबंधन पद्धतियों में सुधार लाने के लिए	हां/नहीं

	कार्ययोजना बनाई गई है	(यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
11.	निम्न के लिए कौन से पृथक प्रावधान किए गए हैं : डेयरी से संबंधित कार्यकलाप : बूचड़खाने के अपशिष्ट : निर्माण एवं विध्वंस अपशिष्ट (निर्माण मलबा) :	प्रस्तावों, उठाए गए कदमों के संबंध में विवरण संलग्न करें हां/नहीं हां/नहीं हां/नहीं
12.	पश्च संवृत्ति योजना का विवरण	योजना संलग्न करें
13.	कितनी मलिन बस्तियों का निर्धारण किया गया है और क्या इनमें ठोस अपशिष्ट प्रबंधन सुविधाएं उपलब्ध कराई गई हैं :	हां/नहीं (यदि हां, तो विवरण संलग्न करें)
14.	गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए ठेकेदार/रियायतग्राही की नियोजित जनशक्ति का विवरण दें	
15.	इन नियमों के प्रावधानों का अनुपालन करने में स्थानीय निकाय द्वारा महसूस की जा रही कठिनाइयों का संक्षेप में उल्लेख करें	
16.	ठोस अपशिष्ट से संबंधित समस्या से निपटने के लिए किसी अभिनव विचार का संक्षेप में उल्लेख करें जिसे अन्य स्थानीय निकायों द्वारा अपनाया जा सके	

प्रचालक के हस्ताक्षर

तारीख :

स्थान :

प्ररूप-IV

[नियम 15 (यक), 24(2) देखें]

स्थानीय निकाय द्वारा प्रस्तुत किए जाने के लिए ठोस अपशिष्ट प्रबंधन संबंधी
वार्षिक रिपोर्ट का प्रारूप

कैलेंडर वर्ष	रिपोर्ट प्रस्तुत करने की तारीख

1.	शहर/नगर का नाम	
2.	जनसंख्या	
3.	क्षेत्रफल वर्ग किलो मीटर में	
4.	स्थानीय निकाय का नाम और पता दूरभाष सं. फैक्स ई-मेल :	
5.	ठोस अपशिष्ट प्रबंधन (वेस्टेम) से संबंधित प्रभारी अधिकारी का नाम दूरभाष सं. फैक्स ई-मेल :	
6.	शहर/नगर में परिवारों की संख्या शहर में गैर आवासीय परिसरों की संख्या शहर/नगर में चुनाव/प्रशासनिक वार्डों की संख्या	
7.	ठोस अपशिष्ट की मात्रा	
	प्रति दिन स्थानीय निकाय के क्षेत्र में उत्पन्न ठोस अपशिष्ट की अनुमानित मात्रा मीट्रिक टन में	/टीपीडी
	प्रतिदिन संग्रहित ठोस अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन संग्रहित प्रति व्यक्ति अपशिष्ट	/ग्रा./दिन
	प्रसंसकृत ठोस अपशिष्ट की मात्रा	/टीपीडी
	मलबा स्थल/भरण स्थल पर निपटान किए गए ठोस अपशिष्ट की मात्रा	/टीपीडी
8.	ठोस अपशिष्ट प्रबंधन सेवा की स्थिति	
	स्रोत पर अपशिष्ट का पृथक्करण और भंडारण	
	क्या घरेलू/वाणिज्यिक/संस्थागत बिनों में स्रोत पर ठोस अपशिष्ट का भंडारण किया जाता है, यदि हां	हां/नहीं

घरेलू बिनों में स्रोत पर अपशिष्ट के भंडारण की घरेलू रीति की प्रतिशतता		%			
वाणिज्यिक/संस्थागत बिनों में स्रोत पर अपशिष्ट का गैर आवासीय परिसरों में भंडारण करने की प्रतिशतता		%			
गलियों में घरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता		%			
गलियों में गैर आवासीय परिसरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता		%			
ठोस अपशिष्ट का घर-घर जाकर संग्रहण					
क्या शहर/नगर में ठोस अपशिष्ट का घर-घर जाकर संग्रहण किया जाता है		हां/नहीं			
यदि हां, तो अपशिष्ट के घर-घर जाकर संग्रहण किए जाने में शामिल वार्डों की संख्या					
शामिल किए गए घरों की संख्या					
शामिल किए गए वाणिज्यिक संस्थापनाओं, होटलों, रेस्तराओं, शैक्षिक संस्थाओं/कार्यालय इत्यादि सहित गैर आवासीय परिसरों की संख्या					
निम्न के माध्यम से घर-घर जाकर संग्रहण किए जाने में शामिल आवासीय और गैर आवासीय परिसरों की प्रतिशतता :					
मोटरकृत वाहन		%			
कंटेनरकृत तिपहिया साइकिल/हैंड कार्ट		%			
अन्य साधन		%			
यदि नहीं, तो संग्रहण में अपनाई गई प्राथमिक पद्धति					
गलियों में झाड़ू लगाया जाना					
शहर में सड़कों, गलियों, लेनों, बाइलेनों की लम्बाई जिनकी सफाई किए जाने की आवश्यकता है		कि.मी.			
गली में झाड़ू लगाए जाने की बारंबारता और लाभान्वित जनसंख्या की प्रतिशतता	बारंबारता	रोजाना	एकांतर दिवस पर	सप्ताह में दो बार	कभी-कभी
	लाभान्वित जनसंख्या की प्रतिशतता				
प्रयुक्त साधन					%
हाथ से झाड़ू लगाया जाना					%
यांत्रिक रूप से झाड़ू लगाया जाना					%

	क्या सफाई कर्मचारियों द्वारा लंबी हैंडल वाले झाड़ू का प्रयोग किया जाता है	हां/नहीं
	क्या प्रत्येक सफाई कर्मचारी को अपशिष्ट का संग्रहण करने के लिए हैंडकार्ट/तिपहिया साइकिल दी जाती है	हां/नहीं
	क्या हैंडकार्ट/तिपहिया साइकिल में कंटेनर लगा है	हां/नहीं
	क्या संग्रहण का साधन प्रयोग किए गए संग्रहण/अपशिष्ट भंडारण के कंटेनरों समकालिक है	हां/नहीं
	द्वितीयक अपशिष्ट भंडारण सुविधाएं	
	शहर/नगर में अपशिष्ट भंडारण डिपो की संख्या और प्रकार खुले अपशिष्ट भंडारण स्थल चिनाई किए गए बिन सीमेंट कंक्रीट सिलिंडर के बिन ढलाव/ढके हुए कक्ष/स्थान ढके हुए धातु/प्लास्टिक के कंटेनर 1.1 घन मीटर तक के बिन 2 से 5 घन मीटर के बिन 5 घन मीटर से बड़े कंटेनर बिन रहित शहर	संख्या क्षमता घन मीटर में
	बिन/जनसंख्या अनुपात	
	अपशिष्ट भंडारण डिपो का वार्डवार विवरण (संलग्न करें) : वार्ड सं. : क्षेत्रफल : जनसंख्या : रखे हुए बिनों की संख्या रखे गए बिनों का कुल आयतन	
	अपशिष्ट भंडारण सुविधाओं की कुल भंडारण क्षमता घन मीटर में	
	अपशिष्ट भंडारण डिपो में प्रतिदिन वास्तविक रूप से भंडारित कुल अपशिष्ट	

	डिपो से अपशिष्ट के संग्रहण की बारंबारता बताएं साफ किए गए बिनो की संख्या	बारंबारता	बिनो की संख्या
		प्रतिदिन	
		एकांतर दिवस	
		सप्ताह में दो बार	
		सप्ताह में एक बार	
		कभी-कभी	
	क्या भंडारण डिपो में पृथककृत अपशिष्ट को हरे, नीले और काले बिनो में भंडार करके रखने की सुविधा है	हां/नहीं (यदि हां तो विवरण दें) हरे बिनो की संख्या : नीले बिनो की संख्या : काले बिनो की संख्या :	
	भंडारण डिपो से ठोस अपशिष्ट उठाने का कार्य हाथ से किया जाता है या यांत्रिक तरीके से? प्रतिशत बताएं ठोस अपशिष्ट को हाथ से उठाए जाने की प्रतिशतता यांत्रिक तरीके से उठाने की प्रतिशतता	% %	
	यदि यांत्रिक है तो प्रयुक्त पद्धति का स्पष्ट उल्लेख करें	फ्रंट-एंड लोडर/टॉप लोडर	
	क्या ठोस अपशिष्ट को घर-घर से उठाया जाता है और पृथककृत स्वरूप में सीधे शोधन संयंत्र तक भेजा जाता है	हां/नहीं (यदि हां तो स्पष्ट उल्लेख करें)	
	प्रतिदिन अपशिष्ट का परिवहन प्रयोग किए गए वाहनों का प्रकार और संख्या	अपशिष्ट का परिवहन करने में लगाए गए फेरों की संख्या	

पशु गाड़ी ट्रैक्टर नॉन टीपिंग ट्रक टीपिंग ट्रक डम्पर प्लेसर अवशिष्ट संग्राहक कम्पैक्टर अन्य जेसीबी - लोडर	
अपशिष्ट के परिवहन की बारंबारता	बारंबारता परिवहन किए गए अपशिष्ट का प्रतिशत प्रतिदिन एकांतर दिवस पर सप्ताह में दो बार सप्ताह में एक बार कभी-कभी
प्रत्येक दिन परिवहन किए गए अपशिष्ट की मात्रा	/टीपीडी
प्रतिदिन परिवहन किए गए कुल अपशिष्ट की प्रतिशतता	%
प्रयोग की गई अपशिष्ट शोधन प्रौद्योगिकियां	
क्या ठोस अपशिष्ट का प्रसंस्करण किया गया है	हां/नहीं
यदि हां, तो प्रतिदिन प्रसंस्करण किए गए अपशिष्ट की मात्रा	/टीपीडी
क्या शोधन का कार्य स्थानीय निकाय या किसी अभिकरण के माध्यम से किया जाता है	
अपशिष्ट प्रसंस्करण के लिए स्थानीय निकाय के पास उपलब्ध भूमि (हेक्टेयर में)	
अपशिष्ट प्रसंस्करण के लिए वर्तमान में प्रयुक्त भूमि	
प्रचालनरत ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
निर्माणाधीन ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
शहर/नगर की सीमा से प्रसंस्करण सुविधाओं की दूरी	

	अपनाई गई प्रौद्योगिकियों का विवरण	
	कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	वर्मी कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	बायो-मिथेनेशन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	अवशिष्ट जनित ईंधन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	सह-प्रसंस्करण	प्रसंस्करण की गई कच्ची सामग्री
	सीमेंट संयंत्र को आपूर्ति दहनशील अपशिष्ट	
	ठोस अपशिष्ट आधारित विद्युत संयंत्रों को आपूर्ति दहनशील अपशिष्ट	
	अन्य	मात्रा
	ठोस अपशिष्ट निपटान सुविधाएं	
	स्थानीय निकाय के पास उपलब्ध मलबा स्थलों की संख्या	
	स्थानीय निकाय के पास उपलब्ध स्वास्थ्यकर भरण स्थलों की संख्या	

	अपशिष्ट के निपटान हेतु उपलब्ध ऐसे प्रत्येक स्थल का क्षेत्रफल	
	अपशिष्ट के निपटान के लिए वर्तमान में प्रयुक्त भूमि का क्षेत्रफल	
	शहर/नगर से मलबा स्थल/भरण सुविधा की दूरी	कि.मी.
	निकटतम वसावट से दूरी	कि.मी.
	जल निकाय से दूरी	कि.मी.
	राज्य/राष्ट्रीय राजमार्ग से दूरी	कि.मी.
	विमानपत्तन से दूरी	कि.मी.
	महत्वपूर्ण धार्मिक स्थलों या ऐतिहासिक स्मारक से दूरी	कि.मी.
	क्या यह बाढ़ संभावित क्षेत्र में पड़ता है	हां/नहीं
	क्या यह भूकंप संभावित क्षेत्र में पड़ता है	हां/नहीं
	प्रत्येक दिन भरण में डाले गए अपशिष्ट की मात्रा	टीपीडी
	क्या भरण स्थल को घेरा गया है	हां/नहीं
	क्या स्थल पर रोशनी की सुविधा उपलब्ध है	हां/नहीं
	क्या धर्मकांटा सुविधा उपलब्ध है	हां/नहीं
	भरण स्थल पर प्रयुक्त वाहन और उपकरण (स्पष्ट करें)	उपलब्ध बुलडोजर, कम्पैक्टर इत्यादि
	भरण स्थल पर नियोजित जनशक्ति	हां/नहीं (यदि हां तो विवरण संलग्न करें)
	क्या ढकने का काम दैनिक आधार पर किया जाता है	हां/नहीं
	यदि नहीं, तो भरण स्थल पर जमा अपशिष्ट को ढकने की बारंबारता	
	ढकने के लिए प्रयुक्त सामग्री	
	क्या ढकने की पर्याप्त सामग्री उपलब्ध है	हां/नहीं
	क्या गैस निकलने की व्यवस्था की गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
	निक्षालन संग्रहण का प्रावधान	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
9.	क्या शहर में ठोस अपशिष्ट प्रबंधन पद्धतियों में सुधार लाने के लिए कार्ययोजना बनाई गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
10.	निम्न के लिए कौन से पृथक प्रावधान किए गए हैं : डेयरी से संबंधित कार्यकलाप : बूचड़खाने के अपशिष्ट : निर्माण एवं विध्वंस अपशिष्ट (निर्माण मलबा) :	प्रस्तावों, उठाए गए कदमों के संबंध में विवरण संलग्न करें हां/नहीं

		हां/नहीं हां/नहीं
11.	पश्च संवृत्ति योजना का विवरण	योजना संलग्न करें
12.	कितनी मलिन बस्तियों का निर्धारण किया गया है और क्या इनमें ठोस अपशिष्ट प्रबंधन सुविधाएं उपलब्ध कराई गई हैं :	हां/नहीं (यदि हां, तो विवरण संलग्न करें)
13.	कृपया विवरण दें : गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए स्थानीय निकाय की स्वयं की जनशक्ति	
14.	कृपया विवरण दें : गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए ठेकेदार/रियायतग्राही की नियोजित जनशक्ति	
15.	इन नियमों के प्रावधानों का अनुपालन करने में स्थानीय निकाय द्वारा महसूस की जा रही कठिनाइयों का संक्षेप में उल्लेख करें	
16.	ठोस अपशिष्ट से संबंधित समस्या से निपटने के लिए किसी अभिनव विचार का संक्षेप में उल्लेख करें जिसे अन्य स्थानीय निकायों द्वारा अपनाया जा सके	

मुख्य कार्यकारी अधिकारी/
नगरपालिका आयुक्त/कार्यकारी अधिकारी/
मुख्य अधिकारी के हस्ताक्षर

तारीख :

स्थान :

प्ररूप-V

[नियम 24(3) देखें]

राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समितियों द्वारा केन्द्रीय प्रदूषण नियंत्रण बोर्ड को प्रस्तुत की जाने वाली वार्षिक रिपोर्ट का प्रपत्र

भाग क

सेवा में,

अध्यक्ष,

केन्द्रीय प्रदूषण नियंत्रण बोर्ड,
परिवेश भवन, पूर्वी अर्जुन नगर,

दिल्ली-110032

1.	राज्य/संघ राज्य क्षेत्र का नाम	:	
2.	राज्य प्रदूषण नियंत्रण बोर्ड का नाम और पता	:	
3.	इन नियमों के अंतर्गत राज्य/संघ राज्य क्षेत्र में ठोस अपशिष्टों के प्रबंधन के लिए उत्तरदायी स्थानीय निकायों की संख्या	:	
4.	प्राप्त हुए प्राधिकार आवेदनों की संख्या	:	
5.	ठोस अपशिष्ट प्रबंधन के संबंध में स्थानीय निकाय द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- I के रूप में संलग्न करें
6.	अपशिष्ट संग्रहण, पृथक्करण, परिवहन और निपटान के संबंध में स्थानीय निकायों द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- II के रूप में संलग्न करें
7.	अनुसूची II के कार्यान्वयन के संबंध में स्थानीय निकायों द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- III के रूप में संलग्न करें
तारीख :		अध्यक्ष या सदस्य सचिव	
स्थान :		राज्य प्रदूषण नियंत्रण बोर्ड/ प्रदूषण नियंत्रण समिति	

भाग ख**नगर/शहर**

नगरों/शहरों की कुल संख्या

शहरी स्थानीय निकायों की कुल संख्या

श्रेणी-I तथा श्रेणी-II नगरों/शहरों की संख्या

प्राधिकार की स्थिति (नाम/संख्या)

प्राप्त हुए आवेदनों की संख्या

प्रदान किए गए प्राधिकारों की संख्या

जांच के अधीन प्राधिकार

ठोस अपशिष्ट उत्पादन की स्थिति

राज्य में ठोस अपशिष्ट उत्पादन (टीपीडी)

संग्रहित

शोधित

खत्ते में डाले गए

ठोस अपशिष्ट नियम की अनुसूची I का अनुपालन (नगरों की संख्या/नाम/क्षमता)

शहरों/नगरों में अच्छी रीतियां

घर-घर से संग्रहण

पृथक्करण

भंडारण

आवृत्त परिवहन

टोस अपशिष्ट का प्रसंस्करण (नगरों की संख्या/नाम/क्षमता)

टोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना :

क्रम सं.	कम्पोस्टिंग	वर्मी-कम्पोस्टिंग	वायो गैस	आरडीएफ/गुटिकाकरण

प्रचालनरत प्रसंस्करण सुविधा

क्रम सं.	कम्पोस्टिंग	वर्मी-कम्पोस्टिंग	वायो गैस	आरडीएफ/गुटिकाकरण

संस्थापनाधीन/योजनाकृत प्रसंस्करण सुविधा

क्रम सं.	कम्पोस्टिंग	वर्मी-कम्पोस्टिंग	वायो गैस	आरडीएफ/गुटिकाकरण

अपशिष्ट से ऊर्जा संयंत्र : (नगरों की संख्या/नाम/क्षमता)

क्रम सं.	संयंत्र का स्थान	प्रचालन की स्थिति	विद्युत उत्पादन (मेगा वाट)	अभ्युक्ति

टोस अपशिष्ट का निपटान (नगरों की संख्या/नाम/क्षमता)

अभिनिर्धारित भरण स्थल

निर्मित भरण स्थल

निर्माणाधीन भरण स्थल

प्रचालनरत भरण स्थल

निश्शेषित भरण स्थल

आच्छादित भरण स्थल

टोस अपशिष्ट मलबा स्थल (नगरों की संख्या/नाम/क्षमता)

विद्यमान मलबा स्थलों की कुल संख्या

पुनर्निर्मित/आच्छादित भरण स्थल

स्वास्थ्यकर भरण स्थल में परिवर्तित मलबा स्थल

अपशिष्ट प्रसंस्करण/भरण स्थलों पर निगरानी

क्रम सं.	सुविधाओं का नाम	परिवेशी वायु	भू जल	निक्षालन की गुणवत्ता	कंपोस्ट की गुणवत्ता	वीओसी
1.						
2.						
3.						

नगरपालिकाओं द्वारा तैयार की गई कार्य योजनाओं की स्थिति

नगरपालिकाओं की कुल संख्या:

प्रस्तुत की गई कार्य योजना की संख्या:

प्ररूप-VI

[नियम 25 देखें]

दुर्घटना का प्रतिवेदन

1.	दुर्घटना की तारीख और समय	:	
2.	दुर्घटना के लिए कारकों का अनुक्रम	:	
3.	दुर्घटना में शामिल अपशिष्ट	:	
4.	मानव स्वास्थ्य और पर्यावरण पर दुर्घटनाओं के प्रभावों का मूल्यांकन	:	
5.	किए गए आपातकालीन उपाय	:	
6.	दुर्घटनाओं के प्रभावों को कम करने के लिए उठाए गए कदम	:	
7.	ऐसी किसी दुर्घटना की पुनरावृत्ति को रोकने के लिए उठाए गए कदम	:	
तारीख		हस्ताक्षर	
स्थान		पदनाम	

[फा. सं.18-3/2004-एचएसएमडी]

विश्वनाथ सिन्हा, संयुक्त सचिव

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 8th April, 2016

S.O. 1357(E).—Whereas the draft of the Solid Waste Management Rules, 2015 were published under the notification of the Government of India in the Ministry of Environment, Forest and Climate Change number G.S.R. 451 (E), dated the 3rd June, 2015 in the Gazette of India, part II, Section 3, sub-section (i) of the same date inviting objections or suggestions from the persons likely to be affected thereby, before the expiry of the period of sixty days from the publication of the said notification on the Solid Waste Management Rules, 2015 in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000;

And whereas, copies of the said Gazette were made available to the public on the 3rd June, 2015;

And whereas, the objections or comments received within the stipulated period were duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) and in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000, except as respect things done or omitted to be done before such supersession, the Central Government hereby makes the following rules for management of Solid Waste, namely:-

1. **Short title and commencement.-**

- (1) These rules may be called the Solid Waste Management Rules, 2016.
- (2) They shall come into force on the date of their publication in the Official Gazette.

2. **Application.-** These rules shall apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other non residential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

3. **Definitions** –(1) In these rules, unless the context otherwise requires,- (1) **“aerobic composting”** means a controlled process involving microbial decomposition of organic matter in the presence of oxygen;

2. **“anaerobic digestion”** means a controlled process involving microbial decomposition of organic matter in absence of oxygen;
3. **“authorisation”** means the permission given by the State Pollution Control Board or Pollution Control Committee, as the case may be, to the operator of a facility or urban local authority, or any other agency responsible for processing and disposal of solid waste;
4. **“biodegradable waste ”** means any organic material that can be degraded by micro-organisms into simpler stable compounds;
5. **“bio-methanation”** means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;
6. **“brand owner”** means a person or company who sells any commodity under a registered brand label.
7. **“buffer zone”** means zone of no development to be maintained around solid waste processing and disposal facility, exceeding 5 TPD of installed capacity. This will be maintained within total and area allotted for the solid waste processing and disposal facility.
8. **“bulk waste generator”** means and includes buildings occupied by the Central government departments or undertakings, State government departments or undertakings, local bodies, public sector undertakings or private companies, hospitals, nursing homes, schools, colleges, universities, other educational institutions, hostels, hotels, commercial establishments, markets, places of worship, stadia and sports complexes having an average waste generation rate exceeding 100kg per day;
9. **“bye-laws”** means regulatory framework notified by local body, census town and notified area townships for facilitating the implementation of these rules effectively in their jurisdiction.
10. **“census town”** means an urban area as defined by the Registrar General and Census Commissioner of India;
11. **“combustible waste”** means non-biodegradable, non-recyclable, non-reusable, non hazardous solid waste having minimum calorific value exceeding 1500 kcal/kg and excluding chlorinated materials like plastic, wood pulp, etc;
12. **“composting”** means a controlled process involving microbial decomposition of organic matter;
13. **“contractor”** means a person or firm that undertakes a contract to provide materials or labour to perform a service or do a job for service providing authority;
14. **“co-processing”** means use of non-biodegradable and non recyclable solid waste having calorific value exceeding 1500k/cal as raw material or as a source of energy or both to replace or supplement the natural mineral resources and fossil fuels in industrial processes;
15. **“decentralised processing”** means establishment of dispersed facilities for maximizing the processing of bio-degradable waste and recovery of recyclables closest to the source of generation so as to minimize transportation of waste for processing or disposal;
16. **“disposal”** means the final and safe disposal of post processed residual solid waste and inert street sweepings and silt from surface drains on land as specified in Schedule I to prevent contamination of ground water, surface water, ambient air and attraction of animals or birds;
17. **“domestic hazardous waste”** means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level;

18. **"door to door collection"** means collection of solid waste from the door step of households, shops, commercial establishments , offices , institutional or any other non residential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society , multi storied building or apartments , large residential, commercial or institutional complex or premises;.
19. **"dry waste"** means waste other than bio-degradable waste and inert street sweepings and includes recyclable and non recyclable waste, combustible waste and sanitary napkin and diapers, etc;
20. **"dump sites"** means a land utilised by local body for disposal of solid waste without following the principles of sanitary land filling;
21. **"extended producer responsibility" (EPR)** means responsibility of any producer of packaging products such as plastic, tin, glass and corrugated boxes, etc., for environmentally sound management, till end-of-life of the packaging products;
22. **"facility"** means any establishment wherein the solid waste management processes namely segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal are carried out;
23. **"fine"** means penalty imposed on waste generators or operators of waste processing and disposal facilities under the bye-laws for non-compliance of the directions contained in these rules and/or bye- laws
24. **"Form"** means a F8orm appended to these rules;
25. **"handling"** includes all activities relating to sorting, segregation, material recovery, collection, secondary storage, shredding, baling, crushing, loading, unloading, transportation, processing and disposal of solid wastes;
26. **"inerts"** means wastes which are not bio-degradable, recyclable or combustible street sweeping or dust and silt removed from the surface drains;
27. **"incineration"** means an engineered process involving burning or combustion of solid waste to thermally degrade waste materials at high temperatures;
28. **"informal waste collector"** includes individuals, associations or waste traders who are involved in sorting, sale and purchase of recyclable materials;
29. **"leachate"** means the liquid that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it;
30. **"local body"** for the purpose of these rules means and includes the municipal corporation, nagar nigam, municipal council, nagarpalika, nagar Palikaparishad, municipal board, nagar panchayat and town panchayat, census towns, notified areas and notified industrial townships with whatever name they are called in different States and union territories in India;
31. **"materials recovery facility" (MRF)** means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in rule 2 or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 2 for the purpose before the waste is delivered or taken up for its processing or disposal;
32. **"non-biodegradable waste"** means any waste that cannot be degraded by micro organisms into simpler stable compounds;
33. **"operator of a facility"** means a person or entity, who owns or operates a facility for handling solid waste which includes the local body and any other entity or agency appointed by the local body;
34. **primary collection"** means collecting, lifting and removal of segregated solid waste from source of its generation including households, shops, offices and any other non-residential premises or from any collection points or any other location specified by the local body;
35. **"processing"** means any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products;
36. **"recycling"** means the process of transforming segregated non-biodegradable solid waste into new material or product or as raw material for producing new products which may or may not be similar to the original products;
37. **"redevelopment"** means rebuilding of old residential or commercial buildings at the same site, where the existing buildings and other infrastructures have become dilapidated;

38. "**refused derived fuel**"(RDF) means fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste, other than chlorinated materials, in the form of pellets or fluff produced by drying, shredding, dehydrating and compacting of solid waste ;
39. "**residual solid waste**" means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing;
40. "**sanitary land filling** " means the final and safe disposal of residual solid waste and inert wastes on land in a facility designed with protective measures against pollution of ground water, surface water and fugitive air dust, wind-blown litter, bad odour, fire hazard, animal menace, bird menace, pests or rodents, greenhouse gas emissions, persistent organic pollutants slope instability and erosion;
41. "**sanitary waste**" means wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste;
42. "**Schedule**" means the Schedule appended to these rules;
43. "**secondary storage**" means the temporary containment of solid waste after collection at secondary waste storage depots or MRFs or bins for onward transportation of the waste to the processing or disposal facility;
44. "**segregation**" means sorting and separate storage of various components of solid waste namely biodegradable wastes including agriculture and dairy waste, non biodegradable wastes including recyclable waste, non-recyclable combustible waste, sanitary waste and non recyclable inert waste, domestic hazardous wastes, and construction and demolition wastes;
45. "**service provider**" means an authority providing public utility services like water, sewerage, electricity, telephone, roads, drainage, etc;
46. "**solid waste**" means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities and other entities mentioned in rule 2;
47. "**sorting**" means separating various components and categories of recyclables such as paper, plastic, card-boards, metal, glass, etc., from mixed waste as may be appropriate to facilitate recycling;
48. "**stabilising**" means the biological decomposition of biodegradable wastes to a stable state where it generates no leachate or offensive odours and is fit for application to farm land ,soil erosion control and soil remediation;
49. "**street vendor**" means any person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words "street vending" with their grammatical variations and cognate expressions, shall be construed accordingly;
50. "**tipping fee**" means a fee or support price determined by the local authorities or any state agency authorised by the State government to be paid to the concessionaire or operator of waste processing facility or for disposal of residual solid waste at the landfill;
51. "**transfer station**" means a facility created to receive solid waste from collection areas and transport in bulk in covered vehicles or containers to waste processing and, or, disposal facilities;
52. "**transportation**" means conveyance of solid waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions;
53. "**treatment**" means the method, technique or process designed to modify physical, chemical or biological characteristics or composition of any waste so as to reduce its volume and potential to cause harm;
54. "**user fee**" means a fee imposed by the local body and any entity mentioned in rule 2 on the waste generator to cover full or part cost of providing solid waste collection, transportation, processing and disposal services.
55. "**vermi composting**" means the process of conversion of bio-degradable waste into compost using earth worms;
56. "**waste generator**" means and includes every person or group of persons, every residential premises and non residential establishments including Indian Railways, defense establishments, which generate solid waste;
57. "**waste hierarchy**" means the priority order in which the solid waste is to should be managed by giving

emphasis to prevention, reduction, reuse, recycling, recovery and disposal, with prevention being the most preferred option and the disposal at the landfill being the least;

58. **“waste picker”** means a person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

(2) Words and expressions used herein but not defined, but defined in the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974, Water (Prevention and Control of Pollution) Cess Act, 1977 and the Air (prevention and Control of Pollution) Act, 1981 shall have the same meaning as assigned to them in the respective Acts.

4 Duties of waste generators.- (1) Every waste generator shall,-

(a) segregate and store the waste generated by them in three separate streams namely bio-degradable, non bio-degradable and domestic hazardous wastes in suitable bins and handover segregated wastes to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;

(b) wrap securely the used sanitary waste like diapers, sanitary pads etc., in the pouches provided by the manufacturers or brand owners of these products or in a suitable wrapping material as instructed by the local authorities and shall place the same in the bin meant for dry waste or non- bio-degradable waste;

(c) store separately construction and demolition waste, as and when generated, in his own premises and shall dispose off as per the Construction and Demolition Waste Management Rules, 2016; and

(d) store horticulture waste and garden waste generated from his premises separately in his own premises and dispose of as per the directions of the local body from time to time.

(2) No waste generator shall throw, burn or bury the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies.

(3) All waste generators shall pay such user fee for solid waste management, as specified in the bye-laws of the local bodies.

(4) No person shall organise an event or gathering of more than one hundred persons at any unlicensed place without intimating the local body, at least three working days in advance and such person or the organiser of such event shall ensure segregation of waste at source and handing over of segregated waste to waste collector or agency as specified by the local body.

(5) Every street vendor shall keep suitable containers for storage of waste generated during the course of his activity such as food waste, disposable plates, cups, cans, wrappers, coconut shells, leftover food, vegetables, fruits, etc., and shall deposit such waste at waste storage depot or container or vehicle as notified by the local body.

(6) All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(7) All gated communities and institutions with more than 5,000 sqm area shall, within one year from the date of notification of these rules and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorized recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(8) All hotels and restaurants shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

5. Duties of Ministry of Environment, Forest and Climate Change.- (1) The Ministry of Environment, Forest and Climate Change shall be responsible for over all monitoring the implementation of these rules in the country. It shall constitute a Central Monitoring Committee under the Chairmanship of Secretary, Ministry of Environment, Forest and Climate Change comprising officer not below the rank of Joint Secretary or Advisor from the following namely,-

- 1) Ministry of Urban Development
- 2) Ministry of Rural Development
- 3) Ministry of Chemicals and Fertilizers
- 4) Ministry of Agriculture
- 5) Central Pollution Control Board
- 6) Three State Pollution Control Boards or Pollution Control Committees by rotation
- 7) Urban Development Departments of three State Governments by rotation
- 8) Rural Development Departments from two State Governments by rotation
- 9) Three Urban Local bodies by rotation
- 10) Two census towns by rotation
- 11) FICCI, CII
- 12) Two subject experts

2. This Central Monitoring Committee shall meet at least once in a year to monitor and review the implementation of these rules. The Ministry of Environment, Forest and Climate Change may co-opt other experts, if needed. The Committee shall be renewed every three years.

6. Duties of Ministry of Urban Development.- (1) The Ministry of Urban Development shall coordinate with State Governments and Union territory Administrations to,-

- (a) take periodic review of the measures taken by the states and local bodies for improving solid waste management practices and execution of solid waste management projects funded by the Ministry and external agencies at least once in a year and give advice on taking corrective measures;
- (b) formulate national policy and strategy on solid waste management including policy on waste to energy in consultation with stakeholders within six months from the date of notification of these rules;
- (c) facilitate States and Union Territories in formulation of state policy and strategy on solid management based on national solid waste management policy and national urban sanitation policy;
- (d) promote research and development in solid waste management sector and disseminate information to States and local bodies;
- (e) undertake training and capacity building of local bodies and other stakeholders; and
- (f) provide technical guidelines and project finance to states, Union territories and local bodies on solid waste management to facilitate meeting timelines and standards.

7. Duties of Department of Fertilisers, Ministry of Chemicals and Fertilisers.- (1) The Department of Fertilisers through appropriate mechanisms shall,-

- (a) provide market development assistance on city compost; and
- (b) ensure promotion of co-marketing of compost with chemical fertilisers in the ratio of 3 to 4 bags: 6 to 7 bags by the fertiliser companies to the extent compost is made available for marketing to the companies.

8. Duties of Ministry of Agriculture, Government of India.- The Ministry of Agriculture through appropriate mechanisms shall,-

- (a) provide flexibility in Fertiliser Control Order for manufacturing and sale of compost;
- (b) propagate utilisation of compost on farm land;
- (c) set up laboratories to test quality of compost produced by local authorities or their authorised agencies; and
- (d) issue suitable guidelines for maintaining the quality of compost and ratio of use of compost visa-a-vis chemical fertilizers while applying compost to farmland.

9. Duties of the Ministry of Power.-The Ministry of Power through appropriate mechanisms shall,-

- (a) decide tariff or charges for the power generated from the waste to energy plants based on solid waste.
- (b) compulsory purchase power generated from such waste to energy plants by distribution company.

10. Duties of Ministry of New and Renewable Energy Sources- The Ministry of New and Renewable Energy Sources through appropriate mechanisms shall,-

- (a) facilitate infrastructure creation for waste to energy plants; and
- (b) provide appropriate subsidy or incentives for such waste to energy plants.

11. Duties of the Secretary-in-charge, Urban Development in the States and Union territories.- (1) The Secretary, Urban Development Department in the State or Union territory through the Commissioner or Director of Municipal Administration or Director of local bodies shall,-

- (a) prepare a state policy and solid waste management strategy for the state or the union territory in consultation with stakeholders including representative of waste pickers, self help group and similar groups working in the field of waste management consistent with these rules, national policy on solid waste management and national urban sanitation policy of the ministry of urban development, in a period not later than one year from the date of notification of these rules;
- (b) while preparing State policy and strategy on solid waste management, lay emphasis on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste to ensure minimisation of waste going to the landfill and minimise impact of solid waste on human health and environment;
- (c) state policies and strategies should acknowledge the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste and provide broad guidelines regarding integration of waste picker or informal waste collectors in the waste management system.
- (d) ensure implementation of provisions of these rules by all local authorities;
- (e) direct the town planning department of the State to ensure that master plan of every city in the State or Union territory provisions for setting up of solid waste processing and disposal facilities except for the cities who are members of common waste processing facility or regional sanitary landfill for a group of cities; and
- (f) ensure identification and allocation of suitable land to the local bodies within one year for setting up of processing and disposal facilities for solid wastes and incorporate them in the master plans (land use plan) of the State or as the case may be, cities through metropolitan and district planning committees or town and country planning department;
- (h) direct the town planning department of the State and local bodies to ensure that a separate space for segregation, storage, decentralised processing of solid waste is demarcated in the development plan for group housing or commercial, institutional or any other non-residential complex exceeding 200 dwelling or having a plot area exceeding 5,000 square meters;
- (i) direct the developers of Special Economic Zone, Industrial Estate, Industrial Park to earmark at least five percent of the total area of the plot or minimum five plots or sheds for recovery and recycling facility.
- (j) facilitate establishment of common regional sanitary land fill for a group of cities and towns falling within a distance of 50 km (or more) from the regional facility on a cost sharing basis and ensure professional management of such sanitary landfills;
- (k) arrange for capacity building of local bodies in managing solid waste, segregation and transportation or processing of such waste at source;
- (l) notify buffer zone for the solid waste processing and disposal facilities of more than five tons per day in consultation with the State Pollution Control Board; and
- (m) start a scheme on registration of waste pickers and waste dealers.

12. Duties of District Magistrate or District Collector or Deputy Commissioner.- The District Magistrate or District Collector or as the case may be , the Deputy Commissioner shall, -

- (a) facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules;
- (b) review the performance of local bodies, at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or Director of Municipal Administration or Director of local bodies and secretary-in-charge of the State Urban Development.

13. Duties of the Secretary-in-charge of Village Panchayats or Rural Development Department in the State and Union territory.- (1) The Secretary-in-charge of Village Panchayats or Rural Development Department in the State and Union territory shall have the same duties as the Secretary-in-charge, Urban Development in the States and Union territories, for the areas which are covered under these rules and are under their jurisdictions.

14. Duties of Central Pollution Control Board.-The Central Pollution Control Board shall, -

- (a) co-ordinate with the State Pollution Control Boards and the Pollution Control Committees for implementation of these rules and adherence to the prescribed standards by local authorities;
- (b) formulate the standards for ground water, ambient air, noise pollution, leachate in respect of all solid waste processing and disposal facilities;
- (c) review environmental standards and norms prescribed for solid waste processing facilities or treatment technologies and update them as and when required;
- (d) review through State Pollution Control Boards or Pollution Control Committees, at least once in a year, the implementation of prescribed environmental standards for solid waste processing facilities or treatment technologies and compile the data monitored by them;
- (e) review the proposals of State Pollution Control Boards or Pollution Control Committees on use of any new technologies for processing, recycling and treatment of solid waste and prescribe performance standards, emission norms for the same within 6 months;
- (f) monitor through State Pollution Control Boards or Pollution Control Committees the implementation of these rules by local bodies;
- (g) prepare an annual report on implementation of these rules on the basis of reports received from State Pollution Control Boards and Committees and submit to the Ministry of Environment, Forest and Climate Change and the report shall also be put in public domain;
- (h) publish guidelines for maintaining buffer zone restricting any residential, commercial or any other construction activity from the outer boundary of the waste processing and disposal facilities for different sizes of facilities handling more than five tons per day of solid waste;
- (i) publish guidelines, from time to time, on environmental aspects of processing and disposal of solid waste to enable local bodies to comply with the provisions of these rules; and
- (j) provide guidance to States or Union territories on inter-state movement of waste.

15. Duties and responsibilities of local authorities and village Panchayats of census towns and urban agglomerations.- The local authorities and Panchayats shall,-

- (a) prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification of state policy and strategy and submit a copy to respective departments of State Government or Union territory Administration or agency authorised by the State Government or Union territory Administration;
- (b) arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location;
- (c) establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste;
- (d) facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste;
- (e) frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation;
- (f) prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency;
- (g) direct waste generators not to litter i.e throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drink cans, tetra packs, fruit peel, wrappers, etc., or burn or bury waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorised the waste pickers or waste collectors authorised by the local body;
- (h) setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;

- (i) establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a city or town in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres;
- (j) ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee;
- (k) direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorised by local body;
- (l) provide training on solid waste management to waste-pickers and waste collectors;
- (m) collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralised compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions;
- (n) collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation;
- (o) set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body;
- (p) collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible;
- (q) transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for on site processing of such waste;
- (r) transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility;
- (s) transport construction and demolition waste as per the provisions of the Construction and Demolition Waste management Rules, 2016;
- (t) involve communities in waste management and promotion of home composting, bio-gas generation, decentralised processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility;
- (u) phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.
- (v) facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such as-
- a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;
- b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;
- (w) undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule I for disposal of residual wastes in a manner prescribed under these rules;
- (x) make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules;
- (y) make an application in Form-I for grant of authorisation for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tones per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be;
- (z) submit application for renewal of authorisation at least sixty days before the expiry of the validity of authorisation;

- (za) prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer;
- (zb) the annual report shall then be sent to the Secretary -in-Charge of the State Urban Development Department or village panchayat or rural development department and to the respective State Pollution Control Board or Pollution Control Committee by the 31st May of every year;
- (zc) educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;
- (zd) ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;
- (ze) ensure that provisions for setting up of centers for collection, segregation and storage of segregated wastes, are incorporated in building plan while granting approval of building plan of a group housing society or market complex; and
- (zf) frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed; and
- (zg) create public awareness through information, education and communication campaign and educate the waste generators on the following; namely:-
- (i) not to litter;
 - (ii) minimise generation of waste;
 - (iii) reuse the waste to the extent possible;
 - (iv) practice segregation of waste into bio-degradable, non-biodegradable (recyclable and combustible), sanitary waste and domestic hazardous wastes at source;
 - (v) practice home composting, vermi-composting, bio-gas generation or community level composting;
 - (vi) wrap securely used sanitary waste as and when generated in the pouches provided by the brand owners or a suitable wrapping as prescribed by the local body and place the same in the bin meant for non-biodegradable waste;
 - (vii) storage of segregated waste at source in different bins;
 - (viii) handover segregated waste to waste pickers, waste collectors, recyclers or waste collection agencies; and
 - (ix) pay monthly user fee or charges to waste collectors or local bodies or any other person authorised by the local body for sustainability of solid waste management.
- (zh) stop land filling or dumping of mixed waste soon after the timeline as specified in rule 23 for setting up and operationalisation of sanitary landfill is over;
- (zi) allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule-I, however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill;
- (zj) investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and wheresoever feasible, take necessary actions to bio-mine or bio-remediate the sites;
- (zk) in absence of the potential of bio-mining and bio-remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

16. Duties of State Pollution Control Board or Pollution Control Committee.- (1) The State Pollution Control Board or Pollution Control Committee shall,-

- (a) enforce these rules in their State through local bodies in their respective jurisdiction and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;
- (b) monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II for waste processing and disposal sites;
- (c) examine the proposal for authorisation and make such inquiries as deemed fit, after the receipt of the application for the same in Form I from the local body or any other agency authorised by the local body;

- (d) while examining the proposal for authorisation, the requirement of consents under respective enactments and views of other agencies like the State Urban Development Department, the Town and Country Planning Department, District Planning Committee or Metropolitan Area Planning Committee, as may be applicable, Airport or Airbase Authority, the Ground Water Board, Railways, power distribution companies, highway department and other relevant agencies shall be taken into consideration and they shall be given four weeks time to give their views, if any;
- (e) issue authorisation within a period of sixty days in Form II to the local body or an operator of a facility or any other agency authorised by local body stipulating compliance criteria and environmental standards as specified in Schedules I and II including other conditions, as may be necessary;
- (f) synchronise the validity of said authorisation with the validity of the consents;
- (g) suspend or cancel the authorization issued under clause (a) any time, if the local body or operator of the facility fails to operate the facility as per the conditions stipulated:
provided that no such authorization shall be suspended or cancelled without giving notice to the local body or operator, as the case may be; and
- (h) on receipt of application for renewal, renew the authorisation for next five years, after examining every application on merit and subject to the condition that the operator of the facility has fulfilled all the provisions of the rules, standards or conditions specified in the authorisation, consents or environment clearance.
- (2) The State Pollution Control Board or Pollution Control Committee shall, after giving reasonable opportunity of being heard to the applicant and for reasons thereof to be recorded in writing, refuse to grant or renew an authorisation.
- (3) In case of new technologies, where no standards have been prescribed by the Central Pollution Control Board, State Pollution Control Board or Pollution Control Committee, as the case may be, shall approach Central Pollution Control Board for getting standards specified.
- (4) The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorisation and the standards specified in Schedules I and II under these rules as and when deemed appropriate but not less than once in a year.
- (5) The State Pollution Control Board or the Pollution Control Committee may give directions to local bodies for safe handling and disposal of domestic hazardous waste deposited by the waste generators at hazardous waste deposition facilities.
- (6) The State Pollution Control Board or the Pollution Control Committee shall regulate Inter-State movement of waste.

17. Duty of manufacturers or brand owners of disposable products and sanitary napkins and diapers.- (1) All manufacturers of disposable products such as tin, glass, plastics packaging, etc., or brand owners who introduce such products in the market shall provide necessary financial assistance to local authorities for establishment of waste management system.

- (2) All such brand owners who sell or market their products in such packaging material which are non-biodegradable shall put in place a system to collect back the packaging waste generated due to their production.
- (3) Manufacturers or brand owners or marketing companies of sanitary napkins and diapers shall explore the possibility of using all recyclable materials in their products or they shall provide a pouch or wrapper for disposal of each napkin or diapers along with the packet of their sanitary products.
- (4) All such manufacturers, brand owners or marketing companies shall educate the masses for wrapping and disposal of their products.

18. Duties of the industrial units located within one hundred km from the refused derived fuel and waste to energy plants based on solid waste- All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced.

19. Criteria for Duties regarding setting-up solid waste processing and treatment facility.- (1) The department in-charge of the allocation of land assignment shall be responsible for providing suitable land for setting up of the solid waste processing and treatment facilities and notify such sites by the State Government or Union territory Administration.

- (2) The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Urban Development.

- (3) The operator of the facility shall obtain necessary approvals from the State Pollution Control Board or Pollution Control Committee.
- (4) The State Pollution Control Board or Pollution Control Committee shall monitor the environment standards of the operation of the solid waste processing and treatment facilities.
- (5) The operator of the facility shall be responsible for the safe and environmentally sound operations of the solid waste processing and or treatment facilities as per the guidelines issued by the Central Pollution Control Board from time to time and the Manual on Municipal Solid Waste Management published by the Ministry of Urban Development and updated from time to time-
- (6) The operator of the solid waste processing and treatment facility shall submit annual report in Form III each year by 30th April to the State Pollution Control Board or Pollution Committee and concerned local body.

20. Criteria and actions to be taken for solid waste management in hilly areas.- In the hilly areas, the duties and responsibilities of the local authorities shall be the same as mentioned in rule 15 with additional clauses as under:

- (a) Construction of landfill on the hill shall be avoided. A transfer station at a suitable enclosed location shall be setup to collect residual waste from the processing facility and inert waste. A suitable land shall be identified in the plain areas down the hill within 25 kilometers for setting up sanitary landfill. The residual waste from the transfer station shall be disposed of at this sanitary landfill.
- (b) In case of non-availability of such land, efforts shall be made to set up regional sanitary landfill for the inert and residual waste.
- (c) Local body shall frame Bye-laws and prohibit citizen from littering wastes on the streets and give strict direction to the tourists not to dispose any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, any other plastic or paper waste on the streets or down the hills and instead direct to deposit such waste in the litter bins that shall be placed by the local body at all tourist destinations.
- (d) Local body shall arrange to convey the provisions of solid waste management under the bye-laws to all tourists visiting the hilly areas at the entry point in the town as well as through the hotels, guest houses or like where they stay and by putting suitable hoardings at tourist destinations.
- (e) Local body may levy solid waste management charge from the tourist at the entry point to make the solid waste management services sustainable.
- (f) The department in- charge of the allocation of land assignment shall identify and allot suitable space on the hills for setting up decentralised waste processing facilities. Local body shall set up such facilities. Step garden system may be adopted for optimum utilisation of hill space.

21. Criteria for waste to energy process.- (1) Non recyclable waste having calorific value of 1500 K/cal/kg or more shall not be disposed of on landfills and shall only be utilised for generating energy either or through refuse derived fuel or by giving away as feed stock for preparing refuse derived fuel.

- (2) High calorific wastes shall be used for co-processing in cement or thermal power plants.
- (3) The local body or an operator of facility or an agency designated by them proposing to set up waste to energy plant of more than five tones per day processing capacity shall submit an application in Form-I to the State Pollution Control Board or Pollution Control Committee, as the case may be, for authorisation.
- (4) The State Pollution Control Board or Pollution Control Committee, on receiving such application for setting up waste to energy facility, shall examine the same and grant permission within sixty days.

22. Time frame for implementation.- Necessary infrastructure for implementation of these rules shall be created by the local bodies and other concerned authorities, as the case may be, on their own, by directly or engaging agencies within the time frame specified below:

Sl. No.	Activity	Time limit from the date of notification of rules
(1)	(2)	(3)
1.	identification of suitable sites for setting up solid waste processing facilities	1 year

2.	identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more .	1 year
3.	procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities	2 years
4.	enforcing waste generators to practice segregation of bio degradable, recyclable, combustible, sanitary waste domestic hazardous and inert solid wastes at source ,	2 years
5.	Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.	2 years
6.	ensure separate storage, collection and transportation of construction and demolition wastes	2 years
7.	setting up solid waste processing facilities by all local bodies having 100000 or more population	2 years
8.	Setting up solid waste processing facilities by local bodies and census towns below 100000 population.	3 years
9.	setting up common or stand alone sanitary landfills by or for all local bodies having 0.5 million or more population for the disposal of only such residual wastes from the processing facilities as well as untreatable inert wastes as permitted under the Rules	3 years
10.	setting up common or regional sanitary landfills by all local bodies and census towns under 0.5 million population for the disposal of permitted waste under the rules	3years
11.	bio-remediation or capping of old and abandoned dump sites	5years

23. State Level Advisory Body. – (1) Every Department in-charge of local bodies of the concerned State Government or Union territory administration shall constitute a State Level Advisory Body within six months from the date of notification of these rules comprising the following members, namely:-

Sl. No	Designation	Member
(1)	(2)	(3)
1.	Secretary, Department of Urban Development or Local self government department of the State	Chairperson, ex-officio
2.	One representative of Panchayats or Rural development Department not below the rank of Joint Secretary to State Government	Member, ex-officio
3.	one representative of Revenue Department of State Government	Member, ex-officio
4.	One representative from Ministry of Environment, Forest and Climate Change Government of India	Member, ex-officio

5.	One representative from Ministry of Urban Development, Government of India	Member, ex-officio
6.	One representative from Ministry of Rural Development, Government of India	Member, ex-officio
7.	One representative from the Central Pollution Control Board	Member, ex-officio
8.	One representative from the State Pollution Control Board or Pollution Control Committee	Member, ex-officio
9.	One representative from Indian Institute of Technology or National Institute of Technology	Member, Ex-officio
10.	Chief town planner of the state	Member
11.	Three representatives from the local bodies by rotation	Member
12.	Two representatives from census towns or urban agglomerations by rotation.	Member
13.	One representative from reputed Non-Governmental Organisation or Civil Society working for the waste pickers or informal recycler or solid waste management	Member
14.	One representative from a body representing Industries at the State or Central level	Member
15.	one representative from waste recycling industry	member
16.	Two subject experts	Member
17.	Co-opt one representative each from agriculture department, and labour department of State Government.	Member

(2) The State Level Advisory Body shall meet at least one in every six months to review the matters related to implementation of these rules, state policy and strategy on solid waste management and give advice to state government for taking measures that are necessary for expeditious and appropriate implementation of these rules.

(3) The copies of the review report shall be forwarded to the State Pollution Control Board or Pollution Control Committee for necessary action.

24. Annual report.- (1) The operator of facility shall submit the annual report to the local body in Form-III on or before the 30th day of April every year.

(2) The local body shall submit its annual report in Form-IV to State P Control Board or P Committee and the Secretary-in-Charge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city and to the Director of Municipal Administration or Commissioner of Municipal Administration or Officer in -Charge of Urban local bodies in the state in case of all other local bodies of state on or before the 30th day of June every year

(3) Each State Pollution Control Board or Pollution Control Committee as the case may be, shall prepare and submit the consolidated annual report to the Central Pollution Control Board and Ministry of Urban Development on the implementation of these rules and action taken against non complying local body by the 31st day of July of each year in Form-V.

(4) The Central Pollution Control Board shall prepare a consolidated annual review report on the status of implementation of these rules by local bodies in the country and forward the same to the Ministry of Urban Development

and Ministry of Environment, Forest and Climate Change, along with its recommendations before the 31st day of August each year.

(5) The annual report shall be reviewed by the Ministry of Environment, Forest and Climate Change during the meeting of Central Monitoring Committee.

25. Accident reporting- In case of an accident at any solid waste processing or treatment or disposal facility or landfill site, the Officer- in- charge of the facility shall report to the local body in Form-VI and the local body shall review and issue instructions if any, to the in- charge of the facility.

SCHEDULE I

[see rule 15 (w),(zi), 16 (1) (b) (e), 16 (4)]

Specifications for Sanitary Landfills

(A) Criteria for site selection.-

- (i) The department in the business allocation of land assignment shall provide suitable site for setting up of the solid waste processing and treatment facilities and notify such sites.
- (ii) The sanitary landfill site shall be planned, designed and developed with proper documentation of construction plan as well as a closure plan in a phased manner. In case a new landfill facility is being established adjoining an existing landfill site, the closure plan of existing landfill should form a part of the proposal of such new landfill.
- (iii) The landfill sites shall be selected to make use of nearby wastes processing facilities. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.
- (iv) Landfill sites shall be set up as per the guidelines of the Ministry of Urban Development, Government of India and Central Pollution Control Board.
- (v) The existing landfill sites which are in use for more than five years shall be improved in accordance with the specifications given in this Schedule.
- (vi) The landfill site shall be large enough to last for at least 20-25 years and shall develop 'landfill cells' in a phased manner to avoid water logging and misuse.
- (vii) The landfill site shall be 100 meter away from river, 200 meter from a pond, 200 meter from Highways, Habitations, Public Parks and water supply wells and 20 km away from Airports or Airbase. However in a special case, landfill site may be set up within a distance of 10 and 20 km away from the Airport/Airbase after obtaining no objection certificate from the civil aviation authority/ Air force as the case may be. The Landfill site shall not be permitted within the flood plains as recorded for the last 100 years, zone of coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas..
- (viii) The sites for landfill and processing and disposal of solid waste shall be incorporated in the Town Planning Department's land-use plans.
- (ix) A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five Tonnes per day of installed capacity. This will be maintained within the total area of the solid waste processing and disposal facility. The buffer zone shall be prescribed on case to case basis by the local body in consultation with concerned State Pollution Control Board.
- (x) The biomedical waste shall be disposed of in accordance with the Bio-medical Waste Management Rules, 2016, as amended from time to time . The hazardous waste shall be managed in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended from time to time. The E-waste shall be managed in accordance with the e-Waste (Management) Rules, 2016 as amended from time to time.
- (xi) Temporary storage facility for solid waste shall be established in each landfill site to accommodate the waste in case of non- operation of waste processing and during emergency or natural calamities.

(B) Criteria for development of facilities at the sanitary landfills.-

- (i) Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles, to prevent entry of unauthorised persons and stray animals
- (ii) The approach and / internal roads shall be concreted or paved so as to avoid generation of dust particles due to vehicular movement and shall be so designed to ensure free movement of vehicles and other machinery.
- (iii) The landfill site shall have waste inspection facility to monitor waste brought in for landfilling h, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipment. The operator of the facility shall maintain record of waste received, processed and disposed.

- (iv) Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipment and other facilities as may be required shall be provided.
- (v) Utilities such as drinking water and sanitary facilities (preferably washing/bathing facilities for workers) and lighting arrangements for easy landfill operations during night hours shall be provided.
- (vi) Safety provisions including health inspections of workers at landfill sites shall be carried out made.
- (vii) Provisions for parking, cleaning, washing of transport vehicles carrying solid waste shall be provided. The wastewater so generated shall be treated to meet the prescribed standards.

(C) Criteria for specifications for land filling operations and closure on completion of land filling.-

- (i) Waste for land filling shall be compacted in thin layers using heavy compactors to achieve high density of the waste. In high rainfall areas where heavy compactors cannot be used, alternative measures shall be adopted.
- (ii) Till the time waste processing facilities for composting or recycling or energy recovery are set up, the waste shall be sent to the sanitary landfill. The landfill cell shall be covered at the end of each working day with minimum 10 cm of soil, inert debris or construction material..
- (iii) Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.
- (iv) After completion of landfill, a final cover shall be designed to minimise infiltration and erosion. The final cover shall meet the following specifications, namely :--
 - a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than 1×10^{-7} cm/sec.
 - b) On top of the barrier soil layer, there shall be a drainage layer of 15 cm.
 - c) On top of the drainage layer, there shall be a vegetative layer of 45 cm to support natural plant growth and to minimise erosion.

(D) Criteria for pollution prevention.-In order to prevent pollution from landfill operations, the following provisions shall be made, namely:-

- (i) The storm water drain shall be designed and constructed in such a way that the surface runoff water is diverted from the landfilling site and leachates from solid waste locations do not get mixed with the surface runoff water. Provisions for diversion of storm water discharge drains shall be made to minimise leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions.
- (ii) Non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) shall have liner of composite barrier of 1.5 mm thick high density polyethylene (HDPE) geo-membrane or geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1×10^{-7} cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer provided at the bottom of landfills.
- (iii) Provisions for management of leachates including its collection and treatment shall be made. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards specified in Schedule- II. In no case, leachate shall be released into open environment.
- (iv) Arrangement shall be made to prevent leachate runoff from landfill area entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

(E) Criteria for water quality monitoring.-

- (i) Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 meter of the periphery of landfill site shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.
- (ii) Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) shall be considered only after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely :-

S. No.	Parameters	IS 10500:2012, Edition 2.2(2003-09) Desirable limit (mg/l except for pH)
(1)	(2)	(3)
	Arsenic	0.01
	Cadmium	0.01
	Chromium(as Cr ⁶⁺)	0.05
	Copper	0.05
	Cyanide	0.05
	Lead	0.05
	Mercury	0.001
	Nickel	-
	Nitrate as NO ₃	45.0
	pH	6.5-8.5
	Iron	0.3
	Total hardness (as CaCO ₃)	300.0
	Chlorides	250
	Dissolved solids	500
	Phenolic compounds (as C ₆ H ₅ OH)	0.001
	Zinc	5.0
	Sulphate (as SO ₄)	200

(F) Criteria for ambient air quality monitoring.-

- (i) Landfill gas control system including gas collection system shall be installed at landfill site to minimize odour, prevent off-site migration of gases, to protect vegetation planted on the rehabilitated landfill surface. For enhancing landfill gas recovery, use of geomembranes in cover systems along with gas collection wells should be considered.
- (ii) The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).
- (iii) The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to escape directly to the atmosphere or for illegal tapping. Passive venting shall be allowed in case if its utilisation or flaring is not possible.
- (iv) Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall

meet the standards prescribed by the Central Pollution Control Board for Industrial area.

G. Criteria for plantation at landfill Site.- A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely:-

- (a) Locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be planted;
- (b) The selection of plants should be of such variety that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized;
- (c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;
- (d) Plantation to be made in sufficient density to minimise soil erosion.
- (e) Green belts shall be developed all around the boundary of the landfill in consultation with State Pollution Control Boards or Pollution Control Committees .

H. Criteria for post-care of landfill site.- (1) The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-⁴

- (a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;
 - (b) Monitoring leachate collection system in accordance with the requirement;
 - (c) Monitoring of ground water in and around landfill;
 - (d) Maintaining and operating the landfill gas collection system to meet the standards.
- (2) Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.

I. Criteria for special provisions for hilly areas.-Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the local body with the approval of the concerned State Pollution Control Board or the Pollution Control Committee. The local body shall set up processing facilities for utilisation of biodegradable organic waste. The non-biodegradable recyclable materials shall be stored and sent for recycling periodically. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. In case of constraints in finding adequate land in hilly areas, waste not suitable for road-laying or filling up shall be disposed of in regional landfills in plain areas.

J. Closure and Rehabilitation of Old Dumps- Solid waste dumps which have reached their full capacity or those which will not receive additional waste after setting up of new and properly designed landfills should be closed and rehabilitated by examining the following options:

- (i) Reduction of waste by bio mining and waste processing followed by placement of residues in new landfills or capping as in (ii) below.
- (i). Capping with solid waste cover or solid waste cover enhanced with geomembrane to enable collection and flaring / utilisation of greenhouse gases.
- (iii) Capping as in (ii) above with additional measures (in alluvial and other coarse grained soils) such as cut-off walls and extraction wells for pumping and treating contaminated ground water.
- (iv) Any other method suitable for reducing environmental impact to acceptable level.

SCHEDULE II

[see rule 16 (1), (b), (e), 16 (4)]

Standards of processing and treatment of solid waste

A. Standards for composting.- The waste processing facilities shall include composting as one of the technologies for processing of bio degradable waste. In order to prevent pollution from compost plant, the following shall be complied with namely :-

- (a) The incoming organic waste at site shall be stored properly prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;
- (b) Necessary precaution shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard;

- (c) In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order;
- (d) Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclable high calorific fractions to be segregated and sent to waste to energy or for RDF production, co-processing in cement plants or to thermal power plants. Only rejects from all processes shall be sent for sanitary landfill site(s).
- (e) The windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay of 50 cm thick having permeability coefficient less than 10^{-7} cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;
- (f) Ambient air quality monitoring shall be regularly carried out. Odour nuisance at down-wind direction on the boundary of processing plant shall also be checked regularly.
- (g) Leachate shall be re-circulated in compost plant for moisture maintenance.
- (h) The end product compost shall meet the standards prescribed under Fertilizer Control Order notified from time to time.
- (i) In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely:-

Parameters	Organic Compost (FCO 2009)	Phosphate Rich Organic Manure (FCO 2013)
(1)	(2)	(3)
Arsenic (mg/Kg)	10.00	10.00
Cadmium (mg/Kg)	5.00	5.00
Chromium (mg/Kg)	50.00	50.00
Copper (mg/Kg)	300.00	300.00
Lead (mg/Kg)	100.00	100.00
Mercury (mg/Kg)	0.15	0.15
Nickel (mg/Kg)	50.00	50.00
Zinc (mg/Kg)	1000.00	1000.00
C/N ratio	<20	Less than 20:1
pH	6.5-7.5	(1:5 solution) maximum 6.7
Moisture, percent by weight, maximum	15.0-25.0	25.0
Bulk density (g/cm ³)	<1.0	Less than 1.6
Total Organic Carbon, per cent by weight, minimum	12.0	7.9

Total Nitrogen (as N), per cent by weight, minimum	0.8	0.4
Total Phosphate (as P ₂ O ₅) percent by weight, minimum	0.4	10.4
Total Potassium (as K ₂ O), percent by weight, minimum	0.4	-
Colour	Dark brown to black	-
Odour	Absence of foul Odor	-
Particle size	Minimum 90% material should pass through 4.0 mm IS sieve	Minimum 90% material should pass through 4.0 mm IS sieve
Conductivity (as dsm-1), not more than	4.0	8.2

* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.

B. Standards for treated leachates.—The disposal of treated leachates shall meet the following standards, namely:-

S. No	Parameter	Standards (Mode of Disposal)		
		Inland surface water	Public sewers	Land disposal
(1)	(2)	(3)	(4)	(5)
1.	Suspended solids, mg/l, max	100	600	200
2.	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-
6	Biochemical oxygen demand (3 days at 27 ⁰ C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1.0	-
11	Cadmium (as Cd), mg/l, max	2.0	1.0	-

12	Total Chromium (as Cr), mg/l, max.	2.0	2.0	-
13	Copper (as Cu), mg/l, max.	3.0	3.0	-
14	Zinc (as Zn), mg/l, max.	5.0	15	-
15	Nickel (as Ni), mg/l, max	3.0	3.0	-
16	Cyanide (as CN), mg/l, max.	0.2	2.0	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2.0	1.5	-
19	Phenolic compounds (as C ₆ H ₅ OH) mg/l, max.	1.0	5.0	-

Note : While discharging treated leachates into inland surface waters, quantity of leachates being discharged and the quantity of dilution water available in the receiving water body shall be given due consideration.

C. Standards for incineration: The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely:-

Parameter	Emission standard		
	(1)	(2)	(3)
Particulates	50 mg/Nm ³		Standard refers to half hourly average value
HCl	50 mg/Nm ³		Standard refers to half hourly average value
SO₂	200 mg/Nm ³		Standard refers to half hourly average value
CO	100 mg/Nm ³		Standard refers to half hourly average value
	50 mg/Nm ³		Standard refers to daily average value
Total Organic Carbon	20 mg/Nm ³		Standard refers to half hourly average value
HF	4 mg/Nm ³		Standard refers to half hourly average value
NO_x (NO and NO₂ expressed as NO₂)	400 mg/Nm ³		Standard refers to half hourly average value
Total dioxins and furans	0.1 ng TEQ/Nm ³		Standard refers to 6-8 hours sampling. Please refer guidelines for 17 concerned congeners for toxic equivalence values to arrive at total toxic equivalence.
Cd + Th + their compounds	0.05 mg/Nm ³		Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Hg and its compounds	0.05 mg/Nm ³		Standard refers to sampling time anywhere between 30 minutes and 8 hours.

Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V + their compounds	0.5 mg/Nm ³	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
<i>Note.- All values corrected to 11% oxygen on a dry basis.</i>		

Note:

- (a) Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits..
- (b) Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants.
- (c) Incineration of chlorinated plastics shall be phased out within two years.
- (d) if the concentration of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal facility.
- (e) Only low sulphur fuel like LDO, LSHS, Diesel, bio-mass, coal, LNG, CNG, RDF and bio-gas shall be used as fuel in the incinerator.
- (f) The CO₂ concentration in tail gas shall not be more than 7%.
- (g) All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950⁰C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.
- (h) Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve total Organic Carbon (TOC) content in the slag and bottom ash less than 3%, or the loss on ignition is less than 5% of the dry weight.
- (i) Odour from sites shall be managed as per guidelines of CPCB issued from time to time

FORM – I**[see rule 15 (v) 16 (1) (c), 21(3)]**

**Application for obtaining authorisation under solid waste management rules
for processing/recycling/treatment and disposal of solid waste**

To,
The Member Secretary,
State Pollution Control Board or Pollution Control Committee,
of.....
Sir,

I/We hereby apply for authorisation under the Solid Waste Management Rules, 2016 for processing, recycling, treatment and disposal of solid waste.

1.	Name of the local body/agency appointed by them/ operator of facility	
2.	Correspondence address Telephone No. Fax No. ,e-mail:	

3.	Nodal Officer & designation (Officer authorised by the local body or agency responsible for operation of processing/ treatment or disposal facility)	
4.	Authorisation required for setting up and operation of the facility (Please tick mark)	waste processing recycling treatment disposal at landfill
5.	Attach copies of the Documents Site clearance (local body) Proof of Environmental Clearance Consent for establishment Agreement between municipal authority and operating agency Investment on the project and expected return	
6.	Processing/recycling/treatment of solid waste (i) Total Quantity of waste to be processed per day Quantity of waste to be recycled Quantity of waste to be treated Quantity of waste to be disposed into landfill (ii) Utilisation programme for waste processed (Product utilisation) (iii) Methodology for disposal (attach details) Quantity of leachate Treatment technology for leachate (iv) Measures to be taken for prevention and control of environmental pollution (v) Measures to be taken for safety of workers working in the plant (vi) Details on solid waste processing/recycling/ treatment/disposal facility (to be attached)	
7.	Disposal of solid waste Number of sites identified Quantity of waste to be disposed per day Details of methodology or criteria followed for site selection (attach) Details of existing site under operation Methodology and operational details of landfilling Measures taken to check environmental pollution	
8	Any other information.	

Date:

Place:

Signature:

Designation



अदिति महासंचालक (व्यापारिक)
Aditi General Manager (Commercial)
एन टी सी लिमिटेड / MTPC LIMITED

Form- II

[see rule 16 (1) (e)]

Format for issue of authorisation

File No.: _____

Dated: _____

Authorisation No

To _____

Ref: Your application number _____ dt. _____

The _____ State Pollution Control Board/Pollution Control Committee after examining the proposal hereby authorises _____ having administrative office at _____ to set up and operate waste processing/recycling/ treatment/disposal facility at _____

The authorisation is hereby granted to operate the facility for processing, recycling, treatment and disposal of solid waste.

The authorisation is subject to the terms and conditions stated below and such conditions as may be otherwise specified in these rules and the standards laid down in Schedules I and II under these rules.

The _____ State Pollution Control Board/Pollution Control Committees of the UT _____ may, at any time, revoke any of the conditions applicable under the authorisation and shall communicate the same in writing.

Any violation of the provision of the Solid Waste Management Rules, 2016 will attract the penal provision of the Environment (Protection) Act, 1986 (29 of 1986).

(Member Secretary)

State Pollution Control Board/Pollution Control Committee of the UT

(Signature and designation)

Date: _____

Place: _____

Form – III

[see rule 19 (6), 24 (1)]

Format of annual report to be submitted by the operator of facility to the local body

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of the local body Telephone No. Fax No. E-mail:	
5	Name and address of operator of the facility	
6	Name of officer in-charge of the facility Phone No: Fax No: E-mail:	

7	Number of households in the city/town , Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
8	Quantity of Solid waste	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd
	Per capita waste collected per day	/gm/day
	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at landfill	/tpd
9	Status of Solid Waste Management (SWM) service	
	Segregation and storage of waste at source Whether solid waste is stored at source in domestic/commercial/institutional bins If yes, Percentage of households practice storage of waste at source in domestic bins Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins Percentage of households dispose of throw solid waste on the streets Percentage of non-residential premises dispose of throw solid waste on the streets Whether solid waste is stored at source in a segregated form If yes, Percentage of premises segregating the waste at source	Yes/No % % % % Yes/No %
	Door to Door Collection of solid waste	
	Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No
	if yes	
	Number of wards covered in D2D collection of waste	
	No. of households covered	
	No. of non-residential premises including commercial establishments ,hotels, restaurants educational institutions/offices etc covered	

	Percentage of residential and non-residential premises covered in door to door collection through :					
	Motorized vehicle				%	
	Containerized tricycle/handcart				%	
	Other device				%	
	If not, method of primary collection adopted					
	Sweeping of streets					
	Length of roads, streets, lanes, bye-lanes in the city that need to be cleaned				km	
	Frequency of street sweepings and percentage of population covered	frequency	Daily	Alternate days	Twice a week	Occasionally
		% of population covered				
	Tools used				%	
	Manual sweeping				%	
	Mechanical sweeping				Yes/No	
	Whether long handle broom used by sanitation workers				Yes/No	
	Whether each sanitation worker is given handcart/tricycle for collection of waste				Yes/No	
	Whether handcart / tricycle is containerized				Yes/No	
	Whether the collection tool synchronizes with collection/ waste storage containers utilized				Yes/No	
	Secondary Waste Storage facilities					
	No. and type of waste storage depots in the city/town	No.			Capacity in m ³	
	Open waste storage sites					
	Masonry bins					
	Cement concrete cylinder bins					
	Dhalao/covered rooms/space					
	Covered metal/plastic containers					
	Upto 1.1 m ³ bins					
	2 to 5 m ³ bins					
	Above 5m ³ containers					
	Bin-less city					
	Bin/ population ratio					

Ward wise details of waste storage depots (attach) : Ward No: Area: Population: No. of bins placed Total volume of bins placed		
Total storage capacity of waste storage facilities in cubic meters		
Total waste actually stored at the waste storage depots daily		
Give frequency of collection of waste from the depots Number of bins cleared	Frequency	No. of bins
	Daily	
	Alternate day	
	Twice a week	
	Once a week	
	Occasionally	
Whether storage depots have facility for storage of segregated waste in green, blue and black bins	Yes/ No (if yes, add details) No. of green bins: No. of blue bins: No. of black bins:	
Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage	(%) of Manual Lifting of SOLID WASTE	%
	(%) of Mechanical lifting	%
If mechanical – specify the method used	front-end loaders/ Top loaders	
Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No (if yes, specify)	

Waste Transportation per day Type and Number of vehicles used (pl tick or add)	No. Trips made waste transported
Animal cart Tractors Non tipping Truck Tipping Truck Dumper Placers Refuse collectors Compactors Others JCB/loader	
Frequency of transportation of waste	Frequency (%) of waste transported Daily Alternate day Twice a week Once a week Occasionally
Quantity of waste transported each day	/tpd
Percentage of total waste transported daily	%
Waste Treatment Technologies used Whether solid waste is processed	Yes/No
If yes, Quantity of waste processed daily Land(s) available with the local body for waste processing (in Hectares)	/tpd
Land currently utilized for waste processing	
Solid waste processing facilities in operation	
Solid waste processing facilities under construction Distance of processing facilities from city/town boundary	
Details of technologies adopted	

Composting , vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Bio-methanation	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology (give detail) Co-processing	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled Qty. raw material processed
Combustible waste supplied to cement plant	
Combustible waste supplied to solid waste based power plants	
Others	Qty.
Solid waste disposal facilities	
No. of dumpsites sites available with the local body	
No. of sanitary landfill sites available with the local body Area of each such sites available for waste disposal	
Area of land currently used for waste disposal	
Distance of dumpsite/landfill facility from city/town	kms
Distance from the nearest habitation	kms
Distance from water body	kms

	Distance from state/national highway	kms
	Distance from Airport	kms
	Distance from important religious places or historical monument	kms
	Whether it falls in flood prone area	Yes/No
	Whether it falls in earthquake fault line area	Yes/No
	Quantity of waste landfilled each day	tpd
	Whether landfill site is fenced	Yes / No
	Whether Lighting facility is available on site	Yes / No
	Whether Weigh bridge facility available	Yes / No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, Frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No, (if yes, attach technical data sheet)
	Provision for leachate collection	Yes/No, (if yes, attach technical data sheet)
10	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
11	What separate provisions are made for : Dairy related activities : Slaughter houses waste : C&D waste (construction debris) :	Attach details on Proposals, Steps taken, Yes/No Yes/No Yes/No
12	Details of Post Closure Plan	Attach Plan
13	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
14	Give details of manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	

15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	
16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies.	

Signature of Operator

Dated :

Place:

Form – IV

[see rules 15(za), 24(2)]

Format for annual report on solid waste management to be submitted by the local body

CALENDAR YEAR:	DATE OF SUBMISSION OF REPORT:

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of local body Telephone No. Fax No. E-mail:	
5	Name of officer in-charge dealing with solid waste management (SOLID WASTEM)Phone No: Fax No: E-mail:	
6	Number of households in the city/town Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
7	Quantity of Solid waste (solid waste)	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd

	Per capita waste collected per day	/gm/day
	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at dumpsite/ landfill	/tpd
8	Status of Solid Waste Management service	
	Segregation and storage of waste at source Whether SOLID WASTE is stored at source in domestic/commercial/ institutional bins, If yes, Percentage of households practice storage of waste at source in domestic bins Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins Percentage of households dispose or throw solid waste on the streets Percentage of non-residential premises dispose of throw solid waste on the streets Whether solid waste is stored at source in a segregated form, If yes, Percentage of premises segregating the waste at source	Yes/No % % % % Yes/No %
	Door to Door Collection of solid waste	
	Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No
	if yes	
	Number of wards covered in D2D collection of waste	
	No. of households covered	
	No. of non-residential premises including commercial establishments ,hotels, restaurants educational institutions/ offices etc covered	
	Percentage of residential and non-residential premises covered in door to door collection through : Motorized vehicle Containerized tricycle/handcart Other device	% % %
	If not, method of primary collection adopted	
	Sweeping of streets	
	Length of roads, streets, lanes, bye-lanes in the city that need to be cleaned	km

	frequency	Daily	Alternate days	Twice a week	Occasionally
Frequency of street sweepings and percentage of population covered					
% of population covered					
Tools used					
Manual sweeping			%		
Mechanical sweeping			%		
Whether long handle broom used by sanitation workers			Yes/No		
Whether each sanitation worker is given handcart/tricycle for collection of waste			Yes/No		
Whether handcart / tricycle is containerized			Yes/No		
Whether the collection tool synchronizes with collection/ waste storage containers utilized			Yes/No		
Secondary Waste Storage facilities					
No. and type of waste storage depots in the city/town	No.	Capacity in m ³			
Open waste storage sites					
Masonry bins					
Cement concrete cylinder bins					
Dhalao/covered rooms/space					
Covered metal/plastic containers					
Upto 1.1 m ³ bins					
2 to 5 m ³ bins					
Above 5m ³ containers					
Bin-less city					
Bin/ population ratio					
Ward wise details of waste storage depots (attach) :					
Ward No:					
Area:					
Population:					
No. of bins placed					
Total volume of bins placed					
Total storage capacity of waste storage facilities in cubic meters					
Total waste actually stored at the waste storage depots daily					

	Give frequency of collection of waste from the depots Number of bins cleared	Frequency	No. of bins
		Daily Alternate day Twice a week Once a week Occasionally	
	Whether storage depots have facility for storage of segregated waste in green, blue and black bins	Yes/ No (if yes, add details) No. of green bins: No. of blue bins: No. of black bins:	
	Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage (%) of Manual Lifting of solid waste (%) of Mechanical lifting	% %	
	If mechanical – specify the method used	front-end loaders/ Top loaders	
	Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No (if yes, specify)	
	Waste transportation per day Type and Number of vehicles used	No. Trips made waste transported	
	Animal cart Tractors Non tipping Truck Tipping Truck Dumper Placers Refuse collectors Compactors Others JCB/loader		

Frequency of transportation of waste	Frequency (%) of waste transported Daily Alternate day Twice a week Once a week Occasionally
Quantity of waste transported each day	/tpd
Percentage of total waste transported daily	%
Waste Treatment Technologies used	
Whether solid waste is processed	Yes/No
If yes, Quantity of waste processed daily	/tpd
Whether treatment is done by local body or through an agency	
Land(s) available with the local body for waste processing (in Hectares)	
Land currently utilized for waste processing	
Solid waste processing facilities in operation	
Solid waste processing facilities under construction	
Distance of processing facilities from city/town boundary	
Details of technologies adopted	
Composting ,	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Bio-methanation	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled

Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology (give detail)	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
Co-processing	Qty. raw material processed
Combustible waste supplied to cement plant	
Combustible waste supplied to solid waste based power plants	
Others	Qty.
Solid waste disposal facilities	
No. of dumpsites sites available with the local body	
No. of sanitary landfill sites available with the local body	
Area of each such sites available for waste disposal	
Area of land currently used for waste disposal	
Distance of dumpsite/landfill facility from city/town	kms
Distance from the nearest habitation	kms
Distance from water body	kms
Distance from state/national highway	kms
Distance from Airport	kms
Distance from important religious places or historical monument	kms
Whether it falls in flood prone area	Yes/No
Whether it falls in earthquake fault line area	Yes/No
Quantity of waste landfilled each day	tpd
Whether landfill site is fenced	Yes / No
Whether Lighting facility is available on site	Yes / No

	Whether Weigh bridge facility available	Yes / No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, Frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No (if yes, attach technical data sheet)
	Provision for leachate collection	Yes/No (if yes, attach technical data sheet)
9	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
10	What separate provisions are made for : Dairy related activities : Slaughter houses waste : C&D waste (construction debris) :	Attach details on Proposals,Steps taken, Yes/No Yes/No Yes/No
11	Details of Post Closure Plan	Attach Plan
12	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
13	Give details of: Local body's own manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
14	Give details of: Contractor/ concessionaire's manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	

16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies	
----	--	--

Signature of CEO/Municipal Commissioner/
Executive Officer/Chief Officer

Date:

Place:

Form – V

[see rule 24(3)]

Format of annual report to be submitted by the state pollution control board or pollution control committee committees to the central pollution control board

PART A

To,

The Chairman
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar
DELHI- 110 0032

1.	Name of the State/Union territory	:	
2.	Name & address of the State Pollution Control	:	
3.	Number of local bodies responsible for management of solid waste in the State/Union territory under these rules	:	
4.	No. of authorisation application Received	:	
5.	A Summary Statement on progress made by local body in respect of solid waste management	:	Please attach as Annexure-I
6.	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	:	Please attach as Annexure-II
7.	A summary statement on progress made by local bodies in respect of implementation of Schedule II	:	Please attach as Annexure-III

Date:	Chairman or the Member Secretary State Pollution Control Board/ Pollution Control Committee
Place:	

PART B**Towns/cities**

Total number of towns/cities

Total number of ULBs

Number of class I & class II cities/towns

Authorisation status (names/number)

Number of applications received

Number of authorisations granted

Authorisations under scrutiny

SOLID WASTE Generation status

Solid waste generation in the state (TPD)

collected

treated

landfilled

Compliance to Schedule I of SW Rules (Number/names of towns/capacity)

Good practices in cities/towns

House-to-house collection

Segregation

Storage

Covered transportation

Processing of SW (Number/names of towns/capacity)

Solid Waste processing facilities setup:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

Processing facility operational:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

Processing facility under installation/planned:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletisation

Waste-to-Energy Plants: (Number/names of towns/capacity)

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks

Disposal of solid waste (number/names of towns/capacity):

Landfill sites identified

Landfill constructed

Landfill under construction

Landfill in operation

Landfill exhausted

Landfilled capped

Solid Waste Dumpsites (number/names of towns/capacity):

Total number of existing dumpsites

Dumpsites reclaimed/capped

Dumpsites converted to sanitary landfill

Monitoring at Waste processing/Landfills sites

Sl. No.	Name of facilities	Ambient air	Groundwater	Leachate quality	Compost quality	VOCs
1.						
2.						
3.						

Status of Action Plan prepared by Municipalities

Total number of municipalities:

Number of Action Plan submitted:

Form – VI

[see rule 25]

Accident Reporting

1.	Date and time of accident	:	
2.	Sequence of events leading to accident	:	
3.	The waste involved in accident	:	

4.	Assessment of the effects of the accidents on human health: and the environment	:	
5.	Emergency measures taken	:	
6.	Steps taken to alleviate the effects of accidents	:	
7.	Steps taken to prevent the recurrence of such an accident	:	
Date:		Signature:.....	
Place:		Designation:	

[F. No. 18-3/2004-HSMD]

BISHWANATH SINHA, Jt. Secy.



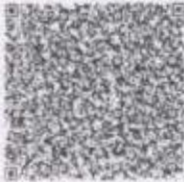
INDIA NON JUDICIAL 1397/2

Government of Uttar Pradesh

e-Stamp



Certificate No. : IN-UP97054385970563V
 Certificate Issued Date : 02-Jan-2023 04:53 PM
 Account Reference : NONACC (BK)/ upcbibk02/ ROBERTSGANJ/ UP-SNB
 Unique Doc. Reference : SUBIN-UPUPCBIBK0287430309461183V
 Purchased by : NTPC LTD RIHAND
 Description of Document : Article 35 Lease
 Property Description : LEASE DEED OF 987.06 ACRE OF LAND OF RIHAND RESERVOIR IN U.P. FOR A PERIOD OF 30 YEARS
 Consideration Price (Rs.) :
 First Party : NTPC LTD RIHAND
 Second Party : UP JVNL LUCKNOW
 Stamp Duty Paid By : NTPC LTD RIHAND
 Stamp Duty Amount(Rs.) : 23,33,600
 (Twenty Three Lakh Thirty Three Thousand Six Hundred only)



Please write or type below this line

Agreement for Lease



जाकिशना शिन्हा / JAIKRISHNA SINGH
 अवर महाप्रबन्धक (मानव संसाधन)
 Addl. General Manager (HR)
 एनटीपीसी लि० रिहंद, NTPC Ltd. Rihand
 सोनभद्रा (उ०प्र०)/Sonbhadra (U.P.) 231223

Signature

This Lease Deed is made on the 17th february of the year 2023 between Uttar Pradesh JalVidyut Nigam Limited, a company registered under The Companies Act, 1956 , a Govt. of Uttar Pradesh Undertaking, having its registered office at Lucknow, District-Lucknow, Uttar Pradesh herein-after called the "OWNER" (Which expression shall include its successors, and or assigns) of the first part and M/s. NTPC Ltd. Rihand Super Thermal Power Station, Rihand Nagar (through its Add. General Manager *JA*) duly authorized to execute this document on behalf of NTPC) a company registered under The Companies Act, 1956, having

अवर महाप्रबन्धक (मानव संसाधन)
 Addl. General Manager (Commercial)
 एन टी पी सी लि० रिहंद / NTPC LIMITED

its registered office registered office NTPC Bhawan,scope complex,7 institutional area ,Jodhiroad, New delhi-110003 herein after called the "USER" (which expression shall where the context so admits include its heirs , executors, administrators and or representatives) of the second part.

Both the parties mutually agreed that the agreement will be effective from 01.07.2022 as the agreement could not be executed on 01.07.2022 due to unavoidable circumstances.

Whereas the USER has approached the OWNER for allotment of the land as described in the schedule annexed hereto on Lease rent basis for construction of ash dyke, MGR and parallel road for MGR Maintenance of NTPC-Rihand, the USER.

And whereas the OWNER has agreed to allot such land of Rihand reservoir in Uttar Pradesh area for a period of 30 years on the basis of onetime payment (10% of land value) of Rs 9,72,32,027(Rs nine crore seventy Two Lac Thirty Two ThousandsTwenty Seven only) and annual Lease rent at the rate of 01% of land value, thus totel annual rent. Rs.583393000.00.then the stamp duty value 4 percent Rs.2333600.00 paid by E-Stamp No -IN-UP97054385970553V.

Now, it is hereby agreed and declared by and between the parties to these presents as follows:

The assigned land is being allocated to the 2nd party/USER for the purposes mentioned in the foregoing paragraph.

1.In consideration of the Lease rent herein after reserved and also of the covenants on the part of the USER herein after contained, the OWNER hereby demise to the user 987.06 acre of land of Rihand Reservoir in U.P.in the following villages:-

S.No	Name of village	Submerge Land (Acre)
	<u>Uttar Pradesh area</u>	
1	Audhara	116.94
2	Sirsoti	24.74
3	Bijpur	529.03
4	Khairi	49.21
5	Mithihini	267.14
	<u>TOTAL</u>	<u>987.06</u>

Hereinafter called 'demised premises' belonging to the OWNER (Uttar Pradesh JalVidyut Nigam Limited)and described in the schedule hereto and for greater clearance delineated on the Map annexed hereto and thereon shown with its boundaries for the purpose of for construction of ash dyke, MGR and parallel road for MGR Maintenance of NTPC-RihandatBijpur village of NTPC Ltd., to HOLD , the said premise to the USER from the 01 July 2022for termof Thirty year (30) years and paying therefore during the said term.

2 The USER hereby covenants with the OWNER as follows:

i)That USER shall, during the continuance of this agreement pay to the OWNER the yearly lease rent of Rs 97,23,203 (Rupee Ninety seven lac twenty three thousand two hundred three only,for the first year).Lease rent shall be paid yearly in advance till the year ending 30th june 2052. First of such payment for each year being payable in advance before the last day of June each year.

आवेदन सं०: 202301006000545

पट्टा अनुबंध विलेख

बही सं०: 1

रजिस्ट्रेशन सं०: 397

वर्ष: 2023

प्रतिफल- 58340000 स्टाम्प शुल्क- 2333600 बाजारी मूल्य - 0 पंजीकरण शुल्क - 583400 प्रतिलिपिकरण शुल्क - 60 योग : 583460

श्री संजय कुमार,
अधिशाली अभियन्ता
व्यवसाय : नौकरी
निवासी: 30 प्र० जल विद्युत निगम



ने यह लेखपत्र इस कार्यालय में दिनांक 17/02/2023 एवं 02:24:14 PM बजे
निबंधन हेतु पेश किया।

रजिस्ट्रीकरण अधिकारी के हस्ताक्षर

श्यामधर यादव प्रभारी
उप निबंधक :दुदी
सोनभद्र
17/02/2023

निबंधक लिपिक
17/02/2023

अवर निबंधक (सहायक)
Avt. General Manager (Assistant)
ए ए सी लिमिटेड/MPCL LIMITED

प्रिंट करें

- ii) Annual lease rent will be payable at the applicable land circle rate revised by the respective Govt. from time to time. Accordingly, the lease rent is payable by USER as per latest applicable land rate of that year.
- iii) That USER shall, during the said term, pay all rents, rates, taxes, cess and charges of every description now or hereinafter to become payable in respect of the demised premises or the structures to be erected /constructed thereupon for the purpose mentioned above.
- iv) That USER shall not assign or sublet or otherwise part with the demised premises hereby or any part thereof without the permission in writing of the OWNER.
- v) That any act or conduct of the USER shall in no manner damage the demised premises or shall change the nature of the agreement land which may lower down the valuation of the agreement land.
- vi) Legal status of land shall not be changed in any case.
- vii) Any other instruction regarding usage of demised premises as issued by concerned authority (CEA, MoC&MoEF) shall be followed by the USER.
- 3 That in case if USER express his desire for using the demised premises for any purpose otherwise than the purpose for which the agreement is being granted, it would be mandatory for the USER to inform the OWNER in writing clearly in definite words and obtain the permission in written from OWNER for any act, conduct, change made by the USER against the purpose for which the permission for the use of demised premises is granted.
- 4 The USER shall not occupy / encroach upon any other land beyond those described in the schedule hereunder written. The USER shall also prevent all encroachment on the said land by the others.
- 5 The USER shall not use the demised premises or any part thereof or permit the same to be used for worship, religious, educational or charitable purpose or for any other purpose not specified in foregoing clause (1).
- 6 The USER shall not cut down or injure any trees or remove from the demised premises, any soil, clay, sand, mineral and other materials of like nature without the permission of concerned authorities of respective Government. The responsibility for obtaining aforesaid permission shall solely by the USER.
- 7 The USER shall obtain necessary clearances including statutory clearances applicable under any law for the time being in force from the concerned authorities, for the construction of any structures, sheds, excavations and other works and conveniences.
- 8 The USER or its sister agencies shall not construct /work in inflow bed of River /Nala and also USER shall not change the natural behavior of Inflow River /Nala of Rihand reservoir, if any construction or work will be found in said bed area, The OWNER will have right to take necessary legal action against USER.
- 9 The USER shall use only those plots of submerge land of Rihand Reservoir as mentioned in Annexed no-1 (The plot wise and area wise detail of submerges land in Different village).
- 10 (i)The USER shall not remove soil/earth from ash dyke area for any construction activity for the project or construction of ash dyke without the permission of the concerned authorities.
(ii)Any damage cause to the property or any use by the USER against the purposes as agreed by parties in the agreement shall entitle OWNER to claim damages against the USER as per market value or prevailing market rates assessed by the Government approved valuer
- 11 The land of any area of construction falls in the state of M.P., the respective Pollution Control Board will be approached for their no objection for any construction prior to the execution of the work. Any term & condition under which the clearance is obtained shall be strictly followed by the lessee. No objection certificate and related document (issued by U.P. Government / M.P. Government) of constructed ash dyke will be submitted to OWNER by USER.
- 12 The ash Pond/dyke of USER shall be designed and constructed in such a manner that no effluent be discharged in the Rihand Reservoir. It will be ensured by lessee that no effluent be discharged in the Rihand Reservoir during rainy season for which necessary arrangement be made by the lessee.
- 13 The Ash pond/dyke (storage lagoon and overflow lagoon) shall be constructed absolutely water tight to avoid contamination of the soil and sub-soil water.

बही सं०: 1

रजिस्ट्रेशन सं०: 397

वर्ष: 2023

निष्पादन लेखपत्र वाद सुनने व समझने मजमुन व प्राप्त धनराशि रु प्रलेखानुसार उक्त पट्टा दाता: 1

श्री संजय कुमार, अधिशासी अभियन्ता

निवासी: उ०प्र० जल विद्युत निगम

व्यवसाय: नौकरी

पट्टा गृहीता: 1



श्री जाकिर खान, ए जी एम एच आर

निवासी: एन टी पी सी सिंगरौली पोस्ट शक्ति नगर

व्यवसाय: नौकरी

ने निष्पादन स्वीकार किया। जिनकी पहचान

पहचानकर्ता: 1



श्री आर के खेतान, पुत्र श्री डी जी एम

निवासी: एन टी पी सी सिंगरौली पोस्ट शक्तिनगर

व्यवसाय: नौकरी

पहचानकर्ता: 2



श्री दासरी रंगा रेडी, मैनेजर

निवासी: एन टी पी सी सिंगरौली पोस्ट शक्तिनगर

व्यवसाय: नौकरी



रजिस्ट्रीकरण अधिकारी के हस्ताक्षर

ने की। प्रत्यक्षतः भद्र साक्षियों के निशान अंगूठे नियमानुसार लिए गए हैं।
टिप्पणी:

श्यामधर यादव प्रभारी

उप निबंधक : दुद्धी

सोनभद्र

17/02/2023

निबंधक लिपिक सोनभद्र

17/02/2023

प्रिंट करें

अपर निबंधक (आदिपिक)
Addl. General Manager (Accounts)
एन टी पी सी लिमिटेड/NTPC LIMITED

- 14 The USER will ensure that the fly ash is fully submerged with water to avoid even small particles of fly ash from mixing in the air. The level of fly ash will be controlled for which ash slurry disposal in the lagoon be made at number of places simultaneously.
- 15 A detailed environmental impact on the periodic basis as required shall be conducted by the USER and the report will be submitted to U.P. Pollution Control Board, and Environment Directorate U.P. On the basis of results and conclusion arising from the above study, the necessary arrangement shall be made by USER. The terms of reference of the above study shall include the impact of the construction of Ash Dyke in Rihand reservoir and its adjacent area.
- 16 It will be obligatory on the part of USER / lessee to get the site inspected from the concerned officers / Deptt. to ensure that the construction is of required at site conditions. The expenditure to this effect shall be bear by the USER.
- 17 Continuous monitoring of ground water quality around the ash pond area should be undertaken by the USER to ascertain and compare changes in water quality due to leaching, if any.
- 18 The USER shall create a green belt along the ash pond area of appropriate width for controlling fugitive dust. Any other instruction regarding usage of demised premises as deemed fit issued by concerned authority (CEA, MoC&MoEF, U.P. and M.P. Gov) shall be followed by the USER.
- 19 Immediately after the termination of the agreement the OWNER will have the option of taking over all or any of the sheds, structures, works and conveniences erected or constructed on the demised premises by the user at a market value, such value shall be ascertained and fixed by such officers of the companies as may be appointed for this purpose by mutual consensus.
- 20 The USER shall at all times keep the owner indemnified against and shall reimburse to the OWNER all claims, demands, suits losses, damages cost, charges and expenses which the company may sustain or incur by any reason or in consequence of any injury to any person or to any property resulting directly or indirectly from any cause whatsoever. Further, The USER shall not be entitled to claim from the OWNER compensation or damage due to any loss or damage suffered by the USER or his property or business from whatever cause arising.
- 21 Any notice of whether kind to be given hereunder to the USER may be given by posting the same in registered cover addressed to the USER and shall be deemed to be received by the USER in due course of post even though the registered cover be received back later due to the refusal of the USER or otherwise whatsoever. The notice may also be served on the USER by affixing a copy thereof at any prominent place upon the said land. The USER shall duly comply with all the provisions of law and rules for the time being inforce regarding the use of the land, if any.
- 22 The stamp duty, vetting charge, surcharge thereon and registration fee etc. payable if any, shall be borne by the USER and USER shall also pay fees for the vetting of this agreement.
- 23 The USER shall pay all the payable amount to the OWNER including amount of advance agreement rent and annual agreement rent etc. through cheques or e-transfer of funds as per schedule mentioned in point no. 2 (i) above.
- 24 **The OWNER hereby covenants with USER as follows:**
i) That the USER paying the rent hereby reserves performing all covenants by it herein contained may hold and enjoy the demised premises during the said term without any unlawful interruption by the OWNER or any other person whosoever.
ii) That the OWNER will at the request and cost of USER at the end of the term hereby granted may execute in favor of the USER, a new agreement of the demised premises by way of renewal on such terms and conditions and for such period and on payment of such rent as may be decided by the OWNER.
- 25 All the powers and the right of OWNER hereto mentioned shall be exercised by the chairman-cum-Managing Director of the company or by such officer of the OWNER as he or the company may appoint on his behalf from time to time.

- 26 The committee will be formed (constituting the member of UPJVNL, Irrigation department and NTPC as per UPJVNL BOD order sl.no-9(5) dated 30.05.2022) to access/evaluation the effect of ash dyke near Rihand reservoir on deficiency of water storage capacity of Rihand dam, generation loss of hydroelectricity plant and security of Rihand dam. Recommendations of committee will be followed by USER and all such expenses will be borne by USER.
- 27 **Period of agreement and renewal:**
This agreement shall be in force for a period of 30 year effective from 01.07.2022 To 30.06.2052 and may be renewed by OWNER on such terms and condition as may be mutually agreed upon before the expiry of this agreement
- 28 **Jurisdiction & Arbitration:**
- (i) The agreement shall be governed by the laws of India for the time being in force and that all disputes and differences arising out of and relating to the subject matter or this agreement shall be subject to the original jurisdiction of the Principal Civil Court at Sonbhadra under the jurisdiction of Allahabad High Court only.
- (ii) Any dispute, controversy or claim arising out of or in relation to this Lease Deed or the Interpretation of any provisions shall be settled by the government order issued by the central govt. which says that Dispute will be referred to a committee to which the disputing parties belong, along with the Legal Affairs Secretary. The Financial Advisors (FAs) of the two concerned administrative Ministries/Departments will represent the issues related to the dispute in question before the above Committee. At the second level, in case the dispute remains unresolved by the Committee, it will be referred to the Cabinet Secretary, whose decision will be final and binding on all concerned.
- (iii) The OWNER and user shall appoint one Arbitrator each and such Arbitrators shall, within seven days of their appointment, designate a third Arbitrator to act as the chairperson in order to organize the Arbitration panel. If both or either parties fail to appoint an Arbitrator within 30 days of receipt of Arbitration notice by either party hereunder or if the two party appointed Arbitrators fail to agree on a third Arbitrator, then Hon'ble High Court Allahabad shall make such appointment.
- (iv) The Arbitral proceeding shall take place in Lucknow and shall be conducted in the English Language.
- (v) Any such dispute, controversy or claim submitted for Arbitration shall be considered a dispute arising under the Indian Arbitration & Conciliation Act 1996. The Award of the Arbitration panel shall be a reasoned order and shall be binding on the parties.

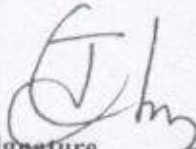




जाकिर खान/JAKIR KHAN
अपर महाप्रबंधक (मानव संसाधन)
Addl. General Manager (HR)
रिहंद निलंबित नि. रिहंद/NTPC Ltd. Rihand
रा. (उ.प्र.)/सोनभद्रा (U.P.) 231223

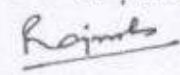



(vi) Subject to above provisions of Arbitration , Hon'ble High Court Allahabad shall have jurisdiction over any and all matters.

IN WITNESS WHEREOF the parties, hereto have here unto set their respective hands on the day month and year first above written.


Signature
(Jakir Khan) 

AGM(HR)
for and on behalf of user
M/s. NTPC Ltd
Rihandr, Sonebhadra (U.P.)
जवाहर खान/JAKIR KHAN
अपर महाप्रबंधक (मानव संसाधन)
Addl. General Manager (HR)
नूदीपीसी लि० रिहंद, NTPC Ltd. Rihand
(उ.प्र.) (Sonebhadra) / Sonebhadra (U.P.) 231223

Mo - 8249048486


Witness
With Name & full address

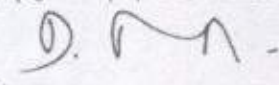
1. R. K. KHETAN
DGM (HR), NTPC - Shaktinagar
2. _____



Mo - 9470002982


Signature
(Sanjay Kumar) 

Executive Engineer
for and on behalf of Owner
M/s. Uttar Pradesh Jal
Vidyut Nigam Limited.

Mo - 7408929593


Witness
With Name & full address

1. DASARI RANGA REDDY
MANAGER - HL, NTPC RIHAND NAGAR
2. MO - 9437497635



आवेदन सं०: 202301006000545

बही संख्या 1 जिल्द संख्या 2134 के पृष्ठ 73 से 84 तक क्रमांक
397 पर दिनांक 17/02/2023 को रजिस्ट्रीकृत किया गया।

रजिस्ट्रार के अधिकारी के हस्ताक्षर

श्यामधर यादव प्रभारी

उप निबंधक : दुबई

सोनभद्र

17/02/2023



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

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

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

Encl: Guidelines on Cyber Security


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

CEA (Cyber Security in Power Sector) Guidelines, 2021

1.0 Background

- 1.1 Cyber intrusion attempts and Cyber-attacks in any critical sector are carried out with a malicious intent. In Power Sector it's either to compromise the Power Supply System or to render the grid operation in-secure. Any such compromise, may result in mal-operations of equipments, equipment damages or even in a cascading grid brownout/blackout. The much hyped air gap myth between IT and OT Systems now stands shattered. The artificial air gap created by deploying firewalls between any IT and OT System can be jumped by any insider or an outsider through social engineering. Cyber-attacks are staged through tactics & techniques of Initial Access, Execution, Persistence, Privilege Escalation, Defence Evasion, Command and Control, Exfiltration. After gaining the entry inside the system through privilege escalation, the control of IT network and operations of OT systems can be taken over even remotely by any cyber adversary. The gain of sensitive operational data through such intrusions may help the Nation/State sponsored or non-sponsored adversaries and cyber attackers to design more sinister and advanced cyber-attacks.
- 1.2 Government of India has set up the Indian Computer Emergency Response Team (CERT-In) for Early Warning and Response to cyber security incidents and to have collaboration at National and International level for information sharing on mitigation of cyber threats. CERT-In regularly issues advisories on safeguarding computer systems and publishes Security Guidelines which are widely circulated for compliances. All Central Government Ministries/ Departments and State/Union Territory Governments have been advised to conduct cyber security audit of their entire Cyber Infrastructure including websites at regular interval through CERT-In empanelled Auditors so as to identify gaps and appropriate corrective actions to be taken in cyber security practices. CERT-In extends supports to enable Responsible Entity in conducting cyber security mock drills and in assessment of their preparation to withstand cyber-attacks. The Responsible Entity must submit Reports of Cyber Audit of cyber security controls, architecture, vulnerability management, network security and periodic cyber security drills to sectoral CERT as well as CERT-In. Team of experts shall review these reports and shortcomings if any in the compliances shall be flagged by them. CERT-In on regular basis also conducts workshops and training programs to enhance Cyber awareness of all Stakeholders.
- 1.3 Ministry of Power has created 6(six) sectoral CERTs namely Thermal, Hydro, Transmission, Grid Operation, RE and Distribution for ensuring cyber security in Indian Power Sector. Each Sectoral CERT has prepared their sub-sector specific model Cyber Crisis Management Plan(C-CMP) for countering cyber-attacks and cyber terrorism. Each Sectoral CERT has circulated their model C-CMPs for preparation and implementation of organization specific C-CMP by each of their Constituent Utility.
- 1.4 All Responsible Entities, Service Providers, Equipment Suppliers/Vendors and Consultants engaged in Power Sector are equally responsible for ensuring cyber security of the Indian Power Supply System. They are to act timely upon each threat intelligence,

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

- 1.5 In the current Indian scenario though many cyber security directives and guidelines exists, but none of them are power sector specific. Ministry of Power has directed CEA to prepare Regulation on Cyber Security in Power Sector. And as an interim measures CEA has been directed to issue Guideline on Cyber Security in Power Sector, under the provision of Regulation 10 on Cyber Security in the “Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019”.
- 1.6 The Guidelines on Cyber Security, in the form of Articles written below, requires mandatory Compliance by all Responsible Entities. The Guidelines shall come into effect from the date of issue by Central Electricity Authority, New Delhi.
- 2.0 Hereby the Guidelines on Cyber Security are drawn in the form of Articles for compliance by the Requester as well as User under the following provision of Regulation 10 on Cyber Security, in the “Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019”.

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

2.1 **Objective of issuing Guideline:**

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

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

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

2.3 Applicability:

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

2.4 Scope:

2.4.1 Control Systems for System Operation and Operation Management.

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

2.4.2 Communication System.

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

2.4.3 Secondary, Automation and Tele control technologies

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

3.0 Definition of Terms:

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

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

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

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

4.0 Standards

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

5.0 Abbreviations

Abbreviations	Description
a) BES	Bulk Electric System

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

CEA (Cyber Security in Power Sector) Guidelines, 2021

Article 1. Cyber Security Policy.

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

- i. There is hard isolation of their OT Systems from any internet facing IT system.
 - ii. May keep only one of their IT systems with internet facing at any of their site/location if required which is isolated from all OT zones and kept in a separate room under the security and control of CISO.
 - iii. Downloading/Uploading of any data/information from their internet facing IT system is done only through an identifiable whitelisted device followed by scanning of both for any vulnerability/malware as per the SOP laid down and for all such activities digital logs are maintained and retained under the custody of CISO for at least 6 months. The log shall be readily to carry out the forensic analysis if asked by investigation agency.
 - iv. List of whitelisted IP addresses for each firewall is maintained by CISO and each firewall is configured for allowing communication with the whitelisted IP addresses only.
 - v. Communication between OT equipment/systems is done through the secure channel preferably of POWERTEL through the fibre optic cable. Security configuration of the communication channel is also to be ensured.
 - vi. All ICT based equipment/system deployed in infrastructure/system mandatorily CII are sourced from the list of the “Trusted Sources” as and when drawn by MoP/CEA.
- b. The Responsible Entity shall be ISO/IEC 27001 certified (including sector specific controls as per ISO/IEC 27019).
 - c. The Responsible Entity shall have a Cyber Security Policy drawn upon the guidelines issued by NCIIPC.
 - d. The Responsible Entity shall ensure annual review of their Cyber Security Policy by subject matter expert and changes shall be made therein only after obtaining the due approval from Board of Directors.
 - e. The process of Access Management for all Cyber Assets owned or under control of the Responsible Entity shall be detailed in the Cyber Security Policy.
 - f. The Cyber Security Policy shall leverage state-of-art cyber security technologies and relevant processes at multiple layers to mitigate the cyber security risks.
 - g. The Responsible Entity shall be solely responsible to get Cyber Security Policy implemented through its Information Security Division (ISD).
 - h. The CISO shall record the reason(s) for exemption required, if any, in case, unable to comply with any of the provision(s) of the Cyber Security Policy. Any exception shall be allowed only after an approval of provisions of compensatory control(s) to mitigate residual cyber security risks.

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

Article 2 Appointment of CISO.

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

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

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

Article 4. Electronic Security Perimeter

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

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

Article 5. Cyber Security Requirements

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

* FAT, SAT must include comprehensive cyber security tests of the component/equipment/system to be delivered/delivered at site.

** 90 days from date of the commissioning of the system/recovery from any incident, whichever is later.
- d) The Responsible Entity shall routinely audit and test security properties of the Critical System and must act upon, in case if any new vulnerabilities is identified through testing or by the equipment manufacturer.

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

*There are so many different types of systems in existence and so many possible solutions, it is important that the selection process ensures that the level of protection is commensurate with the business risk and the Responsible Entity shall not rely on one single security measure for its defence. (Reference IEC/TR62351-10 Edition 1.0 2012-10 *Power systems management and associated information exchange –Data and communications security – Part 10: Security architecture guidelines*).

Article 6 Cyber Risk Assessment and Mitigation Plan

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

Article 7 Phasing out of Legacy System

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

Article 8. Cyber Security Training.

- a) The Responsible Entity shall establish, document, implement, and maintain an annual cyber security training program for personnel having authorized cyber or authorized physical access (unescorted or escorted) to their Critical Systems.
- b) The Responsible Entity shall review annually their cyber security training program and shall update it whenever necessary. Annual Review shall record evaluation of the effectiveness of the trainings held.
- c) The Responsible Entity shall ensure that Cyber Security training program designed for their IT as well as OT O&M Personnel must include following topics and as per their functional requirements and security concerns additional topics shall be added:
 - 1) User authentication and authorization.
 - 2) Cyber Security and Protection mechanisms of IT/OT/ICS Systems.
 - 3) Introduction to various standards i.e. ISO/IEC:15408, ISO/IEC:24748-1, ISO: 27001, ISO: 27002, ISO 27019, IS 16335, IEC/ISO:62443.
 - 4) Training on implementation of ISO/IEC 27001 and awareness on IEC 62443.
 - 5) Vulnerability Assessment in the Critical System.
 - 6) Monitoring and preserving of electronic logs of access of Critical Assets.
 - 7) Detecting cyber-attacks on SCADA and ICS systems
 - 8) The handling of Critical System during cyber crisis.
 - 9) Action plans and procedures to recover or re-establish normal functioning of Critical Assets and access thereto following a Cyber Security Incident.
 - 10) Hands on SCADA operation at any of the Regional Load Dispatch Centre.
 - 11) Handling of risks involved in the procurement of COTS Products.
- d) All Personnel engaged in O&M of IT & OT Systems shall mandatorily undergo courses on cyber security of Power Sector from any of the training institute designated by CEA, immediately within 90 days from the notification of CEA Guidelines on Cyber Security in Power Sector.
- e) The Responsible Entity shall ensure that none of their newly hired or the current Personnel have access to the Critical System, prior to the satisfactory completion of cyber security training programme from the Training Institutes designated in India, except in specified circumstances such as cyber crisis or an emergency.
- f) NPTI in consultation with CEA shall identify and design domain specific courses on Cyber Security for different target groups. The “Governing Board for PSO Training and Certification” shall approve the content, duration etc of these courses and shall review it Annually. NPTI shall conduct these courses at all of their branches on regular basis and shall maintain the list of the Participants successfully completing the course.

Article 9 Cyber Supply Chain Risk Management

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

- c) The Responsible Entity shall ensure that, in case, for the any Communicable Intelligent Devices, if no Trusted Source has been identified, then the successful bidder in compliance with the provisions made in MoP order dated 2.7.2020 and any other relevant MoP order has got the product cyber tested for any kind of embedded malware/Trojan/cyber threat and for adherence to Indian Standards at the designated lab.
- d) The Responsible Entity shall ensure that the essential cyber security tests are carried out successfully during FAT, SAT as detailed in **Annexure A**. The equipment/System besides for functionality shall also be tested in the factory for vulnerabilities, design flaws, parts being counterfeit or tainted, so as to minimize problems during on-site-testing and installation. Cyber Security Conformance Testing are to be carried out in the designated Lab as listed in **Annexure-I of MoP Order No. 12/13/2020-T&R dt. 8th June, 2021(Order at Annexure-B)**.
- e) The Responsible Entity shall ensure that the Equipment/System supplied by the successful bidder shall accompany with a certificate^{\$, #} obtained by OEM from a certification body accredited to assess devices and process for conformance to IEC 62443-4 standards during design and manufacture. The Responsible Entity shall accept the certificate submitted along with the supplied Equipment/System only if it's in line with the Testing Protocol as notified by Ministry of Power, Government of India, from time to time.
- f) The Responsible Entity in compliance to the requirement of Article 9(e) shall also accept, till the setting up of an adequate certification facility in the India, a digitally signed self-declaration of conformance to the IEC 62443-4 standards during design and manufacture of the equipment/system, if submitted by the OEM.
- g) The Responsible Entity shall dispose all unserviceable or obsolete Communicable Intelligent Devices as per the procedure laid in their Cyber Risk Assessment and Mitigation Plans which shall be in line with the prevailing best practices.

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

Certification Schemes:

Embedded Device Security Assurance Certification is for an individual product,
System Security Assurance Certification is for a set of products in a system (possibly from different vendors)

Security Development Lifecycle Assurance Certification is for the development processes that a manufacturer uses for developing products.

Article 10 Cyber Security Incident Report and Response Plan

- a) The CISO of the Responsible Entity shall report in the formats prescribed by CERT-In, all Cyber Security Incidents, classified as reportable events.
- b) Root cause analysis for all reportable events shall be carried out and corrective action taken, so as to ensure that any re-occurrence of such event can be managed with ease.
- c) The Responsible Entity shall mandatorily define in their Cyber Security Policy, criteria(s) identified on the basis of impact analysis, for declaring the occurrence of

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

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

Article 11 Cyber Crisis Management Plan(C-CMP)

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

Article 12: Sabotage Reporting%

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

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

%Disturbances or unusual occurrences, suspected or determined to be caused by sabotage.

Sabotage e.g. can be a forced intrusion in un-manned/manned facility and taking control of operation of Critical System through a communicating device.

Article 13 Security and Testing of Cyber Assets

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

Article 14 Cyber Security Audit

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

FAT & SAT

1. During FAT stage, the customer has to verify all types test reports / certificates including Communication protocol and security conformance tests of the devices offered for FAT.
2. FAT of SCADA involves testing as a whole system in the integrated scale down set up. For SCADA, Indian standard IS 15953: 2011 “SCADA System for Power System Applications” provides definition and guidelines for the specification, performance analysis and application of SCADA systems for use in electrical utilities (for transmission & Distribution) including guidance on Tests and inspections.
3. The SAT will be done at customer site as per the SAT document mutually agreed by buyer and supplier. For SAT also, guidance from IS 15953: 2011 need to be applied.
4. IEC 61850-10-3 Communication Networks and Systems For Power Utility Automation- Functional testing of IEC 61850 systems (in draft stage - CDTR) covers testing of applications within substations covering
 - a. A methodical approach to the verification and validation of a substation solution
 - b. The use of IEC 61850 resources for testing in Edition 2.1
 - c. Recommended testing practices for different use cases
 - d. Definition of the process for testing of IEC 61850 based devices and systems using communications instead of hard wired system interfaces (ex. GOOSE and SV instead of hardwired interfaces)
 - e. Use cases related to protection and control functions verification and testing.

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

Annexure - B

Annexure – 1

List of designated laboratories for cyber security conformance testing

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

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

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

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

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

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

Details of tests for various identified products**Remote Terminal Units (RTUs) (Sl. No. 1 of Table – A of Annexure – 1)****Test protocol:**

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

Reference standards

- 1) IEC 60870-5-101 & IEC 60870-5-104 as applicable
- 2) IEC 60870-5-7 Telecontrol equipment and systems - Part 5-7: Transmission protocols - Security extensions to IEC 60870-5-101 and IEC 60870-5-104 protocols (applying IEC 62351)
- 3) IEC 62351-100-1 & IEC 62351-100-3 and other cross referenced standards.

Test cases**Extract from standard (IEC 62351-100-1)**

The conformance test cases are divided into four clauses:

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

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

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

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

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

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

Conformance testing of security extension procedures

The security extension procedures can be summarized as follows:

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

Extract from standard (IEC 62351-100-3)

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

The conformance test cases are divided into three clauses:

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

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

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

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

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

PICS

or

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

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

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

Reference standards

IEC 61850 series

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

Test cases

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

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

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

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

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

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

Testing Criteria

1) Supply from Trusted Sources

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

2) Supply from other than trusted vendors

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

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

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

3) Supply from prior reference countries

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

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

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

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

Type Tests

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

Type test standards for RTUs

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

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

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

Type test standards for Smart meters

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

Note:

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

भारत का राजपत्र
The Gazette of India

अधिका (OF
EXTRAORDINARY

भाग III—खण्ड 4
PART III—Section 4

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 211]

नई दिल्ली, शुक्रवार, अगस्त 20, 2010/श्रावण 29, 1932

No. 211]

NEW DELHI, FRIDAY, AUGUST 20, 2010/SHRAVANA 29, 1932

CENTRAL ELECTRICITY AUTHORITY
NOTIFICATION

New Delhi, the 20th August, 2010

No. CEATETD/MP/R/01/2010.—In exercise of the powers conferred by sub-section (2) of Section 177 of the Electricity Act, 2003, the Central Electricity Authority hereby makes the following regulations namely —

1. Short Title and Commencement.—(1) These regulations may be called the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010.

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

2. Definitions.—(1) In these regulations, unless the context otherwise requires —

(a) "Act" means the Electricity Act, 2003

(b) "Authority" means the Central Electricity Authority established under sub-section (2) of Section 70 of the Act;

(c) "Base Load Operation" means operation at maximum continuous rating (MCR) or its high fraction;

(d) "Basic Insulation Level (BIL)" means reference voltage level expressed in peak (crest) voltage with standard 1.2/50 μ s lightning impulse wave. Apparatus should be capable of withstanding test wave of basic insulation level or higher;

(e) "Black Start" means the start up of a generating unit or gas turbine or internal combustion (IC) engine based generating set without use of external power following grid failure;

(f) "Boiler Maximum Continuous Rating (BMCR)" means, the maximum steam output, the steam generator (boiler) can deliver continuously at rated parameters.

(ii) **The demineralized water shall be stored in minimum 2 nos. DM water storage tanks of total storage capacity equal to 24 hour Station requirement.**

(e) **Waste Water Treatment System**

The waste water generated at various locations shall be segregated at the source of generation according to its type. Similar type of waste water shall be collected at one point and treated. The treated water shall be collected in central monitoring basin and recycled for plant use or disposed off complying with the requirements of MOE&F and any other stipulation of the CPCB and SPCB in this regard.

(5) **Fire detection, alarm and protection system**

- (a) A comprehensive fire detection, alarm as well as fire protection system shall be installed for the Station in conformity with relevant IS. In addition, all buildings shall conform to National Building Code. Fire protection system shall be designed as per the guidelines of Tariff Advisory Committee (TAC) established under Insurance Act 1938 and for NFPA.
- (b) Automatic fire detection and alarm system shall be intelligent and addressable type and shall be provided to facilitate detection of fire at the incipient stage and give warning to the fire fighting staff.
- (c) Major equipment to be used for fire detection and protection system shall be in accordance with Indian Standards or UL (Underwriters Laboratories, USA) or FM (Factory Mutuals, USA) or LPCB (Loss Prevention Certification Board, UK) or VDS (Germany).
- (d) Dedicated fire water storage and pumping facilities shall be provided for the fire fighting system as per TAC guidelines. Main fire water pumps shall be electrically driven and standby pumps shall be diesel engine driven.
- (e) Hydrant system, complying with TAC guidelines, shall be provided at various locations to cover the entire Station.
- (f) All major and minor fire risks in the Station shall be protected against fire by suitable automatic fire protection systems. Following systems shall be generally adopted for various fire risks:
- (i) Automatic high velocity water spray system, complying with TAC guidelines, shall be provided for the following areas:
- (A) Transformers of rating 10 MVA and above or oil filled transformers with oil capacity of more than 2000 litres;

CE/111/2011/2011 B. B. 12 14
(असाधारण) अधिसूचना संख्या 2011-2012
(असाधारण) अधिसूचना संख्या 2011-2012

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

(6) Compressed air system

- (a) Compressed air system comprising of instrument air and service air shall be provided to cater to the requirement for operation of various pneumatically operated drives and general purpose cleaning and maintenance services. Air dryers shall be provided for instrument air to achieve desired dryness.
- (b) At least one number air compressor shall be provided as standby.

(7) Ventilation and air-conditioning system

- (a) Suitable ventilation and air-conditioning system shall be provided to achieve proper working environment in the Station.
- (b) Central control room, local control rooms and service building for O&M personnel shall be air conditioned. Air-conditioned areas shall be maintained at about 25°C and 50 % relative humidity for comfort conditions. Water chilling unit or condensing units shall have 2x100% capacity equipment. Package type air-conditioners shall have 2x100% capacity or 3x50% capacity equipment. For window air conditioners and split air conditioners, if used for small control rooms, at least one unit shall be kept as standby.
- (c) The type of ventilation systems to be provided for non-air conditioned areas shall be as under:
- (i) All floors of TG building, switchgear : Evaporating cooling system rooms and cable gallery
- (ii) Other buildings : Mechanical ventilation system

(8) **Mill rejects system-** The mill rejects system shall be provided to collect reject from coal mills in case of vertical mills. The system shall be mechanized i.e. drag chain conveyor or pneumatically pressurized conveying system. The system shall consist of collection of rejects from each coal mill and transport to silos for final disposal.

(9) Electric overhead travelling (EOT) crane

- (a) The EOT cranes shall be provided for maintenance of TG cycle equipment and CVY pumps. These shall comply with the requirements of latest versions of relevant IS. The crane capacity shall be taken as 10% more than the single heaviest equipment to be lifted.

Reference No-	
In. No. IG/IES	गुप्त
In. No. IG/IES	
In. No. IG/IES	
जाति निरीक्षण, Head Clearcut	

महानिदेशालय
Directorate General
केन्द्रीय औद्योगिक सुरक्षा बल
Central Industrial Security Force
(गृह मंत्रालय)
(Ministry of Home Affairs)

ब्लॉक न0-13, के.स.का. परिसर
Block No. 13, C.G.O. Complex,
लोधी रोड, नई दिल्ली-110 003
Lodhi Road, New Delhi-110 003

आसूचना शाखा / Intelligence Branch

पत्रांक आई-13019/आसू.अनुशासकीयक (रि)/आई की निरीक्षण/पूछ/21-39,21 दिनांक: 03 /12/2021

संबंध में,

अ/सत्तर

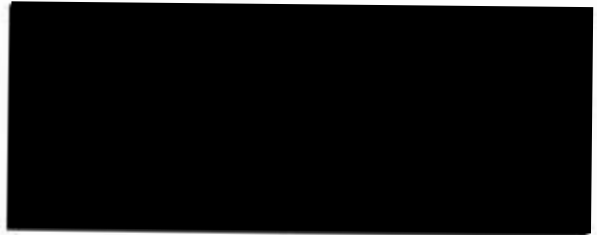
कॉर्पोरेट महापालपुर परिसर, नई दिल्ली

विषय :- आसूचना ब्यूरो की आईएसआई टीम द्वारा किये गए सुरक्षा निरीक्षण की रिपोर्ट का प्रेषण ।

आसूचना ब्यूरो की आईएसआई टीम द्वारा दिनांक 26-27 अगस्त 2021 को Rihand Super Thermal Power Station (RSTPS), Rihand Nagar, District Sonbhadra, Uttar Pradesh के संदर्भ में किये गए सुरक्षा निरीक्षण की रिपोर्ट आसूचना ब्यूरो (गृह मंत्रालय) से इस निदेशालय को प्राप्त हुई है। उक्त रिपोर्ट की प्रति इस पत्र के साथ संलग्न कर सुरक्षात्मक अनुशंसाओं को क्रियान्वित किये जाने हेतु प्रेषित किया जाता है।

02. इस संबंध में अनुरोध है कि आसूचना ब्यूरो की आईएसआई टीम द्वारा उक्त निरीक्षण रिपोर्ट में की गई अनुशंसाओं के क्रियान्वयन हेतु अपने स्तर एवं संबंधित प्रबंधन से सम्पर्क कर आवश्यक कारवाई की जाए। इस निदेशालय के परिषद संख्या 03/2004 दिनांक 27.01.2004 के तहत जारी निर्देशों के परिप्रेक्ष्य में वैधानिक प्रणाली रिपोर्ट इस निदेशालय को प्रेषित की जाए।

संलग्नक :- 02/प्रतिलिपि।



आंतरिक वितरण :-

1. महानिरीक्षक/पूछ

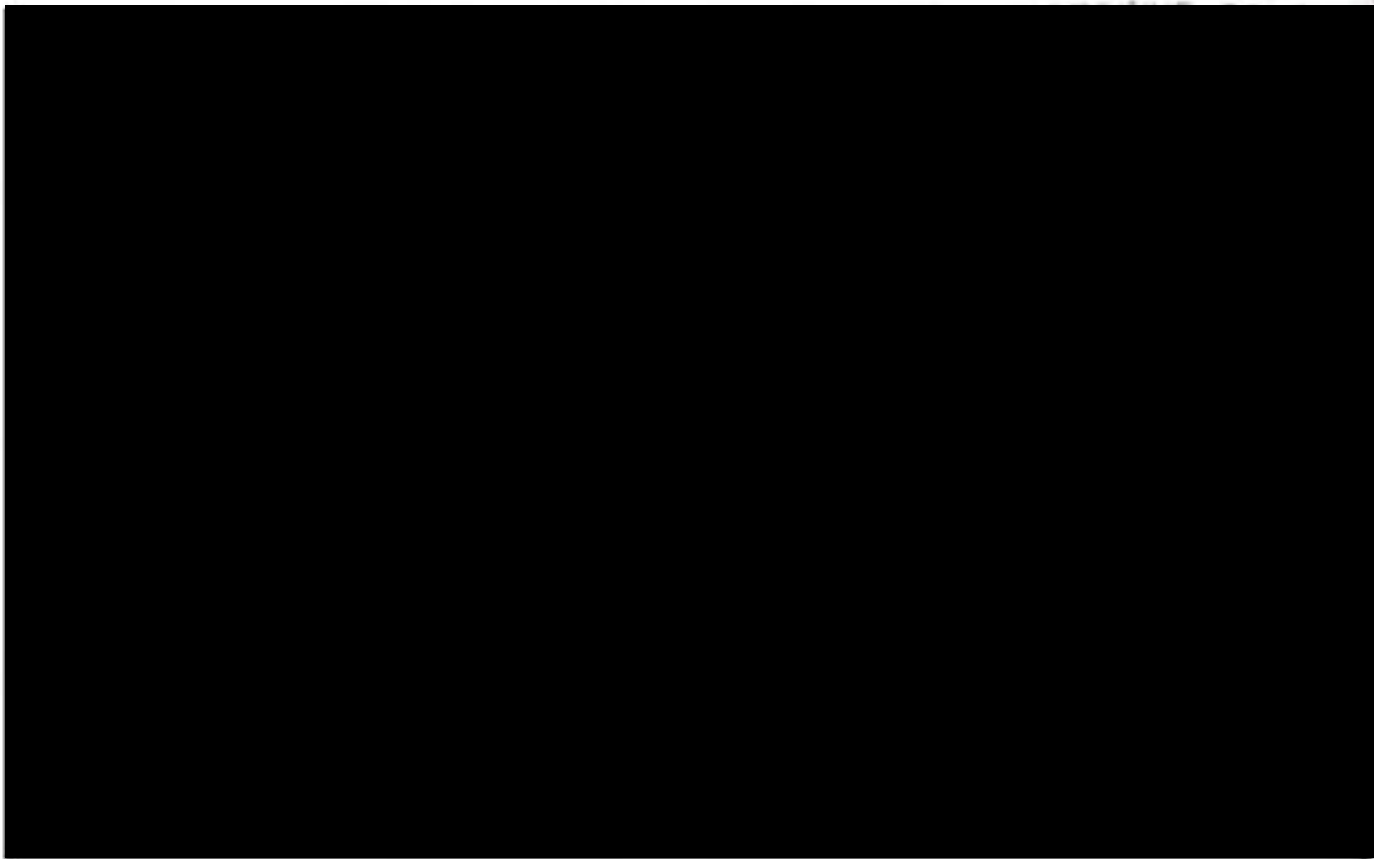
2. उप महानिरीक्षक/ऑफिस व न.म.
कॉर्पोरेट मुख्यालय, नई दिल्ली।

कृपया उपरोक्त निरीक्षण रिपोर्ट की एक प्रति सूचनार्थ एव अग्रिम कारवाई हेतु प्रेषित है।
-तथैव-

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16/12

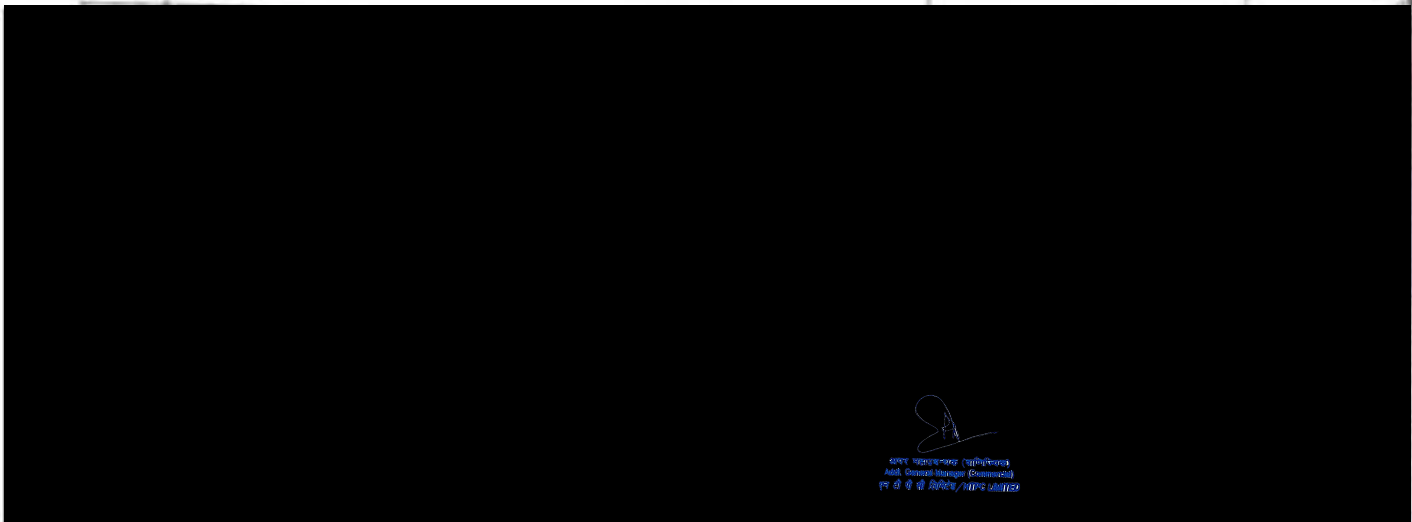
अपर महासंचालक (व्यवसाय)
Asst. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED



20. SECURITY RECOMMENDATIONS:

(a) Pending Recommendations – Present status and comments of the management:

S. No	Recommendations	Management's view	IB's Remarks
2.	High resolution CCTVs for better footage during bad weather and night are required. Recordings to be retained for 90 days. Video analytics may also be employed. (2019).	New CCTV project under process.	May be expedited.



F.No.13026/1/2016-Vig.
Government of India
Ministry of Coal

Shastri Bhawan, New Delhi
Dated the 1st May, 2020

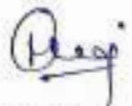
OFFICE MEMORNDUM

Subject: Identifying systemic deficiencies in coal shortage on the way after its loading from points of Northern Coalfields Limited and its receipt in power plants-regarding.

The undersigned is directed to refer to CVC's OM no. Conf./6441/15 dated 13.06.2018 on the subject mentioned above wherein CVC advised Ministry of Coal to form a Joint Committee of CVOs of Ministry of Coal, Railways, CIL and NTPC to find out the systemic deficiencies and suggest corrective measures in this regard.

2. The Joint Committee formed in this regards has submitted its report and the same is forwarded as annexure to CVC for further necessary action please.

Encls: as above


f08 (Kishore Kumar)
Under Secretary to the Govt. of India
Telefax : 011 23380027
E-mail: kishore.k@nic.in

To,

Central Vigilance Commission,
(Shri Vivek Khare, Director)
Satarkata Bhawan, A-Block
GPO Complex, INA
New Delhi-110023

Copy to:

1. Ministry of Railways (Principal Executive Director (Vig.)), CVO, Railway Board, Rail Bhawan, New Delhi-110001
2. NTPC Limited, (Ms. Trishaljit Shetty, Chief Vigilance Officer, NTPC Bhawan, SCOPE Complex, Institutional Area, Loadhii Road, New Delhi-110003,
3. Coal India Ltd. (Shri SK Sadangi, Chief Vigilance Officer), Coal Bhawan, Premise No. AF-III, Action Area-1A, New Town Rajarhat, Kolkata-700156.

- (iii) Normal transit loss, Moisture evaporation, theft etc.
- (iv) Difference in Weighment Methodology between NTPC & Railway.

15. **Recommendations of the Committee of the CVOs:**

- (i) Compliance of RDSO guidelines in respect of Weigh Bridge & its track maintenance shall be followed by Railways, NTPC and Coal Company to the extent possible. All three stakeholders (consumer, seller and transporter) shall make efforts to have RDSO guidelines compliant in-motion weighbridges in a phased manner. However, NTPC shall provide a list of 25 sidings where this shall be implemented on priority so as to rule out the possibility of weighment errors during loading. The Calibration of weighbridge may be done to the extent possible in presence of all the stakeholders (NTPC, Coal Company and AMC holder) at both loading and unloading end. Information for calibration may be sent in advance. NTPC / Coal Company shall give prior information to each other for witnessing of weighbridge calibration after getting information regarding test wagon. NTPC stations and coal companies raised concern about timely availability of test wagons. Better co-ordination with Railways may be ensured. The AMC of the in-motion weighbridges by the OEM should be a preferred mode but the users may decide to engage agencies other than OEMs for the AMC depending on the merits of the case.
- (ii) As per Railway circular dated 1 Mar 2013, Test Wagons of weight upto 90 MT to be used. Railway may ensure accordingly for increasing reliability.
- (iii) In cases where weighment difference is consistently high, re-calibration of weighbridge may be done at loading & unloading point, if required.
- (iv) RR should have provision of indicating name & number of the weighbridge on which consignment have been weighed. Railway circular, RC1/2019 dated 07.02.2019 specifies requirement of integration of FOIS with weighbridges. Integration of weighing System with FOIS may be expedited.
- (v) To the extent possible Silo loading with pre-weighed bin may be installed / used. This will decrease loading time thereby increasing rake availability. Further, weighment will be accurate, thereby avoiding under loading / overloading.
- (vi) Pre calibration readings may be taken during calibration as far as possible. Further, pre calibration data (if done) and Post Calibration data (necessarity) shall be available at loading / unloading weighbridge.
- (vii) CCTV Camera with recording facility for rake top may be provided at both loading and unloading ends to monitor loading and unloading process. Recordings may be made available on request.
- (viii) CCTV coverage may be explored where the rakes are detained excessively, ^{by Railways.} per NTPC. However, Railways observed that this is practically not feasible.
- (ix) Railways master circular RMC/Provision of WB/2014/0 dated 12.06.2014 para 2.6 specifies requirement of joint inspection. The inspection should be done preferably with the test wagons. Further, Railways may explore use of test wagons for random inspection of weighbridges during the movement of test wagon for calibration at other locations.

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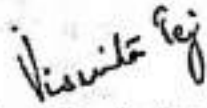
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 Addl. General Manager (Commercial)
 Eastern Railway Limited

- (x) NTPC shall share the data of the actual weight, design weight and standard weight of the empty wagons with CVO, CIL and a study may be done to find the statistical significance of the tare weight in the discrepancy in coal transported.
- (xi) In case overload is detected at Coal sidings, same should be adjusted at Originating Siding by reversing the rake, however, as far as possible, re-weighment of the Rakes after adjustment should be done. Railways informed that as per circular no. RMC/Weighment/2014/0, para 4.4.3(iii) dated 11.07.2014, "The wagons that have undergone load adjustment should be randomly reweighed". Accordingly, re-weighment may be resorted in case of repeated load adjustment at particular loading point.
- (xii) The rakes should be weighed at loading point, as far as possible or en-route.
- (xiii) Enroute weighment may be communicated immediately on weighment to avoid rework and confusion in accounts.
- (xiv) NTPC may, wherever feasible, depute Security Persons to supervise the coal wagons to avoid any theft / loss of coal in transit, as being done by some Private Companies
- (xv) NTPC may transport the coal with covered plastic sheets on the rakes where probability of transit losses is high.
- (xvi) NTPC may depute their representatives to witness the Gross Weight of the wagons at the weighbridge of Loading Sides of CIL and Calibration of Weighbridges of CIL, as per terms of FSA.



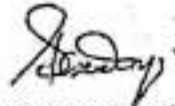
Shri R.K. Jha

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Railways



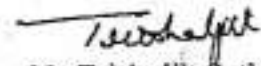
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Guidelines for Continuous Emission Monitoring Systems



CENTRAL POLLUTION CONTROL BOARD
Parivesh Bhawan, East Arjun Nagar,
Delhi-110032

August, 2018
Revision-01

Note: Efforts have been made to include all available monitoring technologies/instrumentation in the document. In case any high end technology/ instrumentation is not covered or is introduced subsequently the details be forwarded to CPCB, so that the same can be incorporated while reviewing this document subsequently.

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1.0 BACKGROUND

In order to track release of pollutants through air emissions and effluent discharge from industries with high pollution potential, Central Pollution Control Board (vide its letter No. B-29016/04/06PCI-1/5401 dated 05.02.2014 issued directions under section 18(1) b of the Water and Air Acts to the State Pollution Control Boards and Pollution Control Committees for directing the 17 categories of highly polluting industries (such as Pulp & Paper, Distillery, Sugar, Tanneries, Power Plants, Iron & Steel, Cement, Oil Refineries, Fertilizer, Chloral Alkali Plants, Dye & Dye Intermediate Units, Pesticides, Zinc, Copper, Aluminum, Petrochemicals and Pharma Sector, etc.), Common Effluent Treatment Plants (CETP), Sewage Treatment Plants (STPs), Common Bio Medical Waste and Common Hazardous Waste Incinerators; for installation of online effluent quality and emission monitoring systems. The directions envisage:

- a) Installation of online emission quality monitoring system in 17 categories of highly polluting industries and in Common Hazardous waste and Biomedical waste incinerators for measurement of the parameters, Particulate Matter, NH₃ (Ammonia), SO₂ (Sulphur Dioxide), NO_x (Oxides of Nitrogen) and other sector specific parameters, not later than by March 31, 2015 and transmission of online data so generated simultaneously to SPCB/PCC and CPCB as well. The deadline was later extended to June 31, 2015.
- b) Installation of surveillance system with industrial grade IP (Internet Protocol) cameras having PAN, Tilt, Zoom (PTZ) with leased line real time connection for data streaming and transmission of the same in case of industries claiming Zero Liquid Discharge (ZLD); and
- c) Ensure regular maintenance and operation of the online system with tamper proof mechanism having facilities for online calibration (onsite/ offsite; Remote).

In addition to above, G.S.R. 96(E) January 29, 2018 Notified by MoEF&CC under Environment (Protection) Act, 1986 mandates installation of CEMS with the Boilers used in the Industries namely Sugar, Cotton Textile, Composite Woolen Mills, Synthetic Rubber, Pulp & Paper, Distilleries, Leather Industries, Calcium Carbide, Carbon Black, Natural

Rubber, Asbestos, Caustic Soda, Small Boilers, Aluminium Plants, Tanneries, Inorganic Chemicals & other such industries using boilers.

Parameters required to be monitored in the stack emissions using Continuous Emission Monitoring system, are industry specific and are specified below: -

- a) PM (Particulate Matter)
- b) HF (as Total Fluoride)
- c) NH₃ (as Ammonia)
- d) SO₂ (Sulphur Dioxide)
- e) NO_x (Oxides of Nitrogen as NO₂)
- f) Cl₂ (Chlorine)
- g) HCl (Hydrochloric acid) and HF (Hydro Fluoric Acid)
- h) TOC (Total Organic Carbon) / THC (Total Hydro Carbon) / VOC (Volatile Organic Carbon)- C_nH_m
- i) Hg (Gaseous mercury)
- j) Process parameters (Mandatory) to be monitored at each stack at sampling point/plane:
 - 1 Temperature
 - 2 Flow (applicable wherever load based standards prescribed and DC Tribo system installed for monitoring of PM)
- k) Diluents gas CO₂ or O₂ as prescribed in the emission standards of respective processes /industries
- l) Carbon Monoxide as prescribed in the emission standards of respective processes /industries i.e. Incinerators, etc.;
- m) The emission values should be corrected for Moisture Content (For In-situ and Hot extractive analyzer real time moisture monitoring values of inbuilt measurements can be used). Moisture content value recorded during manual monitoring conducted by empaneled labs, at the time of verification/calibration can be considered for correction.
- n) For normalization of emission values absolute pressure is also required to be monitored in the sampling plane. Value recorded during manual monitoring can be used for normalization.
- o) Real time moisture monitoring is incinerator stack.

2.0 NEED FOR CEMS

Industries such as Power, Cement, Iron & Steel, Chlor-alkali, Pharmaceuticals, Fertilizers, Refineries, Pesticides, Distilleries, Sugar, Pulp & Paper, Textile, Tanneries, and other categories of industries release large quantum of pollutants through air emissions and effluent discharge.

In order to regulate such emissions and discharges to safe limits, SPCBs and PCCs have prescribed standards for various pollutants emitted/ discharged by the industries as notified under the Environment(Protection) Act, 1986. Compliance monitoring needs strengthening to ensure that industries and facilities comply with emission standards.

With rapid industrialization, it is becoming a need and necessity to regulate compliance by industries with minimal inspection of industries. Therefore, efforts need to be made to bring discipline in the industries to exercise self-monitoring so as impart confidence on their compliance to notified standards; one such mechanism is to implement online emission and effluent monitoring systems and transfer reliable data on compliance to regulatory authorities (SPCBs/PCCs / CPCB, other government agencies). Online emission and effluent monitoring systems need to be installed and operated by the developers and the industries on 'Polluter Pays Principle'.

Verification, validation and accuracy check of the values indicated by the online devices needs to be done. For proper interpretation of data, measures need to be taken at the level of SPCBs/PCCs. For regulatory and for purpose of actions to be taken against non-complying industries/facilities, the existing method of sampling, analysis and related procedures under the existing statutes need to be continued, till further direction.

Various technologies are available for monitoring the particulate matter and gaseous emission from the stacks of industries and effluent discharge from industries and facilities for the parameters specified in the directions issued by CPCB/SPCB or notified under E(P) Act, 1986. However, this guideline document aimed to help industries and regulatory agencies in implementation of online emission monitoring system through proper selection, operation and

data transfer in a transparent self-regulatory mechanism.

3.0 CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)

In recent years Online Emission Monitoring Technology has received attention and interest in context of providing accurate and continuous information on particulate matter/ gaseous emission from stacks. There are already commercially available systems for monitoring parameters such as PM, HCl, HF, NH₃, SO₂, CO, O₂, CO₂, NO_x, VOC, etc.

3.1 Objectives of Continuous Emission Monitoring Systems

The Continuous Emission Monitoring (CEM) System comprises of all the equipment necessary to determine the concentration of gaseous emission and/or particulate matter and/or emission rate using analytical measurements and a computer program to provide results in units of the applicable emission limits or standards. The data generated is gathered either through analog outputs to a recording system or send directly to a DAS (Data Acquisition System) for storage and onward transmission.

Data Acquisition System includes special modules for data validation and further transmission to Central servers located at SPCB/ CPCB through a cloud server compatible to specific types of analyzers. It is important to have properly engineered CEM systems.

i) Compliance with legislation

For any given process, limits have been imposed on the quantum of emissions that an industry is permitted to release to the atmosphere for a particular parameter/ pollutant. These limits are expressed as: -

- Maximum concentration in ppm or mg/Nm³ (as specified in standards)
- Maximum mass emission (Kg/Tonne or Kg/unit production)

For calculating maximum mass emissions i.e., Kg/Tonne or Kg/unit production, values of flow and concentration are required.

CEMS data shall be used as tool to monitor performance of pollution control systems as well as to generate alarms on exceedances with respect to notified standards (for manual measurement). CEMS data will be used for regulatory purposes once CEMS based standards are notified by Government of India. However, at present CEMS data would

help regulatory bodies in close surveillance on industries based on alarm system.

ii) Validity/ Availability of Measured Data

Quality assurance procedures shall be used to validate the quality of data produced by the CEMS required for comparing compliance with notified standards (for manual measurement). Reference methods will be defined to substantiate the accuracy and precision of the CEMS.

Performance Specifications will be used for evaluating the acceptability of the CEMS at the time of or soon after installation and whenever specified in the Indian regulations. The CEMS has to include continuous quality check for Zero and for scale(Span) point, preferably without human intervention, to ensure continuous data validity and credibility.

Zero check on Gaseous CEMS must be achieved, by using zero air supply using high grade instrument air (free from moisture, component of gases under measurement and gases having interference) or an inert gas like N₂, done automatically and periodically. The Instrument supplier is responsible for verification of zero gas / instrument air being used in the industry. A certificate to this effect has to be provided by the instrument supplier to the industry at the time of installation.

Use of Certified Zero & Span Test Gas Cylinders or Gas filled “Calibration Cuvette / Cells”, Certified by leading global Agencies like TUV/ MCERT are also acceptable for CEMS in India. Cuvette/ Cells known to have long term stability compared to cylinders can also be used for calibration. Ambient air not being a certified gas is not recommended for calibration.

iii) Basic Requirement

The major prerequisites of efficient Continuous Emission Monitoring System are:

- a) It should be capable of operating unattended over prolonged period of time.
- b) It should produce analytically valid results with precision/ repeatability
- c) The analyzer should be robust and rugged, for optimal operation under extreme environmental conditions, while maintaining its calibrated status.

- d) The analyzer should have inbuilt zero check capability or external capability with a condition that no human intervention should be required to carryout daily check at defined time.
 - e) It should have data validation facility with features to transmit raw and validated data to central server at SPCB/CPCB. The data validation will be done after approval of SPCB/PCC or after 07 days of submission of request for validation to SPCB/PCC wherever is earlier.
 - f) It should have Remote system access from central server for provisional log file access. The facility shall be incorporated in the system within 06 months of the issue of these 1st Revised Guidelines.
 - g) It should have provision for simultaneous Multi-server data transmission from each station without intermediate PC or plant server.
 - h) It should have provision to send system alarm to central server in case any changes are made in configuration or calibration. The facility shall be incorporated in the system within 06 months of the issue of these 1st Revised Guidelines.
 - i) It should have provision to record all operational information in log file.
 - j) There should be provision for independent analysis, validation, calibration & data transmission for each parameter.
 - k) The instrument must have provision of a system memory (non-volatile) to record data for atleast one year of continuous operation. Existing instruments not having adequate system memory shall be backed up with external devices within six months. All new instruments installed shall have inbuilt provision of system memory.
 - l) It should have provision of Plant level data viewing and retrieval with selection of Ethernet, Modbus & USB.
 - m) Record of calibration and validation should be available on real time basis at central server from each location/parameter.
 - n) Record of online diagnostic features including analyzer status should be available in database for user-friendly maintenance.
 - o) It must have low operation and maintenance requirements.
- iv) The analyzer must include the following features (typical

characteristics):

- a) Continuous measurements on 24x7 basis.
- b) Direct Measurement of pollutant concentration.
- c) Expression and display of measurements in ppm, mg/m³ or volume % as specified in standards.
- d) Display of the measurement values as well as all the information required for checking/maintenance of the analyzer.
- e) Display of functional parameters.
- f) Response time < 200 seconds.
- g) Power supply compatible with utilities available on Indian industrial sites.
- h) Digital communication with distant computer for data acquisition/recording/reporting.
- i) RS232 / RS485 / Ethernet / USB communication ports.
- j) Analog Outputs for transmission to Plant's supervision center.
- k) Maximum lifetime of analyzers should be restricted to expected life period specified by the Vendors or up on the perusal of deterioration in performance of the analyzers i.e. frequent breakdowns and requirement of minimum data capture is not on it.
- l) Type approved according to Indian Certification Scheme (or by foreign accredited institutes such as TÜV, MCERTS or USEPA).

3.2 Merits of CEMS

The major advantages of CEMS over traditional laboratory based and portable field methods are:

- a) CEMS provide continuous measurement of data for long periods of time, at the monitoring site of interest, without skilled staff being required to perform the analysis.
- b) All the major steps in traditional analysis like sample collection, transportation, conditioning, calibration and analysis procedures including QC are usually automated in the sampling systems and on-line analyzers.
- c) In case of sudden disturbance in the Production Process/ Pollution Control system, the on-line analyzers provide timely information for taking immediate corrective/preventive steps compared to conventional methods.

4.0 TECHNICAL OPTIONS FOR SAMPLING OF POLLUTANTS IN CEMS

The sampling technologies are summarized in **Figure 1**. Two types of systems available for monitoring of particulate and gaseous pollutant are mentioned below: -

- 1) In-Situ Systems:
 - Folded Beam/ Point
 - Cross Duct
- 2) Extractive systems: -
 - Hot Extractive Systems with Heated Analyzer (Hot and Wet System)
 - Hot Extractive Systems with Sample Cooling and Cold Analyzer (Cold and Dry System)
 - Extractive dilution system (In-stack and out stack)

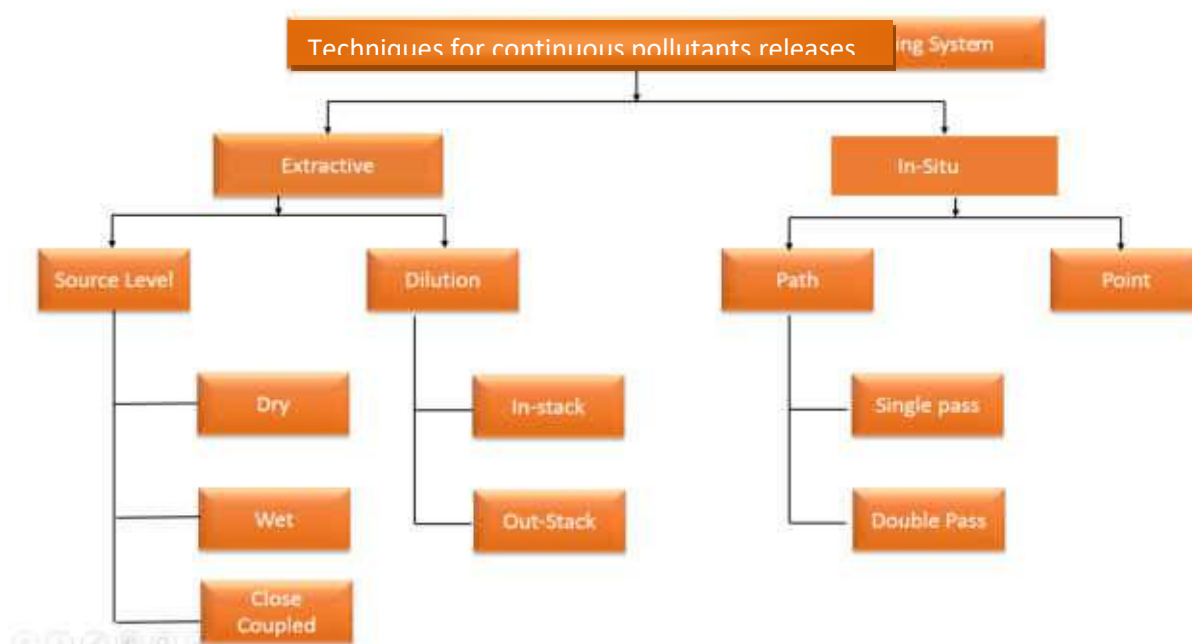


Figure 1: Techniques for Continuous Sampling of Pollutant Releases from Stacks

The sampling location has major impact on the representativeness and accuracy of sample collected. Suitable measurement sites and sections are necessary to obtain reliable and comparable emission measurement results. Appropriate measurement sections and sites have to be planned while designing a plant.

Emission measurements in flue gases require defined flow conditions in the measurement plane, i.e. an ordered and stable flow profile without vortexing and backflow so that the velocity and the mass concentration of the measured pollutant being released in the waste gases can be determined. Emission

measurements require appropriate sampling ports and working platforms. The installation of measurement ports and working platforms should be considered in the planning phase of a measurement section, refer **Figures 1.1& 1.2**. Specifications of regulations along with official requirements if any, should be considered in selection and specification of measurement site and sections.

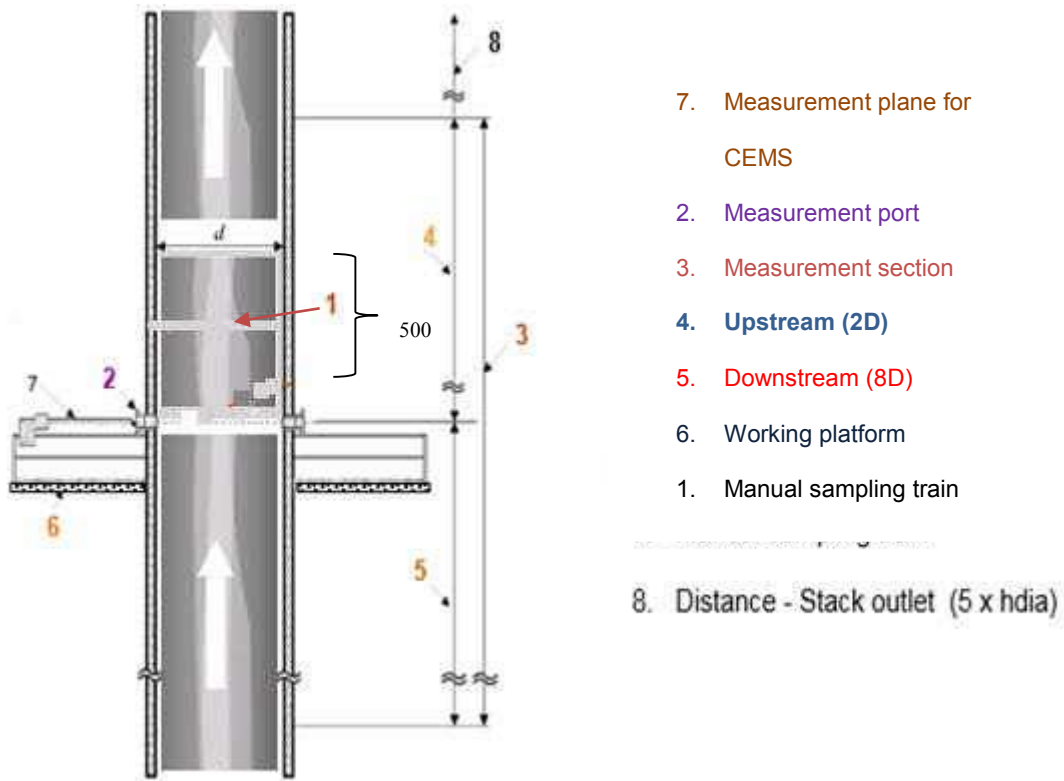


Figure 1.1: Measurement Site and Measurement Section

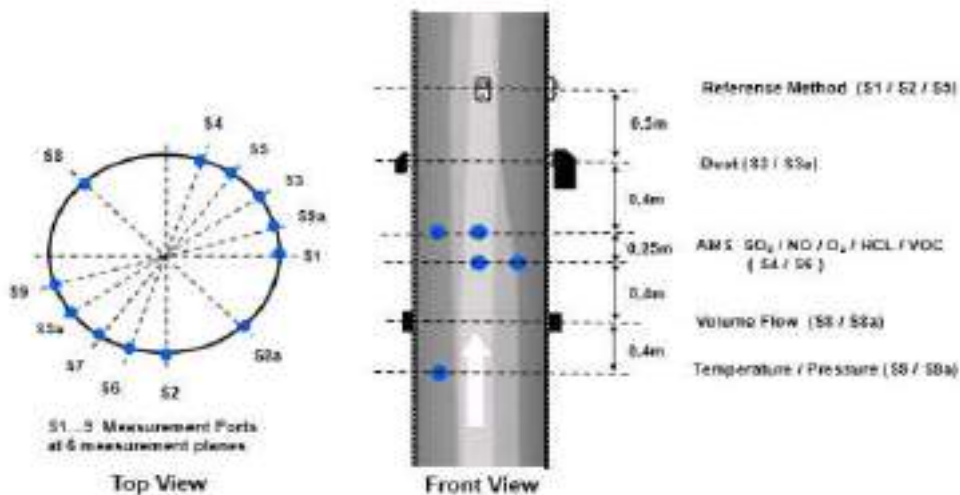


Figure 1.2 : Measurement Site and Measurement Section

The measurement site and measurement section for CEMS is based on EN 15259 criteria for selection of measuring point/ port locations and depends upon following conditions (For Details refer EN15259 Standards):

- a) Whether to monitor concentration alone or gas flow also;
- b) Whether the system requires periodic calibration using standard method or whether the CEMS can be calibrated by other means.

The influence of these factors in determining the positional requirements is shown in the decision tree in **figure 2**.

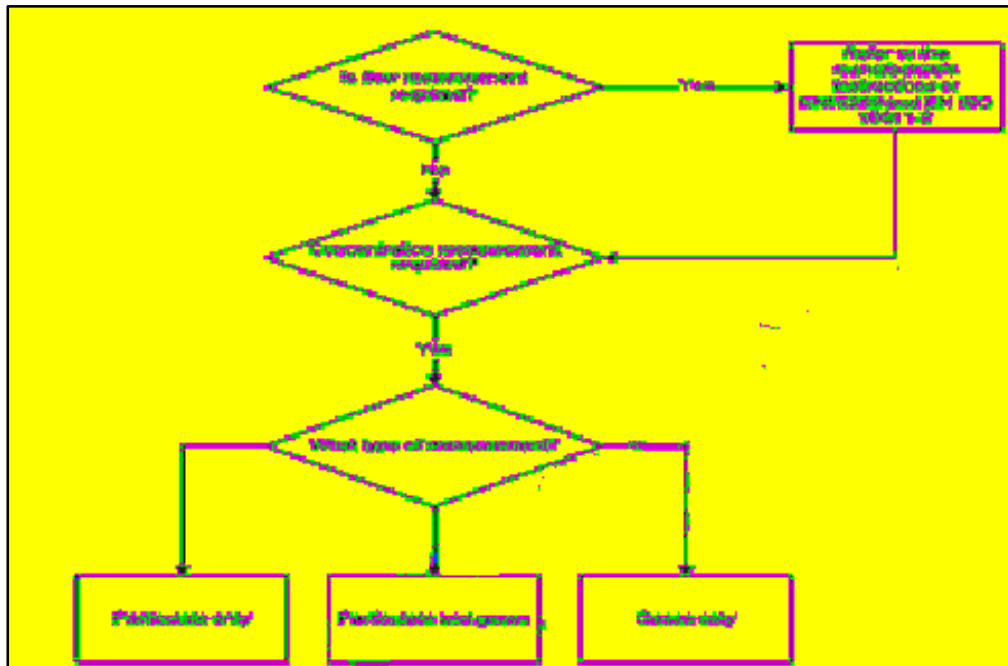


Figure 2: Selecting a sample location

4.1 Sampling Location for Particulate Matter

The analyser/ systems installed for particulate matter monitoring require calibration performed by manual isokinetic sampling carried out through either BSEN 13284-1, IS: 11255 Part 1 (Particulate Matter) or EPA method 17 or EPA method 5 or BS ISO 9096:2003. The sampling location for the analyser must be in accordance with the CPCB prescribed guidelines (Emission Regulation Part-III).

The sampling plane for PM-CEMS should be 500 mm below manual sampling plane vertically. In addition to the above, for convenience of CEMS maintenance and manual sampling from the same platform, the manual sampling port may be shifted 30-50 cm right or left at horizontal plane of CEMS port without altering their vertical position (500 mm apart). For gaseous CEMS the same plane can be shared. In case of existing stacks where provision

cannot be complied with, the industry shall inform the respective SPCBs/PCCs and proceed as advised/directed.

The sampling point or plane should be in a straight length of stack/duct (**Figure 3**) where;

- The angle of gas flow is less than 15°
- No local negative flow is present;
- The minimum velocity is higher than the detection limit (3 m/ Sec) of the method used for the flow rate measurement (for Pitot tubes, a differential pressure larger than 5 Pa);
- The ratio of the highest to lowest local gas velocities is less than 3:1.

If the above information cannot be verified e.g. on a new installation, then the above criteria is generally fulfilled by siting the ports in sections of duct with at least eight hydraulic diameters of straight duct down streams of the sampling plane and two hydraulic diameters upstream hydraulic diameters from the top of a stack.

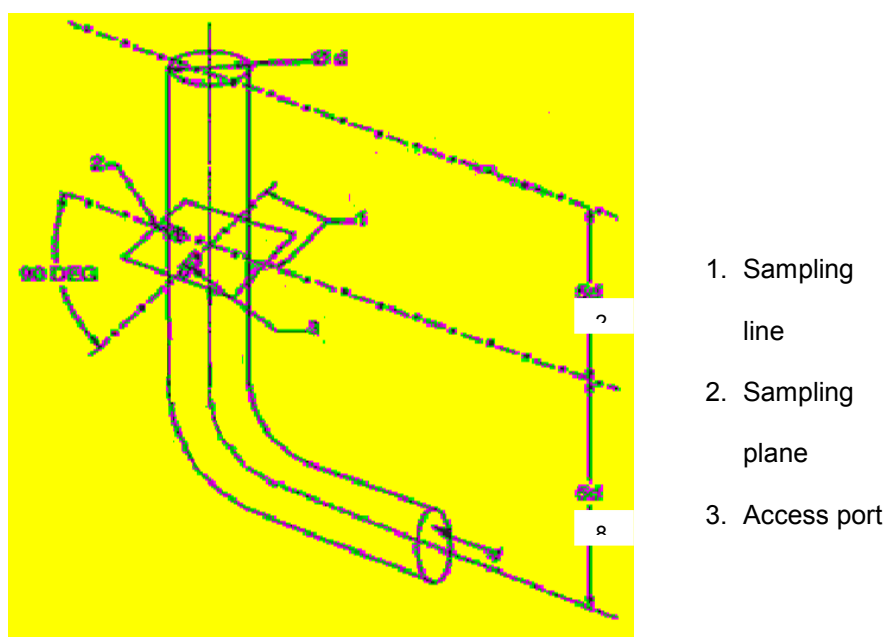


Figure 3: Sample Plane Requirement for Particulate Matter Measurement

4.1.1 Sampling location for systems with particulate matter and gas analyzers

While selecting a location for installation of analyzers in large ducts, the gas profile at the proposed sampling point must be checked for stratification. A stratification test is undertaken to confirm that the gas composition is homogenous. Typically, a surrogate gas such as oxygen or carbon dioxide is measured using a direct reading instrument in order to obtain information on the

gas profile within the duct. The stratification test must take into account variations of gas composition with time. This can be achieved by using two continuous analysers each connected to sampling probes. One probe is placed at a fixed location in the duct; the other is used to obtain samples at grid locations across the duct traverses. The two sets of data can then be compared in order to compensate for variations in concentration with time.

4.1.2 Sampling location for gas analysers

Selection of a sampling location for gas analysis alone is less difficult than for particulate measurement. A location in the duct where the gas is well mixed and therefore homogenous should be chosen.

4.1.3 Design of porthole locations for new stacks being installed after the date of issue of this 1st Revision of Guidelines is mandatory. For stacks which are already in place as on date the new design implementation must be done within a period of six months from date of issue of 1st Revision of Guidelines.

4.1.4 Stacks that are more than 15 (Fifteen) years old (from the date of 1st revision of guidelines) / stacks built with thick RCC walls / stacks with inner rubber lining / etc. where it is considered that making provisions for monitoring as per new guidelines is not possible or it may take longer period; industry is advised to communicate the reasons thereof to SPCBs/PCCs and SPCBs/PCCs to verify and certify the reasons in writing to this affect. In such cases CPCB should be intimated by the industry with records of documents scanned and sent at cems.cpcb@nic.in.

4.2 Analysis of Measurement Techniques

4.2.1 In Situ system:

In-situ is defined as in situation.

Non-extractive (in-situ) systems

In-situ type analyzers may be of two types: point in-situ type or cross stack type. These are explained below.

- Point in-situ

Point in-situ systems perform measurements at a single point in the stack, as do extractive system probes. Now a days in the in-situ systems the sensing

optics are contained in a tube fitted with holes or filters to allow flow-through of stack gases. The sampling path will be relatively short compared to the stack or duct diameter, so the sampling location must be carefully chosen to ensure that the sample is representative of the flue gas.

- Multi Point in-situ

In certain CEMS, the measurement length is extended over the length of a probe (say 0.05mt to 1.00mt) to increase resolution and provide more coverage (representative measurement). In any case 1/3rd of the stack cross section ensures better representation.

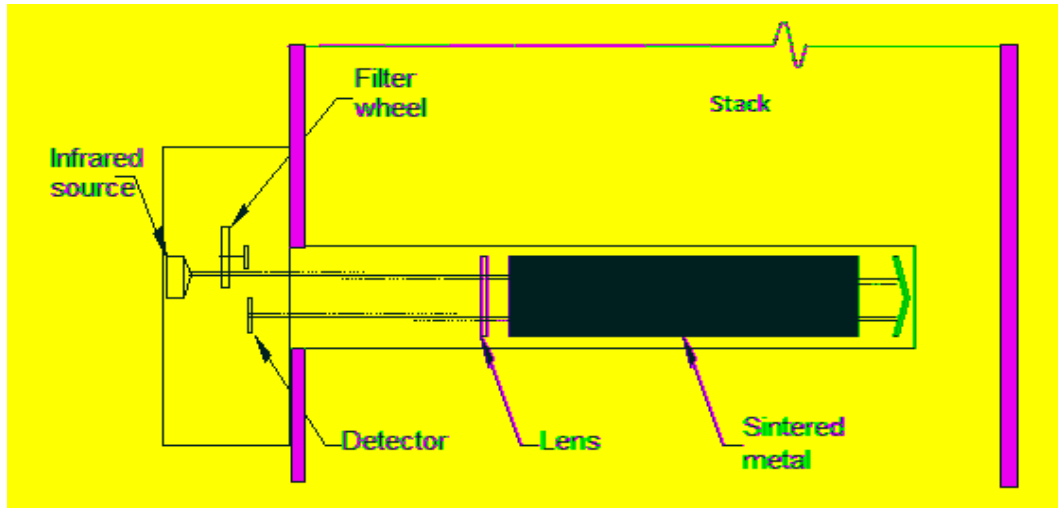
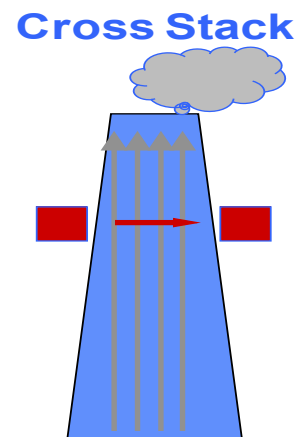


Figure 4.2.1 a: Point in-situ gas analyzer

Cross stack monitors

Cross stack monitors measure over the entire stack or duct diameter. They are based on a beam of a certain wavelength that crosses the duct and is attenuated proportionately to the concentration of the target compound. In some systems, a pipe may be used in the stack for support or calibration purposes, or to reduce the optical path lengths in very large stacks or ducts. There are two basic types of path systems: single pass and double pass where the beam is reflected back across the stack. These systems can be simpler than extractive systems, however there are additional challenges associated with making valid zero and span checks and minimizing interference from other pollutants.



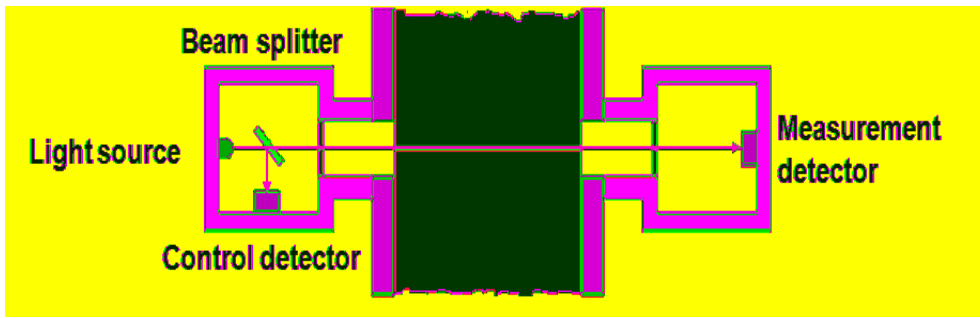


Figure4.2.1 b. Single pass transmissometer /opacity monitor

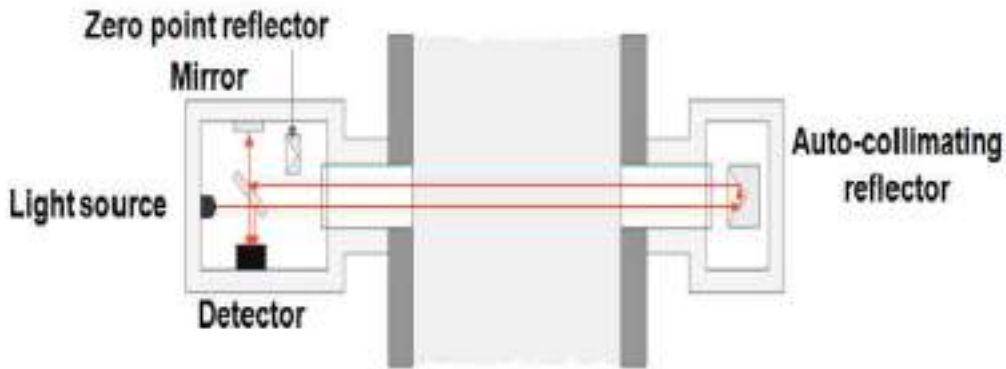


Figure4.2.1 c. Double pass transmissometer /opacity monitor

Single beam and double beam principle- Single-beam configuration is simplest where one light beam from source is passed to receiver. Dual or double-beam configurations internally split the light emitted from the source into two beams – one becomes measurement beam and another becomes reference beam. The measurement beam is projected through the optical medium of interest and is referenced to the second (reference) beam, which is totally contained within the instrument. There can be common or separate detectors for both the beam.

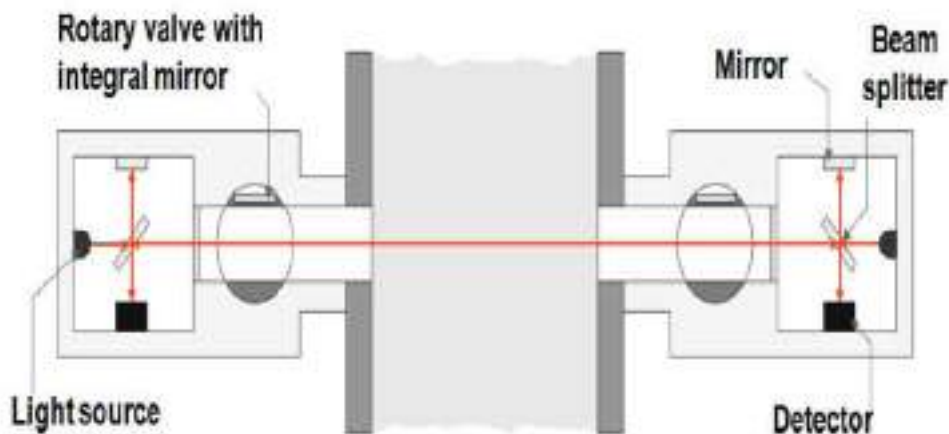


Figure4.2.1 d: Double Beam Transmissometer (Measurement)

➤ **Benefits:**

- ✓ Fast Response time
- ✓ Reasonable cost
- ✓ Process control
- ✓ No sample conditioning required.

➤ **Limitations:**

- ✓ Two flanges may be needed so an access to both side of stack is required.
- ✓ Systems are subject to stack vibration and temperature variations
- ✓ Proper alignment is required for correct measurement
- ✓ Sensitivity is limited due to the path length (critical for stacks with small diameters)
- ✓ Limited quantity of gases can be monitored
- ✓ Analyzer is subject to cross interferences especially from Water (Moisture)/ Temperature / Pressure.
- ✓ In situ systems are installed outside at top of stack so inconvenient conditions for maintenance
- ✓ No absolute method of On Line Calibration using injection of span gases along the path length.
- ✓ Complete Calibration equipment to be installed with analyser on top of stack platform.
- ✓ After readjustment the equipment has to be brought down to lab for calibration / validation checks.

4.2.2 Extractive system (Gaseous Pollutant)

Source-level extractive systems are those in which a sample of flue gases is continuously extracted from a pointmoi and conveyed to the analyzer using a sampling line. Particulate matter may be removed from the gas, and it may be cooled and dried, but in all other respects the sample is not altered by the sampling process. Three types of source-level extractive systems are marketed commercially:

- a. Hot and wet systems and Hot and Wet -Close Coupled Systems
- b. Dilution Extractive Systems
- c. Cool and dry systems with conditioning at the analyzer enclosure

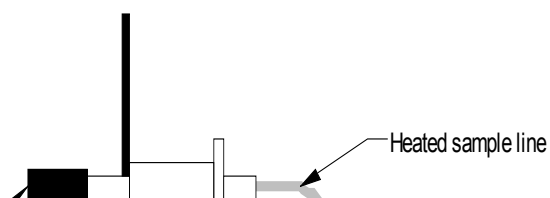


Figure4.2.2 a: Hot and wet gas sampling system

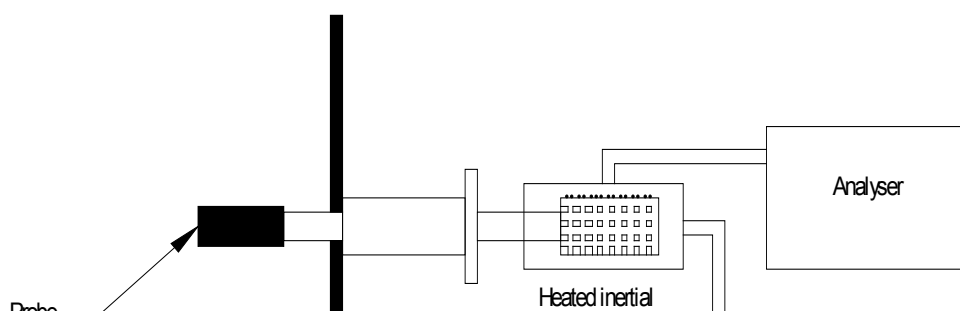


Figure4.2.2 b: Close coupled gas analyzer

In some cases, a combination of these systems may be used, for example when there is a requirement to measure both highly reactive and less reactive pollutants concurrently.

A source-level extractive system consists of several basic components: probe, sample line, filters, moisture-removal system and pump. In some source-level systems the analyzer, for example IR analyzer, O₂ zirconia sensor or TOC Flame Ionization Detector (FID), is mounted on the stack or duct, after a short sample line. In this case, analyzer response times are very fast and apart from particulate filtering, sample conditioning is not required. These systems are known as close coupled.

➤ **Benefits:**

- ✓ Sensitivity of the system is not related to stack diameter.
- ✓ Varying stack temperature does not affect the measurements
- ✓ Can be proven using reference calibration gases.

➤ **Limitations**

- ✓ Longer response time, moisture removal, however meets the emission requirement.
- ✓ The closed coupled systems are subject to stack vibration and temperature variations requiring higher maintenance as calibration also mounted on stack, however extractive system (Hot-Wet or Dry Direct Extractive does not have this issue)

4.2.3 Dilution based extractive system

The need is to transport the sample hot, and to filter and dry relatively large volumes of flue gas. This problem can be largely avoided by using dilution systems, where gas is drawn into the probe at much lower flow rates than in a source-level system. Dilution systems are used in conjunction with ambient air level gas analyzers.

Oxygen or CO₂ must be measured separately for correction purposes (the diluted sample is 'swamped' by dilution air).

There are two types of commercially available dilution systems: **dilution probes**, where dilution of the sample gas takes place **in the stack**, and **out-stack dilution systems**, where dilution is carried out external to the stack. The out-stack dilution sampling is less sensitive to changes in stack gas temperature, pressure and density. However, heated sample line is required for out stack dilution system.

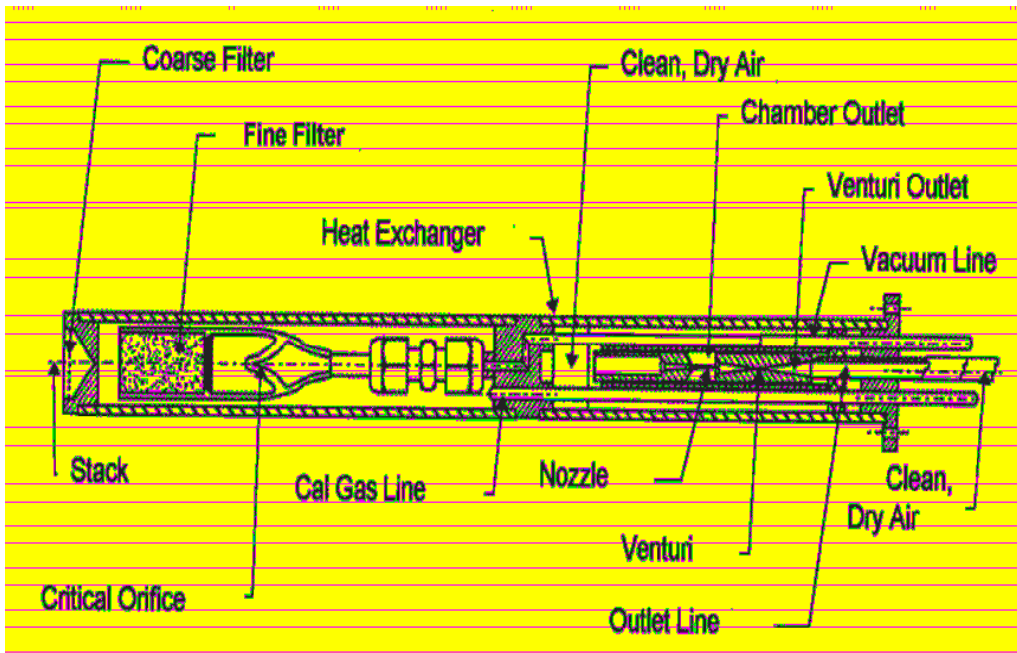


Figure 4.2.3 a: Typical in-stack dilution probe

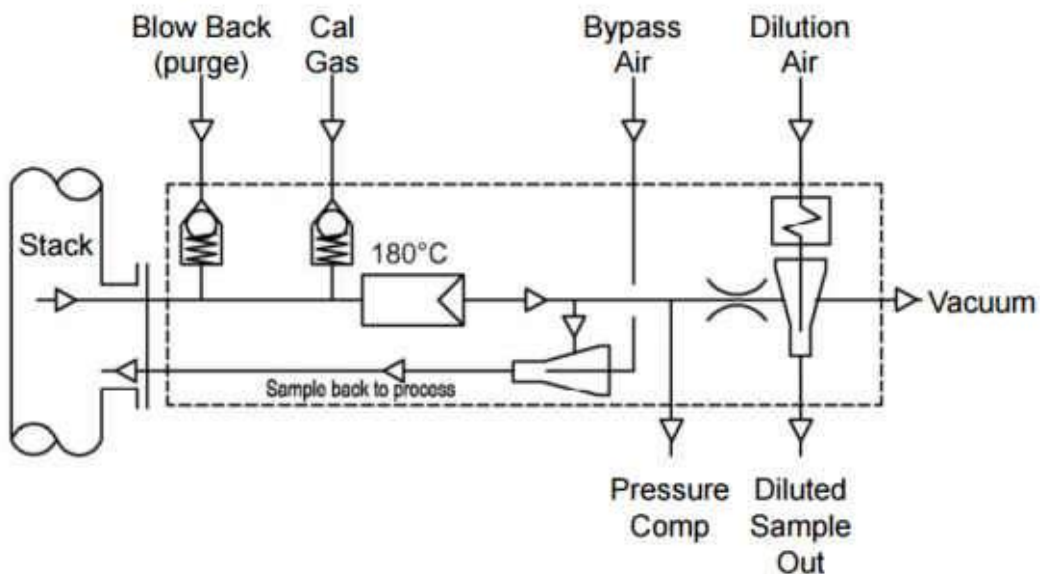


Figure 4.2.3 b: Typical out-stack dilution probe

Sample gas is extracted from the stack at a known flow rate, mixed with a known flow rate of dry air / dilutant.



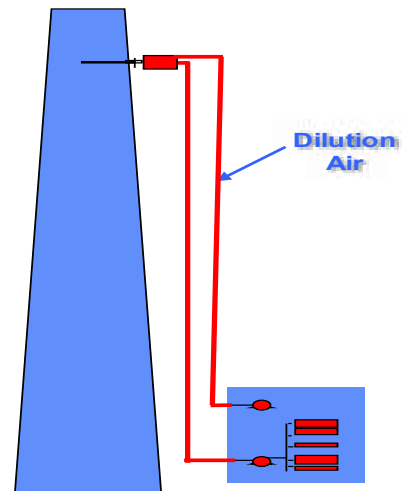
Benefits:

- ✓ It can be used to reduce moisture content so no heated sampling components are required.
- ✓ No power required at the probe so it can be used in hazardous areas.
- ✓ Low effect of stack temp variation, dust & moisture as dilution is done.

- ✓ long distance transportation of sample at positive pressure can be done

➤ **Limitations:**

- ✓ Flow rates are critical and need to be controlled to avoid varying dilution ratios.
- ✓ Balance is to be maintained with respect to Sample gas concentration vs analyzer sensitivity.
- ✓ Cannot be used for all gases including oxygen.
- ✓ Careful consideration of probe materials for high temperature and corrosive applications.
- ✓ Require periodical controlled cleaning due to presence of dust / ash \ sulfur presence, which effect the micro critical orifice leading to erroneous measurements.



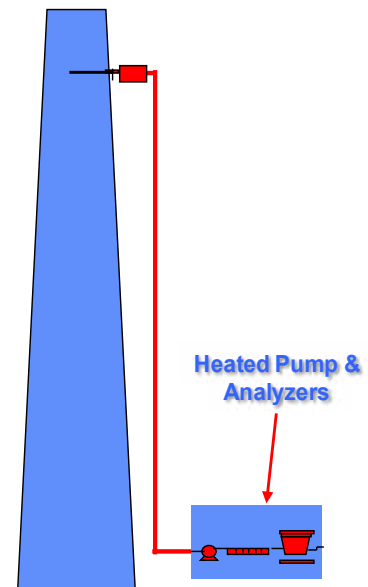
4.2.4 Hot Wet Extractive system with Heated Analyzer

Sample gas is extracted from the stack and transported to the analyzer using heated line and heated sampling components – filters, pumps etc., including the analyzer measurement cell.

The temperature of all components in contact with the sample gas is typically at 180°C to avoid condensation and loss of soluble gases.

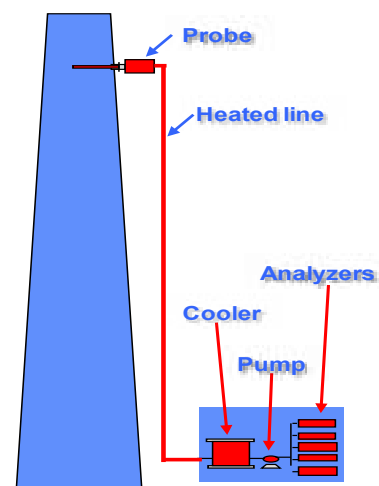
➤ **Benefits**

- ✓ Sensitivity of the system is not related to stack diameter.
- ✓ Varying stack temperature does not affect the measurements
- ✓ Use technologies like FTIR that can measure most gases including NH₃, HF, HCl, VOC, H₂O and O₂.
- ✓ Multi gases including specialty gases that are difficult to measure in other techniques.



➤ Limitations

- ✓ Costly heated sample lines and components.
- ✓ Heated lines not UPS protected due to power required- risk of condensation and damage.
- ✓ More time required to maintain the system and heat stressed components.
- ✓ Online continuous H₂O measurement for online correction of moisture as normalization being a
- ✓ hot wet technique.



4.2.5 Cool and Dry Systems - Hot Extractive System with Gas Cooler and Cold Analyzer

Sample gas is passed through a cooler to bring the sample gas temperature down to a low temperature and to remove water so sample is almost dry. Coolers are typically Peltier or Compressor type with outlet at about 3-4°C.

➤ Benefits

- ✓ Varying stack temperature does not affect the measurements
- ✓ Multi gas measurement is possible with flexibility of different principle of measurements.
- ✓ Can use analyzers operating at low/ambient temperatures so components are not heat stressed.
- ✓ These analyser are versatile as suitable for harsh environments and can be placed in a clean, dry & temperature controlled environment, so more stable system and easier to maintain
- ✓ Analyzers are running at low temperatures, so systems tend to be cheaper than heated systems and widely used concept.
- ✓ These are also available in hazardous area installation.

➤ Limitations

- ✓ It cannot be used on very soluble/corrosive gases.
- ✓ Soluble gases (HCl, HF, NH₃, SO₂) can be lost during the cooling resulting in lower than actual readings.
- ✓ Heated Sample gas line is required to maintain the flue gases above dew point.
- ✓ Leakage in sampling line will give erroneous results due to mixing of ambient air.

- ✓ Possibility of choking of lines in case of high dust loading.
- ✓ Risk of condensation in case of power fail
- ✓ In high dust concentration applications frequent choking occurs

4.2.6 Extractive sample drying by other method

- ✓ Extracted sample may also be dried by applying specific sample line through selective permeation. Water gets eliminated from the sample stream to the outer jackets containing dry and cold air.

4.2.7 Gas Sampling and Conditioning

The accuracy, repeatability and response time of the analysers are more dependent on the sample handling system rather than the analysers only. The reliability, accuracy, repeatability and response time of the measurement results of extractive analysers are impacted by possible failure of some of the components of sample handling system for extractive sampling.

Inline filters – used for applications where dust concentration in sample gas is on higher side, gets frequently choked and need regular maintenance which effects percentage availability of measurement. The incorporation of technology for effective, heated, automatic back flush to clean these filters from outside can enhance the measurement data availability.

Heated Probe – accommodates heated fine filter, to arrest dust particles in sample gas to protect sensitive analyzer and provide uniform heating to the sample coming out from the stack and avoid condensation or cold spots.

For effective filtering, the probe should have more filtering area with automated back purge and back flush to reduce filter cleaning frequency and increasing the uptime of measurement.

Heated Filter: the common problem with the heated filter is associated with ineffective filtering area and selection of right micron size.

Sample Gas Pumps – are running 24x7 for months need to be robust and reliable.

5.0 MEASUREMENT TECHNIQUES FOR PARTICULATE MATTER AND GASEOUS POLLUTANT

5.1 Techniques / Instrumentation for Online PM Monitoring

Particulate Matter Continuous Emission Monitoring Systems (PM CEMS) measure a parameter (e.g. scattered light) which can be correlated to dust concentration by comparison to a gravimetric sample taken under isokinetic conditions rather than the mass concentration directly. The performance and suitability of any particulate monitor is therefore application dependent. A number of techniques are used in practice which provide a practical and robust solution for most industrial applications. There are two main types of Particulate Measurement Techniques:

- A. **In-Situ Systems** (Point or Cross-duct) for application in flue gas stream with temperature above dew point ($>95\text{ }^{\circ}\text{C}$)
- B. **Extractive Systems** for applications with entrained water droplets in the gas stream

A. In-situ systems

The main cross-duct techniques used for Continuous Monitoring of Particulate Matter are: -

- a) **Light Attenuation (Transmissometry)**: In this method the amount of light absorbed by particles crossing a light beam is measured and correlated to dust concentration. In Opacity/Extinction instruments the amount of light reduction is measured directly, whereas in Ratio-metric Opacity systems the ratio of the amount of light variation (flicker) to the transmitted light is measured.

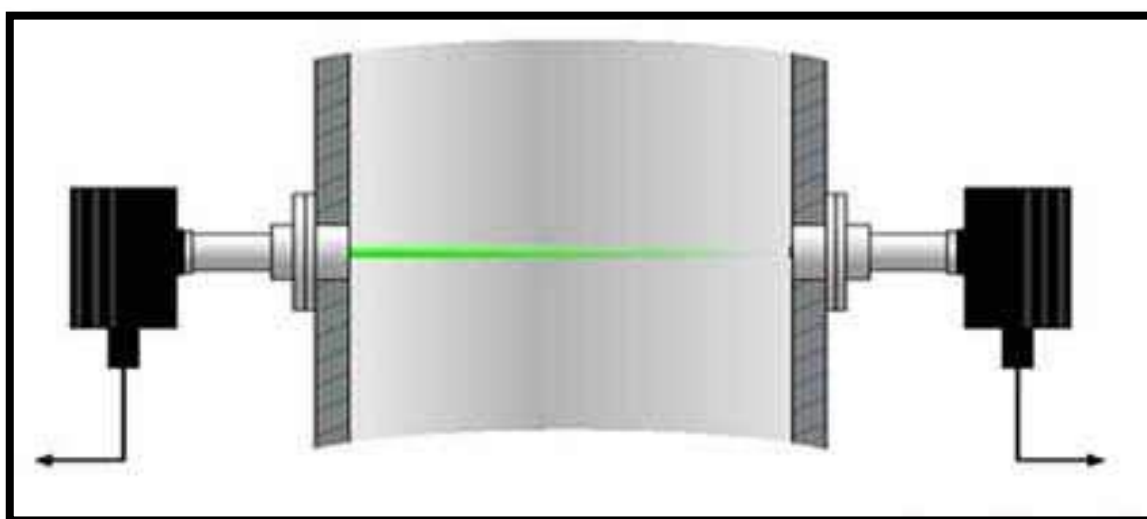


Figure 5.1: Light Attenuation

As with in-situ path systems for monitoring gaseous pollutants transmissometers may be single-pass or double-pass design. Double-pass types use a reflector on the opposite side of the stack or duct so that the light is transmitted twice through the flue gas. The single pass transmissometers have become obsolete. Some modern single-pass transmissometers are designed with two identical senders and receivers on each side of the stack to alternatively transmit and receive light in order to increase sensitivity and reduce the effects of fouling of the optical surfaces. The light sources use includes filament bulbs, light emitting diodes and lasers. Light colour green shown in figure is symbolic to understand the mechanism.

The simplest of the transmissometers will produce an opacity that can be correlated with a smoke colour scale, e.g. the Ringelmann scale. More sophisticated analysers that are equipped with on-line zero and span adjustment can be programmed to produce an output proportional to 1.0 mg/m³ based on the results of calibration measurements.

Transmissometers are usually designed for cross duct measurement with a sender and receiver on opposite sides of the stack for single pass system. For double pass both light source and receiver are placed in the same side with a reflector at opposite end to pass the light through the flue gas twice.

Point in-situ transmissometer type analysers have been developed in which the light source and detector are carried at opposite ends of a rigid tube. The tube contains a series of slots which allows the passage of PM-laden flue gas through the tube and hence between the light source and detector. This arrangement overcomes some of the problems associated with the cross duct systems with regard to alignment of sender and receiver and differential expansion caused by temperature variations, and stack vibrations.

Limitations of measurement: Transmissometry (Opacity monitors) is used extensively worldwide to monitor, “Opacity”. This is particularly true in the utility and power generation industries. Adoption of opacity monitors for particulate matter monitoring in stacks is less universal due

to their inapplicability to the lower levels of particulate now found in industrial processes. Industries where Opacity monitors are still well accepted are the power, cement and steel industries due to their historical experience in satisfying opacity requirements. There are a number of Opacity instruments with TUV approvals for particulate measurement. The certification ranges for opacity monitor are dependent on path length. The measuring range of 0-1000mg/m³ is suggested for a path length of 0.5 to 15 mt. However, low range i.e. 0 to 10 mg/Nm³ can be monitored in stack with minimum 5m path length. The limitations of technologies are widely accepted.

- It cannot monitor particulate levels below 25mg/m³ per meter path-length in general, as at low concentrations the reduction in the light beam caused by the particles is indistinguishable from the zero drift of the source/detector (i.e. variation in the intensity of the receiver with no dust conditions). This limitation makes the instrument unsuitable for many well abated emission applications (e.g. after a bag filter).
- The system is sensitive to dust contamination on the lens surfaces since it is not possible to distinguish between the reduction in light caused by dust in the stack and dust on the lenses. In practice a curtain of air (provided by a blower) is injected into the transmitter and receiver heads to keep the lens surfaces clean.
- Systems without retro-reflectors (i.e. non double-pass) are sensitive to misalignment between the transmitter and receiver.
- The calibration of the instrument changes with changes in the particle properties:
 - Particle type and refractive index (mainly changes the amount of light scattering)
 - Particle colour mainly changes the amount of light absorbed
 - Particle size and shape (changes the amount of light scattering) manifests itself in requiring a number of regression curves to be calculated at differing process conditions and differing fuels used for combustion.
- Water vapour and water droplets absorb light over the light frequency range used by opacity monitors and therefore opacity instruments are

not suitable for stacks with flue gas below dew point or containing water droplets from wet collectors. This makes opacity monitors unsuitable for monitoring particulate matter emissions from coal fired power plant applications where Flue Gas Desulphurization (FGD) plant is not fitted with stack reheat (wet FGD).

- b) **Light scattering:** In this system the amount of light scattered by the particles in a specific direction is measured. Forward, side or back scatter are a function of the angle of scattered light that is measured by the detector. Light scattering techniques (especially forward scatter) are capable of measuring dust concentrations several magnitudes smaller than that measured by transmissometers.

When light is directed toward a particle, the particle may both absorb and scatter the light, deflecting it from its incident path. An opacity monitor or transmissometer measures the intensity of light that is not scattered. Other instruments have been developed to measure the scattered light. The intensity of the scattered light depends on the angle of observation, the size of the particle, its refractive index and shape, and the wavelength of the incident light. Both in-situ and extractive analysers of this type have been developed. A light beam is passed through the Particulate Matter (PM) laden flue gas. Absorption and scatter attenuate the light. Light scatter analysers measure the intensity of the scattered light at a predetermined angle to the beam direction. The amount of light scattered in any direction is dependent on the size distribution and shape of the dust particles. Variations in the intensity of the light source and sensitivity of the detector are compensated for by the use of a reference beam, in the opposite phase to the measuring beam, onto the photoelectric detector.

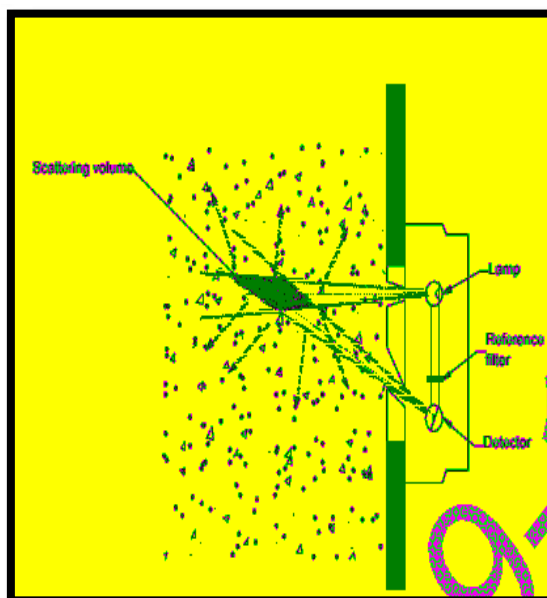
Scatter light measurement is a more sensitive measurement method for low dust loading. Opacity measurement at low loading is limited by the requirement to measure very small variations in the light received on the axis from the transmitter. Scatter light analysers measure only the scattered light and do not have to deal with the small variation in a large amount of transmitted light.

Instruments can be based on the forward scatter, side scatter or back scatter principles, and can be in-situ, point in-situ or extractive. This type

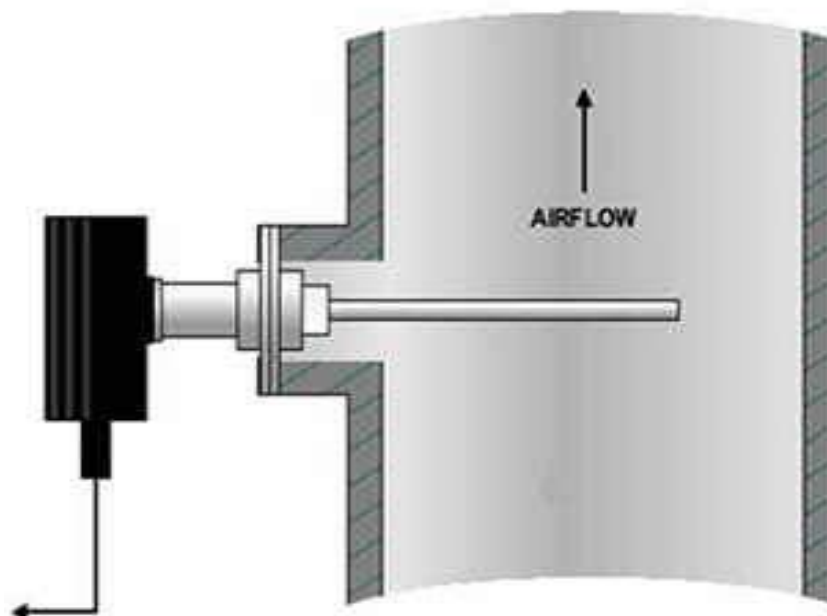
of analysers can be claimed to be more accurate for measure low PM concentrations of upto $1\text{mg}/\text{m}^3$

Limitations of technology: Side Scatter or Back Scatter instruments are used in low dust concentration applications, such as those found in Power plant, Lead Smelters and Incinerators equipped with bag house as pollution control systems. Their technical limitations are as follows:

- The calibration is affected by changes in particle size and type of particle. For example, with absorbing particles (such as black fly ash) the response of a Back Scatter device is reduced by a factor of 20% from peak response when the particle size changes from $0.8\mu\text{m}$ to $0.7\mu\text{m}$. The peak response for non-absorbing particles is three times greater than for absorbing particles.
- Back and Side Scatter devices are less sensitive than Forward Scattering devices although can still provide sensitivity of less than $1\text{mg}/\text{m}^3$.
- In-situ light scattering instruments cannot differentiate between water aerosols and solid particles



- c) **Probe Electrification (Non-Optical):** The electrical current produced by particles interacting with a grounded rod protruding across the stack/duct is measured and correlated to dust concentration. Charge induction (AC Triboelectric and Electro Dynamic) and DC Triboelectric instruments are types of probe electrification devices in which different signal and current analysis are performed. The Probe Electrification techniques are not all the same and should not be confused by each other. Electro Dynamic systems are used in Europe as Compliance devices due to their inherent reliability, repeatability and self-check capability.



Consideration should be taken when selecting Probe Electrification instruments. It should not be used after Electrostatic Precipitators as the action of the filter can affect the charge characteristics of the measured particulate causing errors in the instruments readings. In case Tribo probe is mounted above ESP, then a Faraday Shield is placed around the entire probe length and grounded to negate the charge of flue gas particles emerging from the ESP field. All three techniques are highly sensitive and are responsive at low concentrations below $1\text{mg}/\text{m}^3$. The stack diameter may be a limiting factor in probe electrification technique. The probe length shall cover at least half diameter to make representative sampling. Sticky, moist flue gases always pose threat to the performance, as the surface of the probe gets easily coated and restrict the charge exchange resulting in poor performance. Frequent cleaning and maintenance is required.

d. Optical Scintillation

Optical scintillation, like light extinction, utilizes a light source and a remote receiver that measures the amount of received light. The difference is that the scintillation monitor uses a wide beam of light, no focusing lenses, and the receiver measures the modulation of the light frequency due to the movement of particles through the light beam and not the extinction of light. The principles at work here are that the particles

in a gas stream will momentarily interrupt the light beam and cause a variation in the amplitude of the light received (scintillation). The greater the particle concentration in the gas stream the greater the variation in the amplitude of the light signal received. The scintillation monitor must be calibrated to manual gravimetric measurements at the specific source on which it is installed. Little advance against opacity as it reduces zero and upscale drift with modulated light to eliminate effects of stray or ambient light. The transmitter and receiver are located on opposite sides of the duct; therefore, this instrument also measures across-stack PM concentration. The instrument response increases with PM concentration and can be correlated by comparison to manual gravimetric data.

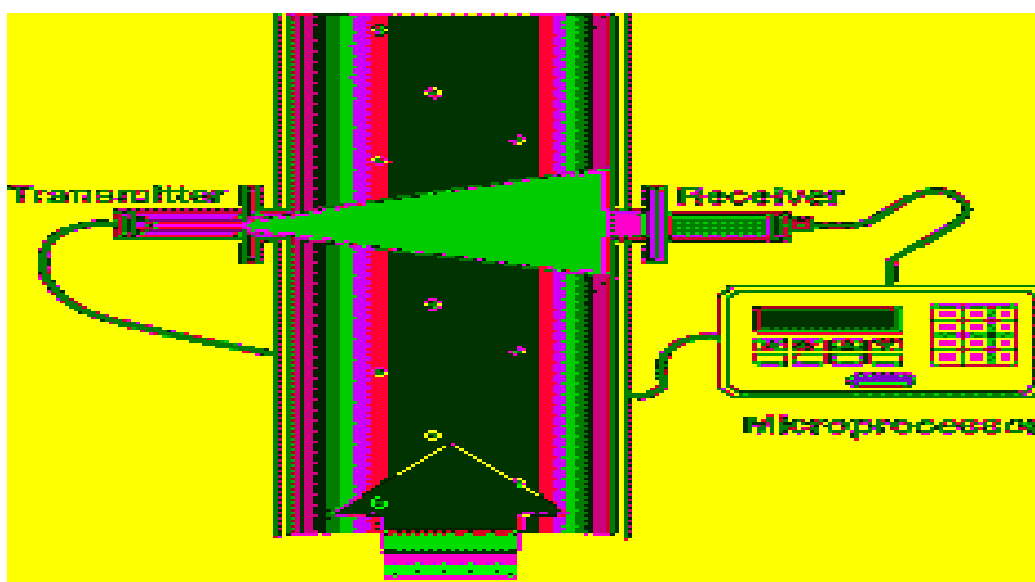


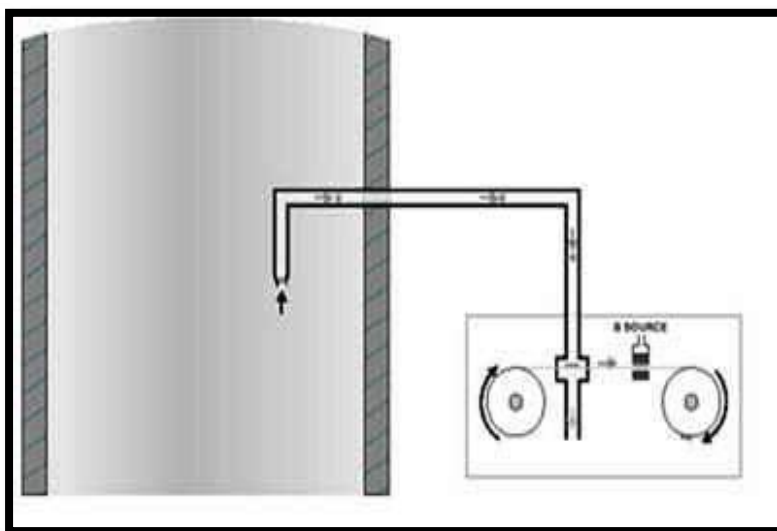
Table 1: The advantages and disadvantages Optical Scintillation

Advantages	Disadvantages
Low price	Measures secondary particles as PM
Easy to install	properties of PM Adversely affected by Particle size, density, shape change
Low maintenance	The cleaning of receiver in a dirty stack is an issue
Sensitivity to little high concentration	Not Sensitive to low PM concentration
Perform better in dry stack Moisture	Measures liquid drops as PM;

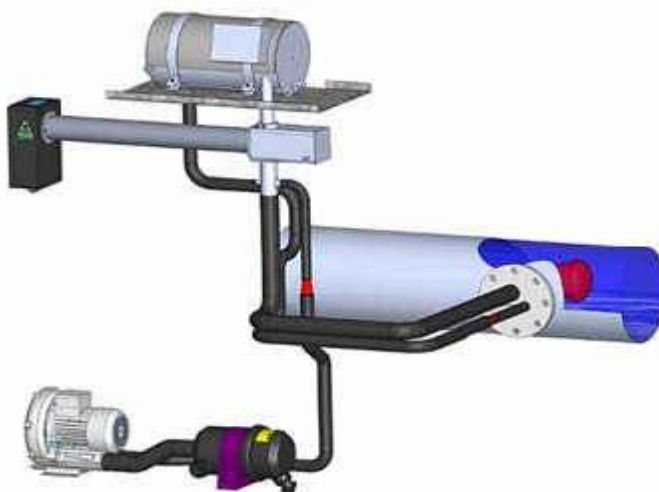
B. Extractive systems

The presence of water droplets in saturated gas streams below the dew point i.e., after wet collectors will affect the monitoring response of all in-situ technologies to an extent where calibrated results cannot be guaranteed. In these instances, extractive systems must be used. The two common methods for measuring in wet stacks are: -

- a) **Beta Attenuation:** The moving gas stream is sampled and the particulate is collected onto a filter. The filter is advanced periodically (typically every 15 minutes) into a measurement chamber, so that radioactive Beta particles can be passed through the sample and the amount of Beta particles transmitted through the sample is measured. The advantage of this technique is that the absorption of radioactivity is not significantly affected by the type of particle (although particles with different Nucleonic density have different responses).



- b) **Extractive Light Scatter:** The flue gas is extracted (recommended under isokinetic conditions) and then passed into a heater unit to evaporate any water or water vapour below dew point water before measurement in an external light scattering chamber. A Forward Light scattering technique is normally used in the chamber. Extractive systems have been designed to overcome the problematic issues of sample handling on a continuous basis. In stacks filled with wet scrubber as air pollution control device, where dust concentration is low and mass of water droplets is high compared to the dust particular extraction of sample slightly over isokinetic is deserved.



5.1.1 Requirements of an efficient on-line PM CEMS

One of the fundamental issues in obtaining good results from particulate matter measuring instruments is to ensure that the instrument fits for purpose of the intended application. This means that the instrument: -

1. Must have a stable, reliable response, which can be directly correlated to dust concentration with limited cross interference from likely changes in process or flue gas conditions. Certified products provide guidance on the application suitability of different instruments. Manufacturers should be contacted for more detailed guidance on the application suitability of a specific type of instrument. Industry is responsible for the selection of appropriate technology for measurement of emission as per CPCB guidelines.
2. Can operate over a long duration in the application without the need for frequent maintenance or cleaning. The Maintenance Interval as stated in the certificate can provide guidance on servicing issues. The maintenance and calibration schedules suggested by manufacturer should be followed strictly.
3. The system has sufficient resolution for the intended application. The systems certificates state the ranges in mg/Nm^3 for the instrument which is the lowest dust range at which the instrument will still meet the required performance standards.
4. Instrument measuring range selection: The Measuring Range should be 2.5 to 3.0 times of Prescribed Standard value. i.e. if Prescribed Standard

for PM parameter is 50 mg/Nm³ then selected Instrumental Measuring range should be in between 0-125 or 0-150mg/Nm³.

The span calibration (for gaseous parameters) should be performed at 60 to 80% of the selected instrumental measurement range.

5. The minimum detection level of the instrument should be considered in relation to the normal operating condition of the plant to ensure a meaningful stable response from the instrument at normal plant conditions which can then be calibrated.
6. The operating technology should be suitable for the type of Filtration system (pollution control system) used, the diameter of the stack or duct, the dust loading and any other additional parameters (like corrosiveness, stickiness, moisture, etc.) that may affect the operation of the PM CEMS i.e. for applications with entrained water droplets an extractive PM CEMS which conditions the wet gas stream to remove the entrained liquid must be used to obtain quantitative results.

5.2 Techniques/ Instrumentation for Online Gaseous Pollutant Monitoring

The extractive type of emission gas analyzers available are:

1. Non Dispersive Infrared (NDIR)

Many gaseous pollutants absorb light energy in one or more regions of the spectrum. Sulphur dioxide / Nitric Oxide / Carbon Monoxide and a wide range of other gases absorb infrared radiation and ultraviolet radiation. Each type of pollutant molecule absorbs light at a characteristic wavelength, and therefore it can be distinguished from other pollutant species.

Continuous emission monitors using this principle apply the Beer-Lambert Law, which states that the transmittance of light (i.e., the ratio of the intensities of the transmitted and incident light) through a medium that absorbs it is decreased exponentially.

Hetero-atomic gaseous molecules, which contain two or more dissimilar atoms in the molecule, display unique absorption characteristics in the infrared region of the spectrum. Homo-atomic molecules containing only one type of atom within the molecule do not produce characteristic vibrations when exposed to light in the infrared region; therefore, they cannot be measured by this technique.

By using this principle an instrument can be designed to measure pollutant gas concentrations. Non-dispersive photometry analysers using infrared (NDIR) have been developed for monitoring a wide range of gases.

Simple non-dispersive infrared analysers use filters or other methods to measure the absorption of light over a relatively small range of wavelengths centered at an absorption peak of the molecule of interest. In a simple NDIR analyser, infrared light is emitted from a source such as a heated coil or other type of infrared radiator. The light is transmitted through two gas cells: a reference cell and a sample cell. The reference cell contains a gas such as nitrogen or argon that does not absorb light at the wavelength used in the instrument. A sample of the gas is passed through the sample cell of the instrument. As the infrared beam passes through the sample cell, pollutant molecules will absorb some of the light. As a result, when the light emerges from the end of the sample cell it has less energy than when it entered. It will also have less energy than the light emerging from the reference cell. The energy difference is detected by a detector. The ratio of the detector signals from the two cells gives the light transmittance, which can be related to the pollutant gas concentration.

Simple non-dispersive infrared analysers are still supplied for applications where only one gaseous species is to be monitored. They are relatively low cost, reliable and robust. A limitation of analysers based on this principle is that gases that absorb light in the same spectral region as the gas of interest will cause a positive interference in the measurement.

Water vapour are strongly absorbing in the infrared region and must be removed from the sample before the gas enters the analyser. One solution to this problem is to use absorption cells arranged in series, as in the O₂ detector. The NDIR analysers combine with O₂ measurement for online continuous correction / normalization for any diluent of emission gases being measured by CEMS system.

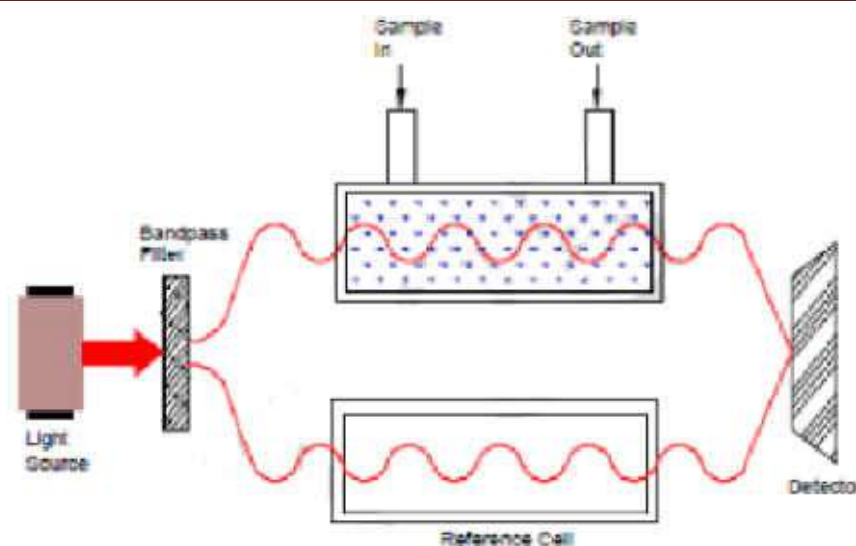


Figure 5.2 : NDIR System

2. Photoacoustic Detector

A variant of the pneumatic detector technique is the photoacoustic detector. Analysers based on this principle of operation monitor acoustic waves resulting from the absorption of chopped light by molecules in a sealed sample cell.

In a light-absorbing molecule, when vibrational-rotational energy dissipates absorbed light energy into kinetic energy, the pressure will increase in the sealed chamber in which they are confined. If the light beam is turned on and off, the pressure will alternately increase and decrease, producing a pressure pulse or acoustic signal. In practice this is achieved by placing a rotating chopper between the light source and the measurement chamber. When the chopper produces pulses between 20Hz and 20 KHz frequency, the pressure pulse can be detected by sensitive microphones.

By placing different optical filters in a carousel located between the chopper and measurement chamber, a range of organic and inorganic compounds can be measured at ppb levels. In the photoacoustic technique light absorption is measured directly, so if there is no absorbing gas in the measurement cell, no pressure pulse will be generated. If some gas is present, some sound will be generated and if more gas is present more sound will be generated.

The technique does not provide continuous analysis, as the sample must be sealed in the measurement chamber before the analysis sequence can begin. This cycle typically takes 40 seconds to complete five determinants.

3. Gas Filter Correlation (GFC) NDIR

A type of NDIR technique, which is widely used in in-situ monitors, is also applied to extractive system analysers. The gas filter correlation (GFC) technique uses a reference cell that contains a 100% concentration of the pollutant of interest, instead of the 0% concentration in the techniques discussed previously. Radiation from an infrared source passes through a filter wheel, which contains a neutral gas, such as N₂, in one cell and the gas of interest in the other cell. The light is then passed through a modulator that creates an alternating signal.

When the instrument is operating the filter wheel is continuously rotating. When light passes through the gas filter it will be attenuated. The gas filter contains enough of the target gas to remove most of the light at the wavelength where the target gas absorbs. The gases not absorbed at selected wavelengths are not removed and are passed on to the detector. The net result is reduction of light energy reaching the detector. When the light passes through the neutral cell its intensity is not reduced. If a sample of gas containing the target pollutant is introduced into the sample cell the molecules will absorb light energy at the absorption wavelength of the target gas. Because the gas filter was chosen to absorb energy at the same wavelengths, the absorption is already complete in the gas filter cell beam, and the detector will see the same signal as it did when the sample cell contained zero gas. The beam passing through the N₂ side however will carry less energy because light is absorbed by the target gas in the sample cell. The difference between the two beams is monitored, and can be related to the concentration of the gas of interest in the sample. Other gases having spectral patterns in the same regions as the target gas will not affect the measurement, as they do not correlate. Moisture has absorption and needs to be removed and adequate correction is required.

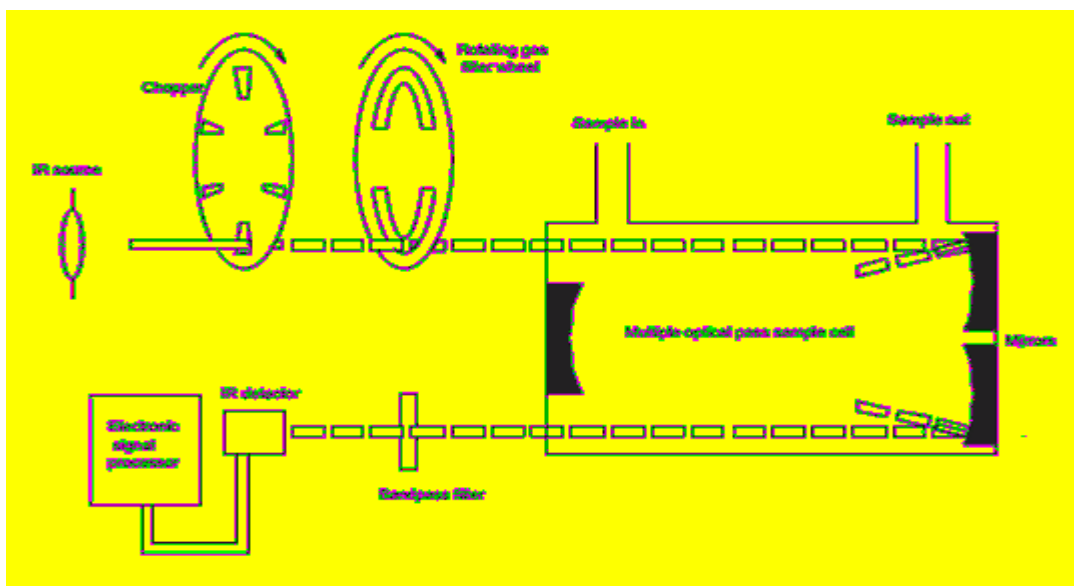


Figure 5.2.a: Gas Filter Correlation NDIR

4. Differential Optical Absorption Spectroscopy (DOAS)

Another non-dispersive method measures light absorption at different wavelengths, those at which the molecule absorbs energy and those that do not. In this system a reference wavelength is used instead of a reference cell. The system can monitor SO₂, NO₂, HCl, HF, CO, CO₂ and NH₃ in stack emissions. These parameters are however selective to UV/IR-DOAS technology. The extractive UV-DOAS system can also measure gaseous mercury when fitted with heated sample gas probe, heated gas transfer line and also heated measuring cell after conversion of total gaseous mercury into elemental mercury.

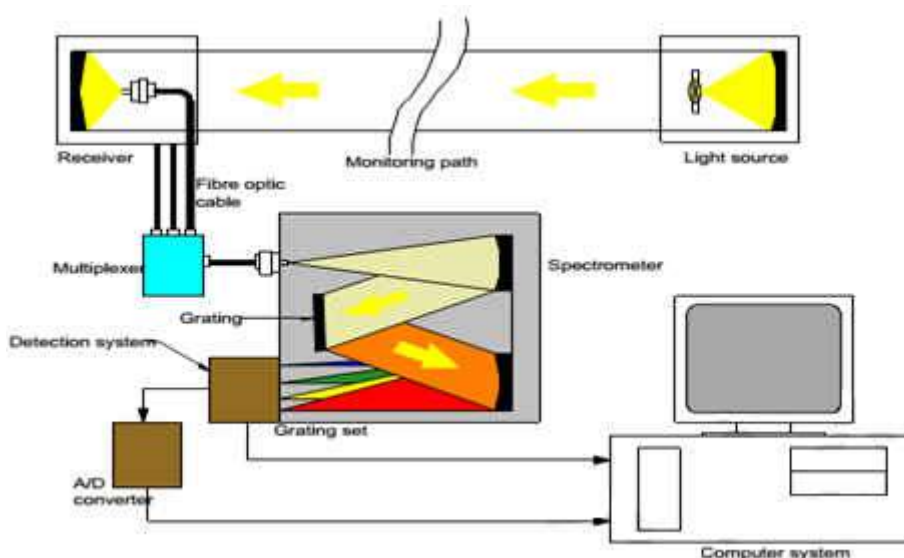


Figure 5.2.b: Differential Optical Absorption Spectroscopy

5. Fourier Transform Infrared Spectroscopy (FTIR)

Infrared-active gases, such as CO₂, CO, SO₂, NO, NO₂, HCl, HF, VOC, H₂O, can be measured simultaneously using Fourier transform IR spectroscopy (FTIR spectroscopy). Unlike in traditional spectroscopy, the absorption spectrum is not recorded by means of dispersive elements such as lattices or prisms, but using an interferometer arrangement.

Most FTIR spectrometers are based on the Michelson interferometer which has the function of a mono-chromator. The radiation hits a beam splitter which reflects 50 % of the radiation and transmits the remaining 50%. The reflected and transmitted beams hit two mirrors which are perpendicular to one another and are reflected back to the beam splitter. The beam splitter recombines the two reflected beams into one. The recombined beam is passed through a cell filled with the gas component to be measured and then focused on an IR detector.

Continuously shifting one of the mirrors opposite the beam splitter produces differences in the optical path length which the two beams have to cover on the way back to the beam splitter. This difference (path difference of the interferometer) produces interference in the recombined beam which results in the fundamental coding. The shifting makes the interference signal (local intensity distribution) variable (interferogram). This means the interferogram contains all the information about the spectrum in encrypted form. The absorption of the modulated IR radiation in the measurement cell means that the interferogram contains all the spectral information at the same time.

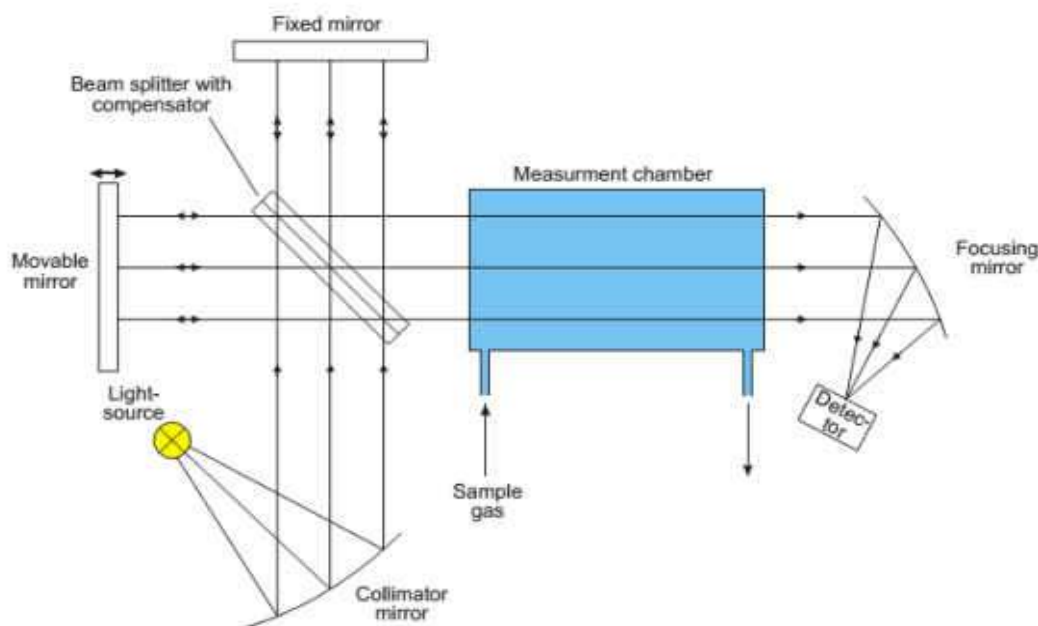
A mathematical Fourier transformation into the IR range (demodulation) is then applied to the interferogram recorded. By comparing the IR spectrum recorded to a reference spectrum, the FTIR spectrometer can quantitatively detect a number of IR-active measured objects, depending on the software version used. Once the instrument has been calibrated the calibration data are stored as a spectral library, which is stored as software. Essentially the FTIR technique provides a 'signature' of the total absorption spectrum of the sample gas over a broad spectral range. Instruments typically works in wavelength range from 2.5 to 25 μ m.

This FTIR is an advanced technology and works on Hot Wet Technique completely heated at 180°C and has wide applications due to multi gas

measurement over the IR spectrum of 2 to 25 μm and can measure CO , CO_2 , SO_2 , NO , NO_2 , HCl , HF , NH_3 , H_2O , VOC , etc. For monitoring of low concentration of NH_3 , HCl and HF extractive system is preferred. Additional modules of O_2 & VOC can also be integrated into the online measurement. Best suited for wet process with high moisture even as high as 50 – 60 Vol% in background eg. Waste Incineration, waste to power, process like Dry Cement, process using alternative fuels like pet coke, waste, bio mass, etc. The minimum detection limit (MDL) is in parts per billion (10^{-9} ratio at atmospheres), when resolution is 0.5 cm^{-1} and optical path is 100m (**Table 2**).

Table 2: Minimum Detection Limit of FTIR Method for different compounds

Sl. No	Compound	Frequency (cm^{-1})	MDL (PPB)	Remarks
1.	Carbon Dioxide (CO_2)	2363	0.4	MDL is 0.4 ppb if no other CO_2 is present. In air, the minimum detectable change in CO_2 would be about 50 ppb
2.	Carbon Monoxide (CO)	2200-2100	2.0	Array of lines
3.	Hydrogen Chloride (HCl)	3050-2700	1.5	Array of lines
4.	Nitric Oxide (NO)	1920-1870	4.0	Array of lines
5.	Nitrogen Dioxide (NO_2)	2210	1.0	Array of Lines
6.	Sulfur Dioxide (SO_2)	1361	2.0	Spike; water must be carefully subtracted
7.	Water (H_2O)	1700-1400	5.0	MDL is 5 ppb if no other water is present. In Humid air, the minimum detectable change in water content would be 1000 ppb.



6. Non Dispersive Ultraviolet (NDUV)

The characteristics of light in the ultraviolet (UV) region of the spectrum (shorter wavelength, higher energy) lead to molecular electronic transitions when the light is absorbed. Absorption of ultraviolet photons excites the electrons of the atoms within the molecule to a higher energy state. The excited electrons quickly lose the energy by returning to the ground state by one of four methods; dissociation, where absorption of high-energy photons can cause the electron to leave the molecule completely, causing it to fragment; re-emission, where an identical photon is re-emitted as the electron decays back to its ground state; fluorescence, where a photon is emitted at a lower frequency than the original absorption as the electron decays back to its ground state, causing the gas to appear to glow.

Analysers that are designed to operate in the UV region typically employ the differential absorption technique. Analysers designed to measure SO₂ measure UV light absorption at a wavelength in the SO₂ absorption band centered at 285nm. This is then compared to the absorption at the wavelength region of 578nm where there is no SO₂ absorption.

Differential absorption NDUV instruments have proven to be very reliable in source monitoring applications and can also measure both NO & NO₂ simultaneously without need of NOX Converter. The technique has lower interferences but cannot measure other pollutants like CO / CO₂.

7. Ultraviolet Fluorescence

Ultraviolet fluorescence analysers for SO₂ are based on the absorption of UV light at one specific wavelength by the SO₂ molecules, and its re-emission at a different wavelength. Commercially available instruments contain either a continuous or pulsed source of UV radiation. Filters are used to produce a narrow waveband around 210nm. The light (photon) emitted from the excited molecules is passed through a filter and then to a detector photomultiplier tube. The amount of light received at the specific wavelength is directly proportional to the number of SO₂ molecules and is a measure of concentration in the measurement cell, provided the sample flow rate is tightly controlled. A problem with this measurement principle is the 'quench effect' caused by the capture of the emitted radiation from the SO₂ molecules by other molecules present in the gas e.g. CO₂, O₂, N₂, etc. The quenching effect varies depending on the molecule involved and it is therefore very difficult to compensate for this effect when the matrix gas containing SO₂ has a time variable composition, e.g. a boiler flue gas. This effect has limited the use of this type of analyser for emission monitoring purposes, however it has found wide application as an ambient air analyser for SO₂ where the matrix gas, i.e. ambient air, does not vary significantly in composition.

UV fluorescence analysers can be used for emission monitoring purposes at Large Combustion Plants (LCPs) if a high ratio dilution sampling system as described earlier is used. In case of measurement of SO₂ concentrations in the stack gases, the quality of the dilution air significantly affects the measurement result. Besides inability to measure components like O₂, CO, CO₂, etc. is its limitation compared to other techniques like NDIR/NDUV with capacity for multi gas measurements.

8. Flame Photometry

Flame photometry analysers are specified in Environment Agency Technical Guidance Note M2 for the measurement of total sulphur. The technique is non-selective, and is not specific to SO₂. It is therefore rarely used for continuous monitoring, but is a popular technique for Total Sulfur measurement as an online ASTM Technique.

9. Chemiluminescence Analysers

Chemiluminescence is the emission of light energy that results from a chemical reaction. It was found in the late 1960s that the reaction of nitric oxide (NO) and ozone (O_3) produced infrared radiation from about 500 to 3000nm. It lost its status due to interferences/ Quench Effect of CO_2 /Moisture and requirement of additional accessories like Ozone generators, pumps etc besides the inability to measure measurement components like SO_2 , CO, CO_2 , etc. compared to other techniques like NDIR/NDUV which can do multi gas measurements.

Nitrogen dioxide (NO_2) does not participate in this reaction and must be reduced to NO before it can be measured by this method. Most commercial analysers contain a converter that catalytically reduces NO_2 to NO. The NO (converted from NO_2) plus the original NO in the sample is then reacted with O_3 as described above to give a total NO + NO_2 (NO_x) reading.

Chemiluminescence monitors are well established for the monitoring of NO_x . The method is also well established for ambient air monitoring. These monitors have very low detection limits (of around 0.1 ppm) and a wide range when equipped with dilution system (up to 10,000 ppm), plus a short response time of a few seconds. This type of system has found wide acceptance in Ambient Measurement for very low concentration levels. In North America the system is used with conventional sampling systems and also with high ratio dilution samplers. For high concentration stack gases, the system is not popular in Europe as it requires dilution technique for diluting the high concentrations in Stack gas by extractive dilution system.

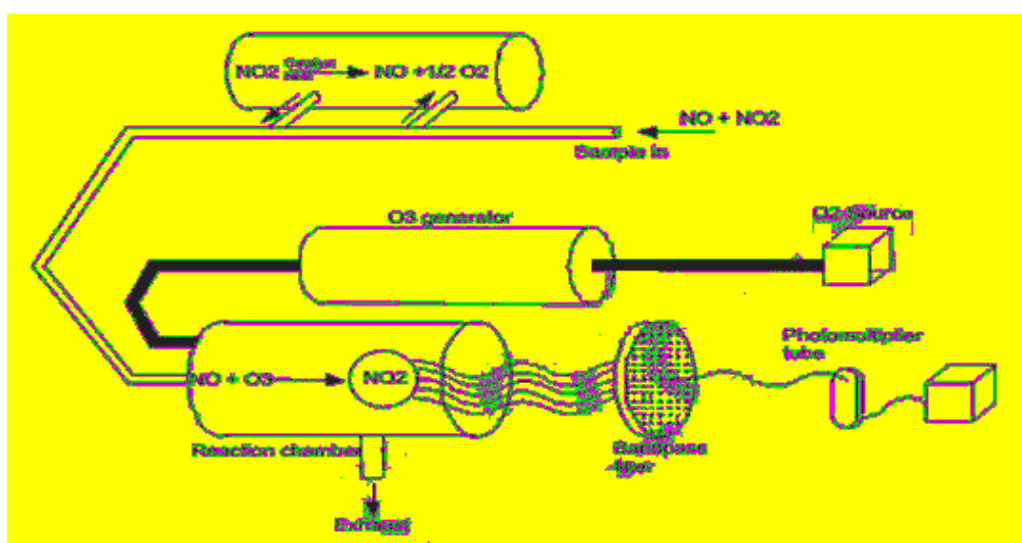


Figure 5.2.c: Chemiluminescence Analysis

10. Derivative/Laser Spectroscopy

Derivative/LASER spectroscopy involves scanning a spectral absorption peak and obtaining its second derivative or higher derivatives with respect to wavelength at the peak maxima. The derivative peak is measured, and this has the effect of increasing the detection sensitivity of the measurement. In analysers using this technique either the originating light from the light source is modulated or the light seen at the detector is modulated. This modulation produces a signal at the detector that is dependent on the shape of the absorption curve of the molecules.

Scanning over the absorption spectrum produces harmonics of the absorption line. The second harmonic of the signal is usually used to measure the concentration of the absorbing gas. The amplitude of the second harmonic is proportional to the second derivative of the intensity with respect to the wavelength.

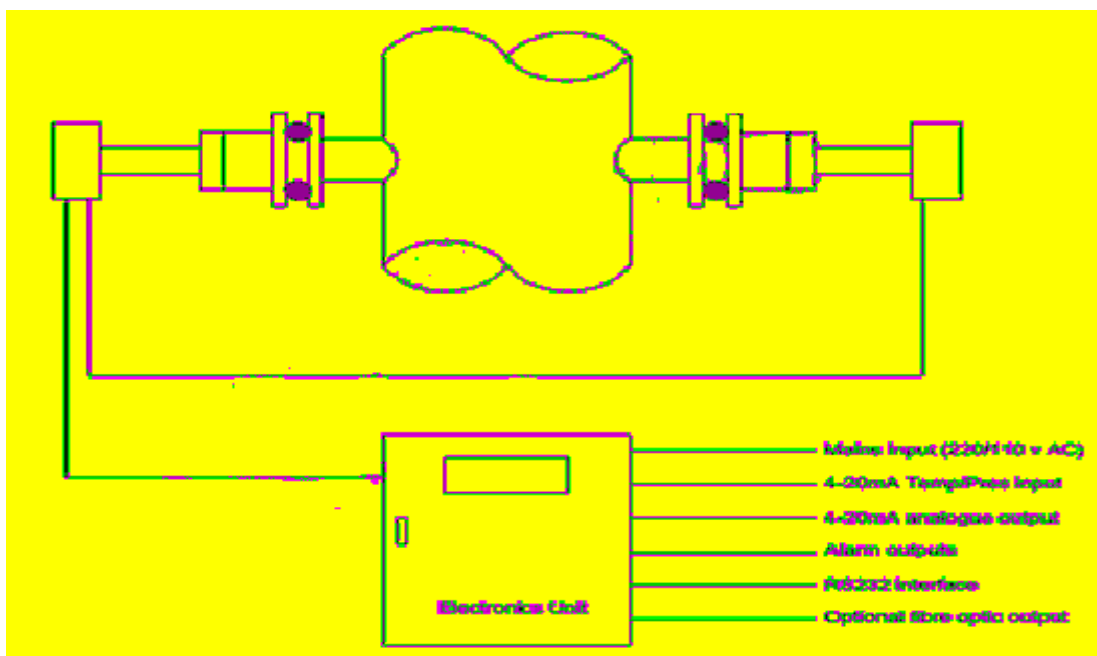
Tunable diode lasers (TDL) have been used in extractive, path in-situ, point in-situ and close-coupled monitoring designs using second derivative detection techniques. A simple diode laser system can employ the differential absorption technique, tuning the laser to different wavelengths by changing the laser temperature or its driving current.

Large interferences of gases may influence the measured concentration. This is due to line broadening effect as a result of molecular collisions. Different types of molecule may broaden the absorption line differently. Modern TDL analysers automatically compensate for this effect using digital filtering techniques.

An interesting aspect of the technique is its ability to measure oxygen concentration. As mentioned previously, homo-atomic molecules such as O₂ do not exhibit unique absorption characteristics in the infrared region of the spectrum. By using the derivative spectroscopic technique, the spin of electron is modified can be detected.

If oxygen is to be monitored using this technique, it is important to use pure nitrogen rather than air to purge the sensor 'windows', as the presence of oxygen in the purge gas will interfere with the measurement. Alternatively, it may be possible to correct the interference introduced by the purge air by calculation. In this technique the total path length, the path length containing

purge air, the path length containing flue gases and the temperature of the purge air and flue gases are measured, and the data are used to discriminate between oxygen present in the purge air and oxygen in the flue gases. Advance TDL techniques like CRDS (cavity ring down spectroscopy) or ICOS (Cavity Off-Axis Spectroscopy) are very stable at as low as ppb levels.



11. Flame Ionization Detector

The Flame Ionization Detector (FID) is the standard method for the measurement of Total Hydro Carbon (THC) / Total Organic Carbon (TOC)/ Total Volatile Organic Carbon (TVOC). The FID is capable of sensing most organic compounds and because of its relatively high sensitivity; it has become widely used in environmental applications.

In a typical FID the gas sample enters the base of a combustion chamber, where it is mixed with either hydrogen or a mixture of hydrogen or O₂10% and helium. A mixture of hydrogen and helium is used in order to reduce oxygen synergistic effects; however, more fuel gas is required with this approach resulting in shortened operating times. An alternative technique employs ceramic material to construct the burner nozzle; in this case pure hydrogen may be used for the fuel gas. The mixture is burned in a jet with oxygen.

The flame produces ions and free electrons. A current is applied between the burner and a collector plate, and the ions and free electrons increase the current flow in the circuit, which is sensed by an electrometer. The current is approximately proportional to the number of carbon atoms entering the flame; as the response of the detector is slightly different for different types of organic

compounds, the detector must be calibrated for the compounds being analysed to achieve the best accuracy.

The FID is selective and convenient to use in source sampling applications, since it does not respond significantly to other gases in the sample such as N₂, water vapour, CO, SO₂ and NO. However organic compounds that contain nitrogen, oxygen or halogen atoms may give a reduced response. The FID based system applicable for CEMS is hot- wet extractive, as a heated measurement.

12. Photo Ionisation Detector

In a photo ionisation detector (PID), a light in the UV region of the spectrum ionises organic molecules. The major components of the flue gas sample such as O₂, CO, N₂, CO₂ and water vapour are not ionised by the UV source. A typical PID analyser consists of a UV lamp and a pair of electrodes to measure the current proportional to the concentration.

Different molecules require different energies to photoionise, and the frequency of the light used in the PID may not ionise all of the organic species present in the sample.

PIDs are used in conjunction with gas chromatographs, or alone as portable analysers, where the technique can be used to produce extremely rugged and compact instruments. However, as the PID technique can be non-selective, analysers of this type are usually used as screening devices.

13. Gas Chromatography

Gas Chromatography (GC) is used to isolate the individual components of a mixture of organic and inorganic compounds from each other for subsequent identification and quantitative analysis. GC is based on the selective distribution of compounds between a stationary phase and a mobile phase (carrier gas). In the process, the moving gas phase passes over a stationary material that is selected to adsorb the organic molecules contained in the sample gas depending on polarity. The stationary phase can be either liquid or solid, and is contained in a long thin tube, commonly known as a 'column'. Columns are made from fused silica, glass or stainless steel.

In an ideal column operated under ideal conditions, each molecular species will exit the column at a different time depending upon molecular weight and

polarity. Selecting the appropriate column and operating it under the appropriate temperature with a suitable carrier gas flow rate will enable separation of the gas sample into its individual components. It should be noted that the technique is not truly continuous.

The compounds separated in a chromatographic column must be detected and quantified using appropriate detectors considering their sensitivity to the parameter being analyzed. Many types of detectors are available and the most commonly used for source monitoring applications being TCD, FID, PID, FPD, etc.

Analysers based on the principle of gas chromatography are complex and expensive. Although portable versions are available, they are not often used for the continuous measurement of organic compounds in emissions to atmosphere from LCPs and waste. Gas Chromatography techniques have been most popular technique in the Petroleum Refining/Petrochem industry for process measurements.

14. Zirconium Oxide (ZrO₂) Analyzer for Oxygen measurement

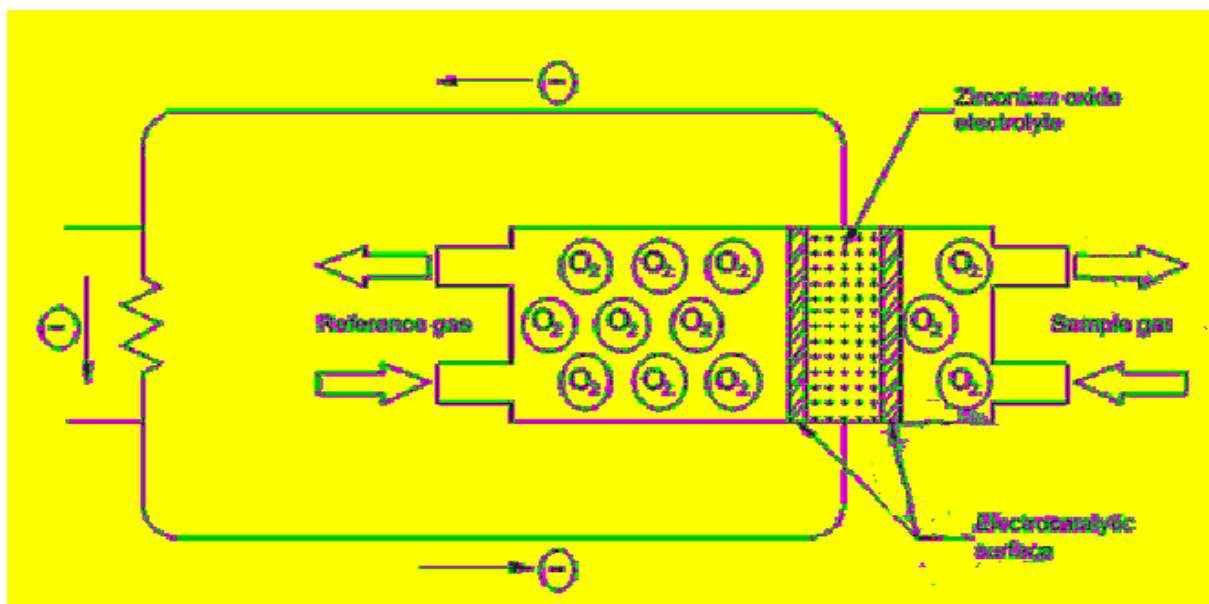
Analysers using ZrO₂ for the measurement of oxygen concentration in flue gases can either be in-situ, i.e., the measurement cell is in the stack; extractive on-stack, i.e., the cell is mounted on the stack with a sampling probe protruding into the flue gas; or extractive with the cell mounted in an analyser some distance from the stack.

In this method ceramic material, Zirconium Oxide (ZrO₂) coated with a thin layer of platinum, acts as an electrolyte to allow the transfer of oxygen from one side of the cell to the other. In the cell the oxygen concentration in the reference side is maintained at 21%. When the sample side of the cell is exposed to flue gases, the oxygen concentration in the sample side will be less than in the reference side. When ZrO₂ is heated to around 600°C, oxygen ions can migrate through the material, releasing electrons in the process. This results in the generation of an electromotive force, which is proportional to the difference in oxygen concentration between the two sides of the cell. If the reference oxygen concentration is known, the sample concentration can be calculated. The main characteristics of these analysers are:

- Very accurate and reliable measurement of O₂;

- A fast response time (for in-situ measurement) makes it ideal for process control applications;
- It is a well-understood technology with examples at most boiler plants (for combustion control);
- It has a low capital cost and low maintenance;
- The measurement is on a wet basis. The level of water vapour must be known to calculate the concentration on a dry basis.

It should be noted that the electrical output of the ZrO_2 cell is zero when both sides of the cell contain ambient air. The output of the cell increases as the oxygen content in the sample side of the cell is reduced. Thus it is normal practice to 'zero' ZrO_2 analysers at the 'air point', i.e, 21% oxygen.



15. Paramagnetic Analysers for Oxygen measurement

These extractive type analysers make use of the paramagnetic properties of oxygen for the measurement of concentration. Oxygen has a relatively strong permanent magnetic moment, which can be used to influence flow patterns of sample gas within an analyser.

The general characteristics of the extractive paramagnetic analysers are:

- Accurate and reliable measurement;
- Measure on a dry basis as part of an extractive system, therefore providing correct reference values for other extractive systems;
- Can be installed in the same sampling train as other analysers making use of common components, e.g. coolers, filters etc. This also ensures

that sample contamination by air in-leakage to the sampling system is taken into account; and

- Usually situated adjacent to other analysers, so can be part of an integrated monitoring package.

The types of paramagnetic analysers available are:

15.1 Paramagnetic Thermo-magnetic (Magnetic Wind) Analysers for Oxygen measurement

This method uses the temperature dependence of para-magnetism to generate a magnetically induced gas flow (magnetic wind), which is then measured. The sample gas to be analysed flows through a two-chamber system, consisting of sample and reference chambers. The two chambers hold temperature-dependent resistors that form part of a wheat stone bridge having thermodynamically identical conditions. The sample chamber is located in the field of a permanent magnet, while the reference chamber is not.

The bridge is connected to a constant current source. When oxygen-free gas flows through both chambers, the thermodynamic conditions in both chambers remain identical. If the gas in the sample chamber contains O₂, an enhanced circulatory flow proportional to O₂ content is established in the sample chamber. This disturbs the temperature dependent balance of the bridge circuit creating a DC signal proportional to O₂ content of the sample gas.

These analysers have a low maintenance requirement and are generally cheaper than other types of paramagnetic analysers. Because of the dependence of the principle on the thermal conductivity and specific heat of the sample gas, the composition of the background gas must be taken into account during calibration. The response time is also relatively slow.

15.2 Paramagnetic Automatic Null-Balance Analysers

The oxygen molecules in a flowing gas sample will establish a partial pressure gradient in a magnetic field. This gradient can be used to exert a force on a small dumbbell shaped body located within the field. The torque on the dumbbell causes a displacement that is detected by a mirror and photocell assembly, which measures its angular position. Compensation current

produced as a function of this position results in an electromagnetic torque counter acting the measurement torque and tries to restore the dumbbell to its original position. This compensation current is proportional to the O₂ content of the sample gas.

This measurement principle can achieve high sensitivity and accuracy. Analysers of this type have become a standard for flue gas analysis and are also type approved for emission monitoring.

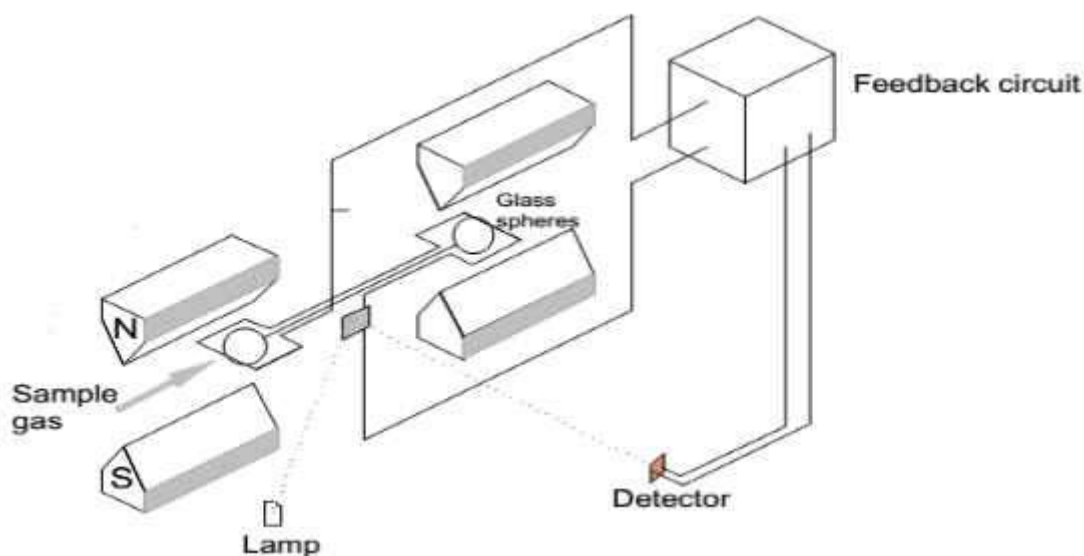


Figure 5.2.d: Magnetic Null-Balance Analysis

16. Electrochemical Fuel Cells for Oxygen Measurement

In recent years a wide range of portable flue gas analysers based on electrochemical fuel cell technology are available. In certain multi-component analyser applications, O₂ measurement is made using these cells. A typical cell used for the measurement would be of the metal air battery type comprising an anode, electrolyte and an air cathode.

Reaction takes place at the anode and cathode. During reaction, current is generated which is proportional to the oxygen content of the sample gas. The cross sensitivities of this cell are minimal and the use of gas filters, as used for CO or SO₂ measurement with electrochemical cells, is not normally required. Additionally, the problem of overloading (where the concentration is well above the measurement range) that causes problems for other sensors is not a problem for the O₂ cell due to the nature of the combustion process, as O₂ concentration in excess of 21 % are not possible.

Recent advances have led to O₂ cells designed for continuous use that have been incorporated into the continuous analysers discussed above. Measurement of O₂ would appear to be the most reliable and accurate measurement that can be made with flue gas analyser using fuel cell technology. This is approved technique with TUV/MCERT for O₂ measurement for normalization of CEMS measurement as it does not monitor pollutant but O₂ as a diluant for normalization.

6.0 FLUE GAS FLOW / VELOCITY MONITORING TECHNIQUES

Most commercially available flue gas flow monitors operate using one of the five principles for measuring velocity and volumetric flow: ultrasonic pulse detection, differential pressure, thermal detection (convective cooling), audible acoustic detection and optical scintillation. The five varieties of flow monitors are stack or duct mounted and operate as a component (including a microcomputer, pressure transmitters, and temperature transmitters) of a system. Other types of flow monitoring systems are available:

6.1 Ultrasonic Flow Monitors

The volumetric flow rate of stack gas is measured by transmitting ultrasonic pulses across the stack in both directions. Ultrasonic flow monitors are also available in probe design with the instrument being installed on one side of the stack only, while having a shorter measurement length to cross stack instruments; these instruments have the advantage of not needing mounting and platforms at two different heights on the stack.

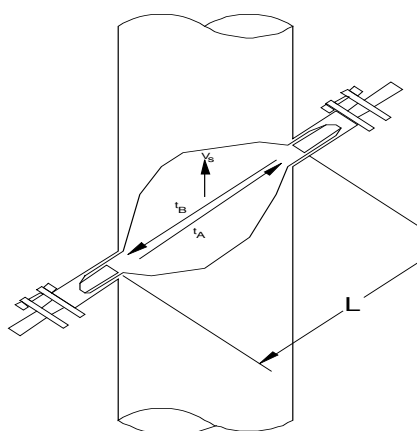


Figure 6.1: Ultrasonic Flow Monitor

The tone pulses are accelerated or retarded due to the gas velocity in the stack. The time required for traversing the distance of the stack with and against the flow is a function of the sound velocity and the effluent velocity. Stack flow can be calculated based on the difference in the time required to traverse the stack in both directions. The ultrasonic pulses must traverse the stack or duct at a minimum angle of 10 degrees; however, traverses between angles of 40 and 70 degrees tend to provide the best results, as long as the traverse path length is not so long that the ultrasonic pulses become difficult to detect.

6.2 Differential Pressure Flow Monitors

The S-type Pitot tube is designed as per the design of Stausscheibe or reverse type Pitot. The probe is constructed of two in-line tubes. The sampling point of the probe consists of two opposing open faces perpendicular to the traverse axis. A side view of the probe resembles two stacked tubes with the ends tapered away from one another and the openings planed parallel to the horizontal axis. The Fechheimer Pitot probe consists of flow sensors mounted on two multipoint averaging manifolds. The probe design consists of two manifolds (tubes) welded together with a truss plate. The truss maintains a distance between the manifolds in a plane perpendicular to the flow and the stack wall. One manifold averages multiple points of impact pressure, and the other averages multiple points of wake pressure. The impact and wake pressure averages are registered by the flow transmitter. This technology is used in numerous gas flow monitoring applications other than flue gas. Other types of noncontact flow monitors are also available in market.

6.3 Thermal Flow Monitors

Thermal flow monitors measure the electric power required to maintain a constant temperature of approximately 24 to 38°C above the exhaust gas temperature in a flow sensor. The monitors are available for both single-point and multipoint analysis, and non-sensing components of the systems can be constructed from various corrosion-resistant metals.

6.4 Infrared Correlation

Light based noncontact devices are also suitable for velocity measurement in flue gas.

Table 3: Flow Meter Selection Matrix

Parameters	Types of Flow (Velocity meter)				
	Impact Differential Pressure (Pitot Tube)		Thermal anemometer ¹	Bi-directional ultrasonic	Infrared correlation
Irregular Flow	Single point	Multipoint			
Wet stack	x	✓	✓	✓	✓
Max Flue Gas Temperature	Up to 1200°C	Up to 12000°C	200 – 300 °C (model specific)	450° C - 850°C (model specific)	Up to 1000 °C
Low speed	x	3 m/s	x	✓	✓
High Speed	x	35 - 50 m/s	✓	✓	✓
Calibration	Factory / Site	Factory / Site	Factory / Site ³	Factory / Site	Factory / Site

1. Pressure Transmitter (PT) and Temperature Transmitter (TT) are not installed with a Thermal Anemometer as it directly measures Mass Flow which is usually the required quantity. However, PT and TT are necessary to calculate density and convert mass flow calculated by the anemometer to volumetric flow.

2. Can be accounted for by using multiple probes/sensors

3. Calibration depends on physical properties (thermal conductivity, specific heat) of the gas whose flow is to be measured. Thus variation in properties of stack gas from factory calibrated values can result in inaccurate measurement.

7.0 ASSESSMENT OF MONITORING TECHNOLOGIES

The suitability of the technologies/instrumentation for monitoring the stack emission quality in different matrices, considering the limitations of the technologies, the varying Indian environmental conditions were assessed. Issues related to the utilities and maintenance required, operating costs, etc., wherever available were also considered. The parameters for online monitoring for various sectors of industries are specified at **Annexure-I**. The comparative chart depicting working limitations, including, specifications of above said technologies for measurement of particulate matter and gaseous pollutant is depicted in **Table-4** and **5**.

Table-6 depicts the composition analysis of available technologies for measurement of particulate matter and gaseous pollutants.

The prevailing industry specific emission standard and stacks in industries where CEMS are to be installed along with the CEMS options available for monitoring are presented in **Table-7**.

Table 4: PM CEMS Technology Applications and Limitations

Measurement Technology	Technology	Stack Diameter (m)	Concentration (mg/m ³)		Filter Type	Self-checks		Dry	Humid	Wet	Type of dust		Velocity Dependant	
			Min	Max		Sensor contamination check	Zero & span				Same	Changing		
Probe Electrification	Charge Induction (AC)	ElectroDynamic	0.2-4	0.05	1000	Bag,Cyclone, Drier,Scrubber ⁽⁵⁾ , None ⁽⁶⁾	✓ (7)	✓ (7)	✓	✓	x	✓	x	No ⁽⁸⁾
	Contact Charge Transfer (DC)	DC Triboelectric	0.2-2	1	1000	Bag,Cyclone, None ⁽⁶⁾ ,ESP ⁽¹⁰⁾	x	x	✓	x	x	✓	x	Yes
	Combination AC & DC	Combination AC & DC/ Tribo	0.2-2	1	1000	Bag,Cyclone, None ⁽⁶⁾	x	✓ (7)	✓	x	x	✓	x	Yes
Transmissometry	Ratiometric Opacity	Dynamic Opacity	1-15 ⁽¹⁾⁽²⁾⁽⁷⁾	10 ⁽³⁾	1000	Bag ⁽⁴⁾ ,Cyclone,EP,None	✓	✓ (7)	✓	x	x	✓	x	No
		Dyanamic Detection Principle	1-10 ⁽¹⁾⁽²⁾	20	1000	Bag ⁽⁴⁾ ,Cyclone,EP,None	✓	x	✓	x	x	✓	x	No
	Opacity	Opacity	2-10 ⁽¹⁾⁽²⁾	30 ⁽⁴⁾	1000	EP,None	✓	✓	✓	x	x	✓	x	No
		Non Compliance Transmittance	2-10 ⁽¹⁾⁽²⁾	30 ⁽⁴⁾	1000	EP,None	x	x	✓	x	x	✓	x	No
Scattered Light	Light Scattering	Forward Scatter	1-3 ⁽²⁾	0.1	200	Bag,Cyclone,EP,None	✓	✓	✓	✓	✓ ⁽⁹⁾	✓	X	No
	Light Scattering	Backward / Side Scatter	1-4 ⁽¹⁾⁽²⁾	25	500	Bag ⁽⁴⁾ ,Cyclone,EP,None	✓	✓	✓	x	x	✓	X	No

- Notes: (1) Concentration dependent (5) No water droplets (9) Using extractive wet stack monitoring system
 (2) Representative Flow dependent (6) No filter-not advised (10) Advised with Faraday Shield/edge
 (3) Application specific (7) Model specific
 (4) Stack diameter dependent (8) Varying velocity range 8-20 m/sec

There are a number of Opacity instruments with TUV approvals for particulate measurement. The certification ranges for opacity monitor are dependent on path length. The measuring range of 0-1000mg/m³ is suggested for a path length of 0.5 to 15 mt. However, low range i.e. 0 to 10 mg/Nm³ can be monitored in stack with minimum 5m path length.

This information is meant as a guide and reflects the majority of technology limitations of instruments currently commercially available, however specific models may offer decreased or increased capability the actual stack conditions will dictate instrument suitability

Table 5: Overview on Technical Selection & Suitability for Gaseous CEMS Technology

Technique	Type	Parameter(S) Measured	Comments& Limitations
Chimiluminescence	Dilution Extractive	NO, NO _x , NO ₂ * (Technology not suitable for other emission parameters like SO ₂ , CO ₂ , CO etc.)	<ul style="list-style-type: none"> - Indirect method for NO₂ measurement. NO and NO_x (NO + converted other Nitrogen oxides) measured in two cycles *NO₂ estimated as calculated (NO_x - NO). - Used for stack emission measurement with additional accessories like dilution probe, sample transfer line, dilution air, pumps and ozone generator. Advantageous in industries where heating probe and transfer lines are avoided. i.e. refinery, Petro chemicals. - Requires efficient purification system for dilution air. - Quench Effect of CO₂/water vapour, etc. maintaining Low Pressure becomes important. Can be eliminated by increased O₃ flow and requires continuous efforts and mechanism for it.
UV Fluorescence	Dilution Extractive	SO ₂ , H ₂ S*, TRS* (Total Reduced Sulphur) (Technology not suitable for other emission parameters like NO _x , CO ₂ , CO etc.)	<ul style="list-style-type: none"> * H₂S, TRS Cannot be measured simultaneously with SO₂. - Direct method for SO₂ -Used for stack emission measurement with additional accessories like dilution probe, sample transfer line, dilution air, pumps etc. - Advantageous in industries where heating probe and transfer lines are avoided. i.e. refinery, Petro chemicals. - Quench Effect of CO₂/Moisture, etc. maintaining Low Pressure becomes important.
NDIR (IR GFC, CFM-NDIR and NDIR) Basic principle follows IR (Infra-Red) spectroscopy GFC or CFM are applied techniques only.	In-Situ &Extractive	CO, CO ₂ , SO ₂ , NO _x , CH ₄ , HCl, H ₂ O etc.	<ul style="list-style-type: none"> - A direct method for continuous monitoring of multiple gases without any dilution. - Suitable for high concentrations <p>The IR technology has limitation that it can measure only NO. For measurement of NO_x a convertor to reduce other oxides of nitrogen to NO is required.</p>

Technique	Type	Parameter(S) Measured	Comments& Limitations
			<ul style="list-style-type: none"> - In-situ NDIR analyser uses Internal optical filters (GFC) for removal of interferences of other gases. - In extractive NDIR Issue of dissolution and stripping of CO₂/ SO₂ can underestimate the measured concentration, in case calibration does not follow the same system of sample transfer. Maintaining Low Pressure becomes important.
NDUV	In-situ and Extractive	SO ₂ , NO, NO ₂ , NH ₃ , Cl ₂ , CS ₂ , etc.	<ul style="list-style-type: none"> - A direct method for continuous monitoring of multiple gases suitable upto 2-3 gas measurements without any dilutions. - Popular in harsh applications in wide spectrum of Industrial process. - For NH₃ Hot wet extractive and Dilution system are suitable.
Fourier Transformed Infra-Red (FTIR)	Extractive	CO, CO ₂ , SO ₂ , NO, NO ₂ , N ₂ O, NH ₃ , HF, HCl, CH ₄ , Moisture (H ₂ O), VOC, etc.	<ul style="list-style-type: none"> - A direct method for continuous monitoring of multiple gases up to 5 - 12 gases using high end spectroscopy technique. - H₂O measurement in FTIR spectroscopy is necessary for moisture correction. - Uses Hot Wet Preferred technique for complex stack gas matrix like waste Incinerators or waste to power plants, alternative fuels fired Cement Plants, with high moisture and soluble gases. - High Price, however, with multi complex gases and integrated modules like VOC, O₂ makes it cost effective over all solution. - Ideal for very low concentration of NH₃, HF, HCl
Differential Optical Absorption Spectroscopy (DOAS)	Open Path cross duct	NO, NO ₂ , SO ₂ NH ₃ , Hg with DOAS- UV CO, CO ₂ , HCl, CH ₄ , VOC, H ₂ O, HF etc. DOAS-IR	<ul style="list-style-type: none"> - Suitable of monitoring of multiple gases. - Suitable for trace measurements - Indirect measurement technique. - Stable, comparatively low calibration requirements. - Measurement of Hg requires its conversion to elemental form for UV DOAS for which the system is required to be equipped with heated gas probe, heated sample transfer line and heated measurement cell. Removal of SO₂

Technique	Type	Parameter(S) Measured	Comments& Limitations
			interference is essential in case of UV measurement of mercury.
Flame Ionization	Extractive	Total HC (VOC), TOC, VOC	-Very selective technique for Total HC/ TOC/VOC. Requires H ₂ gas for flame and carrier Gas. -Integrated with extractive Hot wet / cold dry techniques.
Tunable Diode Laser	Path	CO, CO ₂ , NH ₃ , Moisture (H ₂ O), HCl, HF, CH ₄ , O ₂ & H ₂ S etc.	Usually selective laser techniques are not cost effective for single component. - Limitation in measuring SO ₂ and NO _x due to lack of selectivity. - Measurement of H ₂ O for moisture correction is necessary.
Electrochemical	Extractive	O ₂ , CO/CO ₂ , etc.	-Not accepted for online stack emission monitoring in Industries. -Electrochemical sensor is a consumable sensor, requires regular replacement and gets influenced by process stack background gas matrix. - Also gets influenced by moisture, dust, temperature, etc.
Zirconium Oxide / O ₂ Cell	In-situ& Extractive	O ₂	Widely used for boiler/ Stack O ₂ correction/ Normalisation.
Paramagnetic	Extractive	O ₂	Stable and accurate.
Atomic fluorescence / absorption	Hot Extractive	Hg	Total Gaseous Mercury. Always Hot extractive system A) Pre-treatment options Gold Amalgamation Followed by chemical/ thermal desorption (B) Adsorption in other media followed by Thermal desorption and measured using either atomic absorption/ atomic fluorescence / UV DOAS / UV measurement (after removal of SO ₂ interference/ Zeeman correction) are acceptable. For atomic absorption, Mercury lamp (NOT UV LAMP) should be used as energy source

Notes:

- (a) **CEM Systems must have flue gas flow measurement device installed where load based standards are stipulated.**
- (b) **Direct measurement systems for O₂ or CO₂ as prescribed in respective standards shall be installed.**
- (c) **For hazardous waste incinerator and Biomedical waste incinerator O₂, CO₂, and CO are important parameters to be monitored online.**

Table 6: Comparative analysis of technologies available for measurement of Gaseous pollutant

Type of Technology	Extractive NDIR/ IR GFC/ IR CFM and NDUV	In-situ NDIR & IR GFC	DOAS (Differential Optical Absorption Spectroscopy)	DILUTION EXTRACTIVE	TDLS	FTIR
How it works	Gas is extracted from stack, transported to sampling system, gas is conditioned and analyzed with a multi-gas NDIR analyzer	Optical head is directly mounted on the stack, by measuring light absorbed the analyzer measures the gases	Emitter, Receiver mounted across the stack. Xenon lamp emits light, amount of light absorbed at receiver sent to analyser through Optic Fibre cable	Very small amount of gas Extracted (Diluted) from stack to the analyser.	Derivative Laser spectroscopy which scan the spectral absorption peak and measure the derivative peak respective to be measurable parameters. It may be path insitu, close coupled, extractive system.	This methodology is strictly hot wet extractive. FTIR is a special type of spectroscopy in which spectrum is further analysed through an interferometric algorithm.
Advantage	<ul style="list-style-type: none"> -Suitable for high level of concentration. -Low failure rates as analyzer is not exposed to outside conditions, -easy to maintain when analyser is at ground, -addition of new analyzer at a later date is easy. -usually requires more calibration checks -widely used technique in harsh process applications -useful with close coupled technique 	<ul style="list-style-type: none"> -Suitable for high levels of concentrations. - Proper purging system is mandatory -Difficult to maintain at height -Addition is very simple, just new parameter monitoring arrangement required. -Usually requires more calibration checks as the system works in harsh/rough condition. 	<ul style="list-style-type: none"> -can measure low and high concentrations -No sampling requirement, except for mercury. -Low maintenance as there is no moving part. -Works well in harsh conditions like High moisture. -Provide High Data capture rate. -Single analyser can be used for multiparameter monitoring. -Requires less calibration because of low drift. 	<ul style="list-style-type: none"> -can measure low and high concentrations -sample is easy to dry -Ambient analysers technologies deployed. -Dilution ratio can be varied to reduce the interferences. 	<ul style="list-style-type: none"> -Multi-parameter monitoring is possible - Tuneable diode laser system is sensitive and can work in wet condition also. - Advantageous for Ammonia, HF, HCl monitoring alongwith H₂O 	<ul style="list-style-type: none"> -It is multi parameter monitoring technique suitable for most parameters except O₂. -suitable for most of the industries except for those such as petrochemical, refineries etc. where possibility of explosion and safety is a concern.

Type of Technology	Extractive NDIR/ IR GFC/ IR CFM and NDUV	In-situ NDIR & IR GFC	DOAS (Differential Optical Absorption Spectroscopy)	DILUTION EXTRACTIVE	TDLS	FTIR
Limitations	<ul style="list-style-type: none"> -Installation takes more time -Measures NO and not NO₂ -AC Rooms 	<ul style="list-style-type: none"> -The complete analyser system along with calibration equipment needs to be installed at stack and would require adequate arrangement for maintenance and calibration -Cannot measure low levels, -No expansion possible beyond the capacity of one device (Number of filters in the system), -consumes comparatively more calibration gas, -stack gas may corrode the probe and optics, -water interference is observed -Generally Measures NO not NO₂. -Expected life is less in comparison as system is exposed to harsh conditions 	<ul style="list-style-type: none"> - High Initial cost - Requires converter for Hg for which only extractive system should be used. -Calibration frequency requirement is low but needs a separate calibration bench. -AC Rooms 	<ul style="list-style-type: none"> -More time required for calibration as the calibration gases will pass the complete system from analyser till probe. - Dilution ratio - Operation of critical orifice -Maintaining dilution gas quality is challenging. -Individual analyser required for each parameter. -AC Rooms 	<ul style="list-style-type: none"> - High cost -Cannot measure SO₂ and NO_x . AC Rooms 	<ul style="list-style-type: none"> - High cost -AC Rooms
List of gases that can be measured	CO, CO ₂ , NO, SO ₂ , CH ₄ , etc, Moisture (number of gases limited to number of filters fitted in analyzer.	CO, CO ₂ , NO, SO ₂ , CH ₄ , HCl, Moisture (Note IR based system does not measure NO ₂ only calculates)	UV analyser- SO ₂ , NO, NO ₂ Phenol, Cl ₂ , Formaldehyde, Benzene, Hg	SO ₂ , NO, NO ₂ (NO _x), CO	CO,CO ₂ ,NH ₃ ,H ₂ O, HCL, HF,O ₂ and H ₂ S	SO ₂ ,NO,NO ₂ ,CO, CO ₂ , NH ₃ ,H ₂ O, HCL, HF and O ₂

Type of Technology	Extractive NDIR/ IR GFC/ IR CFM and NDUV	In-situ NDIR & IR GFC	DOAS (Differential Optical Absorption Spectroscopy)	DILUTION EXTRACTIVE	TDLs	FTIR
	(Note IR based system does not measure NO ₂ , only calculates) NO ₂ monitoring possible when convertor is used	NO ₂ monitoring possible when convertor is used	IR analyser- CO, CO ₂ , HCL, HF, H ₂ O, SO ₃ , NH ₃ , N ₂ O, CH ₄			
Effect of dust	Higher effect but can be controlled at sampling point	Higher effect but can be controlled with inbuilt mechanism	Low	Low Dilution probe clogging to be tackled	-	-
Effect of temperature	-	Limited Temperature Works upto 500 degC	-	Less than 400°C (Dilution probe with Quartz Orifice suitable upto 800°C	-	-
Effect of pressure	-	Limited Pressure	-	-	-	-
Effect of moisture	low as removed or Hot Wet	Very much affected, need to measure H ₂ O online Cannot work below dew point (below 95 degC)	If moisture over 40%, instrument gets effected	Gets affected at high moisture conditions. Can be controlled through properly dried dilution air	-	-
Requirement						
Adjustment during Zero and Span Check	Not allowed Zero and span check data needs to be transferred at real time	Not allowed Zero and span check data needs to be transferred at real time	- Zero and span check data needs to be transferred at real time	Not allowed Zero and span check data needs to be transferred at real time	Not allowed Zero and span check data needs to be transferred at real time	Not allowed Zero and span check data needs to be transferred at real time
Calibration & Check frequency	-Daily ZERO Check -Fortnightly ZERO and SPAN Calibration -Six Monthly Linearity Check	- Daily ZERO Check -Fortnightly ZERO and SPAN Calibration -Six Monthly Linearity Check --After Major maintenance	-Diagnostic check in every cycle -Six monthly ZERO and SPAN Calibration -Yearly Linearity Check ---After Major maintenance multipoint	-Daily ZERO Check -Fortnightly ZERO and SPAN Calibration -Six Monthly Linearity Check --After Major maintenance multipoint	-Diagnostic check in every cycle -Six monthly ZERO and SPAN Calibration -Yearly Linearity Check	-Diagnostic check in every cycle -Six monthly ZERO and SPAN Calibration -Yearly Linearity Check

Type of Technology	Extractive NDIR/ IR GFC/ IR CFM and NDUV	In-situ NDIR & IR GFC	DOAS (Differential Optical Absorption Spectroscopy)	DILUTION EXTRACTIVE	TDLS	FTIR
	--After Major maintenance multipoint Zero and SPAN Calibration	multipoint Zero and SPAN Calibration	Zero and SPAN Calibration	Zero and SPAN Calibration	---After Major maintenance multipoint Zero and SPAN Calibration	---After Major maintenance multipoint Zero and SPAN Calibration
Approvals for analyzers	TUV / MCERT approvals and conforms to US EPA / Indian certification	MCERT/TUV however, US EPA does not recommend In-situ system. / Indian certification	TUV, MCERTS and meets USEPA calibration protocols / Indian certification	Only conforms to USEPA / Indian certification	EU-TUV/MCERT / Indian certification	EU-TUV/MCERT / Indian certification
Multiplexing possible Y/N	NOT allowed as of now	NOT allowed as of now	NOT allowed as of now	NOT allowed as of now	NOT allowed as of now	NOT allowed as of now
Remote calibration Y/N	YES	YES	YES Possible with installation of calibration bench at site	Yes Dilution mechanism has to be compatible	Yes	Yes
Manual Online calibration Y/N	YES	YES	YES	YES	Yes	Yes

Note: Guidelines for calibration are in general. Wherever there are specific issues or difficulties related to method of remote calibration in different technologies, same should be brought into the notice of CPCB & SPCBs/PCCs.

Table 7: Parameter specific Emission Standards for industries need to install CEMS

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits			Options available for CEMS
1	Aluminum	Raw Material Handling	PM	PM 150 mg/NM ³			PM CEMS as per matrix Table no:4
		Calcination	PM, CO	PM 250 mg/NM ³ and CO 1% (Max)			PM CEMS as per matrix Table no:4
		Green Anode Shop	PM	PM 150 mg/NM ³			PM CEMS as per matrix Table no:4
		Anode Bake Oven	PM	PM 50 mg/NM ³			PM CEMS as per matrix Table no:4
			Total fluoride (F)	0.3 Kg/MT of Al			Extractive FTIR In-situ IR-DOAS,TDLS
		Pot room	PM	PM 150 mg/NM ³			PM CEMS as per matrix Table no:4
			Total Fluoride (as F)	Vertical Stud Soderberg (VSS)	4.7 Kg/MT	Extractive FTIR	
				Horizontal Stud Soderberg (HSS)	6.0 Kg/MT	In-situ IR-DOAS,TDLS	
				Prebacked Side Worked (PBSW)	2.5 Kg/MT	Extractive FTIR	
Prebacked Centre Worked PBCW)	1.0 Kg/MT	In-situ IR-DOAS,TDLS					
2.	Cement Plant (without co processing), Standalone Clinker Grinding Plant or, Blending Plant	Rotary Kiln – without co processing	Parameter	Date of Commissioning	Location	Emission Limits mg/Nm ³	CEMS Options
			PM	on or before or after the date of notification (25.8.2014)	anywhere in the country	30 mg/Nm ³	PM CEMS as per matrix Table no:4
			SO ₂	Irrespective of date of commissioning	Anywhere in the country	100, 700 and 1000 mg/Nm ³ when pyritic sulphur in the limestone is less than 0.25%, 0.25 to 0.5% and more than 0.5% respectively	In-situ NDIR / IR GFC/UV-DOAS
							Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM
					Dilution extractive		

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits			Options available for CEMS
				After the date of notification (25.8.2014)	Anywhere in the country	600 mg/Nm ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - Chemiluminescence
			NO _x	Before the date of notification (25.8.2014)	Anywhere in the country	(a) 800 for rotary kiln with In Line Calciner (ILC) technology. (b) 1000 for rotary kiln using mixed stream of ILC, Separate Line Calciner (SLC) and suspension preheater technology or SLC technology alone or without Calciner.	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, IR GFC, NDIR-CFM Dilution Extractive - Chemiluminescence
	Cement Plant with co-processing of wastes	Rotary Kiln – with co-processing of Wastes	Parameters	Date of Commissioning	Location	Emission Limits mg/Nm ³	CEMS Options
PM			on or after the date of notification (25.8.2014)	Anywhere in the country	30 mg/NM ³	PM CEMS as per matrix Table no:4	
SO ₂			before the date of notification (25.8.2014)	critically polluted area or urban centres with population above 1.0 lakh or within its periphery of 5.0 kilometer radius	100, 700 and 1000 mg/Nm ³ when pyritic sulphur in the limestone is less than 0.25%, 0.25 to 0.5% and more than 0.5% respectively	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence	

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits			Options available for CEMS
				After the date of notification (25.8.2014)	Anywhere in the country	600 mg/Nm ³	In-situ UV-DOAS, NDIR, IR GFC
			NOx	After the date of notification (25.8.2014)	Anywhere in the country	600 mg/Nm ³	Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM
			NOx	before the date of notification (25.8.2014)	anywhere in the country	(a) 800 mg/Nm ³ for rotary kiln with In Line Calciner (ILC) technology. (b) 1000 mg/Nm ³ for rotary kiln using mixed stream of ILC, Separate Line Calciner (SLC) and suspension preheater technology or SLC technology alone or without calciner.	Dilution Extractive - chemiluminescence
			Parameters	Implementation Date	Location	Emission Limits	CEMS Options
			HCl (mg/NM ³)	NA	Anywhere in the country	10 mg/Nm ³	In-situ IR DOAS, TDLS, Hot Extractive FTIR
			HF (mg/NM ³)	NA	Anywhere in the country	1 mg/Nm ³	In-situ IR DOAS, TDLS, Hot Extractive FTIR
			TOC (mg/NM ³)	NA	Anywhere in the country	10 mg/Nm ³	Hot Ext. FID
			3	Distillery	Boiler Stack	PM	150 mg/NM ³

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS	
4	ChlorAlkli	(Hyper tower) (HCl Plant)	Cl ₂ , HCl	Cl ₂ -15 mg/NM ³ HCL-35mg/NM ³		IR DOAS, TDLS, Hot Extractive FTIR	
5	Fertilizers	Phosphate	PM	PM-150 mg/NM ³		PM CEMS as per matrix Table no:4	
			Fluoride	Total Fluorides-25 mg/NM ³		Extractive FTIR In-situ IR-DOAS, TDLS	
		Urea (Old Plants) before 01/01/1982	PM	150 mg/NM ³			
		Urea (New Plants) after 01/01/1982	PM	50 mg/NM ³			
6	Integrated Iron & Steel Plants	Coke oven plant New Batteries at GF sites Rebuild Batteries Existing Batteries	PM	50 mg/NM ³		PM CEMS as per matrix Table no:4	
			SO ₂	800 mg/NM ³		In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence	
			NO _x	500 mg/NM ³		In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - chemiluminescence	
			Sintering Plant	PM	150 mg/NM ³		PM CEMS as per matrix Table no:4
		Blast Furnace		Existing Units	New Units (after 31 March 2012)		
			PM	50 mg/NM ³	30 mg/NM ³		PM CEMS as per matrix Table no:4

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
			SO ₂	250 mg/NM ³	200 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	150 mg/NM ³	150 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - Chemiluminescence
			CO	1% (Max)	1% (Max)	NDIR Insitu Extractive FTIR
		Steel making shop-basic oxygen furnace	Parameters	Existing Units	New Units (after 31 march 2012)	
		Blowing/lancing operation	PM	300 mg/NM ³	Should be with gas recovery	PM CEMS as per matrix Table no:4
		Normal operation	PM	150 mg/NM ³	Should be with gas recovery	PM CEMS as per matrix Table no:4
		Dedusting of desulphurisation	PM	100 mg/NM ³	50 mg/NM ³	PM CEMS as per matrix Table no:4
		Rolling mill	PM	150 mg/NM ³		PM CEMS as per matrix Table no:4
		Re-heating (reverberatory) furnaces	PM	Sensitive Areas	Other Areas	PM CEMS as per matrix Table no:4
				150 mg/NM ³	250 mg/NM ³	
		Arc furnaces	PM	150 mg/NM ³		PM CEMS as per matrix Table no:4

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
		Induction Furnace	PM	150 mg/NM ³		PM CEMS as per matrix Table no:4
		Cupola Foundry		< 3 MT / hr Melting capacity	> 3 MT / hr Melting capacity	
			PM	450 mg/NM ³	150 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂	300 mg/NM ³ Corrected to 12 % CO ₂		In-situ NDIR / IR GFC/ UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV- Fluorescence
				Capacity upto 40 Tonne / day	Capacity above 40 Tonne / day	
		Calcination plant/lime kiln / dolomite kiln	PM	500 mg/NM ³	150 mg/NM ³	PM CEMS as per matrix Table no:4
		Refractory unit	PM	150 mg/NM ³		PM CEMS as per matrix Table no:4
	Sponge Iron Plants	Rotary Kiln	PM	100 mg/NM ³ (Coal based)		PM CEMS as per matrix Table no:4
				50 mg/NM ³ (Gas based)		PM CEMS as per matrix Table no:4
	7	Oil Refinery	Furnace boiler and captive power plant gas based		Before 2008	After 2008
PM				10 mg/NM ³	5 mg/NM ³	PM CEMS as pe matrix Table no:4
SO ₂				50 mg/NM ³	50 mg/NM ³	In-situ NDIR / IR GFC/ UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV- Fluorescence

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
			NO _x	350 mg/NM ³	250 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV/ FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - chemiluminescence
			CO	150 mg/NM ³	100 mg/NM ³	NDIR Insitu Extractive FTIR, NDIR GFC / NDIR CFM
			H ₂ S	150 mg/NM ³	150 mg/NM ³	TDLS/FTIR/IR DOAS However H₂S and SO₂ can not be measured simultaneously.
		Furnace boiler and captive power plant liquid Fuel based		Before 2008	After 2008	
			PM	100 mg/NM ³	50 mg/NM ³	PM CEMS as pe matrix Table no:4
			SO ₂	1700 mg/NM ³	850 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	450 mg/NM ³	350 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - chemiluminescence
			CO	200 mg/NM ³	150 mg/NM ³	NDIR In situ Extractive FTIR, NDIR GFC / NDIR CFM

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
				Existing SRU	New SR (after 1.1.2008)	
		Sulphur Recovery Unit (SRU)	Parameters	Existing SRU	New SR (after 1.1.2008)	
			H ₂ S	15 mg/NM ³	10 mg/NM ³	TDLS/FTIR/IR DOAS However H ₂ S and SO ₂ cannot be measured simultaneously.
			NO _x	350 mg/NM ³	250 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive – Chemiluminescence
			CO	150 mg/NM ³	150 mg/NM ³	NDIR In situ Extractive FTIR, NDIR GFC / NDIR CFM
8	Petrochemical	Furnace, Boiler, Heater, Vaporizer Liquid Fuel based		Existing Plant	New / Expansion (after 9 th Nov. 2011)	
			PM	100 mg/NM ³	50 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂	1700 mg/NM ³	850 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	450 mg/NM ³	350 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - Chemiluminescence
			CO	200 mg/NM ³	150 mg/NM ³	NDIR In situ Extractive FTIR, NDIR GFC / NDIR CFM

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
				Existing Plant	New / Expansion	
		Furnace, Boiler, Heater, Vaporizer Gas based	PM	10 mg/NM ³	5 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂	50 mg/NM ³	50 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	350 mg/NM ³	250 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive - Chemiluminescence
			CO	200 mg/NM ³	150 mg/NM ³	NDIR In situ Extractive FTIR, NDIR GFC / NDIR CFM
9	Power Plant **	TPP installed before 31/12/2003		Less than 500 MW	More than 500 MW	
			PM	100 mg/NM ³	100 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂	600 mg/NM ³	200 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	600 mg/NM ³	600 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive – Chemiluminescence

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
			Hg	0.03 mg/NM ³	0.03 mg/NM ³	Total Gaseous Mercury. Always Hot extractive system A) Pre-treatment options Gold Amalgamation Followed by chemical/ thermal desorption (B) Adsorption in other media followed by Thermal desorption and measured using either atomic absorption/ atomic fluorescence / atomic absorption / UV DOAS / UV measurement (after removal of SO ₂ interference / Zeeman correction) are acceptable. For atomic absorption, Mercury lamp (NOT UV LAMP) should be used as energy source
		TPP Installed on & after 01/01/2004 upto 31/12/2016		Less than 500 MW	More than 500 MW	
			PM	50 mg/NM ³	50 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂	600 mg/NM ³	200 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM
						Dilution extractive UV-Fluorescence
			NO _x	300 mg/NM ³	300 mg/NM ³	In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive – Chemiluminescence

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
			Hg	0.03 mg/NM ³	0.03 mg/NM ³	Total Gaseous Mercury, Always Hot extractive system A) Pre-treatment options Gold amalgamation Followed by chemical/ thermal desorption (B) Adsorption in other media followed by Thermal desorption and measured by either Cold vapour atomic fluorescence / Cold Vapor atomic absorption / UV DOAS / UV measurement (after removal of SO ₂ interference) are acceptable. For atomic absorption, Mercury lamp (NO UV LAMP) should be used as energy source
		TPP to be installed from 01/01/2017	PM	30 mg/NM ³		PM CEMS as per matrix Table no:4
			SO ₂	100 mg/NM ³		In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			NO _x	100 mg/NM ³		In-situ UV-DOAS, NDIR, IR GFC Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM Dilution Extractive – Chemiluminescence

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
			Hg	0.03 mg/NM ³		Total Gaseous Mercury, Always Hot extractive system A) Pre-treatment options Gold amalgamation, followed by chemical/ thermal desorption (B) Adsorption in other media followed by Thermal desorption and measured by either Cold vapour atomic fluorescence / Cold Vapor atomic absorption / UV DOAS / UV measurement (after removal of SO ₂ interference) are acceptable. For atomic absorption, Mercury lamp (NO UV LAMP) should be used as energy source
10	Zinc	Smelter, SRU		Existing Units	New Units (after 2 nd May 2011)	CEMS options available
			PM	100 mg/NM ³	75 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂ (for upto 300 T /day)	1370 mg/NM ³	1250 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence
			SO ₂ (for > 300 T /day)	1250 mg/NM ³	950 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM Dilution extractive UV-Fluorescence

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits		Options available for CEMS
				Existing Units	New Units (after 2 nd May 2011)	
11	Copper	Smelter, SRU	Parameters	Existing Units	New Units (after 2 nd May 2011)	CEMS options available
			PM	100 mg/NM ³	75 mg/NM ³	PM CEMS as per matrix Table no:4
			SO ₂ (for upto 300 T /day)	1370 mg/NM ³	1250 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS
						Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM
						Dilution extractive UV-Fluorescence
			SO ₂ (for > 300 T /day)	1250 mg/NM ³	950 mg/NM ³	In-situ NDIR / IR GFC/UV-DOAS
			Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM			
			Dilution extractive UV-Fluorescence			
12	Biomedical waste Incinerator	Incinerator Stack	PM	50 mg/NM ³		PM CEMS as per matrix Table no:4
			NO _x	400 mg/NM ³		In-situ UV-DOAS
						Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM
						Dilution Extractive – Chemiluminescence
			HCl	50 mg/NM ³		IR DOAS, TDLS,
			Temp. P.C.C.	800 °C		Temperature probe
			Temp. S.C.C.	1050 ± 50 °C		Suitable Temperature Probe
Combustion Efficiency CO and CO ₂	99%		Extractive NDIR			
13	Common Hazardous Waste Incinerator	Incinerator Stack	PM	50 mg/Nm ³		PM CEMS as per matrix Table no:4
			HCl	50 mg/Nm ³		In-situ IR DOAS, TDLS
						Hot Extractive FTIR, IR
			SO ₂	200 mg/Nm ³ -30 minute average		In-situ NDIR / IR GFC/UV-DOAS

S. No.	Industries/ Facilities	Units of Operation	Parameters Prescribed	Emission Limits	Options available for CEMS
					Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM
					Dilution extractive UV-Fluorescence
			NO _x	400 mg/Nm ³	In-situ UV-DOAS
					Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM
					Dilution Extractive - chemiluminescence
			HF	4.0 mg/Nm ³	In-situ IR DOAS, TDLS
					Hot Extractive FTIR
			TOC	20 mg/Nm ³	Hot Extractive FID
			CO	100 mg/Nm ³ -30 minute average 50 mg/Nm ³ -24 Hrly average	NDIR In situ
					Extractive FTIR, NDIR GFC / NDIR CFM
14	Sugar	Boiler	PM	150 mg/NM ³	PM CEMS as per matrix Table no:4
15	Sugar, Cotton Textile, Composite Woolen Mills, Synthetic Rubber, Pulp & Paper, Distilleries, Leather Industries, Calcium Carbide, Carbon Black, Natural Rubber, Asbestos, Caustic Soda, Small Boilers , Aluminium	Boiler (Other fuels)	SO ₂	600 mg/NM ³ at 6% dry O ₂ , for solid fuel and 3% dry O ₂ for liquid fuel	In-situ NDIR / IR GFC/UV-DOAS
					Extractive NDUV / FTIR / NDIR / IR-GFC / IR-CFM
					Dilution extractive UV-Fluorescence
			NO _x	600 mg/NM ³ at 6% dry O ₂ , for solid fuel and 3% dry O ₂ for liquid fuel	In-situ UV-DOAS, NDIR, IR GFC
					Extractive – NDUV / FTIR, NDIR GFC, NDIR-CFM
					Dilution Extractive – Chemiluminescence

	Plants, Tanneries, Inorganic Chemicals & other such industries using boilers				
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Note:

- Temperature measurement and reporting are compulsory for all installations.
- CO₂ and or O₂ as prescribed in notified standards for respective sectors and processes to be monitored.
- All the data has to be corrected to mass/volume at STP (760mm Hg Pressure and 25 degree C temperature in dry condition).
- All In-situ and Dilution extractive and Hot Wet Extractive systems shall monitor and report Moisture to correct the results in dry condition. Waste incineration plants including Hazardous waste incinerators and Waste to Energy plants requires continuous moisture monitoring.
- Installations using dilution techniques must inform CPCB and SPCBs/PCCs in case of any change in dilution ratio.
- NDIR based NO_x analyzer ideally converts all NO_x to NO for measurement purpose. 5% of total converted NO represents NO₂. NDIR based In-situ Analyzers without converters are measuring NO and considering upto 5% of NO values as NO₂ resulting under reporting of NO_x. Hence, in order to correct the data special calculation as given below will be applied.
Reported NO values will be multiplied by 1.05 and then 95% of the product will be considered as NO and 5% of the product will be considered as NO₂. Final reporting shall follow the equation $NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x \text{ as } NO_2$
In other cases, NO_x values are required to be reported as NO₂mg/NM³: $NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x \text{ as } NO_2$
For the IR based instrument without converter the reported NO values will be multiplied by 1.05 and then 95% of the product will be considered as NO and 5% of the product will be considered as NO₂. Final reporting shall follow the equation $NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x \text{ as } NO_2$
In other cases NO_x values are required to be reported as NO₂mg/NM³: $NO_x = NO + NO_2 = NO \times 1.53 + NO_2 = NO_x \text{ as } NO_2$
- Recommended to go for NO + NO₂ measurement for correct reporting as NO₂
- Hg CEMS requirement is applicable for thermal power plants only in case such condition is specified in Environmental Clearance granted by MoEF&CC / SEIAA
- Formulae for data reporting are given in **Annexure-II**.

** CEMS requirement applicable with the time period specified for compliance with the new emission norms for thermal power plants & as per Environmental Clearance Conditions specified by MoEF&CC.

*** Parameters for CEMS shall be as prescribed by SPCB/PCCs under Schedule II of Biomedical Waste Management Rules, 2016

8.0 SITE REQUIREMENT AND PREPARATION FOR MOUNTING OF CONTINUOUS EMISSION MONITORING SYSTEM

1. Infrastructure and mounting

- a. All measurement ports in the stack / duct, etc. will have to be made available as per CEMs system requirement and confirming the regulatory requirement
- b. CEMs analyser mounting flanges needs to be welded/grouted as per the mounting guidelines furnished by the vendor.
- c. Industry to ensure availability of permanent, strong & reliable platforms at CEMs analyser mounting location with safe approach ladders or stair case (spiral) or elevator. Vertical ladders if provided, should have back guard, stair case if provided, should be with proper hand rail, steps should be evenly distributed with adequate height, length & width. Monkey ladder is not preferred in case the height of platform is more than 30 meter from the ground.
- d. For ease of maintenance work, the stack platform width for metallic stacks should be 800mm minimum & for concrete stack platform width should be minimum of 1000mm. All platforms should have hand rails.
- e. All the power cables, signal cables, instrument air tubing's should be properly laid & clamped so that should not be an obstacle for personnel movements.

2. Utilities

- a. Uninterrupted power supply - single phase, 110/ 230 VAC as applicable should be supplied up to the analyser mounting location
- b. Power supply should be properly earthed; lightning arrestor wire line & earthing cable wire line should be separate.
- c. Instrument air connection – Clean and dry compressed air will have to be supplied by end user upto the analyser probe mounting location.
- d. Quality of instrument air shall depend upon the specific demand of parameter being measured.

3. Safety

With respect to instrument safety, all the instructions in the vendor specific CEMs manual shall be followed. All flanges, ports must be well supported

and welded as per required standards. Mounting bolts, etc. must be fully tight before commissioning. All personnel safety standards and procedures for working at height must be adhered to at site.

- a. If the approach to platform is by using vertical ladder's, then at every 10-12 mtrs landing platform should be provided. The entire length of ladder must have protective back guard/cage.
- b. Ladder must continue through platform approach to some distance above such that landing on platform is easy.
- c. Ladder must be well maintained with all fasteners rigidly fixed in the stack wall.
- d. The completed ladder network and stack has to be regularly inspected for corrosion and must be painted periodically.
- e. Platform railing must be rigid at least reach 1.2 mtr in height from platform surface.
- f. If analyser mounting location is above 45meter elevation then for ease of maintenance and personnel safety, proper stair case or lift/elevator should be provided
- g. Industry to ensure removal of bee hive from stack or stack nearby location before proceeding for any CEMs mounting/maintenance work on stack platform.

9.0 CALIBRATION, PERFORMANCE EVALUATION AND AUDIT OF CEMS

9.1 Practices in other Countries

The calibration process for CEMS is well established in European Union and USA. The European Union follow EN 14181 which specifies procedures for establishing Quality Assurance level in terms of QAL 2, QAL 3 and Annual Surveillance Test (AST) for ***CEMS (CEMS is also called Automated Measurement Systems (AMS) in Europe)*** installed at industrial plants for flue gas parameters. In the UK QAL 1 procedures are covered by certification under MCERTS Scheme for Continuous Monitoring System. The suitability evaluation of CEMS and its measuring procedures are described in EN ISO 14956 (QAL 1), which subsequently became EN 15267-1.

The USEPA follows a different route by using Relative Accuracy Test Audit (RATA) for gases and Relative Response Assessment (RRA) for Particulate. The difference between the European System and that followed in USA for Quality Assurance of CEMS is given in **Table 8**.

Table 8: Difference between the two QA systems followed in European Union & USA

	Selection of CEM	Installation	Stability before calibration	Valid calibration	Ongoing instrumental stability	Ongoing calibration stability
EU	QAL1 (EN15267 parts 1 to 3) with appropriate certification range	EN15259	QAL3	Functional test and QAL2	QAL3 plus annual linearity	Functional test and annual surveillance tests (AST)
USA	None but legal onus on the operator to provide valid data	Field Performance Test	7-day drift test	Correlation tests over 3 days	Zero and Span plus, quarterly linearity test	Annual correlation test and Relative Accuracy Test Audits (RATA) for gases and Relative Response Assessment (RRA) for particulate

The system for Quality Assurance followed in European Union as well as in EPA requires a well-established infrastructure for calibration of the systems, for uncertainty calculations and performance evaluation besides requiring skills and expertise to support each CEM, since the CEM is specifically characterized and calibrated for the individual application.

9.2 Recommended Instrumentation/Methodology for Monitoring

- a. The USEPA TUV & MCERTS certified analysers *for emissions* are recognized for use as CEMS. Any alteration invites invalidation of the certificate.
- b. All indigenous and foreign Manufacturers of analysers/ instruments for real time monitoring of industrial emissions shall obtain certificate for their system within twelve months after the Indian certification system is in place.
- c. The analysers/ instruments will not be considered for installation; in case their manufacturer fails to obtain the required certification from the Indian Certification Agency/ agencies within 12 months of the establishment of Indian Certification System.

9.3 Acceptance of CEMS Until Indigenous Certification System is Placed

A CEMS to be used at installations covered by CPCB direction shall have to be proven suitable for its measuring task (parameter and composition of the flue gas) by use of the procedure equivalent to international standards (EPA PS or EN QAL Standards). It shall prove performance in accordance to the set performance characteristics during the field-testing.

The performance testing procedures involve all concerned including plant operator, vendor and testing laboratories. The industries shall submit details of the CEMS installed and operationalized as per in CPCB's Compliance Reporting Protocol (CRP) for OCEMS.

Field-testing is a procedure for the determination of the calibration function and its variability. In this process, variability of the measured values of the CEMS compared with the data quality objectives specified.

A calibration function is established from the results of a number of parallel measurements performed with a Standard Reference Method (SRM). The variability of the measured values obtained with the CEMS is then evaluated against the required criteria to satisfy the Data Quality Objective. The ranges/values mentioned in Tables below are technology specified and may slightly deviate from those specified.

Table 9: Performance Specification for SO₂, NO_x and CO

S.No.	Specification	Tolerance ranges/values
1	Zero Drift/Weekly	$\leq \pm 1 \%$ of Span
2	Span Drift /Weekly	$\leq \pm 1 \%$ of Span
3	Analyzer's Linearity	$\leq \pm 1 \%$ of Span from calibration curve
4	Performance Accuracy	$\leq \pm 10 \%$ of compared Reference measurement

Table 10: Performance Specification for O₂, and CO₂

S.No.	Specification	Tolerance ranges/values
1	Zero Drift /Weekly	$\leq \pm 1 \%$ of O ₂
2	Span Drift /Weekly	$\leq \pm 1 \%$ of O ₂
3	Analyzer's Linearity	$\leq \pm 1 \%$ of O ₂
4	Performance Accuracy	$\leq \pm 10 \%$ of compared Reference measurement or within 1% of O ₂

Table 11: Performance Specification for PM CEMS

S.No.	Specification	Tolerance ranges/values
1	Zero Drift between two servicing intervals	$\leq \pm 2 \%$ of Full Scale range
2	Reference point Drift between two servicing intervals	$\leq \pm 2 \%$ of Reference value range
3	Analyzer's Linearity	The difference between the actual value and the reference value must not exceed ± 2 percent of full scale (for a 5 point check).
4	Performance Accuracy	$\leq \pm 10 \%$ of compared Reference measurement

Table 12: Specification for Analyser

S. No.	Specification	Tolerance ranges or values
1	Zero Drift /Weekly	$\leq 1 \%$
2	Span Drift /Weekly	$\leq 1 \%$
3	Analyzer's Linearity	$< 1 \%$ of full scale
4	Performance accuracy	$\leq \pm 10 \%$ of compared reference measurement

The performance test procedures are repeated periodically, after a major change of plant operation, after a failure of the CEMS or as demanded by regulators.

9.4 Calibration of Air Analysers (Gaseous Parameter)

- a. The instruments/analysers for real time monitoring of gaseous emissions shall be calibrated with respect to their functioning, drift, linearity, detection limit, output, operating temperature and other relevant parameters before installation.
- b. Demonstration of performance specifications as outlined in section 9.3 for both indigenous as well as certified analysers.
- c. After six months of operation, the system shall be rechecked for its health and data accuracy and reliability, following multi point calibration (at least 03 span concentrations) using standard methods and certified reference materials.
- d. The data comparison and calibration verification shall be done once in 06 months by empaneled laboratories following standard procedures and using certified reference standards.

- e. The health of the instruments/analysers shall be assessed on daily basis by checking the zero drift.
- f. In case the daily zero drift is more than the acceptable limit as specified in the catalogue/brochure of the instrument/analyser manufacturer and persists continuously for five days, the instrument/ analyser shall be recalibrated following procedure laid down at point (c) above.
- g. The instruments/analysers shall be checked for zero and span on fortnightly basis i.e. second Friday of the fortnight at fixed time (10:00 a.m.) using standard methods and standard reference materials including certified calibration gases. The drift needs to be recorded and suitably incorporated in the data collected over the period.
- h. For Differential Optical Absorption Spectroscopy (DOAS), Non Dispersive Ultra Violet (NDUV)/Non Dispersive Infra-Red lamp/laser based systems / FTIR based systems, the calibration shall be revalidated once in 06 months, and after replacement of lamp.
- i. The instrument/ analyser shall be recalibrated after any major repair/replacement of parts/lamps or readjustment of the alignment using standard methods and certified reference materials.
- j. The instrument/analyser system shall have provision of remote calibration, for verification of the system performance by SPCBs/PCCs whenever, felt necessary.
- k. The intensity of the lamp shall be checked once every fortnight.
- l. Data capture rate of more than 85% shall be ensured.
- m. Using Ambient Air for Zero/Span calibration is not acceptable, Zero air, instrument air, Span Gas/Gas filled Cuvette can be used with required certifications.

9.5 Calibration of Air Analysers (Particulate Matter)

The PM CEMS device is ready for calibration only after performing all of the required installation, registration, and configuration steps. Details of Particulate Matter CEMS calibration are given below.

- a. The continuous Particulate Matter monitoring system (PM-CEMS) shall ideally be calibrated at three operational loads against isokinetic sampling method (triplicate samples at each load) nine samples in three loads at the

- time of installation and thereafter, every twelve months of its operation or after any change in solid fuels.
- b. The results from the Particulate Matter monitoring system shall be compared on monthly basis i.e. last Friday of the month, at fixed time (replicate sample) starting 10.00 am. with standard isokinetic sampling method.
 - c. In case, deviation of the comparison values (dust factor) for 02(two) consecutive monitoring is more than 10%, the system shall be recalibrated against isokinetic sampling method (triplicate samples), if possible at three variable loads.
 - d. Adjustment of Calibrated Dust Factor (CDF) allowed only after full-scale calibration of PM CEMS. Change of CDF permitted only after approval by SPCB/ PCC or after one week of submission of request to SPCB/PCC whichever is earlier.
 - e. After any major repair to the system, change of lamp, readjustment of the alignment, change in fuel quality, the system shall be recalibrated against isokinetic sampling method. (triplicate samples at each load)
 - f. The data capture rate of more than 85% shall be ensured.
 - g. The intensity of lamp shall be checked once every fortnight.
 - h. The data comparison (calibration verification) shall be done by laboratories empaneled by CPCB using standard reference methods and at a frequency specified.

9.6 Emission Monitoring

- a. To ensure laminar flow the Particulate Matter monitoring systems (CEMS) shall be installed at a distance at least at Eight times the stack diameter downstream and Two times stack diameter upstream from any flow disturbance.

In rare cases, when the PM CEMS analyzers are installed at a distance atleast four times the stack diameter downstream from any flow disturbance; however, correction for stratification (pl. refer para 4.1.1) shall be made. The full scale calibration shall cover atleast 03(three) working loads and atleast 09(nine) (triplicate sample at variable load) sampling shall be carried out for dust factor.
- b. CEMS devices shall be installed at minimum 500mm below from the port hole designed for manual sampling.

- c. All measurement ports into the stack shall be as per CEMS system requirement.
- d. Particulate CEMS devices (Cross Duct) or probe shall be installed in horizontal plane;
- e. Probe / sampling device for gaseous CEMS shall be installed protruding downwards with suction system facing the direction of flow of flue gases.
- f. The construction of chimney shall adhere to CPCB publication, "Emission Regulation Part III" (COINDS/20/1984-85) unless otherwise specified by CPCB or SPCB/ PCC.
- g. The monitoring of PM parameter at different loads is to be conducted at least once at the time of initial installation. It is advised to carry out PM emission monitoring on the day when plant operates, under capacity due to any reason besides the routine monitoring. The data obtained can be used for linearity verification and CDF should be calculated and informed to CPCB.
- h. Similarly, when ESP or APCC device is operating under capacity, or its fields are under maintenance, the emission monitoring should be practiced to carryout linearity check of the particulate monitoring beside routine monitoring, CDF should be calculated and informed to CPCB.
- i. The parameters like flow if not installed requiring changes in the stack/duct may be monitored within a period of four months from the date of issue of the 1st revision guidelines or immediately after scheduled shutdown whichever is earlier.
- j. Other parameters like temperature which do not require an modification in the structure of the stack shall be installed within a month from the date of issue of 1st Revision of Guidelines.

9.7 Data Consideration/Exceedance

- a. Any exceedance of values over the prescribed standards or norms shall be considered as alarm for exceedance. However, time average value (as decided by CPCB) will be used for compliance check.
- b. Instantaneous elevated data i.e. spikes with duration less than one minute shall be dealt separately and not considered for data averaging.

- c. In case of loss of data for more than 10 minutes per half hour it will be considered as loss of half hourly value. In case more than 5 half hourly data is lost per day, it will be considered as data loss for a day.
- d. Any day in which more than three hourly average values are invalid due to malfunction or maintenance of the automated measuring system shall be considered lost date for the day 85% data capture in based on available daily average.
- e. In the case of a breakdown of the RTMS, the operator shall reduce or close down operation if the problem is not rectified within 72 hours, subject to information to SPCBs/PCCs and CPCB.
- f. Operating hours – means the time expressed in hours during which the plant in whole or in part is operating and discharging emission into the air, excluding start up and shut down periods.
- g. Any Exceedance of the monitored values against the standards shall invite SMS & email to the industry from SPCBs/PCCs, requiring immediate feedback on the corrective action initiated/taken.
- h. The values recorded during calibration or during preventive maintenance shall not be considered for Exceedance and assessing the data capture rate.
- i. Plant start-up or batch process starting emissions shall not be considered for averaging for the initial, 30 minutes' period in case of batch processes or small furnaces/ boilers not operating continuously as per the schedule specified in the Compliance Reporting Protocol.
- j. Plant shut down period shall be excluded while calculating data capture rate.

9.8 Data Acquisition System (DAS)

- a. DAS (Data Acquisition System) defines the logging of digital data from the analysers.
- b. The data shall be transferred directly from Data Acquisition and Handling System at the analyser end to a cloud server of a technology provider (with no in between logic), who ensures seamless transmission of data from analysers to central server located at SPCB/CPCB. In this context technology provider is an agency who provides data transmission service in transparent manner ensuring high degree of integrity.

- c. Technology provider may be a manufacturer of analyzers or any technology service provider having capability of building such system.
- d. The cloud server of Technology Provider (TP) to meet the needs of local SPCBs, Industry and CPCB in implementation of CEMS.
- e. It shall be the responsibility of industry to choose appropriate technology provider to ensure seamless transmission of data to Central Server
- f. Central Server at SPCBs/PCC / CPCB to accept the data from Cloud Server of TP only if their system has requisite features to transfer direct data and also facilitate remote calibration.
- g. Data should be in encrypted format (tamper proof)
- h. The system shall operate on Open Application Programme Interface (API) protocol based on REST based technology.
- i. The system shall record all the monitored values and transfer 15 minutes average value to DAHS. The system shall have provision to assess the momentarily values as and when required.
- j. Data validation protocol inbuilt with data quality codes to defined specification in DAS/DATA LOGGER.
- k. Cloud Sever of TP to meet the needs of local SPCBs, industry and CPCB

10.0 DATA ACQUISITION, MANAGEMENT AND REPORTING

Considering the heterogeneity of real time monitoring systems industries are required to submit real time data through their respective instrument suppliers. This mechanism shall help in consolidating the data avoiding the complexity of different technologies and availability of monitored data in different data formats while involving the instrument suppliers in data transferring mechanism. The system enables two ways communication required to manage such real time systems.

The functional capabilities of such software systems shall include:

- a. The system should be capable of collecting data on real time basis without any human intervention.
- b. The data generation, data pick up, data transmission, data integration at all servers end should be automatic.
- c. The submitted data shall be available to SPCBs/PCCs and CPCB for immediate corrective action.

- d. Raw data should be transmitted simultaneously to SPCBs /PCCs and CPCB.
- e. In case of delay in collection of data due to any reason, the data transmission should be marked delayed data and reports of delayed data should be displayed on the portal
- f. At no point of time, manual data handling shall be permitted. Data validation should be permitted only through the administrator and data changes recorded with date and time stampings.
- g. Configurations of the systems once set up (through remote procedure) and verified, should not be changed. In case any setting change is required it should be notified and recorded through the authorized representatives only.
- h. The data submitted electronically shall be available to the data generator through internet, so that corrective action if any required due to submission of erroneous data can be initiated by the industry.
- i. The software should be capable to verify the data correctness which means at any given point of time the regulatory authorities/data generator should be able to visualize the current data of any location's specific parameter.
- j. A system for data validation shall be incorporated in the software with fixed responsibilities of stakeholders;
 - Data Generator
 - SPCBs/ PCCs
 - CPCB
- k. Change Request Management: window for requesting data changes due to actual field conditions shall be provided by the industry in line to SPCBs/ PCCs to consider the request or not. The data validation/ changes can be incorporated after approval respective SPCBs/PCC or after one week of submission of request to SPCB/PCC. The environmental conditions around the site surrounding shall also be recorded along with other environmental parameters, as these have the potential to affect the monitoring system adversely and corrupt the data generated.
- l. System should have capability to depict data at the actual location of industry over the map. CPCB and or SPCBs/ PCCs shall develop a map based system for data integration at a single location.
- m. The software should be capable of analyzing the data with statistical tools

and shall have the following capabilities:

- Statistical data analysis (customizable) for average, min., max., diurnal variation, RSD, correlation, covariance, etc.
 - Comparison of parameters of different locations in user selectable time formats i.e. in graphical and tabular formats compatible to MS Excel, MS Word, *.txt etc.
 - Capability of comparison of data with respect to standards/threshold values.
 - Auto report and auto mail generation etc.
 - Providing calibration database for further validation/correction of data.
 - Transmitting data to different locations as per EC, CTE/CTO, and other directives in force.
 - Channel configuration for range, units, etc. as required for specific parameters and facility.
 - Providing data in export format on continuous basis through central/station computer system to other system.
- n. Data transmission through Leased Line (1Mbps) and Broadband with two medias supported which can be alternately used for data submission without fail.
- o. Data Storage for next five years.
- p. System should be connected to a backup power source with adequate capacity to avoid any power disruption.
- q. In case of dilution extractive systems, a mechanism to report dilution ratio maintained in the system should be reported alongwith data as a separate parameter to ensure dilution all the time.

11.0 SUMMARY

- a. The industries falling in 17 categories of highly polluting industries, Common Bio Medical waste and Common Hazardous waste incinerators have to install Continuous Emission Monitoring System.
- b. Industries other than 17 categories should consider installation of CEMS system as a tool of self-regulation.

- c. The G.S.R. 96(E) January 29, 2018 Notified by MoEF&CC under Environment (Protection) Act, 1986 mandates installation of CEMS with the Boilers used in the Industries namely Sugar, Cotton Textile, Composite Woolen Mills, Synthetic Rubber, Pulp & Paper, Distilleries, Leather Industries, Calcium Carbide, Carbon Black, Natural Rubber, Asbestos, Caustic Soda, Small Boilers, Aluminium Plants, Tanneries, Inorganic Chemicals & other such industries using boilers.
- d. The responsibility of data submission lies with the Individual units. The instrument supplier or manufacturer may facilitate data transmission on behalf of industries. Industry will ensure at least 85% data availability from the system installed.
- e. The Technology providers shall install their server in cloud and should send the real time data to CPCB, SPCBs servers or any Govt. bodies servers in consultation.
- f. The vendor/instrument supplier shall make provisions to provide data continuously at least at 04 locations in SPCBs/PCCs, RO/DO of SPCBs, CPCB, and industry directly from the analyzers.
- g. The plausibility control of data received shall be done. The team members will be responsible for validating, interpreting and interpolation of data on periodic basis.
- h. The vendor/instrument supplier will regularly cross check the data obtained from CEM system with that of the samples collected manually and analyze using approved laboratory techniques and revalidate the calibration factor essential for generating better quality data.
- i. The industries shall ensure that the monitoring systems are covered under Maintenance Contract with the vendors/ authorized Indian service partners of the instrument manufacturer after installation.
- j. The authorized Indian service partner/instrument manufacturer shall ensure that any problem in monitoring system/data acquisition and transfer system does not persist beyond 72 hours else it should be notified to SPCB & CPCB.
- k. The Technology Provider /instrument manufacturers shall ensure availability of spare parts for atleast 07 years after installation of the system.

- I. Role of manufacturers/supplier authorized Indian Service Partner:
 - Supply and install equipment suitable to monitor the emission in the available matrix
 - Supply all the supporting equipment, analyzers and software
 - Supply equipment/instruments capable of monitoring/measuring the parameters identified in the range of occurrence in the industrial unit
 - Supplied software should establish two-way communication sending diagnostics of instruments on demand, with central servers at SPCBs/PCCs and CPCB
 - The software should be capable of transmitting the data along with diagnostics of the instrument
- m. CPCB empaneled laboratories shall only be engaged as third party agency for all activities related to assessment of installation, calibration of CEMS, validation of data, etc However, till the time such empanelment is done, industries can use their own laboratories if these are EPA approved or NABL accredited (respective parameters shall be included in scope for accreditation) else may engage an EPA approved or NABL accredited (respective parameters shall be included in scope for accreditation) external lab.
- n. Industries shall not carry out the performance audit of OCEMS on their own or through the labs engaged for the routine calibration and data verification activities.
- o. Performance audit shall necessarily be carried out by the empaneled third party independent laboratory other than already engaged for routine calibration and OCEMS data verification.
- p. Industries have to inform SPCBs/PCCs and CPCB through online system at cems.cpcb@nic.in via email providing date and time of visits of the lab engaged for the calibration, data verification, performance audit and other activities every time before starting the work.

12. Parameters for online monitoring as per Guidelines

Sl. No	Category	Emission Parameters
1	Aluminium	PM, Fluoride
2	Cement	PM,NOx,SO ₂
3	Distillery	PM
4	Dye and dye Intermediate	-
5	Chlor Alkali	Cl ₂ , HCl
6	Fertilizers	PM, HF, Ammonia
7	Iron & steel	PM,SO ₂ , NOx
8	Oil refinery	PM,CO,NOx,SO ₂
9	Petro chemical	PM,CO,NOx,SO ₂
10	Pesticides	-
11	Pharmaceuticals	-
12	Power Plants	PM, NOx, SO ₂
	Thermal Power Plants	PM, NOx, SO ₂ , Total Mercury(Gaseous)**
13	Pulp & paper	-
14	Sugar	-
15	Tannery	-
16	Zinc	PM, SO ₂
17	Copper	PM, SO ₂
18	Textile (GPI)	-
19	Dairy (GPI)	-
20	Slaughter House	-
21	Boiler	SO ₂ , NOx, PM

** Online CEMS for Mercury may be applicable in case such condition is stipulated in EC issued by MoEF&CC / SEIAA

13. Formulae for Data Reporting

ANNEXURE II

SN	Parameters	Units of Expression	Standard values	Algorithm	Remarks
01	Barometric Pressure (P_{bar})	mm of Hg			
02	Standard Pressure (P_{std})	mm of Hg	760		
03	Actual Pressure (P_{actual})	mm Hg			
04	Stack Temperature (T_s)	Kelvin		$x^{\circ}C + 273.15$	x = temperature in stack
05	Temperature at Analyser (T_m)	Kelvin		$x^{\circ}C + 273.15$	x = temperature in stack
06	Standard Temperature (T_{std})	Kelvin	298	$25^{\circ}C + 273.15 = 298$	
07	Moisture (M)	%			
08	Moisture Fraction (Mw)	Ratio		(M) /100	
09	Wet m ³ to Wet Nm ³	Wet Nm ³		$x m^3 * \{(P_{actual}) / (P_{std})\} \{ T_m / (T_{std}) \}$	x=volume measured by analyser
10	Wet Nm ³ to Dry Nm ³	Dry Nm ³		$x m^3 * \{(P_{actual}) / (P_{std})\} * \{ T_m / (T_{std}) \} * \{ 1 / (1 - Mw) \}$	x=volume measured by analyser
11	Conversion of ppmw of any gas to mg/Nm ³	mg/Nm ³		$(x \text{ ppmw}) * (\text{molecular weight}) / 24.45$ x=value measured by analyser in Nm ³	All the instantaneous values required to be corrected in CEMS
12	Conversion of ppmv of any gas to mg/Nm ³	mg/Nm ³		$\{ (x \text{ ppmv}) * \{ (12.187) * \{ (MW) \} / \{ (273.15 + 25^{\circ}C) \} \}$ x=value measured by analyser in Nm ³	This is not applicable for CEMS as Pressure correction is not applied
13	CO ₂ Correction		12 % or as specified	$C_f = \{ x \text{ mg/Nm}^3 \} * \{ (12 / \text{Measured CO}_2) \}$ <u>Correction not needed wherever CO₂ is > 12%</u> <i>C_f=correction factor</i>	All the instantaneous values required to be corrected in CEMS wherever mandated as per standard
14	O ₂ Correction		11%	$C_f = \{ x \text{ mg/Nm}^3 \} * \{ (20.9 - 11) / (20.9 - \text{Measured O}_2) \}$ <u>Correction not needed wherever O₂ is < 11%</u>	All the instantaneous values required to be corrected in CEMS wherever mandated as per standard

				<u><i>C_f</i>=correction factor</u>	
15	O ₂ Correction		3 %	$C_f = \{x \text{ mg/Nm}^3 * (20.9 - 3)\} / \{(20.9 - \text{Measured O}_2)\}$ <u>Correction not needed wherever O₂ is < 3%</u> <u><i>C_f</i>=correction factor</u>	Applicable for gas and liquid fuel in Petrochemical industries
16	Combustion Efficiency			$\{(\% \text{CO}_2) * 100\} / \{(\% \text{CO}_2 + \% \text{CO})\}$	Applicable for Biomedical Waste Incinerator

S. No.	References
1.0	<p>CPCB's CEMS related Documents</p> <ul style="list-style-type: none"> i) Direction for installation of CEMS and CWQMS in 17 Categories Industries, CETP, HWI, BMWI ii) Draft Notification on CEMS and CWQMS iii) Minutes of Meeting with Industries on Online Monitoring iv) List of Parameters for CEMS and CWQMS v) First hand information on list of suppliers vi) CPCB/e-PUBLICATION/2013-14 on "Specifications and Guidelines for Continuous Emissions Monitoring Systems (CEMS) for PM Measurement With Special Reference to Emission Trading Programs"
2.0	<p>USEPA Documents related to CEMS</p> <ul style="list-style-type: none"> a) Continuous Monitoring Manual b) 40 CFR Part 75: CEMS Field Audit Manual c) USEPA CEMS Performance Specification <ul style="list-style-type: none"> i) PS – 2 : Performance Specification for SO₂ and NO_x ii) PS – 3 : Performance Specification for O₂ and CO₂ iii) PS – 4 : Performance Specification for CO iv) PS – 4A: Performance Specification and Test Procedure for CO v) PS – 4B: Performance Specification and Test Procedure for CO and O₂ vi) PS – 6: Performance Specification and Test Procedure for Emission Rate vii) PS – 8A: Performance Specification and Test Procedure for Hydrocarbon (TOC) viii) PS – 11: Performance Specification and Test Procedure for PM CEMS ix) PS – 15: Performance Specification for Extractive FTIR CEMS x) PS – 18: Performance Specification for HCl – CEMS d) Quality Assurance (QA) Documents <ul style="list-style-type: none"> i) Procedure 1: QA Requirement for Gaseous CEMS ii) Procedure 2: QA Requirement for PM CEMS iii) Procedure 5: QA Requirement for Total Gaseous Mercury (TGM) CEMS and Sorbent Trap e) 40 CFR part 180 f) COMS (Continuous Opacity Monitoring System)
3.0	<p>EN Documents</p> <ul style="list-style-type: none"> i) EN 15267 – Part 1: Certification of AMS (CEMS) ii) EN 15267 – Part 2: Certification of AMS (CEMS) iii) EN 15267 – Part 3: Certification of AMS (CEMS) iv) EN 14181 – Quality Assurance of AMS (CEMS) v) EN 14884 – Test Method AMS (CEMS) for TGM
4.0	<p>UK Documents</p> <ul style="list-style-type: none"> a) RM:QG-06: Calibration of PM CEMS (Low Concentration) b) MCERTS : BS EN 13284: PM CEMS
5.0	<p>Standard Operating Procedure for Compliance Monitoring using CEMS – Abu Dhabi</p>

RIHAND- I, II & III (RECEIPT OF COAL THROUGH DIFFERENT MODES)

	Oct-18			Nov-18			Dec-18		
	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total
Quantity of Coal	936754.29	167037.60	1103791.89	923676.36	102428.39	1026104.75	989155.90	176539.69	1165695.59
Normative shortage	1873.51	1336.30	3209.81	1847.35	819.43	2666.78	1978.31	1412.32	3390.63
Net Qty Receipt	934880.78	165701.30	1100582.08	921829.01	101608.96	1023437.97	987177.59	175127.37	1162304.96
	Oct-19			Nov-19			Dec-19		
	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total
Quantity of Coal	1210425.34	170848.90	1381274.24	1245966.77	65632.98	1311599.75	1073881.84	0.00	1073881.84
Normative shortage	2420.85	1366.79	3787.64	2491.93	525.06	3017.00	2147.76	0.00	2147.76
Net Qty Receipt	1208004.49	169482.11	1377486.60	1243474.84	65107.92	1308582.75	1071734.08	0.00	1071734.08
	Oct-20			Nov-20			Dec-20		
	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total
Quantity of Coal	1174817.92	249363.89	1424181.81	1197975.32	64507.32	1262482.64	1128144.82	23895.29	1152040.11
Normative shortage	2349.64	1994.91	4344.55	2395.95	516.06	2912.01	2256.29	191.16	2447.45
Net Qty Receipt	1172468.28	247368.98	1419837.26	1195579.37	63991.26	1259570.63	1125888.53	23704.13	1149592.66
	Oct-21			Nov-21			Dec-21		
	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total
Quantity of Coal	1097711.64	0.00	1097711.64	1153204.18	0.00	1153204.18	1240458.04	37885.02	1278343.06
Normative shortage	2195.42	0.00	2195.42	2306.41	0.00	2306.41	2480.92	303.08	2784.00
Net Qty Receipt	1095516.22	0.00	1095516.22	1150897.77	0.00	1150897.77	1237977.12	37581.94	1275559.06
	Oct-22			Nov-22			Dec-22		
	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total	MGR 0.2%	Rail 0.8%	Total
Quantity of Coal	982297.46	0.00	982297.46	1217064.32	0.00	1217064.32	1118452.96	0.00	1118452.96
Normative shortage	1964.59	0.00	1964.59	2434.13	0.00	2434.13	2236.91	0.00	2236.91
Net Qty Receipt	980332.87	0.00	980332.87	1214630.19	0.00	1214630.19	1116216.05	0.00	1116216.05

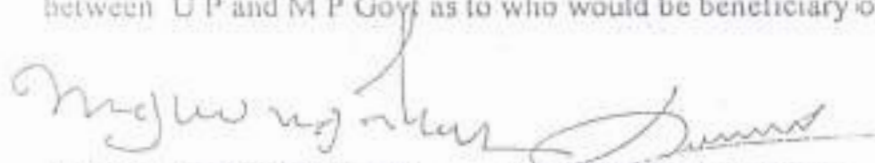
FOLLOWING WERE PRESENT :

1. Shri Naresh Agarwal, Hon'ble Minister of Energy, U.P.
2. Shri Atul Chaturvedi, Secretary (Energy), Govt. of U.P.
3. Shri G P Singh, Chairman, UPSEB
4. Shri Rajendra Singh, CMD, NTPC

PRINCIPLES FOR CONSUMPTIVE WATER CHARGES FOR FUTURE

Following principles for calculation of consumptive water charges for Rihand and Singrauli STPS to be adopted in future will be as under :-

- i) Water level may be taken on theoretical basis i.e. minimum of 830 feet and maximum of 880 feet.
- ii) T&D losses to be taken @ 12 % (Twelve percent).
- iii) Aux. Power consumption of UPSEB hydro stations viz Rihand and Obra will be taken as 0.5 %.
- iv) The energy loss will be calculated taking into consideration the actual availability of Rihand hydro station of UPSEB for the year 1998.
- v) Water charges will be payable from the date of synchronization of the units.
- vi) The per Kilowatt hour charges to be applied will be the highest average annual rate during 1998 amongst Northern Region coal based stations of NTPC and will be applicable w.e.f. 1.1.1999 for next five years. This will be revised upwards by 10% after every five years.
- vii) To provide for generation loss on account of spillover of water, the charges for consumptive use will be worked out on the basis of 3.0 (Three) times of the above rate in place of 2 (Two) times as earlier proposed. No separate payments towards spillover water will be admissible.
- viii) Water charges will be pass-through in the tariff.
- ix) M P Govt have demanded water charges from NTPC for Vindhyaachal Super Thermal Power Station. It was agreed that water charges for Vindhyaachal Super Thermal Power Station of NTPC located in M P will not be billed to NTPC till the matter is settled between U P and M P Govt as to who would be beneficiary of water charges.



(ATUL CHATURVEDI)
Secretary (Energy)
Govt. of U.P.

(RAJENDRA SINGH)
CMD
NTPC



(G P SINGH)
Chairman
UPSEB

Month wise availability of Rihand Hydro Station for year 1998

Month	Availability as intimated by UPSEB(as recorded in IOM ref No: NTPC:NRHQ :Comml: 2 Dated 26/05/99 From DGM (Comml) NRHQ Allahbad to GM (F&A).CC		No of days	Available hours
		%		
Jan-98		98.46	31	73254.24
Feb-98		96.46	28	64821.12
Mar-98		89.86	31	66855.84
Apr-98		84.02	30	60494.4
May-98		97.09	31	72234.96
Jun-98		87.84	30	63244.8
Jul-98		77.81	31	57890.64
Aug-98		79.14	31	58880.16
Sep-98		71.95	30	51804
Oct-98		88.57	31	65896.08
Nov-98		80.26	30	57787.2
Dec-98		86.6	31	64430.4
Year 1998		86.48	365	757593.8

Details of Source wise Fuel for Computation of Energy Charges

Name of the Company : NTPC Limited
Name of the Power Station : Rihand STPP Stage I, II & III

S. No.	Month	Unit	Oct-18		Nov-18		Dec-18	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
A) OPENING QUANTITY								
1	Opening Quantity of Coal/Lignite	(MMT)	0.7986		0.8633		0.8580	
2	Value of Stock	(Rs.)	1731507484		1827094965		2013308246	
B) QUANTITY								
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	1.1038		1.0261		1.1657	
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)						
5	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	1.1038		1.0261		1.1657	
6	Operative Transn. & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.6032		0.0027		0.0034	
7	Net coal / Lignite Supplied (3-4)	(MMT)	1.1006		1.0234		1.1623	
C) PRICE								
8	Amount charged by the Coal /Lignite Company	(Rs.)	2206288010		2531217257		2364612979	
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)						
10	Handling, Sampling and such other similar charges	(Rs.)	24146258		28113557		58428524	
11	Total amount Charged (8+9+10)	(Rs.)	2230434268		2559328814		2423041803	
D) TRANSPORTATION								
12	Transportation charges by rail/ship/road transport							
	By Rail	(Rs.)	36520499		22283997		38310986	
	By Road							
	By Ship							
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)						
14	Demurrage Charges, if any	(Rs.)						
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	20994373		18434410		18527883	
16	Total Transportation Charges (12+13+14+15)	(Rs.)	57514872		40718407		56838860	
17	Total amount Charged for coal/lignite supplied including Transportation (11+16)	(Rs.)	2287949140		260047221		2479880672	
E) TOTAL COST								
18	Landed cost of coal/ Lignite (2+17)(1+7)	Rs./MT	2116.46		2346.48		2224.00	
19	Blending Ratio (Domestic/Imported)		100.00		100.00		100.00	
20	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT			2228.62			
F) QUALITY								
21	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)						
22	GCV of Domestic Coal supplied as per bill of Coal Company (Eq Basis)	(kCal/Kg)	4660		5009		4667	
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)						
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
25	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)						
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)						
27	GCV of Domestic Coal supplied as received at Station (TM basis)	(kCal/Kg)	4000		4402		4137	
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
30	Weighted average GCV of coal/ Lignite as Received (Eq Basis)	(kCal/Kg)	4000		4402		4137	

Signature: *[Handwritten Signature]*
 CHARTERED ACCOUNTANTS
 JAI PUR
 40 TAM KAPUR AMBARIYA
 No. No - 423164

(Petitioner)

CA/Chartered Accountant
 No. 423164
 JAI PUR
 AMBARIYA
 40 TAM KAPUR

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company : NTPC Limited
Name of the Power Station : Rihand STPP Stage I, II & III

Sl.No.	Month	Unit	Oct-18		Nov-18		Dec-18	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Quantity of Oil	KL	561.95	4383.4	736.45	4263.2	3639.84	4114.2
2	Value of Opening	(Rs)	29044499	134181533	41005239	130502056	215594390	125940974
3	Quantity of Oil supplied by Oil Company	KL	233	0	3433.98	0	0	0
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0		0.00	0	0	0
5	Oil supplied by Oil Company (1+2)	KL	233	0	3433.98	0	0	0
6	Normative Transit & Handling Losses	KL	0		0.00	0	0	0
7	Net Oil Supplied (3-4)	KL	233	0	3433.98	0	0	0
8	Amount charged by the Oil Company	(Rs)	15217996	0	206016697	0	0	0
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)						
10	Total amount charged (6+7)	(Rs)	15217996	0	206016697	0	0	0
11	Transportation charges by rail / ship / road transport	(Rs)						
12	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)						
13	Demurrage Charges, if any	(Rs)						
14	Cost of diesel in transporting Oil through MGR system, if applicable	(Rs)						
15	Total Transportation Charges (9+10-11+12)	(Rs)						
16	Others -Entry Tax on Oil	(Rs.)						
17	Total amount Charged for fuel supplied including Transportation (8+13+14)	(Rs)	15217996	0	206016697		0	
18	Landed Price of Oil	Rs/KL	55679.60	30611.29	59231.77	30611.29	59231.77	30611.29
19	Weighted average GCV of Oil as fired Stage-I	(kCal/L)		9790		9790		9597
20	Weighted average rate of Secondary Fuel Stage-I	Rs/KL		30611.29		30611.29		59231.77
19	Weighted average GCV of Oil as fired Stage-II	(kCal/L)		9790		9790		9790
20	Weighted average rate of Secondary Fuel Stage-II	Rs/KL		30611.29		30611.29		30611.29
19	Weighted average GCV of Oil as fired Stage-III	(kCal/L)		9349		9419		9597
20	Weighted average rate of Secondary Fuel Stage-III	Rs/KL		55679.60		59231.77		59231.77

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40747 KUMAR
M No - 425104



PETITIONER

Details of Source wise Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited						
Name of the Power Station :		Bikand STPP Stage I						
S. No.	Month	Unit	Oct-19		Nov-19		Dec-19	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
A) OPENING QUANTITY								
1	Opening Quantity of Coal/Lignite	(MMT)	0.0445		0.1666		0.4684	
2	Value of Stock	(Rs.)	95565270		356473017		1164742602	
B) QUANTITY								
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	1.3813		1.3116		1.0739	
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)	0.0000		0.0000		0.0000	
5	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	1.3813		1.3116		1.0739	
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0938		0.0030		0.0021	
7	Net coal / Lignite Supplied (3-6)	(MMT)	1.3775		1.3086		1.0717	
C) PRICE								
8	Amount charged by the Coal/Lignite Company	(Rs.)	2856235555		3229503233		2018393674	
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0		0		0	
10	Handling, Sampling and such other similar charges	(Rs.)	29857197		46007174		64395642	
11	Total amount Charged (8+9+10)	(Rs.)	2886092752		3275510407		2082789316	
D) TRANSPORTATION								
12	Transportation charges by rail/ship/road transport							
	By Rail	(Rs.)	37212719		18418692		0	
	By Road	(Rs.)	0		0		0	
	By Ship	(Rs.)	0		0		0	
13	Adjustment (+/-) in amount charged made by Railway/Transport Company	(Rs.)	0		0		0	
14	Demurrage Charges, if any	(Rs.)						
15	Cost of diesel in transporting coal through MGN system, if applicable	(Rs.)	24048159		21496274		16656007	
16	Total Transportation Charges (12+13+14+15)	(Rs.)	61260878		35914966		16656007	
17	Total amount Charged for coal/Lignite supplied including Transportation (11+16)	(Rs.)	2947353630		331465973		2099645323	
E) TOTAL COST								
18	Weighted cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	2119.89		2486.43		2119.89	
19	Blending Ratio (Domestic/Imported)		100.00		100.00		100.00	
20	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT			2248.01			
F) QUALITY								
21	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)	4558		4578		4898	
22	GCV of Domestic Coal supplied as per bill of Coal Company (5) Bill	(kCal/Kg)	4578		4939		4229	
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)						
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
25	Weighted average GCV of coal/ Lignite as billed	(kCal/Kg)	4578		4898		4432	
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	4126		4072		4155	
27	GCV of Domestic Coal supplied as received at Station (TM basis)	(kCal/Kg)	4070		4391		4000	
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
30	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	4072		4155		4122	

MOHD
IMRANDigitally signed
by MOHD IMRAN
Date: 2024.11.02
16:35:43 +05'30'Sanjay
SinhaDigitally signed by
Sanjay Sinha
Date: 2024.11.13
11:39:59 +05'30'

(Petitioner)

Sailubala Dhal
Sailubala Dhal, Partner
M No- 22835
UDIN - 2422835ZZTKX236AZ5

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand STPP Stage I						
Sl.No.	Month	Unit	Oct-19		Nov-19		Dec-19	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Quantity of Oil	KL	5772.386		5507.386		5383.39	
2	Value of Opening	(Rs)	305775957		291738325		285169772	
3	Quantity of Oil supplied by Oil Company	KL	0		0.00		0	
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0		0.00		0	
5	Oil supplied by Oil Company [1+2]	KL	0		0.00		0	
6	Normative Transit & Handling Losses	KL	0		0.00		0	
7	Net Oil Supplied (3-4)	KL	0		0.00		0	
8	Amount charged by the Oil Company	(Rs)	0		0		0	
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)					24084	
10	Total amount charged (6+7)	(Rs)	0		0		24084	
11	Transportation charges by rail / ship / road transport	(Rs)	0		0		0	
12	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0		0		0	
13	Demurrage Charges, if any	(Rs)	0		0		0	
14	Cost of diesel in transporting Oil through MGR system, if applicable	(Rs)	0		0		0	
15	Total Transportation Charges (9+/- 10-11+12)	(Rs)	0		0		0	
16	Others	(Rs)	0		0		0	
17	Total amount Charged for fuel supplied including Transportation (8+13+14)	(Rs)	0		0		24084	
18	Landed Price of Oil	Rs/KL	52972.20		52972.20		52976.70	
19	Weighted average GCV of Oil as fired Stage-I	(kCal/L)	9609		9609		9609	
20	Weighted average rate of Secondary Fuel Stage-I	Rs/KL	52972.20		52972.20		52976.70	

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PETITIONER

Sailubala Dhal

Sailubala Dhal, Partner

M No- 22835

UDIN - 2422835ZZTKX236A25



Details of Source wise Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand STPP Stage I						
S. No.	Month	Unit	Oct-20		Nov-20		Dec-20	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
A) OPENING QUANTITY								
1	Opening Quantity of Coal/Lignite	(MMT)	0.0000		0.2248		0.5834	
2	Value of Stock	(Rs.)	0		452410097		1282722780	
B) QUANTITY								
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	1.4242		1.2625		1.1520	
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)	0.0000		0.0000		0.0000	
5	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	1.4242		1.2625		1.1520	
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0043		0.0029		0.0024	
7	Net coal / Lignite Supplied (3-4)	(MMT)	1.4198		1.2596		1.1496	
C) PRICE								
8	Amount charged by the Coal /Lignite Company	(Rs.)	2665832773		2343178863		2196593399	
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	65179008		379086848		310108449	
10	Handling, Sampling and such other similar charges	(Rs.)	40785312		51279360		58721528	
11	Total amount Charged (8+9+10)	(Rs.)	2771797093		2773545071		2565423376	
D) TRANSPORTATION								
12	Transportation charges by rail/ship/road transport							
	By Rail	(Rs.)	58232386		14809169		31506721	
	By Road	(Rs.)	0		0		0	
	By Ship	(Rs.)	0		0		0	
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)	0		0		0	
14	Demurrage Charges, if any	(Rs.)						
15	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	27262513		22773599		21624463	
16	Total Transportation Charges (12+13+14+15)	(Rs.)	85494899		37582768		53131184	
17	Total amount Charged for coal/lignite supplied including Transportation (11+16)	(Rs.)	2857291992		2811127839		2618554560	
E) TOTAL COST								
18	Landed cost of coal/ Lignite (2+17)/(1+7)	Rs./MT	2012.41		2198.59		2251.14	
19	Blending Ratio (Domestic/Imported)		100.00		100.00		100.00	
20	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT			2161.22			
F) QUALITY								
21	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)						
22	GCV of Domestic Coal supplied as per bill of Coal Company (Eq Basis)	(kCal/Kg)	4365		4435		4667	
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)						
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)						
25	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4435		4667		4675	
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3630		3817		4148	
27	GCV of Domestic Coal supplied as received at Station (TM basis)	(kCal/Kg)	3817		4207		4151	
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)						
30	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	3817		4148		4150	

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Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited						
Name of the Power Station :		Rihand STPP Stage I						
Sl.No.	Month	Unit	Oct-20		Nov-20		Dec-20	
			LDO	HFO	LDO	HFO	LDO	HFO
1	Opening Quantity of Oil	KL	5060.395		5004.395		4089.40	
2	Value of Opening	(Rs)	229437752		226898718		185412719	
3	Quantity of Oil supplied by Oil Company	KL	0		0.00		3156.27	
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL	0		0.00		0	
5	Oil supplied by Oil Company (1+2)	KL	0		0.00		3156.27	
6	Normative Transit & Handling Losses	KL	0		0.00		0	
7	Net Oil Supplied (3-4)	KL	0		0.00		3156.27	
8	Amount charged by the Oil Company	(Rs)	0		0		142915264	
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)					0	
10	Total amount charged (6+7)	(Rs)	0		0		142915264	
11	Transportation charges by rail / ship / road transport	(Rs)	0		0		0	
12	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)	0		0		0	
13	Demurrage Charges, if any	(Rs)	0		0		0	
14	Cost of diesel in transporting Oil through MGR system, if applicable	(Rs)	0		0		0	
15	Total Transportation Charges (9+/-10-11+12)	(Rs)	0		0		0	
16	Others	(Rs.)	0		0		0	
17	Total amount Charged for fuel supplied including Transportation (8+13+14)	(Rs)	0		0		142915264	
18	Landed Price of Oil	Rs/KL	45339.89		45339.89		45313.71	
19	Weighted average GCV of Oil as fired Stage-I	(kCal/L)	9540		9540		9371	
20	Weighted average rate of Secondary Fuel Stage-I	Rs/KL	45339.89		45339.89		45313.71	

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Details of Source wise Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited									
Name of the generating Station :		Rihand STPP Stage I									
S. No.	Month	Unit	Oct-21			Nov-21			Dec-21		
			Domestic	Imported	Biomass	Domestic	Imported	Biomass	Domestic	Imported	Biomass
A) OPENING QUANTITY											
1	Opening Quantity of Coal/Lignite	MT	19191.26	0.00	0.00	19191.48	0.00	0.00	19191.25	0.00	0.00
2	Value of Stock	Rs.	412693607	0	0	473312229	0	0	447066935	0	0
B) QUANTITY											
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	MT	3287711.64	0.00	0.00	1133204.18	0.00	0.00	1278343.06	0.00	0.00
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Coal supplied by Coal/Lignite Company [(3+4)]	MT	1092711.84	0.00	0.00	1133204.18	0.00	0.00	1278343.06	0.00	0.00
6	Normalise Transit & Handling Losses (For coal/ lignite based projects)	MT	2191.42	0.00	0.00	2306.41	0.00	0.00	2784.00	0.00	0.00
7	Net coal / Lignite Supplied (3-4)	MT	1095516.22	0.00	0.00	1130897.77	0.00	0.00	1275559.06	0.00	0.00
C) PRICE											
8	Amount charged by the Coal /Lignite Company	Rs.	2109302953	0	0	2209737972	0	0	3440466576	0	0
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	Rs.	586421868	0	0	330667815	0	0	685458332	0	0
10	Handling, Sampling and such other similar charges	Rs.	47576247	0	0	49504717	0	0	50417449	0	0
11	Total amount Charged [(8+9+10)]	Rs.	2741281068	0	0	2589905544	0	0	4175942957	0	0
D) TRANSPORTATION											
12	Transportation charges by rail/ship/road transport										
	By Rail	Rs.	0	0	0	0	0	0	7835517	0	0
	By Road	Rs.	0	0	0	0	0	0	0	0	0
	By Ship	Rs.	0	0	0	0	0	0	0	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	Rs.	0	0	0	0	0	0	0	0	0
14	Demurrage Charges, if any	Rs.	0	0	0	0	0	0	0	0	0
15	Cost of diesel in transporting coal through MGR system, if applicable	Rs.	23456100	0	0	25787011	0	0	26458958	0	0
16	Total Transportation Charges [(12+13+14+15)]	Rs.	23456100	0	0	25787011	0	0	34292775	0	0
17	Total amount Charged for coal/lignite supplied including Transportation [(11+16)]	Rs.	2766737168	0	0	2615682555	0	0	4218240732	0	0
E) TOTAL COST											
18	Landed cost of coal/ Lignite (17)/(1+17)	Rs./MT	2473.06	0.00	0.00	2301.33	0.00	0.00	2489.51	0.00	0.00
19	Receiving Rate (Domestic/Imported)		398.00	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00
20	Weighted average cost of coal/ Lignite (including Biomass)	Rs./MT	2473.06			2301.33			2489.51		
20a	Weighted average cost of coal/ Lignite (excluding Biomass)	Rs./MT	2473.06			2301.33			2489.51		
F) QUALITY											
21	GCV of Domestic Coal of the opening coal stock as per bill of Coal Company	(kCal/Kg)									
22	GCV of Domestic Coal supplied as per bill of Coal Company (As Basis)	(kCal/Kg)	4575			4901			4748		
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)	4928			4723			4893		
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)									
25	Weighted average GCV of coal/ Lignite as billed (including Biomass)	(kCal/Kg)	4901			4748			4876		
25a	Weighted average GCV of coal/ Lignite as billed (excluding Biomass)	(kCal/Kg)	4901			4748			4876		
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	3883			4273			4211		
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	4422			4257			4472		
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)									
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)									
30	Weighted average GCV of coal/ Lignite as Received (including Biomass)		4272			4216			4439		
30a	Weighted average GCV of coal/ Lignite as Received (excluding Biomass)	(kCal/Kg)	4272			4216			4439		

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श्री० इमरान
Mohd. Inam
जी० प्रबंधक (वित्त)
Sr. Manager (Finance)
एन० सी० एन० / NTPC (I.M. - D-44)

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Details of Sourcewise fuel for computation of Energy Charges

Company		NTPC Limited					
Name of the generating Station		Rihand STPP Stage I					
Month		Oct-21		Nov-21		Dec-21	
Sl. Particulars	Unit	LDO	HFO	LDO	HFO	LDO	HFO
A) OPENING QUANTITY							
1 Opening Stock of Oil	KL	4,360.09	0.00	7,027.17	0.00	6,865.17	0.00
2 Value of Stock	Rs	22,02,87,402	0.00	40,75,86,271	0.00	39,81,90,030	0.00
B) QUANTITY							
3 Quantity of Oil supplied by Oil Company	KL	3,162.08	0.00	0.00	0.00	0.00	0.00
4 Adjustment (+/-) in quantity supplied made by Oil Company	KL	0.00	0.00	0.00	0.00	0.00	0.00
5 Coal supplied by Oil Company (3+4)	KL	3,162.08	0.00	0.00	0.00	0.00	0.00
6 Normative transit & Handling losses	KL	0.00	0.00	0.00	0.00	0.00	0.00
7 Net Oil supplied (5 - 6)	KL	3,162.08	0.00	0.00	0.00	0.00	0.00
C) PRICE							
8 Amount charged by the Oil Company	Rs	21,60,09,516	0	0	0	0	0
9 Adjustment (+/-) in amount charged by Oil Company	Rs	0	0	0	0	0	0
10 Handling, Sampling and such other Similar charges	Rs	0	0	0	0	0	0
11 Total Amount charged (8+9+10)	Rs	21,60,09,516	0	0	0	0	0
D) TRANSPORTATION							
12 Transportation charges by Rail / Ship / Road Transport	Rs						
By Rail	Rs	0	0	0	0	0	0
By Road	Rs	0	0	0	0	0	0
By Ship	Rs	0	0	0	0	0	0
13 Adjustment (+/-) in amount charged by railways / transport company	Rs	0	0	0	0	0	0
14 Demurrage charges, if any	Rs	0	0	0	0	0	0
15 Cost of diesel in transporting Coal through MGR system, if applicable	Rs	0	0	0	0	0	0
16 Total transportation charges (12+/- 13 - 14 + 15)	Rs	0	0	0	0	0	0
17 Total amount charged for Oil supplied including transportation (11 + 16)	Rs	21,60,09,516	0	0	0	0	0
E) TOTAL COST							
18 Landed Cost of Oil (LDO/HFO) (2+17) / (1+7)	Rs/KL	58,001.49	0.00	58,001.49	0.00	58,001.49	0.00
19 Blending Ratio		1.00	0.00	1.00	0.00	1.00	0.00
20 Weighted average cost of Oil		58,001.49		58,001.49		58,001.49	
F) QUALITY							
21 GCV of Oil of the opening stock as per bill of Oil company	(Kcal/Ltr)						
22 GCV of oil supplied as per bill of oil company	(Kcal/Ltr)						
23 GCV of Imported coal of the opening stock as per bill of coal company	(Kcal/Ltr)						
24 GCV of Imported coal supplied as per bill of coal company	(Kcal/Ltr)						
25 Weighted average GCV of Oil as billed	(Kcal/Ltr)						
26 GCV of Oil of the Opening stock as received at station	(Kcal/Ltr)						
27 GCV of Oil supplied	(Kcal/Ltr)	9232	0	9232	0	9232	0
28 GCV of Imported coal of the Opening stock as received at station	(Kcal/Ltr)						
29 GCV of Imported coal supplied as received at station	(Kcal/Ltr)						
30 Weighted average GCV of Oil	(Kcal/Ltr)	9232		9232		9232	



श्री० इनाम
Mohd. Inam
सीएच प्रबंधक (वित्त)
Sr. Manager (Finance)
एनपीसी लि- वाराणसी / NTPC Ltd - Varanasi


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THE ASSISTANT COMMISSIONER
 Public Grievance Redressal Cell
 P. O. :- B. Nagar, NTPC Limited

Details of Source wise Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited									
Name of the generating Station :		Rihand STPP Stage I									
S. No.	Month	Unit	Oct-22			Nov-22			Dec-22		
			Domestic	Imported	Biomass	Domestic	Imported	Biomass	Domestic	Imported	Biomass
A) OPENING QUANTITY											
1	Opening Quantity of Coal/Lignite	MT	835269.42	0.00	0.00	848142.29	0.00	0.00	837711.48	0.00	0.00
2	Value of Stock	Rs.	2277429302	0	0	1879175899	0	0	1970680724	0	0
B) QUANTITY											
3	Quantity of Coal/Lignite supplied by Coal/Lignite Company	MT	982297.46	0.00	0.00	1217964.23	0.00	0.00	1118452.96	0.00	0.00
4	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Coal supplied by Coal/Lignite Company (3+4)	MT	982297.46	0.00	0.00	1217964.23	0.00	0.00	1118452.96	0.00	0.00
6	Normative Transit & Handling Losses (For coal/ Lignite based projects)	MT	1964.59	0.00	0.00	2434.13	0.00	0.00	2298.91	0.00	0.00
7	Net coal/ Lignite Supplied (3-4)	MT	980332.87	0.00	0.00	1214490.10	0.00	0.00	1116154.05	0.00	0.00
C) PRICE											
8	Amount charged by the Coal/Lignite Company	Rs.	1059881109	0	0	1422252592	0	0	2279218332	0	0
9	Adjustment (+/-) in amount charged made by Coal/Lignite Company	Rs.	37549879	0	0	206195971	0	0	23828574	0	0
10	Handling, Sampling and such other similar charges	Rs.	43176433	0	0	49790007	0	0	45229768	0	0
11	Total amount Charged (8+9+10)	Rs.	2379161418	0	0	2678338770	0	0	2507793799	0	0
D) TRANSPORTATION											
12	Transportation charges by rail/ship/road transport										
	By Rail	Rs.	0	0	0	0	0	0	0	0	0
	By Road	Rs.	0	0	0	0	0	0	0	0	0
	By Ship	Rs.	0	0	0	0	0	0	0	0	0
13	Adjustment (+/-) in amount charged made by Railways/Transport Company	Rs.	0	0	0	0	0	0	0	0	0
14	Demurrage Charges, if any	Rs.									
15	Cost of diesel in transporting coal through MGB system, if applicable	Rs.	26729361	0	0	31390967	0	0	29847937	0	0
16	Total Transportation Charges (12+13+14+15)	Rs.	26729361	0	0	31390967	0	0	29847937	0	0
17	Total amount Charged for coal/Lignite supplied including Transportation (11+16)	Rs.	2405890779	0	0	2710697737	0	0	2537673111	0	0
E) TOTAL COST											
18	Landed cost of coal/ Lignite (2+17)/(3+7)	Rs./MT	2579.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	Blending Ratio (Domestic/Imported)		100.00	0.00	0.00	100.00	0.00	0.00	100.00	0.00	0.00
20	Weighted average cost of coal/ Lignite (Including Biomass)	Rs./MT	2579.06			2162.46			2305.26		
20a	Weighted average cost of coal/ Lignite (excluding Biomass)	Rs./MT	2579.06			2162.46			2305.26		
F) QUALITY											
21	GCV of Domestic Coal of the opening coal stock as per Bill of Coal Company	(kCal/Kg)									
22	GCV of Domestic Coal supplied as per bill of Coal Company (By Bills)	(kCal/Kg)	5045			4948			4708		
23	GCV of Imported Coal of the opening stock as per bill Coal Company	(kCal/Kg)	4886			4579			4589		
24	GCV of Imported Coal supplied as per bill Coal Company	(kCal/Kg)									
25	Weighted average GCV of coal/ Lignite as billed (Including Biomass)	(kCal/Kg)	4948			4708			4640		
25a	Weighted average GCV of coal/ Lignite as billed (excluding Biomass)	(kCal/Kg)	4948			4708			4640		
26	GCV of Domestic Coal of the opening stock as received at Station	(kCal/Kg)	4431			4311			4086		
27	GCV of Domestic Coal supplied as received at Station	(kCal/Kg)	4079			3965			3862		
28	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)									
29	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)									
30	Weighted average GCV of coal/ Lignite as Received (Including Biomass)	(kCal/Kg)	4311			4086			3958		
30a	Weighted average GCV of coal/ Lignite as Received (excluding Biomass)	(kCal/Kg)	4311			4086			3958		



MOHD. IMRAN
Sr. Manager (Finance)
NTPC Ltd. UFCG-Dadri



SANJAY SINHA
Addl. General Manager (UFCG-Fuel)
एन.टी.पी. लि. दादर / NTPC Ltd. Dadri

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Details of Sourcewise fuel for computation of Energy Charges

Company		NTPC Limited					
Name of the generating Station		Rihand STPP Stage I					
Month		Oct-22		Nov-22		Dec-22	
Sl. Particulars	Unit	LDO	HFO	LDO	HFO	LDO	HFO
A) OPENING QUANTITY							
1 Opening Stock of Oil	KL	5,771.92	0.00	4,861.12	0.00	4,461.92	0.00
2 Value of Stock	Rs	45,72,64,443	0.00	48,53,97,408	0.00	35,51,39,260	0.00
B) QUANTITY							
3 Quantity of Oil supplied by Oil Company	KL	0.00	0.00	0.00	0.00	3,035.63	0.00
4 Adjustment (+/-) in quantity supplied made by Oil Company	KL	0.00	0.00	0.00	0.00	0.00	0.00
5 Coal supplied by Oil Company (3+4)	KL	0.00	0.00	0.00	0.00	3,035.63	0.00
6 Normalive transh & Handling losses	KL	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	0.00	3,035.63	0.00
C) PRICE							
8 Amount charged by the Oil Company	Rs	0	0	0	0	29,42,39,528	0
9 Adjustment (+ / -) in amount charged by Oil Company	Rs	0	0	0	0	0	0
10 Handling, Sampling and such other similar charges	Rs	0	0	0	0	0	0
11 Total Amount charged (8 +9+10)	Rs	0	0	0	0	29,42,39,528	0
D) TRANSPORTATION							
12 Transportation charges by Rail / Ship / Road Transport	Rs						
By Rail	Rs	0	0	0	0	0	0
By Road	Rs	0	0	0	0	0	0
By Ship	Rs	0	0	0	0	0	0
13 Adjustment (+/-) in amount charged by railways / transport company	Rs	0	0	0	0	0	0
14 Demurrage charges, if any	Rs	0	0	0	0	0	0
15 Cost of diesel in transporting Coal through MGR system, if applicable	Rs	0	0	0	0	0	0
16 Total transportation charges [12+/- 13 + 14 + 15)	Rs	0	0	0	0	0	0
17 Total amount charged for Oil-supplied including transportation [(11 + 16)	Rs	0	0	0	0	29,42,39,528	0
E) TOTAL COST							
18 Landed Cost of Oil (LDO/HFO) (2+17) / (1+7)	Rs/KL	79,235.98	0.00	79,235.98	0.00	86,380.39	0.00
19 Blending Ratio		1.00	0.00	1.00	0.00	1.00	0.00
20 Weighted average cost of Oil		79,235.98		79,235.98		86,380.39	
F) QUALITY							
21 GCV of Oil of the opening stock as per bill of Oil company	(Kcal/Ltr)						
22 GCV of oil supplied as per bill of oil company	(Kcal/Ltr)						
23 GCV of Imported coal of the opening coal stock as per bill of coal company	(Kcal/Ltr)						
24 GCV of Imported coal supplied as per bill of coal company	(Kcal/Ltr)						
25 Weighted average GCV of Oil as billed	(Kcal/Ltr)						
26 GCV of Oil of the Opening stock as received at station	(Kcal/Ltr)						
27 GCV of Oil supplied	(Kcal/Ltr)	9362	0	9362	0	9302	0
28 GCV of Imported coal of the Opening stock as received at station	(Kcal/Ltr)						
29 GCV of Imported coal supplied as received at station	(Kcal/Ltr)						
30 Weighted average GCV of Oil	(Kcal/Ltr)	9362		9362		9302	


MOHD. IMRAN
Sr. Manager (Finance)
NTPC Ltd. UFCG-Dadri


SANJAY SINHA
Add. General Manager (UFCG-Fuel)
एन.टी.पी.सी., दादरी / NTPC Ltd., Dadri

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Shalabh Jain
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RHAND SUPER THERMAL POWER STATION

BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2020	31.03.2019	
001	ASSETS	0.00	0.00	
002		0.00	0.00	
003	Non-Current Assets	0.00	0.00	
004	Property, plant and equipment	2	58,728,501,510.10	58,943,024,021.02
005	Capital Work-in-Progress	3	823,654,175.83	526,168,443.09
006	Intangible Assets	4	19,560.18	134,643.21
007	Intangible Assets under Development	5	0.00	0.00
008	Investments in Subsidiaries and Joint Ventures	6	0.00	0.00
009	Financial Assets	0.00	0.00	
010	i) Investments	7	0.00	0.00
011	ii) Trade receivables	8	0.00	0.00
012	iii) Loans	9	97,279,112.63	102,118,264.34
013	iv) Other financial assets	10	0.00	0.00
014	Other non-current assets	11	2,910,570,999.29	1,730,829,571.76
015	Total non-current assets		80,160,025,348.23	61,302,275,633.52
016			0.00	0.00
017	Current Assets	0.00	0.00	
018	Inventories	12	3,934,708,096.39	5,522,897,180.17
019	Financial assets	0.00	0.00	
020	i) Investments	13	0.00	0.00
021	ii) Trade receivables	14	8,200,899.09	3,309,693.64
022	iii) Cash and cash equivalents	15	436,387.81	3,393,293.36
023	iv) Bank balances other than cash and cash equivalents	15	0.00	0.00
024	v) Loans	17	70,942,725.42	71,017,591.86
025	vi) Other financial assets	18	681,977,881.50	177,325,679.59
026			0.00	0.00
027	Other Current Assets	19	841,228,747.65	493,844,905.72
028			0.00	0.00
029			0.00	0.00
030	Total Current Assets		5,335,493,741.06	6,271,787,654.38
031	Regulatory deferral account debit balances	20	366,710,508.19	348,046,371.04
032	TOTAL ASSETS		85,862,229,697.48	67,922,109,658.86
034	EQUITY AND LIABILITIES	0.00	0.00	
035	Equity	0.00	0.00	
036	Equity Share capital	21	0.00	0.00
037	Other equity	22	154,392,807,607.96	142,905,372,241.66
040	Total equity		154,392,807,607.96	142,905,372,241.66
041			0.00	0.00
042	Liabilities	0.00	0.00	
043	Non-Current Liabilities	0.00	0.00	
044	Financial liabilities	0.00	0.00	
045	i) Borrowings	23	0.00	0.00

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V. Malik
V. Malik
(HOF)

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RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2020	31.03.2019
046 ii) Trade payables		0.00	0.00
047 - Total outstanding dues of micro and small enterprises	24	15,622,396.62	6,964,940.99
048 - Total outstanding dues of creditors other than micro and small enterprises	24	5,712,598.82	19,217,358.89
049. ii) Other financial liabilities	25	34,379,901.73	2,083,288.09
050 Provisions	26	0.00	0.00
051 Deferred Tax Liabilities (net)	27	0.00	0.00
052 Other non-current liabilities	28	0.00	0.00
053		0.00	0.00
054 Total non-current liabilities		55,714,897.17	28,265,588.97
055		0.00	0.00
056 Current Liabilities		0.00	0.00
057 Financial liabilities		0.00	0.00
058 i) Borrowings	29	0.00	0.00
059 ii) Trade Payables		0.00	0.00
060 - Total outstanding dues of micro and small enterprises	30	347,533,123.95	277,066,480.33
061 - Total outstanding dues of creditors other than micro and small enterprises	30	1,929,276,543.35	1,245,121,688.26
062 iii) Other financial liabilities	31	2,174,040,601.24	2,424,995,497.91
063 Other current liabilities	32	98,045,480.01	96,740,893.18
064 Provisions	33	8,480,817.99	7,624,629.10
065 Current tax liabilities (net)	34	0.00	0.00
066		0.00	0.00
067 Sub Total		4,557,376,576.54	4,021,549,088.79
068		0.00	0.00
069 Deferred Revenue	35	1,990,729,000.00	1,250,048,000.00
070 Regulatory deferral account credit balances	36	0.00	0.00
071 Inter Unit Accounts		-95,134,398,483.19	-80,283,125,960.56
072		0.00	0.00
073 TOTAL EQUITY AND LIABILITIES		65,862,229,097.46	67,922,109,858.86
074 Significant Accounting Policies as per Note 1	1	0.00	0.00
075		0.00	0.00
076 The accompanying notes 1 to 44 form an integral part of these financial statements		0.00	0.00
077		0.00	0.00
078		0.00	0.00

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V. Malik
(HOP)


(Head of Unit)

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RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2020	31.03.2019
001	Revenue		0.00	0.00
002	Revenue from operations	37	50,565,358,913.88	50,048,258,348.89
003	Other income	38	3,035,476,371.88	1,974,635,183.87
005	Total Revenue		53,600,835,285.76	52,022,893,532.76
007	Expenses		0.00	0.00
008	Fuel including cost of captive coal	38A	30,418,545,545.88	28,585,776,745.41
009	Employee benefits expense	39	1,854,129,627.42	2,041,743,925.51
010	Electricity Purchased		0.00	0.00
011	Finance costs	40	2,130,434,794.21	2,232,706,359.72
012	Depreciation, amortization and impairment expense	41	3,014,630,907.64	4,107,321,614.55
013			0.00	0.00
014	Other expenses	42	2,903,654,769.93	2,581,285,071.21
015	CC expenses charge to revenue		865,355,462.00	838,528,155.29
016	Less: Unit expenses transferred to CC		0.00	0.00
017	Total expenses		42,084,284,198.88	40,469,371,671.68
020	Profit before exceptional items & tax		11,516,551,086.88	11,554,521,861.10
021	Exceptional items		0.00	0.00
024	Profit before tax		11,516,551,086.88	11,554,521,861.10
027	Tax expense:		0.00	0.00
028	Current tax		0.00	0.00
029	Deferred tax		0.00	0.00
030			0.00	0.00
031	Total Tax expense		0.00	0.00
032	Profit for the period before regulatory deferral account balances		11,516,551,086.88	11,554,521,861.10
033	Movement in regulatory deferral account balances		0.00	0.00
034	Regulatory deferred account - deferred		0.00	0.00
035	Others		16,012,648.15	63,815,031.15
036	Tax impact on Regulatory deferral account balances		0.00	0.00
037	Movement in Regulatory deferral account balances (Net of Tax)		16,012,648.15	63,815,031.15
038	Profit for the period/ year		11,532,563,737.03	11,618,336,892.25
039	Other comprehensive income		0.00	0.00
040	(A) Items that will not be reclassified to profit or loss		0.00	0.00
041	- Net gains/(losses) on fair value of equity instruments through other comprehensive income		0.00	0.00
042	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
043	- Net actuarial gains/(losses) on defined benefit plans		-53,349,231.17	-2,772,380.20
044	Income tax on above that will not be		0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2020	31.03.2019
	reclassified to profit or loss			
048			0.00	0.00
049	Other comprehensive income for the year, net of income tax		-53,349,231.17	-2,772,380.20
050			0.00	0.00
051	Total Comprehensive income for the year		11,479,214,505.86	11,915,594,312.05
055			0.00	0.00
056	Earnings per equity share:		0.00	0.00
067	Basic & Diluted		0.00	0.00
068	Significant Accounting Policies		0.00	0.00
069	Expenditure during construction period (Net) Dev. of coal mines (net) 43 /43A		0.00	0.00
070	The accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00

(Auditor Initial & Stamp)

(Head of Finance)

(Head of Unit)

V. Malik
(HOF)

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2020	Opening Depreciation As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2020	Net Block As At 31.03.2020	Net Block As At 31.03.2019
1 TANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Land : (including development expenses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Freehold	354101950.25	0.00	914893.00	355016843.25	0.00	0.00	0.00	0.00	355016843.25	354101950.25
4 Right of Use	312564894.63	0.00	0.00	312564894.63	54156195.50	10521536.67	0.00	64677732.17	247887162.46	258408699.13
5 Submergence	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 CBA Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Roads,bridges, culverts & helipads	633382471.20	0.00	3064445.24	636446916.44	84717207.88	24819390.13	0.00	109536598.01	526910318.43	548665263.32
8 Building :	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Main plant	1852956664.03	0.00	0.00	1852956664.03	250006943.20	62858014.88	0.00	312864958.08	1540091705.95	1602949720.83
11 Others	2526816498.43	0.00	7148785.46	2533965283.89	295814769.33	93611156.32	0.00	389425925.65	2144539358.24	2231001729.10
12 Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Temporary erection	231168.13	0.00	0.00	231168.13	231168.13	0.00	0.00	231168.13	0.00	0.00
14 Water Supply, drainage & sewerage system	528872639.67	0.00	15099211.89	543971851.56	73117733.28	25176366.99	0.00	98294100.27	445677751.29	455754906.39
15 Hydraulic works, barrages, dams, tunnels and power channel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 MGR track and signalling system	1331637054.56	0.00	0.00	1331637054.56	213397002.77	69391989.74	0.00	282788992.51	1048848062.05	1118240051.79
17 Railway siding	1528212.48	0.00	0.00	1528212.48	518982.35	64482.46	0.00	583464.81	944747.67	1009230.13
18 Earth dam reservoir	1456921.40	0.00	0.00	1456921.40	0.00	0.00	0.00	0.00	1456921.40	1456921.40
19 Plant and machinery(including associated civil works)	70060155454.71	1159352990.29	930582602.97	72150091047.97	18342069443.48	4015873615.81	(19444481.65)	22338498577.64	49811592470.33	51718086011.23
Owned Asset										


 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2020	Opening Depreciation As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2020	Net Block As At 31.03.2020	Net Block As At 31.03.2019
20 Plant and machinery(including associated civil works) -Right of use Asset	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Furniture and fixtures	162827901.39	11643132.75	(8157.00)	174462877.14	44691819.20	11307625.48	(6082.95)	55993361.73	118469515.41	118136082.19
22 Assets under 5 Km Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 Vehicles - Owned	6558165.35	0.00	0.00	6558165.35	1447799.10	579121.79	0.00	2026920.89	4531244.46	5110366.25
24 Vehicles - Leased	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Office equipment	84012276.10	3589852.00	108075.12	87710203.22	35082454.15	7205598.19	(6379.98)	42281672.36	45428530.86	48929821.95
26 EDP, WP machines and satcom equipment	90601420.49	1595454.00	(3450231.96)	88746642.53	60222035.59	9917758.55	(3461317.64)	66678476.50	22068166.03	30379384.90
27 Construction equipments	65110895.86	0.00	0.00	65110895.86	21512359.27	3506656.19	0.00	25019015.46	40091880.40	43598536.59
28 Electrical Installations	320745742.54	10354500.00	(2700.00)	331097542.54	63152266.13	30831333.36	0.00	93983599.49	237113943.05	257593476.41
29 Communication equipments	31934747.30	0.00	0.00	31934747.30	18196504.33	2942944.88	0.00	21139449.21	10795298.09	13738242.97
30 Hospital equipments	23064355.97	339187.00	0.00	23403542.97	5041564.24	1261479.28	0.00	6303043.52	17100499.45	18022791.73
31 Laboratory and workshop equipments	146083529.77	0.00	(155143.00)	145928386.77	28241795.31	7749500.18	0.00	35991295.49	109937091.28	117841734.46
32 Capital expenditure on assets not owned by the Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 Assets of Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34 Less:Grants from Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


 Adil General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2020	Opening Depreciation As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2020	Net Block As At 31.03.2020	Net Block As At 31.03.2019
35 Less: Recoverable from GOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 Assets for ash utilisation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 (Less):-Adjusted from fly ash utilisation reserve fund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 Site Restoration Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Mining Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Tangible)	78534642964.26	1186875116.04	953301781.72	80674819862.02	19591618043.24	4377618570.90	(22918262.22)	23946318351.92	56728501510.10	58943024921.02
Grand Total Prev Year (Tangible)	76513713413.11	1766484574.63	254444976.52	78534642964.26	15142568138.78	4550839731.18	(101789826.72)	19591618043.24	58943024921.02	61371145274.33


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization

Particulars	Gross Block		Depreciation/Amortization	
	Tangible As At: 31.03.2020	Tangible As At: 31.03.2019	Tangible As At: 31.03.2020	Tangible As At: 31.03.2019
Disposal of assets	(2114197.00)	(5304388.79)	(2071876.78)	(4951981.07)
Retirement of assets	(69448632.25)	(138103959.79)	(19577026.64)	(81828236.73)
Cost adjustments	1021726514.10	421175458.15	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	3138096.87	(23322133.05)	(1269358.80)	(15009608.92)
Others	0.00	0.00	0.00	0.00
TOTAL	953301781.72	254444976.52	(22918262.22)	(101789826.72)


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2019	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2020
	1	2	3	4	5	6
1	CAPITAL WORK-IN-PROGRESS					
2	Development of land					
3	Roads, bridges, culverts & helipads		3064445.24	(3064445.24)		
4	Piling and foundation					
5	Buildings :					
6	Main plant		12776883.21	(12776883.21)		
7	Others	3128243.68	8015025.53	(7148785.46)		3994483.75
8	Temporary erection					
9	Water supply, drainage and sewerage system		8662414.61	(5712414.61)		2950000.00
10	Hydraulic works, barrages, dams, tunnels and power channel					
11	MGR track and signalling system		20000000.00			20000000.00
12	Railway siding					
13	Earth dam reservoir					
14	Plant and equipment	423512011.96	1222073063.20	(412613876.96)	516109085.59	716862112.61
15	Furniture and fixtures					
16	Vehicles					
17	Office equipment					
18	EDP/WP machines & satcom equipment		1367798.00			1367798.00
19	Construction equipments					
20	Electrical installations		10354500.00		10354500.00	
21	Communication equipment					
22	Hospital equipments					
23	Laboratory and workshop equipments					
24	Assets under 5Km Scheme of the GOI					
25	Capital expenditure on assets not owned by the company					
26	Expenditure towards development of coal mines					
27	Survey,Investigation,Consultancy & Supervision Cha	2987667.50				2987667.50
28	Difference in exchange on foreign currency loans					

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2019	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2020
	1	2	3	4	5	6
29	Expenditure towards diversion of forest land					
30	Pre-commissioning expenses (net)					
31	ExpPendAlloca-oth ex attribut Project					
32	Expenditure During Construction Period (net)*	7991487.00	14502884.03	(6718199.59)		15776171.44
33	LESS : Allocated to related works		15776171.44			15776171.44
34	LESS : Provision for Unservicable works					
35	Construction stores (At Cost)					
36	Steel	31435733.98		(2612252.04)		28823481.94
37	Cement	6722611.99		(4568450.33)		2154161.66
38	Others	53975278.44	65047466.87	(70421303.71)		48601441.60
39	Sub-total	92133624.41	65047466.87	(77602006.08)		79579085.20
40	LESS : Provision for shortages	3584591.46		502379.77		4086971.23
41	Sub-total	88549032.95	65047466.87	(78104385.85)		75492113.97
42	Total CWIP	526168443.09	1350088309.25	(526138990.92)	526463585.59	823654175.83
43						
44						
45	PREVIOUS YEAR TOTAL	1117191125.22	1406540908.81	(497169141.34)	999861027.04	526168443.09

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2020	Opening Depreciation As At 01.04.2019	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2020	Net Block As At 31.03.2020	Net Block As At 31.03.2019
INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Right of Use- Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 -Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 -Software	4773867.26	0.00	0.00	4773867.26	4639223.95	115063.13	0.00	4754287.08	19580.18	134643.31
Grand Total (Intangible)	4773867.26	0.00	0.00	4773867.26	4639223.95	115063.13	0.00	4754287.08	19580.18	134643.31
Grand Total Prev Year (Intangible)	4773867.26	0.00	0.00	4773867.26	4516527.46	122696.49	0.00	4639223.95	134643.31	257339.80


 अनिल कुमार (व्यक्तिगत)
 Anil Kumar (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	InTangible As At: 31.03.2020	InTangible As At: 31.03.2019	InTangible As At: 31.03.2020	InTangible As At: 31.03.2019
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 5: Intangible Assets under Development

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2019	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2020
	1	2	3	4	5	6
1	INTANGIBLE ASSETS UNDER DEVELOPMENT					
2	Software					
3	Right to use Others					
4	Exploration and Evaluation Expenditure - Coal Mini					
5	Exploratory wells-in-progress					
6	Less: Provision for exploratory wells-in-progress					
7	Total					
8	PREVIOUS YEAR TOTAL-I					

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2020	31.03.2019
001	NON CURRENT INVESTMENTS-		0.00	0.00
	Investments in subsidiaries and joint ventures			
012	Equity Instruments - Unquoted-(fully paid up unless otherwise stated, at cost)		0.00	0.00
013	Subsidiary Companies		0.00	0.00
014	Patraru Vidyut Utpadan Nigam Ltd.		0.00	0.00
015	NTPC Electric Supply Company Ltd.		0.00	0.00
016	NTPC Vidyut Vyapar Nigam Ltd.		0.00	0.00
017	Nabinagar Power Generating Company Ltd.		0.00	0.00
018	Kanti Bijlee Utpadan Nigam Ltd.		0.00	0.00
019	Bhartiya Rail Bijlee Company Ltd.		0.00	0.00
020	NTPC Mining Ltd (NML)		0.00	0.00
021	THDC India Ltd.		0.00	0.00
022	NEEPCO LTD.		0.00	0.00
023			0.00	0.00
024			0.00	0.00
025			0.00	0.00
026			0.00	0.00
027			0.00	0.00
028			0.00	0.00
029			0.00	0.00
030	Sub Total		0.00	0.00
055	Joint Venture Companies		0.00	0.00
056	Utility Powertech Ltd.		0.00	0.00
057	NTPC GE Power Services Pvt.Ltd.		0.00	0.00
058	NTPC-SAIL Power Company Ltd.		0.00	0.00
059	NTPC-Tamil Nadu Energy Company Ltd.		0.00	0.00
060	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2020	31.03.2019
061	Aravali Power Company Private Ltd.		0.00	0.00
062			0.00	0.00
063	NTPC BHEL Power Projects Private Ltd.		0.00	0.00
064	Meja Urja Nigam Private Limited		0.00	0.00
065	BF-NTPC Energy Systems Ltd.		0.00	0.00
066			0.00	0.00
067	Nabinagar Power Generating Company Ltd.		0.00	0.00
068	Transformer and Electrical Kerala Ltd.		0.00	0.00
069	National High Power Test Laboratory Private Ltd.		0.00	0.00
070			0.00	0.00
071	CIL NTPC Urja Private Ltd.		0.00	0.00
072	Anushakti Vidhyut Nigam Ltd.		0.00	0.00
073	Energy Efficiency Services Ltd.		0.00	0.00
074			0.00	0.00
075	Trincomalee Power Company Ltd.		0.00	0.00
076	Bangladesh-India Friendship Power Company (Pvt.) Ltd.		0.00	0.00
077	Hindustan Urvarak & Rasayan Limited		0.00	0.00
078	Konkan LNG Pvt. Ltd		0.00	0.00
079			0.00	0.00
081	Sub Total		0.00	0.00
109	Aggregate amount of impairment in the value of investments		0.00	0.00
110			0.00	0.00
111			0.00	0.00
134	Total		0.00	0.00
135	Details of Investments		0.00	0.00
136	Aggregate amount of Unquoted Investments		0.00	0.00

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अध्यक्ष (व्यवसायिक)
A.M. General Manager (Commercial)
एन टी सी लिमिटेड / NTPC LIMITED



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2020	31.03.2019
141			0.00	0.00
142			0.00	0.00
143			0.00	0.00
144			0.00	0.00
145			0.00	0.00
153	Valuation of Investments as per Note 1.		0.00	0.00
154			0.00	0.00
202			0.00	0.00
233			0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 7 TO THE FS-NCA-INVESTMENTS
(Amount in ₹)

	As at	No. of shares	Face value	31.03.2020	31.03.2019
001	Non-current financial assets (investments)			0.00	0.00
006	Long Term - Trade			0.00	0.00
007	Equity Instruments (fully paid up-unless otherwise stated)			0.00	0.00
008	Quoted			0.00	0.00
009	Joint Venture Companies			0.00	0.00
010	PTC India Ltd.			0.00	0.00
070	International Coal Ventures Private Ltd.			0.00	0.00
075	BF-NTPC Energy Systems Ltd.			0.00	0.00
098				0.00	0.00
110	Cooperative Societies			0.00	0.00
111	Sub Total			0.00	0.00
112	Aggregate amount of impairment in the value of investments			0.00	0.00
115	Total			0.00	0.00
120				0.00	0.00
146	NTPC Employees Consumers and Thrift Co-operative Society Ltd. Korba			0.00	0.00
147	NTPC Employees Consumers and Thrift Cooperative Society Ltd. RSTPP			0.00	0.00
148	NTPC Employees Consumers Cooperative Society Ltd. Farakka			0.00	0.00
149	NTPC Employees Consumers Cooperative Society Ltd. Vindhyachal			0.00	0.00
150	NTPC Employees Consumers Cooperative Society Ltd. Anta			0.00	0.00
151	NTPC Employees Consumers Cooperative Society Ltd. Kawas			0.00	0.00
152	NTPC Employees Consumers Cooperative Society Ltd. Kaniha			0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 8 TO THE FS-NCA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Non-current financial assets - Trade receivables	0.00	0.00
002 Unsecured, considered good	0.00	0.00
003 With significant increase in Credit Risk	0.00	0.00
004 Credit impaired	0.00	0.00
005	0.00	0.00
006 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 9 TO THE FS-NCA-LOANS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Loans (Non Current)	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees(including accrued interest)	0.00	0.00
011 Secured	78,002,193.59	74,458,322.58
012 Unsecured	48,524,350.45	59,457,513.24
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Secured	21,268,252.60	21,325,766.04
017 Unsecured	7,979,178.61	10,471,815.44
018 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
019 Others	0.00	0.00
020 Secured	0.00	0.00
021 Unsecured	0.00	0.00
022 With significant increase in Credit Risk	0.00	0.00
023 Credit impaired	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
025 Sub Total	97,279,112.83	102,118,254.34
026	0.00	0.00
027 Total	97,279,112.83	102,118,254.34
028	0.00	0.00
029	0.00	0.00
030 Due from Directors and Officers of the Company	0.00	0.00
031 Directors	0.00	0.00
032 Officers	0.00	0.00
033	0.00	0.00
034 Loans to related parties include:	0.00	0.00
035 i)Key management personel	0.00	0.00
036 ii)Subsidiary companies	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)Others	0.00	0.00
039	0.00	0.00
054 Other loans represent loans given to	0.00	0.00
055 a) APIIC	0.00	0.00
060	0.00	0.00
061 RPD	0.00	0.00
062 i)Key management personel	0.00	0.00
063 ii)Subsidiary companies	0.00	0.00
064 iii)Joint Venture companies	0.00	0.00
065 iv)Others	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

	As at	31.03.2020	31.03.2019
066	Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 10 TO THE FS-NCA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Other Financial Assets (non current)	0.00	0.00
002	0.00	0.00
003 Share application money pending allotment in (Subsidiary Companies) :	0.00	0.00
004 NTPC Electric Supply Company Ltd.	0.00	0.00
005 NTPC Vidyut Vyapar Nigam Ltd.	0.00	0.00
006 Nabinagar Power Generating Company Ltd.	0.00	0.00
007 Kanti Bijlee Utpadan Nigam Ltd.	0.00	0.00
008 Bhartiya Rail Bijlee Company Ltd.	0.00	0.00
009 Patratu Vidyut Utpadan Nigam Ltd.	0.00	0.00
010 NTPC Mining Limited	0.00	0.00
011 THDC Ltd.	0.00	0.00
012 NEEPCO Ltd	0.00	0.00
013	0.00	0.00
014 Total	0.00	0.00
015 Share application money pending allotment (Joint Venture)	0.00	0.00
016 Utility Powertech Ltd.	0.00	0.00
017 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
018 NTPC-SAIL Power Company Ltd.	0.00	0.00
019 NTPC-Tamil Nadu Energy Company Ltd.	0.00	0.00
020 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
021 Aravali Power Company Private Ltd.	0.00	0.00
022	0.00	0.00
023 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
024 Meja Urja Nigam Private Limited	0.00	0.00
025 BF-NTPC Energy Systems Ltd.	0.00	0.00
026 Anushakti Vidhyut Nigam Ltd.	0.00	0.00
027 Nabinagar Power Generating Company Ltd.	0.00	0.00
028 Energy Efficiency Services Ltd.	0.00	0.00
029 National High Power Test Labortory Private Ltd.	0.00	0.00
030	0.00	0.00
031 CIL NTPC Urja Private Ltd.	0.00	0.00
032 Trincomalee Power Company Ltd.	0.00	0.00
033 Hindustan Urvarak & Rasayan Limited	0.00	0.00
034 Bangladesh-India Friendship Power Company Private Ltd.	0.00	0.00
035 Sub Total	0.00	0.00
036	0.00	0.00
037 Claims Recoverable	0.00	0.00
038 Finance Lease Recoverable	0.00	0.00
039 Mine Closure Deposit	0.00	0.00
040	0.00	0.00
041 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Other Non-current Assets	0.00	0.00
002	0.00	0.00
003 CAPITAL ADVANCES	0.00	0.00
004 Secured	0.00	0.00
005 Unsecured	0.00	0.00
006 Covered by Bank Guarantee	323,177,345.00	297,201,725.00
007 Others	89,609,598.63	113,243,558.35
008 Considered doubtful	0.00	0.00
009 Less: Allowance for bad & doubtful advances	0.00	0.00
010 Sub-Total	412,786,943.63	410,445,283.35
011	0.00	0.00
012 Advances other than capital advances	0.00	0.00
013 Security deposits	1,436,400.00	1,436,400.00
019 Advances to Related parties	0.00	0.00
022 Advances to Contractors & Suppliers	0.00	0.00
023 Secured	0.00	0.00
024 Unsecured	0.00	0.00
025 Considered Doubtful	0.00	0.00
026 Less: Allowance for bad & doubtful advances	0.00	0.00
027 Sub Total	1,436,400.00	1,436,400.00
039 Advance tax & tax deducted at source	1,374,625.00	321,125.00
040 Less:- Provision for current tax	0.00	0.00
041	0.00	0.00
042 Sub Total	1,374,625.00	321,125.00
043 Deferred Payroll Expenses (Secured)	18,035,323.47	18,756,382.73
044 Deferred Payroll Expenses (Unsecured)	5,842,677.19	7,851,180.68
045 Sub Total	23,878,000.66	26,607,563.41
046 Deferred Foreign Currency Fluctuation Asset	2,071,095,000.00	1,292,019,000.00
048 Total	2,510,570,969.29	1,730,829,371.76
049	0.00	0.00
050	0.00	0.00
061 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
063	0.00	0.00
064 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
065	0.00	0.00
066 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
067 Aravali Power Company Private Ltd.	0.00	0.00
068 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
069 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
070 Meja Urja Nigam Private Limited	0.00	0.00
071 Nabinagar Power Generating Company Ltd.	0.00	0.00
072 National High Power Test Labortory Private Ltd.	0.00	0.00
074 CIL NTPC Urja Private Ltd.	0.00	0.00
076	0.00	0.00
077 Related Party (Adv)	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS

(Amount in ₹)

As at	31.03.2020	31.03.2019
078 Key Management personel	0.00	0.00
079 Subsidiary companies	0.00	0.00
080 Joint Venture companies	0.00	0.00
081 Contractors	0.00	0.00
082 Others	0.00	0.00
084	0.00	0.00
085 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 12 TO THE FS-CA-INVENTORIES
(Amount in ₹)

As at		31.03.2020	31.03.2019
001	INVENTORIES	0.00	0.00
002		0.00	0.00
003	Coal	530,693,477.72	2,088,231,631.33
004	Fuel oil	213,916,508.70	276,978,893.24
005	Naphtha	0.00	0.00
006	Stores and spares	2,507,691,473.02	2,466,139,085.48
007	Chemicals & consumables	82,869,440.00	67,098,480.64
008	Loose tools	1,481,824.88	1,681,496.63
009	Steel Scrap	4,556,896.18	4,826,650.77
010	Others*	618,290,642.20	644,360,919.29
011	Sub Total	3,959,500,262.70	5,549,317,157.38
012	Less: Provision for shortages	1,959,334.78	4,052,394.00
013	Less: Provision for obsolete/ unservicable/dimuntion in value of surplus inventory	22,832,831.53	22,367,583.21
014		0.00	0.00
015	Total	3,934,708,096.39	5,522,897,180.17
016	Inventories include material in transit	0.00	0.00
017	Coal	0.00	0.00
018	Fuel oil	0.00	0.00
019	Naphtha	0.00	0.00
020	Stores and spares	24,889,533.24	34,306,383.44
021	Chemicals & consumables	30,471.33	0.00
022	Loose tools	0.00	0.00
023	Others	527,190.00	7,458.00
024		0.00	0.00
025	Inventory items other than steel scrap have been valued considering Note 1. Steel scrap has been valued at estimated realisable value.	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 13 TO THE FS-CA-INVESTMENTS

(Amount in ₹)

	As at	No. of shares	Face value	31.03.2020	31.03.2019
001	CURRENT INVESTMENTS			0.00	0.00
002	(Valuation as per Note 1)			0.00	0.00
003				0.00	0.00
033	Investment in Mutual Funds (Details as under)			0.00	0.00
034	SBI-Magnum Insta Cash Fund-DDR			0.00	0.00
035	SBI Premier Liquid Fund Super-IP-DDR			0.00	0.00
036	SBI-SHF Ultra Short Term Fund-IP-DDR			0.00	0.00
037	UTI Money Market- IP-Direct-Growth			0.00	0.00
038	IDBI-Liquid plan- Direct-Growth			0.00	0.00
039	Canara Robeco Liquid Fund Super-IP-DDR			0.00	0.00
040	Canara Robeco Treasury Advantage Fund Super-IP-DDR			0.00	0.00
041	IDBI Liquid Fund-DDR			0.00	0.00
042	SBI Premier Liquid fund-Direct DDR (Ash Fund)			0.00	0.00
043	UTI Liquid CashPlan - IP - DDR (Ash Funds)			0.00	0.00
044	IDBI Liquid Fund - DDR - (Ash Funds)			0.00	0.00
045				0.00	0.00
046	Sub Total			0.00	0.00
047				0.00	0.00
052	Unquoted Investments			0.00	0.00
054				0.00	0.00
066	TOTAL			0.00	0.00
067				0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES****(Amount in ₹)**

	As at	31.03.2020	31.03.2019
001	TRADE RECEIVABLES (current)*	0.00	0.00
002		0.00	0.00
003	Secured, Considered Good	0.00	0.00
004	Unsecured , considered good	6,200,899.09	3,309,893.64
005	With significant increase in Credit Risk	0.00	0.00
006	Credit impaired	0.00	0.00
007	Sub-Total	6,200,899.09	3,309,893.64
008	Total	6,200,899.09	3,309,893.64
009	Less: Allowance for credit impaired receivables	0.00	0.00
010	Total	6,200,899.09	3,309,893.64
011		0.00	0.00
013	* After adjustment for Unbilled Revenue	0.00	0.00
014	Long-term trade receivables	0.00	0.00
015		0.00	0.00
016		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 15 TO THE FS-CA-CASH AND CASH EQUIVALENTS

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 CASH & BANK BALANCES	0.00	0.00
002 Cash & Cash Equivalents	0.00	0.00
003 Balances with Banks	435,387.81	3,143,233.30
004 Cheques & Drafts on hand	0.00	250,000.00
005 Cash on hand	0.00	0.00
006 Others (stamps in hand)	0.00	0.00
007 Bank deposits with original maturity upto three months	0.00	0.00
008 Balances with RBI	0.00	0.00
009	0.00	0.00
010 Total	435,387.81	3,393,233.30

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 16 TO THE FS-CA-BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS (Amount in ₹)

As at	31.03.2020	31.03.2019
001 Other Bank Balances	0.00	0.00
002 Deposits with original maturity of more than three months but not more than twelve months	0.00	0.00
003 Earmarked balances with banks*	0.00	0.00
004 SubTotal	0.00	0.00
005 Interest accrued on deposits	0.00	0.00
006	0.00	0.00
007 Total	0.00	0.00
008	0.00	0.00
009 Earmarked balances with banks consist of :	0.00	0.00
010 Unpaid dividend account balance	0.00	0.00
011 Towards public deposit repayment reserve	0.00	0.00
012 Towards redemption of bonds due for repayment within one year	0.00	0.00
013 Security with Government/other authorities	0.00	0.00
014 Unpaid refund/interest account balance - Tax free bonds/ Bonus Debentures	0.00	0.00
015 Earmarked for RGGVY/DDUGJY/SAUBHAGYA Fund	0.00	0.00
016 Earmarked for Flyash Utilisation Reserve Fund	0.00	0.00
017 Deposits with original maturity upto three months as per court orders	0.00	0.00
018 Payment Security Scheme of MNRE NSM (NTPC)	0.00	0.00
019 Payment Security Scheme of MNRE NSM (NVVN)	0.00	0.00
020 Enforcement Directorate of Solar Plant(NVVN)	0.00	0.00
021 Bank guarantee Fund of MNRE (NVVN)	0.00	0.00
022 Others	0.00	0.00
023	0.00	0.00
024 Total	0.00	0.00
025	0.00	0.00
026 Bank deposits with original maturity of less than three months- other than earmarked	0.00	0.00
027 Bank deposits with original maturity of more than three months but not more than twelve months- other than earmarked	0.00	0.00
028 Earmarked bank balances (current account)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 17 TO THE FS-CA-LOANS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Current financial assets - Loans	0.00	0.00
002 Loans (current)-including interest accrued	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
011 Secured	18,561,561.43	19,034,311.90
012 Unsecured	52,381,166.99	51,983,249.98
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
017	0.00	0.00
018 Others	0.00	0.00
019 Secured	0.00	0.00
020 Unsecured	0.00	0.00
021 With significant increase in Credit Risk	0.00	0.00
022 Credit impaired	0.00	0.00
023	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
025 Total (Loans)	70,942,728.42	71,017,561.88
026	0.00	0.00
027 Due from Directors and Officers of the Company	0.00	0.00
028 Directors	0.00	0.00
029 Officers	0.00	0.00
030	0.00	0.00
031 Loans to related parties include:	0.00	0.00
032 i)Key management personel	0.00	0.00
033 ii)Subsidiary companies	0.00	0.00
034 KBUNL	0.00	0.00
035 PVUNL	0.00	0.00
036 NVVN	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)others	0.00	0.00
039	0.00	0.00
059 RPD	0.00	0.00
060 i)Key management personel	0.00	0.00
061 ii)Subsidiary companies	0.00	0.00
062 iii)Joint Venture companies	0.00	0.00
063 iv)Others	0.00	0.00
064	0.00	0.00
065 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Other Financial Assets (current)	0.00	0.00
002	0.00	0.00
003 ADVANCES	0.00	0.00
004	0.00	0.00
005 Related Parties	0.00	0.00
006 Secured	0.00	0.00
007 Un-Secured	583,008,854.62	115,514,066.15
008 Considered doubtful	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
012 Unsecured	3,465,523.87	2,545,980.44
013 Considered Doubtful	0.00	0.00
014	0.00	0.00
020 Others	0.00	0.00
021 Secured	0.00	0.00
022 Unsecured	0.00	0.00
023 Considered Doubtful	0.00	0.00
024	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026	0.00	0.00
033 Total (Advances)	586,474,378.49	118,060,046.59
044	0.00	0.00
045 Claims Recoverable	0.00	0.00
046 Secured	0.00	0.00
047 Unsecured, considered good	95,503,503.01	59,241,658.00
048 Considered Doubtful	0.00	0.00
049 Less:- Allowance for doubtful claims	0.00	0.00
050 Others-Claims Recoverable	0.00	0.00
051	0.00	0.00
052 Unbilled Revenue	0.00	0.00
053 Hedging cost recoverable from beneficiaries	0.00	0.00
054 Derivative MTM Asset	0.00	0.00
055 Finance Lease Receivable	0.00	0.00
056 Mine Closure Deposit	0.00	0.00
057 Others*	0.00	23,375.00
058 Receivable from MCP Escrow A/c	0.00	0.00
059 Total	681,977,881.50	177,325,079.59
060	0.00	0.00
062 * Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
063	0.00	0.00
067	0.00	0.00
068 Advances to related parties include:	0.00	0.00
069 i)Key management personel	0.00	0.00
070 ii)Subsidiary companies	0.00	0.00
071 iii)Joint Venture companies	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2020	31.03.2019
072 iv)Contractors	0.00	0.00
073 v)Others	0.00	0.00
074	0.00	0.00
075 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
076	0.00	0.00
077	0.00	0.00
078 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
079 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
080 Aravali Power Company Private Ltd.	0.00	0.00
081 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
082 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
083 Meja Urja Nigam Private Limited	0.00	0.00
084 Nabinagar Power Generating Company Ltd.	0.00	0.00
085 National High Power Test Labortory Private Ltd.	0.00	0.00
086 International Coal Ventures Private Ltd.	0.00	0.00
087 CIL NTPC Urja Private Ltd.	0.00	0.00
089 Bangladesh-India Friendship Power Co. Pvt.Ltd	0.00	0.00
090	0.00	0.00
091 Related Party (Adv)- Employee	0.00	0.00
092 Related Party (Adv)- Subsidiaries	0.00	0.00
093 Related Party (Adv)- Joint Ventures	0.00	0.00
094 Related Party (Adv)- Contractors	0.00	0.00
095 Related Party (Adv)- Others	583,008,854.62	115,514,066.15
096 Total	583,008,854.62	115,514,066.15

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 OTHER CURRENT ASSETS	0.00	0.00
002 Security Deposits (Unsecured)	0.00	0.00
003 Deposit with Customs, port trust & others*	191,392,850.00	191,392,850.00
004 ADVANCES	0.00	0.00
005	0.00	0.00
006 Related Parties	0.00	0.00
007 Secured	0.00	0.00
008 Un-Secured	22,267,172.00	15,733,245.00
009 Considered doubtful	0.00	0.00
010	0.00	0.00
011 Employees(including imprest)	0.00	0.00
012 Secured	0.00	0.00
013 Unsecured	313,974.00	367,109.28
014 Considered Doubtful	0.00	0.00
015	0.00	0.00
016 Contractors & Suppliers	0.00	0.00
017 Secured	0.00	0.00
018 Unsecured	195,835,792.94	122,879,539.27
019 Considered Doubtful	0.00	53,600.00
020	0.00	0.00
021 Others**	0.00	0.00
022 Secured	0.00	0.00
023 Unsecured	12,449,859.00	65,159,372.17
024 Considered Doubtful	0.00	0.00
025	0.00	0.00
026 Less: Allowance for bad & doubtful advances	0.00	53,600.00
027 Deferred Payroll Expenses (Secured)	2,488,898.40	2,810,851.92
028 Deferred Payroll Expenses (Unsecured)	3,815,730.86	4,524,013.84
029 Sub-total	6,304,629.26	7,334,865.76
030 Interest accrued on :	0.00	0.00
031 Advances to contractors	0.00	0.00
032	0.00	0.00
033 Claims Recoverable	0.00	0.00
034 Secured	0.00	0.00
035 Unsecured, considered good	207,959,344.25	86,481,056.84
036 Considered Doubtful	26,600,000.00	26,600,000.00
037 Less:- Allowance for doubtful claims	26,600,000.00	26,600,000.00
038	0.00	0.00
039 Deferred premium on forward exchange contract/ Option Assets	0.00	0.00
041 Assets Held for Disposal	197,831.40	197,831.40
042 Others	4,507,295.00	4,299,036.00
043	0.00	0.00
044 Total (Other Current Assets)	641,228,747.85	493,844,905.72
045 **Include Prepaid Expenses	12,449,859.00	65,159,372.17
046 *Includes sales tax/Entry tax/VAT deposited under protest with Sales Tax Authorities	812,756.00	466,336.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2020	31.03.2019
047 *Includes deposited with courts	0.00	0.00
048 *Includes deposited with LIC for annuity payments	0.00	0.00
049 * Includes deposits with WRD / against BG in r/o finance lease	0.00	0.00
050 Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
052 Advances to related parties include:	0.00	0.00
053 i)Key management personel	0.00	0.00
054 ii)Subsidiary companies	0.00	0.00
055 iii)Joint Venture companies	0.00	0.00
056 Contractors	0.00	0.00
057 Others	0.00	0.00
058	0.00	0.00
059 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
060	0.00	0.00
061	0.00	0.00
062 Related Party (Adv)- Employee	0.00	0.00
063 Related Party (Adv)- Subsidiaries	0.00	0.00
064 Related Party (Adv)- Joint Venture	0.00	3,091,378.00
065 Related Party (Adv)- Contractors	21,706,489.00	10,778,611.00
066 Related Party (Adv)- Others	560,683.00	1,863,256.00
067 Total	22,267,172.00	15,733,245.00
068	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 20 TO THE FS--REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 On account of Exchange Differences	-15,205,072.81	-33,869,209.96
002 On account of employee benefit exp	381,915,581.00	381,915,581.00
003 Regulatory deferred account - deferred	0.00	0.00
004 Deferred asset for ash transportation	0.00	0.00
005	0.00	0.00
006 Total	366,710,508.19	348,046,371.04

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 21 TO THE FS-EQUITY-EQUITY SHARE CAPITAL
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 SHARE CAPITAL	0.00	0.00
002 Equity Share Capital	0.00	0.00
003 Authorised	0.00	0.00
004 10,000,000,000 equity shares of Rs.10/- each (Previous year 10,000,000,000 eq shares of Rs.10/- each)	0.00	0.00
005 Issued,Subscribed and fully Paid-up	0.00	0.00
006 9,894,557,280 equity shares of Rs.10/- (Pv. Year 9,894,557,280 equity shares of Rs.10/- each)	0.00	0.00
007	0.00	0.00
008 Total	0.00	0.00
009 During FY 2018-19, the company has issued 1,649,092,880 equity shares of Rs.10/- each as fully paid bonus shares	0.00	0.00
010 The holders of the equity shares are entitled to receive dividends as declared from time to time, and are entitled to one vote per share at meetings of the company.	0.00	0.00
011 Details of shareholders holding more than 5% shares in the company	0.00	0.00
012 - President of India	0.00	0.00
013 No. of Shares	0.00	0.00
014 % of holding	0.00	0.00
015 - Life Insurance Corporation of India/ICICI Prudential Mutual Fund	0.00	0.00
016 No. of Shares	0.00	0.00
017 % of holding	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 RESERVE AND SURPLUS	0.00	0.00
002	0.00	0.00
003 Capital Reserve	0.00	0.00
004 As per last financial statements	0.00	0.00
006 Add : Grants received during the year	0.00	0.00
007 Add: Transfer from Surplus	0.00	0.00
008 Less: Write back during the year/period	0.00	0.00
009 Less: Adjustments during the year/period	0.00	0.00
010 Sub-Total	0.00	0.00
011 Securities Premium Account	0.00	0.00
012 As per last financial statements	0.00	0.00
013 Add: Additions during the year/period	0.00	0.00
014 Less: Adjustments during the year/period	0.00	0.00
015 Sub-Total	0.00	0.00
016 Bonds Redemption Reserve	0.00	0.00
017 As per last financial statements	0.00	0.00
018 Add: Transfer from Surplus	0.00	0.00
019 Less: Transfer to surplus on redemption	0.00	0.00
020 Less: Adjustments during the year/ period	0.00	0.00
021 Sub-Total	0.00	0.00
022 Share Application money Allotment	0.00	0.00
023 As per last financial statements	0.00	0.00
024 Add: Addition during the year	0.00	0.00
025 Less: Utilised for allotment during the year	0.00	0.00
026 Less: Adjustments during the year/ period	0.00	0.00
027 Sub-Total	0.00	0.00
028 Fly-ash utilisation reserve Fund	0.00	0.00
029 As per last financial statements	0.00	-129,445,999.71
030 Transferred to CC	0.00	194,794,711.06
031 Add:Transfer from revenue from operations	8,220,860.44	0.00
032 Add:Transfer from other income	0.00	0.00
033 Less: Utilised during the year	0.00	0.00
034 Tangible assets	0.00	0.00
035 Employee benefit expenses	0.00	-4,821,064.10
036 Generation,adm. and other expenses	0.00	-60,527,647.25
037 Tax Expenses	0.00	0.00
038 Sub-Total	8,220,860.44	0.00
039 Corporate social responsibility (CSR) reserve	0.00	0.00
040 As per last financial statements	0.00	0.00
041 Add : Transfer from surplus	0.00	0.00
042 Less:-Write back during the year	0.00	0.00
043 Sub-Total	0.00	0.00
044 General Reserve	0.00	0.00
045 As per last financial statements	0.00	0.00
046 Add: Transfer from Surplus	0.00	0.00
047 Less: Transfer to Surplus	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2020	31.03.2019
048 Less: Write back during the year /period	0.00	0.00
049 Less: Adjustments during the year /period	0.00	0.00
050 Sub-Total	0.00	0.00
051	0.00	0.00
052 Retained earnings	0.00	0.00
053 As per last financial statements	143,024,832,290.02	131,406,495,597.77
054 Add(Less):-Changes in accounting policy / prior period errors	0.00	0.00
055 Add(Less):-Profit (Loss) after tax for the year from Statement of Profit & Loss	11,532,563,737.03	11,618,336,692.25
056	0.00	0.00
057 Add: Write back from Bond Redemption Reserve	0.00	0.00
058 Add: Write back from Capital Reserve	0.00	0.00
059 Add: Write back from Foreign Project Reserve	0.00	0.00
060 Add: Write back from CSR Reserve	0.00	0.00
061 Add: Write back from General Reserve	0.00	0.00
062 Less: Transfer to Bonds Redemption Reserve	0.00	0.00
063 Less: Transfer to Foreign Project Reserve	0.00	0.00
064 Less:Transfer to Capital Reserve	0.00	0.00
065 Less:Transfer to CSR Reserve	0.00	0.00
066 Less:Transfer to General Reserve	0.00	0.00
067 Less:Interim Dividend Paid	0.00	0.00
068 Less:Tax on Interim Dividend Paid	0.00	0.00
069 Less:Final Dividend Paid	0.00	0.00
070 Less:Tax on Final Dividend Paid	0.00	0.00
071 Less: Issue of bonus debenture	0.00	0.00
072 Less: Tax on issue of bonus debenture	0.00	0.00
073 Sub-Total	154,557,396,027.05	143,024,832,290.02
074	0.00	0.00
075 Remeasurement of defined benefit plans	0.00	0.00
076 As per last financial statements	-119,460,048.36	-116,687,668.16
077 Add/(Less):- Actuarial Gains/loss through OCI	-53,349,231.17	-2,772,380.20
078 Sub-Total	-172,809,279.53	-119,460,048.36
080	0.00	0.00
081 FVTOCI Reserve	0.00	0.00
082 As per last financial statements	0.00	0.00
083 Add(Less):-Net gain/loss of equity instruments through OCI	0.00	0.00
084 Sub-Total	0.00	0.00
085	0.00	0.00
086 Total Other equity	154,392,807,607.96	142,905,372,241.66

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 LONG TERM BORROWINGS	0.00	0.00
002 Bonds	0.00	0.00
003 Secured	0.00	0.00
004 7.37 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3A).	0.00	0.00
005 7.62 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3 B).	0.00	0.00
006 8.61% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2034 (Fifty First Issue C - Private Placement)	0.00	0.00
007 8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3A)	0.00	0.00
008 8.91% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3B)	0.00	0.00
009 7.37% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 14th December 2031 (Sixty Sixth Issue - Private Placement)	0.00	0.00
010 7.49% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 7th November 2031 (Sixty Fourth Issue - Private Placement)	0.00	0.00
011 7.28 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2020	31.03.2019
2A)		
012 7.53 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series 2 B).	0.00	0.00
013 7.93% Secured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 03 May 2022 (68th Issue - Private Placement)	0.00	0.00
014 8.63% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2029 (Fifty First Issue B - Private Placement)	0.00	0.00
015 8.30% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 15 January 2029 (Sixty Seventh Issue - Private Placement)	0.00	0.00
016 8.48% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2A)	0.00	0.00
017 8.73% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2B)	0.00	0.00
018 7.47% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 16th September 2026 (Sixty Third Issue - Private Placement)	0.00	0.00
019 7.58% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 23rd August 2026 (Sixty Second Issue - Private Placement)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2020	31.03.2019
020 8.05% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 5th May 2026 (Sixtieth Issue - Private Placement)	0.00	0.00
021 8.19% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 15th December 2025 (Fifty Seventh Issue - Private Placement)	0.00	0.00
022 7.11 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1A).	0.00	0.00
023 7.36 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1 B).	0.00	0.00
024 7.15% Tax free secured non-cumulative non-convertible redeemable bonds - 2015 of Rs. 10,00,000/- each redeemable at par in full on 21st August 2025 (Fifty Fifth Issue - Private Placement)	0.00	0.00
025 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 22nd September 2024 (53rd Issue - private placement).	0.00	0.00
026 9.34% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 24th March 2024 (Fifty Second Issue - private placement)	0.00	0.00
027 8.19% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 10,00,000/- each redeemable at par in full on 4th March 2024 (Fifty First Issue A - Private Placement)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2020	31.03.2019
028 8.41% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1A)	0.00	0.00
029 8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1B)	0.00	0.00
030 9.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 4th May 2023 and ending on 4th May 2027 (Forty fourth issue - private placement)VII	0.00	0.00
031 8.48% Secured non-cumulative non-nonvertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 1st May 2023 (Seventeenth issue - private placement)I	0.00	0.00
032 8.80% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th April 2023 (Forty ninth issue -private placement	0.00	0.00
033 8.49% Secured non-cumulative non-convertible redeemable taxable fully paid-up bonus debentures of Rs. 12.50 each redeemable at par in three annual installments of Rs. 2.50, Rs. 5.00 and Rs. 5.00 at the end of 8th year, 9th year and 10th year on 25th March 2023, 25th March 2024 and 25th March 2025 respectively (Fifty Fourth Issue -Bonus Debentures)X - (refer Note 5 d)	0.00	0.00
034 8.73% Secured non-cumulative non-convertible redeemable taxable bonds of	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

			31.03.2020	31.03.2019
	As at			
	₹ 10,00,000/- each redeemable at par in full on 07th March 2023 (Forty eighth issue - private placement)			
035	9.00% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 25th January 2023 and ending on 25th January 2027 (Forty second issue- private placement)III		0.00	0.00
036	8.84% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th October 2022 (Forty seventh issue- private placement)VII		0.00	0.00
037	7.32% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 17 July 2029 (Sixty Ninth Issue - Private Placement)		0.00	0.00
038	6.72% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 24th November 2021 (Sixty Fifth Issue - Private Placement)		0.00	0.00
039	8.10% Secured Non-Cumulative Non-Convertible Redeemable Taxable Bonds of Rs. 30,00,000/- each redeemable at par in three equal separately transferable redeemable principal parts (STRPP) at the end of 5th year, 10th year & 15th year on 27th May 2021, 27th May 2026 and 27th May 2031 respectively (Sixty First Issue- Private Placement)		0.00	0.00
040	8.33% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 24th February 2021		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2020	31.03.2019
(Fifty Ninth Issue - Private Placement).					
042	8.93%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 19th January 2021 Thirty seventh issue - private placement)III	0.00	0.00
043	8.18%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 31st December 2020 (Fifty Eight Issue - Private Placement).	0.00	0.00
044	8.73 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 31st March 2020 (Thirty third issue- private placement)III	0.00	0.00
045	8.78 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 9th March 2020 (Thirty first issue- private placement)III	0.00	0.00
046	11.25%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in five equal annual installments commencing from 6th Nov 2019 and ending on 6th Nov 2023 (Twenty seventh issue - private placement)III	0.00	0.00
047	7.89%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 5th May 2019 (Thirtieth issue - private placement)III	0.00	0.00
048	8.65%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th February 2019 (Twenty ninth issue - private placement)III	0.00	0.00
049	7.50%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2020	31.03.2019
on 12th January 2019 (Nineteenth issue - private placement)II					
050	11%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21st November 2018 (Twenty eighth issue - private placement)III	0.00	0.00
051	9.3473%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 20th July 2018 and ending on 20th July 2032 (Forty sixth issue - private placement)VII	0.00	0.00
052	9.4376%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 16th May 2018 and ending on 16th May 2032 (Forty fifth issue - private placement)VII	0.00	0.00
053	8.00%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 10th April 2018 (Sixteenth issue -private placement)I	0.00	0.00
054	9.2573%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 2nd March 2018 and ending on 2nd March 2032 (Forty third issue - private placement)III	0.00	0.00
055	9.6713%	Secured	non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2020	31.03.2019
of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 23rd December 2017 and ending on 23rd December 2031 (Forty first issue - private placement)III		
056 9.558% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 29th July 2017 and ending on 29th July 2031(Fourtieth issue-private placement)III	0.00	0.00
057 9.3896% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 9th June 2017 and ending on 9th June 2031(Thirty ninth issue-private placement)III	0.00	0.00
058 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 22nd March 2017 and ending on 22nd March 2031(Thirty eighth issue-private placement)III	0.00	0.00
059 8.8086% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2020	31.03.2019
<p>year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th December 2016 and ending on 15th December 2030 (Thirty sixth issue - private placement)III</p>			
060	8.785% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th September 2016 and ending on 15th September 2030 (Thirty fifth issue - private placement)III	0.00	0.00
061	8.71% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 10th June 2016 and ending on 10th June 2030 (Thirty fourth issue - private placement)III	0.00	0.00
062	8.8493% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 25th March 2016 and ending on 25th March 2030 (Thirty second issue - private placement)III	0.00	0.00
063	9.37% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty fifth issue -	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at			31.03.2020	31.03.2019
private placement)III				
065	9.06%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty sixth issue - private placement)III	0.00	0.00
066	8.6077%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 9th September 2011 and ending on 9th March 2021 (Twenty fourth issue - private placement)IV	0.00	0.00
067	8.3796%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 5th August 2011 and ending on 5th February 2021 (Twenty third issue - private placement)IV	0.00	0.00
068	8.1771%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd July 2011 and ending on 2nd January 2021 (Twenty second issue - private placement)IV	0.00	0.00
069	7.7125%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd August 2010 and ending on 2nd February 2020 (Twenty first issue - private placement)V	0.00	0.00
070	7.552%	Secured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2020	31.03.2019
of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 23rd September 2009 and ending on 23rd March 2019 (Twentieth issue - private placement)VI			
071	9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each with ten equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of the 6th year and in annual installments thereafter upto the end of 15th year respectively from 30th April 2002 (Thirteenth issue - Part B - private placement)VIII	0.00	0.00
072	9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each redeemable at par in ten equal annual installments commencing from the end of 6th year and upto the end of 15th year respectively from 18th April 2002 (Thirteenth issue -Part A - private placement)VIII	0.00	0.00
074		0.00	0.00
075		0.00	0.00
081		0.00	0.00
082	Sub Total	0.00	0.00
083	Foreign Currency Notes-Unsecured	0.00	0.00
084	4.50% Fixed Rate Notes Due for repayment on 19th March 2028	0.00	0.00
085	2.75% Fixed rate notes due for repayment on 1st February 2027	0.00	0.00
086	4.25 % Fixed rate notes due for repayment on 26th February 2026	0.00	0.00
087	4.375% Fixed Rate Note due for repayment on 26th November 2024	0.00	0.00
088	4.75 % Fixed Rate Notes due for repayment on 3rd Oct 2022	0.00	0.00
089	7.25 % Fixed green global INR denominated bonds due on 3 May 2022	0.00	0.00
090	7.375 % Fixed green global INR denominated bonds due on 10 August 2021	0.00	0.00
091	5.625% Fixed Rate Notes due for repayment on 14th July 2021	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2020	31.03.2019
092 3.75 % Fixed rate notes due for repayment on 03 April 2024	0.00	0.00
093	0.00	0.00
094 Sub Total	0.00	0.00
095 Long term maturities of Finance Lease Obligations (Secured) IX	0.00	0.00
100 Long term maturities of Finance Lease Obligations (Unsecured) X	0.00	0.00
101 Term Loans	0.00	0.00
102 From Banks	0.00	0.00
103 Secured	0.00	0.00
104 Rupee Loans	0.00	0.00
105 Unsecured	0.00	0.00
106 Foreign Currency Loans	0.00	0.00
107 Rupee Loans	0.00	0.00
108 From Others	0.00	0.00
109 Secured	0.00	0.00
110 Rupee Loans	0.00	0.00
111 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
112 Unsecured	0.00	0.00
113 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
114 Other Foreign currency loans	0.00	0.00
115 Rupee Loans	0.00	0.00
116 Deposits	0.00	0.00
117 Unsecured	0.00	0.00
118 Fixed Deposits	0.00	0.00
119 Others	0.00	0.00
120 Unsecured	0.00	0.00
121 Bonds Application Money Pending Allotment	0.00	0.00
122 Sub-total	0.00	0.00
123 Less:- Interst accrued but not due on borrowings	0.00	0.00
124 Less:- Current maturities of long term borrowings	0.00	0.00
125 Bonds-Secured	0.00	0.00
126 5.875% Fixed Rate Notes	0.00	0.00
127 Foreign currency loans from Banks- unsecured	0.00	0.00
128 Rupee loans from banks- Secured	0.00	0.00
129 Rupee loans from banks- unsecured	0.00	0.00
130 Rupee Term loan from Others - Secured	0.00	0.00
131 Foreign currency loans from others- unsecured (Guaranteed by GOI)	0.00	0.00
132 Other foreign currency loans from others- unsecured	0.00	0.00
133 Rupee loans from others- unsecured	0.00	0.00
134 Finance Lease obligations - secured	0.00	0.00
135 Finance Lease obligations - unsecured	0.00	0.00
136	0.00	0.00
137	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

	As at	31.03.2020	31.03.2019
200	Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 24 TO THE FS-NCL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2020	31.03.2019
001	TRADE PAYABLES(NON CURRENT)	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	15,622,396.62	6,964,940.99
004	- Others	5,712,598.82	19,217,358.89
005		0.00	0.00
006	Total	21,334,995.44	26,182,299.88



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 OTHER FINANCIAL LIABILITIES (NON-CURRENT)	0.00	0.00
002 Payable for Capital Expenditure	0.00	0.00
003 - Micro & Small Enterprises	36,951.05	1,644,420.88
004 - Others	34,267,850.68	438,868.21
005 Others	0.00	0.00
006 Deposits from contractors and others	75,100.00	0.00
007	0.00	0.00
008	0.00	0.00
009 Total	34,379,901.73	2,083,289.09



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 26 TO THE FS-NCL-PROVISIONS

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 LONG TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening Balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
013	0.00	0.00
014 TOTAL	0.00	0.00

NOTE NO. 27 TO THE FS-NCL-DEFERRED TAX LIABILITIES (NET)
(Amount in ₹)

As at	Opening Balance on 01.04.2019	Addition	Closing Balance on 31.03.2020
001 DEFERRED TAX LIABILITIES (NET)			
002 Difference of book depreciation and tax depreciation	0.00	0.00	0.00
003 Less: Deferred tax assets			
004 Provisions & Other disallowances for tax purposes	0.00	0.00	0.00
005 Unabsorbed Depreciation	0.00	0.00	0.00
006 Disallowances u/s 43B of the Income Tax Act, 1961	0.00	0.00	0.00
007 MAT credit entitlement	0.00	0.00	0.00
008	0.00	0.00	0.00
009 Total	0.00	0.00	0.00
010	0.00	0.00	0.00
011 Total	0.00	0.00	0.00
012 Breakup of deferred tax assets	0.00	0.00	0.00
013 Provision	0.00	0.00	0.00
014 Statutory dues	0.00	0.00	0.00
015 Leave encashment	0.00	0.00	0.00
016 Others	0.00	0.00	0.00
017	0.00	0.00	0.00
018	0.00	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 28 TO THE FS-NCL-OTHER NON-CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Other Non current Liabilities	0.00	0.00
002 Advances from customers and others	0.00	0.00
003 Deposits from contractors and others	0.00	0.00
004	0.00	0.00
005 TOTAL	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 29 TO THE FS-CL-BORROWINGS****(Amount in ₹)**

As at	31.03.2020	31.03.2019
001 Short Term Borrowings	0.00	0.00
002 Loans repayable on demand	0.00	0.00
003 From Banks	0.00	0.00
004 Secured	0.00	0.00
005 Cash Credit	0.00	0.00
006 Unsecured	0.00	0.00
007 Cash Credit	0.00	0.00
008 Other loans-unsecured	0.00	0.00
009 Commercial Papers	0.00	0.00
010 Less: Unamortised discount on Commercial Papers	0.00	0.00
011 Total	0.00	0.00
012	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at		31.03.2020	31.03.2019
001	TRADE PAYABLES	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	347,533,123.95	277,066,480.33
004	- Others	1,929,276,543.35	1,245,121,688.26
005		0.00	0.00
006	Total	2,276,809,667.30	1,522,188,168.59
007		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 OTHER FINANCIAL LIABILITIES (CURRENT)	0.00	0.00
002 Current maturity of long term borrowings	0.00	0.00
003 Bonds-Secured	0.00	0.00
004 Foreign Currency Fixed Rate Notes	0.00	0.00
005 From Banks	0.00	0.00
006 Secured	0.00	0.00
007 Rupee Term Loan	0.00	0.00
008 Unsecured	0.00	0.00
009 Foreign currency loans	0.00	0.00
010 Rupee term loans	0.00	0.00
011 From Others	0.00	0.00
012 Secured	0.00	0.00
013 Rupee Term Loan	0.00	0.00
014 Unsecured	0.00	0.00
015 Foreign currency loans (Guaranteed by Government of India)	0.00	0.00
016 Other foreign currency loans	0.00	0.00
017 Rupee term loans	0.00	0.00
018 Fixed deposits	0.00	0.00
019 Sub Total	0.00	0.00
020 Current maturity of finance lease obligations (secured)	0.00	0.00
021 Current maturity of finance lease obligations (unsecured)	0.00	0.00
022 Interest accrued but not due on borrowings	0.00	0.00
023 Unpaid Dividends*	0.00	0.00
024 Unpaid matured deposits and interest accrued thereon*	0.00	0.00
025 Unpaid matured bonds and interest accrued thereon*	0.00	0.00
026 Unpaid bond refund money-Tax free bonds *	0.00	0.00
027 Book Overdraft	0.00	0.00
028 Payable to Customers	0.00	0.00
029 Liability under forward exchange contact	0.00	0.00
030 Hedging cost payable to beneficiaries	0.00	0.00
031 Derivative MTM Liability	0.00	0.00
032 Payable for Capital Expenditure	0.00	0.00
033 - Micro & Small Enterprises	118,466,640.74	118,220,405.93
034 - Others	1,851,731,237.95	1,779,019,030.22
035 Others Payables	0.00	0.00
036 Deposits from contractors and others	55,965,895.78	375,029,853.80
037 Gratuity Obligations	0.00	0.00
038 Payable to employees	21,909,288.36	31,125,349.51
039 Payable to holding company	0.00	0.00
040 Retention on A/c BG encashment (Solar)	0.00	0.00
041 Payable to Solar Payment Security Account	0.00	0.00
042 Others **	125,967,538.41	121,601,858.45



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2020	31.03.2019
043	0.00	0.00
044 Total	2,174,040,601.24	2,424,996,497.91
045 * Represents the amounts which have not been claimed by the investor/holders of the bonds/fixed deposits. Out of the above, no amount is due for payment to Investor Education and Protection Fund.	0.00	0.00
046 ** Include Payable to Hospital, parties for stale cheques and other payable.	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 32 TO THE FS-CL-OTHER CURRENT LIABILITIES

(Amount in ₹)

	As at	31.03.2020	31.03.2019
001	OTHER CURRENT LIABILITIES	0.00	0.00
002	Advances from customers and others	10,105,072.69	17,534,344.61
003	Deferred discount on forward exchange contract	0.00	0.00
004	Tax deducted at source and other statutory dues	87,940,416.32	49,206,348.58
005	Others	0.00	0.00
006	Total	98,045,489.01	66,740,693.19

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 33 TO THE FS-CL-PROVISIONS
(Amount in ₹)

As at	31.03.2020	31.03.2019
001 SHORT TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
028 Provisions for Obligations Incidental to Land Acquisition	0.00	0.00
029 Opening balance	0.00	0.00
030 Additions during the year	0.00	0.00
031 Amounts paid during the year	0.00	0.00
032 Amounts reversed during the year	0.00	0.00
033 Closing Balance	0.00	0.00
035 Provision for Tariff Adjustment	0.00	0.00
036 Opening balance	0.00	0.00
037 Additions during the year	0.00	0.00
038 Amounts adjusted during the year	0.00	0.00
039 Amounts reversed during the year	0.00	0.00
040 Closing Balance	0.00	0.00
042 Provision for shortage in Fixed Assets Pending Investigation & Others	0.00	0.00
043 Opening balance	196,021.10	196,021.10
044 Additions during the year	437,836.89	0.00
045 Amounts adjusted during the year	0.00	0.00
046 Amounts reversed during the year	0.00	0.00
047 Closing Balance	633,857.99	196,021.10
048 Provision for Arbitration	0.00	0.00
049 Opening balance	7,428,608.00	7,010,256.00
050 Additions during the year	418,352.00	418,352.00
051 Amounts used during the year	0.00	0.00
052 Amounts reversed during the year	0.00	0.00
053 Closing Balance	7,846,960.00	7,428,608.00
054 Others	0.00	0.00
055 Opening balance	0.00	0.00
056 Additions during the year	0.00	0.00
057 Amounts used during the year	0.00	0.00
058 Amounts reversed during the year	0.00	0.00
059 Closing Balance	0.00	0.00
102	0.00	0.00
103 Total	8,480,817.99	7,624,629.10



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 34 TO THE FS-CL-CURRENT TAX LIABILITIES (NET)

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Current liabilities - current tax liabilities (net)	0.00	0.00
002 Opening balance	0.00	0.00
003 Additions during the year	0.00	0.00
004 Amounts adjusted during the year	0.00	0.00
005 Less: Set off against taxes paid	0.00	0.00
006 Closing Balance	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 35 TO THE FS--DEFERRED REVENUE

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Deferred Revenue	0.00	0.00
002 On account of advance against depreciation	0.00	0.00
003 On account of income from foreign currency fluctuation	1,990,729,000.00	1,250,048,000.00
004 Government grants	0.00	0.00
005	0.00	0.00
006 TOTAL	1,990,729,000.00	1,250,048,000.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 36 TO THE FS--REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES

(Amount in ₹)

As at	31.03.2020	31.03.2019
001 Regulatory deferral account credit balances	0.00	0.00
002 Exchange Differences	0.00	0.00
003	0.00	0.00
004 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 37 TO THE FS--REVENUE FROM OPERATIONS
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
001	REVENUE FROM OPERATIONS	0.00	0.00
002	Sales	0.00	0.00
003	Energy Sales (including Electricity Duty)	50,784,410,674.00	50,311,539,034.00
004	Less : Advance against depreciation deferred (net)	0.00	0.00
005	Add: Revenue recognized out of advance against depreciation	0.00	8,642,052.81
006	Add : Exchange fluctuation receivable from customers	-78,857,000.00	0.00
007	Sale of energy through trading	0.00	0.00
008	Commission (NVVN)	0.00	0.00
009	Sub total	50,705,553,674.00	50,320,181,086.81
010	Less: Rebate to customers	215,032,456.12	311,015,253.92
011	Energy Sales (Total)	50,490,521,217.88	50,009,165,832.89
012	Consultancy, project management and supervision fees	41,420.00	1,790,976.00
013	Lease rentals on assets on Operating lease	0.00	0.00
014	Sale of Captive Coal	0.00	0.00
015	Intra Company Elimination	0.00	0.00
017	Sub-total	0.00	0.00
018	Total - Sales	50,490,562,637.88	50,010,956,808.89
019	Sale of fly ash/ash products	9,410,400.00	0.00
020	Less: Transferred to fly ash utilisation reserve fund	-9,410,400.00	0.00
021	Sub-total	0.00	0.00
022	Other Operating Income	0.00	0.00
023	Interest from customers	44,084,590.00	7,596,298.00
024	Energy Internally Consumed *	30,711,686.00	29,705,242.00
025	Interest income on Assets under finance lease	0.00	0.00
026	Recognized from deferred revenue - government grant	0.00	0.00
027	Provision written back- Tariff Adjustment	0.00	0.00
028	Income form Trading of ESCerts	0.00	0.00
029	Income from E-Mobility Business	0.00	0.00
030		0.00	0.00
031	Total	50,565,358,913.88	50,048,258,348.89
040	* Valued at variable cost of generation and corresponding amount included in power charges (Note No. 42)	0.00	0.00
041	Excise duty on sale of flyash,cenospere & ash products	0.00	0.00
042	Energy sales of principal nature (NVVN)	0.00	0.00
043	Energy sales of agency nature (NVVN)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
001	OTHER INCOME	0.00	0.00
002	Interest from	0.00	0.00
004	Financial assets at amortised cost	0.00	0.00
005	Government Securities (8.5% Tax Free Bonds issued by the State Governments)	0.00	0.00
006	Other Bonds	0.00	0.00
007		0.00	0.00
008	Interest from Government of India Securities-Non-Trade	0.00	0.00
009	Less: Amortiation of premium	0.00	0.00
010	Sub Total	0.00	0.00
011	Interest from others	0.00	0.00
012	Loan to State Government in settlement of dues from customers	0.00	0.00
013	Loan to Subsidiary Companies	0.00	0.00
014	Loan to Employees	17,127,436.11	17,160,115.97
015	Deposit with banks	0.00	0.00
016	Foreign Banks	0.00	0.00
017	Interest from Contractors	2,488,597.00	2,162,933.00
018	Interest from Income Tax Refunds	0.00	0.00
019	Less : Refundable to Customers	0.00	0.00
020	Sub Total	0.00	0.00
021	Deposits with banks-flyash utilisation reserve fund	0.00	0.00
022	Less: transferred to flyash utilisation reserve fund	0.00	0.00
023	Sub Total	0.00	0.00
024	Deposits with banks- DDUGJY funds	0.00	0.00
025	Interest from Contractors- DDUGJY funds	0.00	0.00
026	Transfer to DDUGJY-Advance from customers	0.00	0.00
027	Sub-total	0.00	0.00
030	Others	0.00	1,445.00
031		0.00	0.00
032	Dividend from	0.00	0.00
033	Longterm investments in	0.00	0.00
034	Subsidiaries	0.00	0.00
035	Joint Ventures	0.00	0.00
036	Equity Instruments	0.00	0.00
037	Current Investments in	0.00	0.00
038	Mutual Funds measured at fairvalue through profit or loss	0.00	0.00
039	Current investments in mutual funds-flyash utilisation reserve fund	0.00	0.00
040	Less: transferred to flyash utilisation reserve fund	0.00	0.00
041	Lease Rent # Ash Brick Plant	0.00	0.00
042	Less: transferred to flyash utilisation reserve fund	0.00	0.00
043	Other non-operating income	0.00	0.00
044	Profit on disposal of PPE	90,379.35	472,425.34
045	Profit on redemption of GOI securities	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
046	Net gain on sale of investments	0.00	0.00
047	Surcharge received from customers	2,550,077,957.00	1,749,523,951.00
048	Hire charges for equipment	67,561.00	777,334.00
049	Gain on option contract / Discount on F.ExchContract	0.00	0.00
050	Provision written back-others	6,148,851.93	6,924,813.36
051	Fair value gains/(losses) on investments in mutual funds at fair value through profit or loss	0.00	0.00
052	Interest from Solar payment security account	0.00	0.00
053	Less : Transferred to SPSA fund	0.00	0.00
054	Interest on "Retention on A/c BG encashment (Solar)"	0.00	0.00
055	Less : Transferred to "Retention on A/c BG encashment (Solar)"	0.00	0.00
056	Miscellaneous Income	459,475,589.49	197,612,166.20
057	Total	3,035,476,371.88	1,974,635,183.87
058	Less:Transferred to Development of Coal Mines- Note 43A	0.00	0.00
059	Less:Transferred to Expenditure during Construction period (net)- Note 43	0.00	0.00
061		0.00	0.00
062	Total	3,035,476,371.88	1,974,635,183.87
063		0.00	0.00
064	Details of Miscellaneous Income	0.00	0.00
065	Vehicle Hire Charges.	110,000.00	112,080.00
066	Sale of by products & residuals	0.00	0.00
067	Township recoveries(exl. Hospital Recoveries).	22,749,254.28	27,025,043.43
068	Depreciation written back	0.00	0.00
069	Sale of Scrap.	39,568,148.02	67,929,628.85
070	Receipt under loss of profit policy.	0.00	0.00
071	Receipts under MBD/Fire Policy.	315,144,938.00	28,077,160.00
072	Management development programme.	0.00	0.00
073	Management Fee - Misc (NVVN)	0.00	0.00
074	Others	81,903,249.19	74,468,253.92
075		0.00	0.00
076	Total (Miscellaneous Income)	459,475,589.49	197,612,166.20
077		0.00	0.00
078	Details of Provision written back others	0.00	0.00
079	Doubtful debts	0.00	0.00
080	Doubtful Loans, Advances and Claims	42,405.00	0.00
081	Doubtful Construction Advances	0.00	0.00
082	Shortage in Construction Stores	3,559,179.34	2,727,742.97
083	Shortage in Stores	2,545,110.36	4,180,825.39
084	Obsolescence in Stores	2,157.23	16,245.00
085	Unserviceable capital works	0.00	0.00
086	Other Obligation	0.00	0.00
087	Shortage in Fixed Assets	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

	31.03.2020	31.03.2019
088 Diminution in value of Investment	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38A TO THE FS--FUEL COST

(Amount in ₹)

For the Year ended		31.03.2020	31.03.2019
001	FUEL COST	0.00	0.00
002	Coal	0.00	0.00
003	Captive	0.00	0.00
004	Other than captive	30,178,971,766.14	28,421,008,281.56
005	Gas	0.00	0.00
006	Naptha	0.00	0.00
007	Oil	239,573,779.54	265,768,463.85
008	Total	30,418,545,545.68	28,686,776,745.41
009		0.00	0.00
010		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 39 TO THE FS--EMPLOYEE BENEFITS EXPENSE

(Amount in ₹)

For the Year ended		31.03.2020	31.03.2019
001	EMPLOYEE BENEFITS EXPENSE	0.00	0.00
002	Salaries and wages	1,650,643,540.59	1,753,166,094.90
003	Contribution to provident and other funds	173,843,153.43	255,676,601.51
004	Unwinding of deferred payroll expense	11,718,520.61	12,023,691.77
005	Staff welfare expenses	177,064,793.44	204,638,071.02
006	Less : Expenses transferred to Consultancy group	0.00	0.00
007		0.00	0.00
008	Sub Total	2,013,270,008.07	2,225,504,459.20
009	Less: Employee benefits expense inventorised	152,386,279.55	178,939,469.59
010	Less: Transferred/Allocated to development of coal mines	0.00	0.00
011		0.00	0.00
012	Less: Transferred to fly ash utilisation reserve fund	0.00	4,821,064.10
013	Less: Transferred to CSR Expenses	0.00	0.00
014	Reimbursements for employees on secondment	1,632.87	0.00
015	Less: Transferred to expenditure during construction period (net)- Note 43	6,752,468.23	0.00
016	TOTAL	1,854,129,627.42	2,041,743,925.51
017	Managerial Remuneration paid/ payable to Directors included above (except for Directors fee which is included in Note 42)	0.00	0.00
018	Salaries and wages	0.00	0.00
019	Contribution to provident and other funds	0.00	0.00
020	Staff welfare expenses	0.00	0.00
021	Directors fee	0.00	0.00
022		0.00	0.00
023		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 40 TO THE FS--FINANCE COSTS
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
001	FINANCE COSTS	0.00	0.00
002	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
003	Bonds	516,674,205.82	510,151,783.67
004	Government of India Loans	0.00	0.00
005	Foreign currency term loans	34,538,576.20	48,912,722.87
006	Rupee term loans	940,580,407.00	1,089,713,771.00
007	Public deposits	0.00	0.00
008	Foreign currency bonds/notes	625,074,179.63	614,796,657.21
009	Cash Credit	0.00	0.00
010	Unwinding of discount on account of vendor liabilities	6,650,468.54	4,434,514.06
011	Commercial Papers	0.00	0.00
012	Others	0.00	4,424.00
013	Sub Total	2,123,517,837.19	2,268,013,872.81
014	Other Borrowing Costs	0.00	0.00
015	Bonds servicing & public deposit exp.	768,686.21	1,084,786.97
016	Guarantee fee	0.00	0.00
017	Management fee	0.00	0.00
018	Committ charges/exposure premium	0.00	0.00
019	Bond issue expenses	0.00	0.00
020	Legal exp on foreign currency loans	0.00	0.00
021	Foreign currency bonds/notes exp.	0.00	0.00
022	Up-front fee	0.00	0.00
023	Insurance premium on foreign currency loans	0.00	0.00
024		0.00	0.00
025	Others	0.00	0.00
026	Sub Total (Other Borrowing cost)	768,686.21	1,084,786.97
027		0.00	0.00
028	Exchange differences regarded as an adjustment to interest costs	13,092,857.00	0.00
029	Sub Total	2,137,379,380.40	2,269,098,659.78
030	Less: Transferred to Expenditure during construction period (net) - Note 43	6,944,586.19	36,392,300.06
031	Less: Transferred to development of coal mines- Note 43A	0.00	0.00
032		0.00	0.00
033	Total	2,130,434,794.21	2,232,706,359.72

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 41 TO THE FS--DEPRECIATION, AMORTIZATION AND IMPAIRMENT EXPENSE****(Amount in ₹)**

	For the Year ended	31.03.2020	31.03.2019
001	Depreciation, amortization and impairment expense	0.00	0.00
002	On property, plant and equipment- Note 2	4,377,618,570.90	4,550,839,731.18
003	On intangible assets- Note 4	115,063.13	122,696.49
004	Sub-total	4,377,733,634.03	4,550,962,427.67
005	Less:	0.00	0.00
006	Inventorised	345,650,636.39	341,291,813.12
007	Transferred to Expenditure during Construction Period (net)- Note 43	0.00	0.00
008	Transferred/Allocated to development of coal mines	0.00	0.00
009	Adjustment with deferred revenue from deferred foreign currency fluctuation	117,252,000.00	102,349,000.00
010	Total	3,914,830,997.64	4,107,321,614.55

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
001 OTHER EXPENSES		0.00	0.00
002 Power charges		30,711,686.00	29,705,242.00
003 Less: Recovered from contractors & employees		10,254,267.44	13,057,737.54
004 Sub-Total(Power Charges)		20,457,418.56	16,647,504.46
005 Water charges		139,871,221.00	130,291,077.00
006 Stores consumed		25,535,090.39	27,347,483.19
007 Rent		0.00	0.00
008 Less:Recoveries		0.00	0.00
009 Sub-Total (Rent)		0.00	0.00
010 Cost of extraction of Captive coal		0.00	0.00
011 Repairs & maintenance		0.00	0.00
012 Buildings		155,238,832.21	141,546,169.08
013 Plant & machinery		0.00	0.00
014 Power stations		1,971,478,736.27	1,693,769,413.12
015 Construction equipment		0.00	0.00
016 Others		83,615,119.59	73,925,752.72
017 Sub-total (Repairs & maintenance)		2,210,332,688.07	1,909,241,334.92
019 Load Dispatch Center Charges		31,162,794.00	22,270,407.00
021 Insurance		89,337,957.77	78,689,952.40
022 Interest to beneficiaries		0.00	0.00
023 Rates and taxes		15,456,955.21	16,070,520.39
024 Water cess & environment protection cess		0.00	0.00
025 Training & recruitment expenses		3,118,705.45	2,828,092.52
026 Less: Receipts		0.00	0.00
027 Sub-total (Training and recruitment expenses)		3,118,705.45	2,828,092.52
028 Communication expenses		22,862,791.41	23,125,419.90
029 Inland Travel		82,463,633.67	86,447,018.40
030 Foreign Travel		120,940.46	818,545.73
031 Tender expenses		0.00	2,527,824.00
032 Less: Receipt from sale of tenders		0.00	262,122.00
033 Sub-total (Tender expenses)		0.00	2,265,702.00
034 Payment to auditors		0.00	0.00
035 Audit fee		0.00	0.00
036 Tax audit fee		0.00	0.00
037 Other services		0.00	0.00
038 Reimbursement of expenses		0.00	119,556.00
039 Sub-total (Payment to Auditors)		0.00	119,556.00
040 Advertisement and publicity		1,212,507.00	1,883,491.00
041 Electricity duty		0.00	0.00
042 Security expenses		373,349,148.40	358,302,696.35
043 Entertainment expenses		28,763,376.25	24,227,675.39
044 Expenses for guest house		17,150,884.00	15,958,948.48
045 Less:Recoveries		0.00	0.00
046 Sub-Total (Guest house expenses)		17,150,884.00	15,958,948.48
047 Education expenses		55,250,389.00	44,681,502.00
049 Donations		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
050	Ash utilisation & marketing expenses	125,414,779.59	47,138,082.29
051	Directors sitting fee	0.00	0.00
053	Professional charges and consultancy fees	3,982,140.37	4,095,432.60
054	Legal expenses	15,785,425.50	15,169,675.00
055	EDP hire and other charges	2,894,018.79	4,809,590.85
056	Printing and stationery	3,525,595.39	4,990,438.36
057	Oil & gas exploration expenses	0.00	0.00
059	Hiring of vehicles	31,158,224.74	35,838,628.63
061	Reimbursement of L.C.charges on sales realisation	0.00	0.00
062		0.00	0.00
063	Cost of Hedging	0.00	0.00
064	Derivatives MTM loss/gain (Net)	0.00	0.00
065	Net loss/(gain) in foreign currency transactions & translations	42,094,396.89	-13,655,079.32
066	Transport Vehicle running expenses	912,881.50	1,163,665.91
067	Horticulture Expenses	59,606,958.76	46,914,308.67
068	Hire charges- helicopter/aircraft.	0.00	2,275,100.00
069	Hire charges of construction equipment	0.00	0.00
070	Demurrage Charges	0.00	0.00
072		0.00	0.00
073	Miscellaneous expenses	24,023,844.61	23,997,915.54
074	Loss on disposal/write-off of PPE	16,538,459.84	56,357,424.12
075	Sub-Total	3,442,383,226.62	2,990,312,109.78
076	Less: Other expenses inventorised	507,661,972.36	468,542,259.64
077	Less: Transferred/Allocated to development of coal mines	0.00	0.00
078	Less: Transferred to fly ash utilisation reserve fund	125,414,779.59	60,527,647.25
079	Less: Hedging cost Net recoverable/payable from/to beneficiaries	0.00	0.00
080		0.00	0.00
081	Less: Transferred to CSR Expenses	47,896,790.00	37,667,688.00
082	Less: Transferred to Expenditure during Construction period(net)-Note 43	805,829.61	0.00
083	Net (Generation, Administration and Other expenses)	2,760,603,855.06	2,423,574,514.89
084	Corporate Social Responsibility Expenses	102,505,554.21	126,786,061.86
085	Less: Grants-in-aid	0.00	0.00
086	Sub-total (Corporate Social Responsibility Expenses)	102,505,554.21	126,786,061.86
087	Provisions	0.00	0.00
088	Doubtful Debts	0.00	0.00
089	Doubtful loans, advances and claims	0.00	0.00
090	Doubtful Construction Advances	0.00	0.00
091	Shortage in stores	467,794.99	3,437,088.00
092	Obsolete/Diminution in the value of surplus stores	467,405.55	3,494,463.00
093	Shortage in construction stores	4,086,971.23	3,584,591.46
094	Diminution in value of long term investments	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended 31.03.2020	31.03.2019
095 Shortage in Fixed assets	437,836.89	0.00
096 Unfinished minimum work progress from oil & gas exploration	0.00	0.00
097 Unserviceable capital works	0.00	0.00
098 Tariff Adjustment	31,997,000.00	0.00
099 Others :	0.00	0.00
100 (i) Provision for arbitration cases	418,352.00	418,352.00
101 (ii) Other provisions	0.00	0.00
102 Total (Provisions)	37,875,360.66	10,934,494.46
103	0.00	0.00
104 Total	2,900,984,769.93	2,561,295,071.21
105	0.00	0.00
106 Breakup of miscellaneous expenses.	0.00	0.00
109 Hire charges of office equipment	71,228.00	295,857.77
111 Operating expenses of construction equipment	0.00	0.00
112 Operating expenses of D.G. sets	0.00	0.00
113 Furnishing expenses	2,160,679.12	222,088.01
114 Subscription to trade and other associations.	0.00	0.00
116 Visa and entry permit charges	0.00	0.00
117 Tree plantation exp.-NTPC Land	0.00	0.00
118 Research & development expenses .	0.00	0.00
119 Less : Grants received for Research & development expenses.	0.00	0.00
120 Sub-total (Research & development expenses)	0.00	0.00
121 Bank charges	244,632.08	493,075.18
122 Business Development Expenditure	0.00	0.00
123 Surcharge (NVVN)	0.00	0.00
124 Power Trading Expenses	1,343,810.00	2,913,317.00
125 Brokerage & commission	998,531.00	2,205,176.00
129 Books and periodicals	214,497.55	182,052.00
130 Claims/advances written off	0.00	0.00
131 Stores written off	0.00	0.00
132 Survey & Investigation expenses written off	0.00	0.00
133 Others	18,990,466.86	17,686,349.58
134 Total	24,023,844.61	23,997,915.54
135	0.00	0.00
136	0.00	0.00
137	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended 31.03.2020	31.03.2019
001 EXPENDITURE DURING CONSTRUCTION PERIOD (NET)	0.00	0.00
002 A. Employee benefits expense	0.00	0.00
003 Salaries and wages	5,979,041.61	0.00
004 Contribution to provident and other funds	534,992.53	0.00
005 Unwinding of deffered payroll expenses	-3,973.41	0.00
006 Staff welfare expenses	242,407.50	0.00
007 Total (A)	6,752,468.23	0.00
008 B. Finance Costs	0.00	0.00
009 Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010 Bonds	0.00	8,138,448.00
011 Foreign currency term loans	0.00	428,956.00
012 Rupee term loans	3,403,287.00	16,238,008.00
013 Foreign currency bonds/notes	0.00	10,617,123.00
014 Unwinding of discount on account of vendor liabilities	456,585.19	969,765.06
015 Others	0.00	0.00
016	0.00	0.00
017 Other Borrowings Costs	0.00	0.00
018 Guarantee Commission	0.00	0.00
019 Management Fees/Arrangers Fees	0.00	0.00
020 Commitment charges/Exposure Premium	0.00	0.00
021 Legal Expenses on foreign currency loans	0.00	0.00
022 Foreign currency bonds/notes expenses	0.00	0.00
023 Foreign Credit Insurance Premium	0.00	0.00
024 Upfront Fee	0.00	0.00
025 Exchange Differences	2,651,489.00	0.00
026 Others	0.00	0.00
027 Exchange differences regarded as adjustment to interest cost	433,225.00	0.00
028 Total (B)	6,944,586.19	36,392,300.06
029	0.00	0.00
030 C. Depreciation and amortisation	0.00	0.00
031 D. Generation , administration and other expenses	0.00	0.00
032 Power charges	239,312.00	0.00
033 Less: Recovered from contractors & employees	0.00	0.00
034 Sub-total(Net power charges)	239,312.00	0.00
035 Water charges	0.00	0.00
036 Rent	0.00	0.00
037 Repairs & maintenance	0.00	0.00
038 Buildings	0.00	-10,846,102.28
039 Construction equipment	0.00	0.00
040 Others	0.00	10,846,102.28
041	0.00	0.00
042 Insurance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2020	31.03.2019
043	Rates and taxes	0.00	0.00
044	Communication expenses	46,289.00	0.00
045	Travelling expenses	489,962.71	0.00
046	Tender expenses	0.00	0.00
047	Less: Income from sale of tenders	0.00	0.00
048	Sub-total (Net tender expenses)	0.00	0.00
049	Advertisement and publicity	0.00	0.00
050	Security expenses	0.00	0.00
051	Entertainment expenses	29,187.94	0.00
052	Guest house expenses	0.00	0.00
053	Less: Receipt from guest house	0.00	0.00
054	Sub-total (Net Guest House Expenses)	0.00	0.00
055	Education expenses	0.00	0.00
056	Brokerage & Commission	0.00	0.00
057	Books and periodicals	0.00	0.00
058	Community development expenses	0.00	0.00
059	Professional charges and consultancy fee	0.00	0.00
060	Legal expenses	0.00	0.00
061	EDP Hire and other charges	0.00	0.00
062	Printing and stationery	0.00	0.00
063	Miscellaneous expenses	1,077.96	0.00
064	Total (D)	805,829.61	0.00
065	Total (A+B+C+D)	14,502,884.03	36,392,300.06
066	E. Less: Other Income	0.00	0.00
067	Interest from	0.00	0.00
068	Indian banks	0.00	0.00
069	Foreign banks	0.00	0.00
070	Others	0.00	0.00
071	Contractors	0.00	0.00
072	Hire charges	0.00	0.00
073	Sale of scrap	0.00	0.00
074	Exchange Differences	0.00	0.00
075	Miscellaneous income	0.00	0.00
076	TOTAL (E)	0.00	0.00
077	F. Net actuarial gain/loss OCI	0.00	0.00
078		0.00	0.00
079	GRAND TOTAL (A+B+C+D-E+F)	14,502,884.03	36,392,300.06
080		0.00	0.00
081	* Balance carried to Capital Work-in-progress - (Note 3)	14,502,884.03	36,392,300.06

RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2021	31.03.2020
001 ASSETS		0.00	0.00
002		0.00	0.00
003 Non-Current Assets		0.00	0.00
004 Property, plant and equipment	2	53,619,450,765.67	58,728,501,510.10
005 Capital-Work-in-Progress	3	3,031,095,010.70	823,654,175.83
006 Intangible Assets	4	15,262.40	19,580.18
007 Intangible Assets under Development	5	0.00	0.00
008 Financial Assets		0.00	0.00
009 i) Investments in Subsidiaries and Joint Ventures	6	0.00	0.00
010 ii) Investments	7	0.00	0.00
011 iii) Trade receivables	8	0.00	0.00
012 iv) Loans	9	105,755,516.61	97,279,112.83
013 v) Other financial assets	10	0.00	0.00
014 Other non-current assets	11	2,224,648,606.02	2,510,570,989.29
015 Total non-current assets		58,980,965,163.40	60,160,025,348.23
016		0.00	0.00
017 Current Assets		0.00	0.00
018 Inventories	12	4,599,607,206.27	3,934,708,096.39
019 Financial assets		0.00	0.00
020 i) Investments	13	0.00	0.00
021 ii) Trade receivables	14	15,484,355.69	0.00
022 iii) Cash and cash equivalents	15	390,123.40	435,387.81
023 iv) Bank balances other than cash and cash equivalents	16	0.00	0.00
024 v) Loans	17	68,419,589.65	70,942,728.42
025 vi) Other financial assets	18	165,634,958.60	688,178,780.59
026 Current Tax Assets (net)		0.00	0.00
027		0.00	0.00
028 Other Current Assets	19	469,505,591.13	641,228,747.85
029		0.00	0.00
030 Total Current Assets		5,319,021,824.74	5,335,493,741.06
031 Regulatory deferral account debit balances	20	871,086,456.17	366,710,508.19
032 TOTAL ASSETS		64,971,073,444.31	65,862,229,597.48
034 EQUITY AND LIABILITIES		0.00	0.00
035 Equity		0.00	0.00
036 Equity Share capital	21	0.00	0.00
037 Other equity	22	167,459,875,592.17	156,372,525,419.96
040 Total equity		167,459,875,592.17	156,372,525,419.96
041		0.00	0.00
042 Liabilities		0.00	0.00
043 Non-Current Liabilities		0.00	0.00
044 Financial liabilities		0.00	0.00
045 i) Borrowings	23	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2021	31.03.2020
046	ii) Trade payables	0.00	0.00
047	- Total outstanding dues of micro and small enterprises	18,336,269.21	15,622,396.62
048	- Total outstanding dues of creditors other than micro and small enterprises	6,373,476.89	5,712,598.82
049	iii) Other financial liabilities	661,741,354.25	34,379,901.73
050	Provisions	0.00	0.00
051	Deferred Tax Liabilities (net)	0.00	0.00
052	Other non-current liabilities	0.00	0.00
053		0.00	0.00
054	Total non-current liabilities	704,451,100.35	55,714,897.17
055		0.00	0.00
056	Current Liabilities	0.00	0.00
057	Financial liabilities	0.00	0.00
058	i) Borrowings	0.00	0.00
059	ii) Trade Payables	0.00	0.00
060	- Total outstanding dues of micro and small enterprises	227,641,821.80	347,533,123.95
061	- Total outstanding dues of creditors other than micro and small enterprises	1,688,677,134.68	1,929,276,543.35
062	iii) Other financial liabilities	2,089,371,382.23	2,174,040,601.24
063	Other current liabilities	95,628,402.86	98,045,489.01
064	Provisions	8,265,312.00	8,480,817.99
065	Current tax liabilities (net)	0.00	0.00
066		0.00	0.00
067	Sub Total	4,109,584,053.57	4,557,376,575.54
068		0.00	0.00
069	Deferred Revenue	1,550,313,000.00	1,990,729,000.00
070	Regulatory deferral account credit balances	0.00	0.00
071	Inter Unit Accounts	-108,853,150,301.78	-97,114,116,295.19
072		0.00	0.00
073	TOTAL EQUITY AND LIABILITIES	64,971,073,444.31	65,862,229,597.48
074	Significant Accounting Policies as per Note 1	0.00	0.00
075		0.00	0.00
076	The accompanying notes 1 to 44 form an integral part of these financial statements.	0.00	0.00
077		0.00	0.00
078		0.00	0.00

GOTAM
KUMAR
BAGARIYA

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BAGARIYA
Date: 2021.04.29
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(Auditor Initial & Stamp)

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Digitally Signed:

Signed by: Vinodra Malik,
Responsible Financial Statements
31.03.2021-NTPC, Rihand
Location: SSC, West Bengal
Date: 20-Apr-2021 21:31:35

(Head of Finance)

Rajendra
29/04/2021

(Head of Unit)

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RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2021	31.03.2020
001	Revenue		0.00	0.00
002	Revenue from operations	37	51,486,298,435.08	52,545,076,725.88
003	Other income	38	2,544,908,615.45	3,035,476,371.88
005	Total Revenue		54,011,207,050.53	55,580,553,097.76
007	Expenses		0.00	0.00
008	Fuel including cost of captive coal	38A	31,224,710,698.23	30,416,545,545.88
009	Employee benefits expense	39	1,745,537,752.39	1,854,129,627.42
010	Electricity purchased for trading		0.00	0.00
011	Finance costs	40	1,929,476,341.86	2,130,434,794.21
012	Depreciation and amortization expenses	41	4,070,986,728.27	3,914,830,997.64
013			0.00	0.00
014	Other expenses	42	3,501,403,380.71	2,900,984,769.93
015	CC expenses charge to revenue		723,835,735.02	865,358,462.00
016	Less: Unit expenses transferred to CC		0.00	0.00
017	Total expenses		43,195,950,636.48	42,084,284,196.88
020	Profit before exceptional items & tax		10,815,256,414.05	13,496,268,900.88
021	Exceptional items		0.00	0.00
024	Profit before tax		10,815,256,414.05	13,496,268,900.88
027	Tax expense:		0.00	0.00
028	Current tax		0.00	0.00
029	Deferred tax		0.00	0.00
030			0.00	0.00
031	Total Tax expense		0.00	0.00
032	Profit for the period before regulatory deferral account balances		10,815,256,414.05	13,496,268,900.88
033	Movement in regulatory deferral account balances		0.00	0.00
034	Regulatory deferred account - deferred		0.00	0.00
035	Others		304,375,947.98	16,012,648.15
036	Tax impact on Regulatory deferral account balances		0.00	0.00
037	Movement in Regulatory deferral account balances (Net of Tax)		304,375,947.98	16,012,648.15
038	Profit for the period/ year		11,119,632,362.03	13,512,281,549.03
039	Other comprehensive income		0.00	0.00
040	(A) Items that will not be reclassified to profit or loss		0.00	0.00
041	- Net gains/(losses) on fair value of equity instruments through other comprehensive income		0.00	0.00
042	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
043	- Net actuarial gains/(losses) on defined benefit plans		-24,061,329.38	-53,349,231.17
044	Income tax on above that will not be reclassified to profit or loss		0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2021	31.03.2020
048			0.00	0.00
049	Other comprehensive income for the year, net of income tax		-24,061,329.38	-53,349,231.17
050			0.00	0.00
051	Total Comprehensive Income for the year		11,095,571,032.65	13,458,932,317.86
065			0.00	0.00
066	Earnings per equity share:		0.00	0.00
067	Basic & Diluted		0.00	0.00
068	Significant Accounting Policies		0.00	0.00
069	Expenditure during construction period (Net)/Dev. of coal mines (net) 43 /43A		0.00	0.00
070	The accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00

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GOTAM KUMAR
BAGARIYA
Date: 2021.04.29
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(Auditor Initial & Stamp)

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Signed by: Vinodita Malik
Reason: Financial
Statements:31.03.2021-
NTPC Shared.

(Head of Finance)

Agh
27/04/2021

(Head of Unit)

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2021	Opening Depreciation As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2021	Net Block As At 31.03.2021	Net Block As At 31.03.2020
1 TANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Land : (including development expenses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Freehold	355016843.25	0.00	0.00	355016843.25	0.00	0.00	0.00	0.00	355016843.25	355016843.25
4 Right of Use	312564894.63	0.00	0.00	312564894.63	64677732.17	10521536.67	0.00	75199268.84	237365625.79	247887162.46
5 Submergence	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Right of use - Coal Bearing Area Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Roads,bridges, culverts & helipads	636446916.44	0.00	159951.50	636606867.94	109536598.01	23550768.85	0.00	133087366.86	503519501.08	526910318.43
8 Building :	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Main plant	1852956664.03	0.00	0.00	1852956664.03	312864958.08	62855519.69	0.00	375720477.77	1477236186.26	1540091705.95
11 Others	2533965283.89	651849.77	14352916.02	2548970049.68	389425925.65	94083092.43	0.00	483509018.08	2065461031.60	2144539358.24
12 Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Temporary erection	231168.13	0.00	0.00	231168.13	231168.13	0.00	0.00	231168.13	0.00	0.00
14 Water Supply, drainage & sewerage system	543971851.56	0.00	2075861.99	546047713.55	98294100.27	24336758.92	0.00	122630859.19	423416854.36	445677751.29
15 Hydraulic works, barrages, dams, tunnels and power channel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 MGR track and signalling system	1331637054.56	0.00	22735072.00	1354372126.56	282788992.51	70801086.59	0.00	353590079.10	1000782047.46	1048848062.05
17 Railway siding	1528212.48	0.00	0.00	1528212.48	583464.81	64482.46	0.00	647947.27	880265.21	944747.67
18 Earth dam reservoir	1456921.40	0.00	0.00	1456921.40	0.00	0.00	0.00	0.00	1456921.40	1456921.40
19 Plant and machinery(including associated civil works)	72150091047.97	1749417411.66	(444538934.06)	73454969525.57	22338498577.64	4250997908.53	(124764520.90)	26464731965.27	46990237560.30	49811592470.33
Owned Asset										


 अधी. जनरल मॅनेजर (व्यापार/वित्त)
 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड, NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2021	Opening Depreciation As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2021	Net Block As At 31.03.2021	Net Block As At 31.03.2020
20 Plant and machinery(including associated civil works) -Right of use Asset	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Furniture and fixtures	174462877.14	132121.00	141236.26	174736234.40	55993361.73	9718284.42	0.00	65711646.15	109024588.25	118469515.41
22 Assets under 5 Km Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 Vehicles including speedboats / helicopter- Owned	6558165.35	0.00	0.00	6558165.35	2026920.89	579121.79	0.00	2606042.68	3952122.67	4531244.46
24 Vehicles including speedboats / helicopter - Leased	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Office equipment	87710203.22	10332475.39	(2328.66)	98040349.95	42281672.36	7149396.76	25013.36	49456082.48	48584267.47	45428530.86
26 EDP, WP machines and satcom equipment	88746642.53	4701880.50	(2207618.37)	91240904.66	66678476.50	8358261.38	(2207618.37)	72829119.51	18411785.15	22068166.03
27 Construction equipments	65110895.86	0.00	0.00	65110895.86	25019015.46	2027521.73	0.00	27046537.19	38064358.67	40091880.40
28 Electrical Installations	331097542.54	0.00	(15297.60)	331082244.94	93983599.49	24483870.32	0.00	118467469.81	212614775.13	237113943.05
29 Communication equipments	31934747.30	0.00	0.00	31934747.30	21139449.21	2682540.80	0.00	23821990.01	8112757.29	10795298.09
30 Hospital equipments	23403542.97	8015882.70	(498500.00)	30920925.67	6303043.52	1526214.95	(145000.00)	7684258.47	23236667.20	17100499.45
31 Laboratory and workshop equipments	145928386.77	0.00	(192816.00)	145735570.77	35991295.49	7667668.15	0.00	43658963.64	102076607.13	109937091.28
32 Capital expenditure on assets not owned by the Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 Assets of Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


 Adil General Manager (Commercial)
 एन सी ई सी लिमिटेड/NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2021	Opening Depreciation As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2021	Net Block As At 31.03.2021	Net Block As At 31.03.2020
34 Less:Grants from Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Less: Recoverable from GOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 Assets for ash utilisation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 (Less):-Adjusted from fly ash utilisation reserve fund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 Site Restoration Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Mining Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Tangible)	80674819862.02	1773251621.02	(407990456.92)	82040081026.12	23946318351.92	4601404034.44	(127092125.91)	28420630260.45	53619450765.67	56728501510.10
Grand Total Prev Year (Tangible)	78534642964.26	1186875116.04	953301781.72	80674819862.02	19591618043.24	4377618570.90	(22918262.22)	23946318351.92	56728501510.10	58943024921.02


 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization

Particulars	Gross Block		Depreciation/Amortization	
	Tangible As At: 31.03.2021	Tangible As At: 31.03.2020	Tangible As At: 31.03.2021	Tangible As At: 31.03.2020
Disposal of assets	(2046638.78)	(2114197.00)	(2032443.32)	(2071876.78)
Retirement of assets	(360826985.21)	(69448632.25)	(129619476.73)	(19577026.64)
Cost adjustments	(61206706.58)	1021726514.10	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	16089873.65	3138096.87	4559794.14	(1269358.80)
Others	0.00	0.00	0.00	0.00
TOTAL	(407990456.92)	953301781.72	(127092125.91)	(22918262.22)


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2020	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2021
	1	2	3	4	5	6
1	CAPITAL WORK-IN-PROGRESS					
2	Development of land					
3	Roads, bridges, culverts & helipads		159951.50	(159951.50)		
4	Piling and foundation					
5	Buildings :					
6	Main plant					
7	Others	3994483.75	41494542.99	(14352916.02)	651849.77	30484260.95
8	Temporary erection					
9	Water supply, drainage and sewerage system	2950000.00	2169334.09	(2169334.09)	1966765.00	983235.00
10	Hydraulic works, barrages, dams, tunnels and power channel					
11	MGR track and signalling system	20000000.00	2735072.00	(22735072.00)		
12	Railway siding					
13	Earth dam reservoir					
14	Plant and equipment	716862112.61	2701347755.13	(441523046.74)	459253795.13	2517433025.87
15	Furniture and fixtures		202930.66	(178285.51)		24645.15
16	Vehicles					
17	Office equipment		35588.00			35588.00
18	EDP/WP machines & satcom equipment	1367798.00		(1.00)	1367797.00	
19	Construction equipments					
20	Electrical installations					
21	Communication equipment					
22	Hospital equipments		256888.29			256888.29
23	Laboratory and workshop equipments					
24	Assets under 5Km Scheme of the GOI					
25	Capital expenditure on assets not owned by the company					
26	Expenditure towards development of coal mines					
27	Survey,Investigation,Consultancy & Supervision Cha	2987667.50				2987667.50
28	Difference in exchange on foreign currency loans					

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2020	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2021
	1	2	3	4	5	6
29	Expenditure towards diversion of forest land					
30	Pre-commissioning expenses (net)					
31	ExpPendAlloca-oth ex attribut Project					
32	Expenditure During Construction Period (net)*		48056989.43	19803119.69		67860109.12
33	LESS : Allocated to related works		67860109.12			67860109.12
34	LESS : Provision for Unservicable works					
35	Construction stores (At Cost)					
36	Steel	28823481.94	10797591.45	(9388238.80)		30232834.59
37	Cement	2154161.66		(126029.78)		2028131.88
38	Others	48601441.60	9455643.30	395822571.17		453879656.07
39	Sub-total	79579085.20	20253234.75	386308302.59		486140622.54
40	LESS : Provision for shortages	4086971.23		3163951.37		7250922.60
41	Sub-total	75492113.97	20253234.75	383144351.22		478889699.94
42	Total CWIP	823654175.83	2748852177.72	(78171135.95)	463240206.90	3031095010.70
43						
44						
45	PREVIOUS YEAR TOTAL	526168443.09	1282428590.34	(448034605.07)	526463585.59	823654175.83

(Amount in Rupees)

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2021	Opening Depreciation As At 01.04.2020	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2021	Net Block As At 31.03.2021	Net Block As At 31.03.2020
INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Right to Use- Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 -Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 -Software	4773867.26	0.00	0.00	4773867.26	4754287.08	4317.78	0.00	4758604.86	15262.40	19580.18
Grand Total (Intangible)	4773867.26	0.00	0.00	4773867.26	4754287.08	4317.78	0.00	4758604.86	15262.40	19580.18
Grand Total Prev Year (Intangible)	4773867.26	0.00	0.00	4773867.26	4639223.95	115063.13	0.00	4754287.08	19580.18	134643.31


अनुर कुमार (व्यवसायिक)
Anur. General Manager (Commercial)
एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	InTangible As At: 31.03.2021	InTangible As At: 31.03.2020	InTangible As At: 31.03.2021	InTangible As At: 31.03.2020
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 5: Intangible Assets under Development

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2020	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2021
	1	2	3	4	5	6
1	INTANGIBLE ASSETS UNDER DEVELOPMENT					
2	Software					
3	Right to use Others					
4	Exploration and Evaluation Expenditure - Coal Mini					
5	Exploratory wells-in-progress					
6	Less: Provision for exploratory wells-in-progress					
7	Total					
8	PREVIOUS YEAR TOTAL-I					



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2021	31.03.2020
001	NON CURRENT INVESTMENTS-		0.00	0.00
	Investments in subsidiaries and joint ventures			
012	Equity Instruments - Unquoted-(fully paid up unless otherwise stated, at cost)		0.00	0.00
013	Subsidiary Companies		0.00	0.00
014	Patratu Vidyut Utpadan Nigam Ltd.		0.00	0.00
015	NTPC Electric Supply Company Ltd.		0.00	0.00
016	NTPC Vidyut Vyapar Nigam Ltd.		0.00	0.00
017	Nabinagar Power Generating Company Ltd.		0.00	0.00
018	Kanti Bijlee Utpadan Nigam Ltd.		0.00	0.00
019	Bhartiya Rail Bijlee Company Ltd.		0.00	0.00
020	NTPC Mining Ltd (NML)		0.00	0.00
021	THDC India Ltd.		0.00	0.00
022	NEEPCO LTD.		0.00	0.00
023	NTPC EDMC Waste Solutions Pvt Ltd		0.00	0.00
024	NTPC Renewables Energy Ltd		0.00	0.00
025	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
026			0.00	0.00
027			0.00	0.00
028			0.00	0.00
029			0.00	0.00
030	Sub Total		0.00	0.00
055	Joint Venture Companies		0.00	0.00
056	Utility Powertech Ltd.		0.00	0.00
057	NTPC GE Power Services Pvt.Ltd.		0.00	0.00
058	NTPC-SAIL Power Company Ltd.		0.00	0.00
059	NTPC-Tamil Nadu Energy Company Ltd.		0.00	0.00
060	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00

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अध्यक्ष (व्यवसाय)
A.M. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2021	31.03.2020
061	Aravali Power Company Private Ltd.		0.00	0.00
062			0.00	0.00
063	NTPC BHEL Power Projects Private Ltd.		0.00	0.00
064	Meja Urja Nigam Private Limited		0.00	0.00
065	BF-NTPC Energy Systems Ltd.		0.00	0.00
066			0.00	0.00
067	Nabinagar Power Generating Company Ltd.		0.00	0.00
068	Transformer and Electrical Kerala Ltd.		0.00	0.00
069	National High Power Test Laboratory Private Ltd.		0.00	0.00
070			0.00	0.00
071	CIL NTPC Urja Private Ltd.		0.00	0.00
072	Anushakti Vidhyut Nigam Ltd.		0.00	0.00
073	Energy Efficiency Services Ltd.		0.00	0.00
074			0.00	0.00
075	Trincomalee Power Company Ltd.		0.00	0.00
076	Bangladesh-India Friendship Power Company (Pvt.) Ltd.		0.00	0.00
077	Hindustan Urvarak & Rasayan Limited		0.00	0.00
078	Konkan LNG Ltd		0.00	0.00
079			0.00	0.00
081	Sub Total		0.00	0.00
109	Aggregate amount of impairment in the value of investments		0.00	0.00
110	Total (net of impairment) of JV		0.00	0.00
111	Gross Total of Investments		0.00	0.00
134	Total		0.00	0.00
135	Details of Investments		0.00	0.00
136	Aggregate amount of Unquoted Investments		0.00	0.00

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अध्यक्ष (व्यवस्थापक)
A.M. General Manager (Commercial)
एन टी सी लिमिटेड/NTPC LIMITED



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2021	31.03.2020
141			0.00	0.00
142			0.00	0.00
143			0.00	0.00
144			0.00	0.00
145			0.00	0.00
153	Valuation of Investments as per Note 1.		0.00	0.00
154			0.00	0.00
202			0.00	0.00
233			0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 7 TO THE FS-NCA-INVESTMENTS

(Amount in ₹)

As at	No. of shares	Face value	31.03.2021	31.03.2020
001 Non-current financial assets (investments)			0.00	0.00
006 Long Term - Trade			0.00	0.00
007 Equity Instruments (fully paid up-unless otherwise stated)			0.00	0.00
008 Quoted			0.00	0.00
009 Joint Venture Companies			0.00	0.00
010 PTC India Ltd.			0.00	0.00
070 International Coal Ventures Private Ltd.			0.00	0.00
075 BF-NTPC Energy Systems Ltd.			0.00	0.00
098			0.00	0.00
110 Cooperative Societies			0.00	0.00
111 Sub Total			0.00	0.00
112 Aggregate amount of impairment in the value of investments			0.00	0.00
115 Total			0.00	0.00
120			0.00	0.00
146 NTPC Employees Consumers and Thrift Co-operative Society Ltd. Korba			0.00	0.00
147 NTPC Employees Consumers and Thrift Cooperative Society Ltd. RSTPP			0.00	0.00
148 NTPC Employees Consumers Cooperative Society Ltd. Farakka			0.00	0.00
149 NTPC Employees Consumers Cooperative Society Ltd. Vindhyachal			0.00	0.00
150 NTPC Employees Consumers Cooperative Society Ltd. Anta			0.00	0.00
151 NTPC Employees Consumers Cooperative Society Ltd. Kawas			0.00	0.00
152 NTPC Employees Consumers Cooperative Society Ltd. Kaniha			0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 8 TO THE FS-NCA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Non-current financial assets - Trade receivables	0.00	0.00
002 Unsecured, considered good	0.00	0.00
003 Credit impaired	0.00	0.00
004	0.00	0.00
005	0.00	0.00
006 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 9 TO THE FS-NCA-LOANS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Loans (Non Current)	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees(including accrued interest)	0.00	0.00
011 Secured	81,640,635.94	78,971,858.25
012 Unsecured	53,590,775.89	47,554,685.79
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Secured	22,067,890.23	21,268,252.60
017 Unsecured	7,408,004.99	7,979,178.61
018 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
019 Others	0.00	0.00
020 Secured	0.00	0.00
021 Unsecured	0.00	0.00
022 With significant increase in Credit Risk	0.00	0.00
023 Credit impaired	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
025 Sub Total	105,755,516.61	97,279,112.83
026	0.00	0.00
027 Total	105,755,516.61	97,279,112.83
028	0.00	0.00
029	0.00	0.00
030 Due from Directors and Officers of the Company	0.00	0.00
031 Directors	0.00	0.00
032 Officers	0.00	0.00
033	0.00	0.00
034 Loans to related parties include:	0.00	0.00
035 i)Key management personel	0.00	0.00
036 ii)Subsidiary companies	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)Others	0.00	0.00
039	0.00	0.00
054 Other loans represent loans given to	0.00	0.00
055 a) APIIC	0.00	0.00
060	0.00	0.00
061 RPD	0.00	0.00
062 i)Key management personel	0.00	0.00
063 ii)Subsidiary companies	0.00	0.00
064 iii)Joint Venture companies	0.00	0.00
065 iv)Others	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

As at		31.03.2021	31.03.2020
066	Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 10 TO THE FS-NCA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Other Financial Assets (non current)	0.00	0.00
002	0.00	0.00
003 Share application money pending allotment in (Subsidiary Companies) :	0.00	0.00
004 NTPC Electric Supply Company Ltd.	0.00	0.00
005 NTPC Vidyut Vyapar Nigam Ltd.	0.00	0.00
006 Nabinagar Power Generating Company Ltd.	0.00	0.00
007 Kanti Bijlee Utpadan Nigam Ltd.	0.00	0.00
008 Bhartiya Rail Bijlee Company Ltd.	0.00	0.00
009 Patratu Vidyut Utpadan Nigam Ltd.	0.00	0.00
010 NTPC Mining Limited	0.00	0.00
011 THDC Ltd.	0.00	0.00
012 NEEPCO Ltd	0.00	0.00
013	0.00	0.00
014 Total	0.00	0.00
015 Share application money pending allotment (Joint Venture)	0.00	0.00
016 Utility Powertech Ltd.	0.00	0.00
017 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
018 NTPC-SAIL Power Company Ltd.	0.00	0.00
019 NTPC-Tamil Nadu Energy Company Ltd.	0.00	0.00
020 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
021 Aravali Power Company Private Ltd.	0.00	0.00
022	0.00	0.00
023 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
024 Meja Urja Nigam Private Limited	0.00	0.00
025 BF-NTPC Energy Systems Ltd.	0.00	0.00
026 Anushakti Vidhyut Nigam Ltd.	0.00	0.00
027 Nabinagar Power Generating Company Ltd.	0.00	0.00
028 Energy Efficiency Services Ltd.	0.00	0.00
029 National High Power Test Labortory Private Ltd.	0.00	0.00
030	0.00	0.00
031 CIL NTPC Urja Private Ltd.	0.00	0.00
032 Trincomalee Power Company Ltd.	0.00	0.00
033 Hindustan Urvarak & Rasayan Limited	0.00	0.00
034 Bangladesh-India Friendship Power Company Private Ltd.	0.00	0.00
035 Sub Total	0.00	0.00
036	0.00	0.00
037 Claims Recoverable	0.00	0.00
038 Finance Lease Recoverable	0.00	0.00
039 Mine Closure Deposit	0.00	0.00
041 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Other Non-current Assets	0.00	0.00
002	0.00	0.00
003 CAPITAL ADVANCES	0.00	0.00
004 Secured	0.00	0.00
005 Unsecured	0.00	0.00
006 Covered by Bank Guarantee	374,937,145.32	323,177,345.00
007 Others	23,546,752.62	89,609,598.63
008 Considered doubtful	0.00	0.00
009 Less: Allowance for bad & doubtful advances	0.00	0.00
010 Sub-Total	398,483,897.94	412,786,943.63
011	0.00	0.00
012 Advances other than capital advances	0.00	0.00
013 Security deposits	1,436,400.00	1,436,400.00
019 Advances to Related parties	0.00	0.00
022 Advances to Contractors & Suppliers	0.00	0.00
023 Secured	0.00	0.00
024 Unsecured	0.00	0.00
025 Considered Doubtful	0.00	0.00
026 Less: Allowance for bad & doubtful advances	0.00	0.00
027 Sub Total	1,436,400.00	1,436,400.00
028 Receivable from MCP Escrow A/c	0.00	0.00
039 Advance tax & tax deducted at source	2,447,428.10	1,374,625.00
040 Less:- Provision for current tax	0.00	0.00
041	0.00	0.00
042 Sub Total	2,447,428.10	1,374,625.00
043 Deferred Payroll Expenses (Secured)	17,618,156.45	18,035,323.47
044 Deferred Payroll Expenses (Unsecured)	5,186,725.53	5,842,677.19
045 Sub Total	22,804,881.98	23,878,000.66
046 Deferred Foreign Currency Fluctuation Asset	1,799,476,000.00	2,071,095,000.00
048 Total	2,224,648,608.02	2,510,570,969.29
049	0.00	0.00
050	0.00	0.00
061 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
063	0.00	0.00
064 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
065	0.00	0.00
066 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
067 Aravali Power Company Private Ltd.	0.00	0.00
068 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
069 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
070 Meja Urja Nigam Private Limited	0.00	0.00
071 Nabinagar Power Generating Company Ltd.	0.00	0.00
072 National High Power Test Labortory Private Ltd.	0.00	0.00
074 CIL NTPC Urja Private Ltd.	0.00	0.00
076	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS

(Amount in ₹)

As at	31.03.2021	31.03.2020
077 Related Party (Adv)	0.00	0.00
078 Key Management personel	0.00	0.00
079 Subsidiary companies	0.00	0.00
080 Joint Venture companies	0.00	0.00
081 Contractors	0.00	0.00
082 Others	0.00	0.00
084	0.00	0.00
085 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 12 TO THE FS-CA-INVENTORIES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 INVENTORIES	0.00	0.00
002	0.00	0.00
003 Coal	1,293,481,712.46	530,693,477.72
004 Fuel oil	221,275,469.56	213,916,508.70
005 Naphtha	0.00	0.00
006 Stores and spares	2,434,045,104.96	2,507,691,473.02
007 Chemicals & consumables	84,873,916.88	82,869,440.00
008 Loose tools	1,320,987.78	1,481,824.88
009 Steel Scrap	10,032,350.58	4,556,896.18
010 Others*	578,527,487.01	618,290,642.20
011 Sub Total	4,623,557,029.23	3,959,500,262.70
012 Less: Provision for shortages	1,116,991.43	1,959,334.78
013 Less: Provision for obsolete/ unservicable/dimuntion in value of surplus inventory	22,832,831.53	22,832,831.53
014	0.00	0.00
015 Total	4,599,607,206.27	3,934,708,096.39
016 Inventories include material in transit	0.00	0.00
017 Coal	0.00	0.00
018 Fuel oil	0.00	0.00
019 Naphtha	0.00	0.00
020 Stores and spares	14,287,641.72	24,889,533.24
021 Chemicals & consumables	0.00	30,471.33
022 Loose tools	0.00	0.00
023 Others	0.00	527,190.00
024	0.00	0.00
025 Inventory items other than steel scrap have been valued considering Note 1.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 13 TO THE FS-CA-INVESTMENTS
(Amount in ₹)

	As at	No. of shares	Face value	31.03.2021	31.03.2020
001	CURRENT INVESTMENTS			0.00	0.00
002	(Valuation as per Note 1)			0.00	0.00
003				0.00	0.00
033	Investment in Mutual Funds (Details as under)			0.00	0.00
034	SBI-Magnum Insta Cash Fund-DDR			0.00	0.00
035	SBI Premier Liquid Fund Super-IP-DDR			0.00	0.00
036	SBI-SHF Ultra Short Term Fund-IP-DDR			0.00	0.00
037	UTI Money Market- IP-Direct-Growth			0.00	0.00
038	IDBI-Liquid plan- Direct-Growth			0.00	0.00
039	Canara Robeco Liquid Fund Super-IP-DDR			0.00	0.00
040	Canara Robeco Treasury Advantage Fund Super-IP-DDR			0.00	0.00
041	IDBI Liquid Fund-DDR			0.00	0.00
042	SBI Premier Liquid fund-Direct DDR (Ash Fund)			0.00	0.00
043	UTI Liquid CashPlan - IP - DDR (Ash Funds)			0.00	0.00
044	IDBI Liquid Fund - DDR - (Ash Funds)			0.00	0.00
045	Baroda Liquid Fund - Direct - Growth			0.00	0.00
046	Sub Total			0.00	0.00
047				0.00	0.00
052	Unquoted Investments			0.00	0.00
054				0.00	0.00
066	TOTAL			0.00	0.00
067				0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 TRADE RECEIVABLES (current)*	0.00	0.00
002	0.00	0.00
003 Secured, Considered Good	0.00	0.00
004 Unsecured , considered good	15,464,355.69	0.00
005 Credit impaired	0.00	0.00
006 Sub-Total	15,464,355.69	0.00
007 Total	15,464,355.69	0.00
008 Less: Allowance for credit impaired receivables	0.00	0.00
009 Total	15,464,355.69	0.00
010 Less: Discom Clearing	0.00	0.00
012 Grand Total	15,464,355.69	0.00
013 * After adjustment for Unbilled Revenue	0.00	0.00
014 Long-term trade receivables	0.00	0.00
015 TCS Clearing	0.00	0.00
016 Discom Clearing	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 15 TO THE FS-CA-CASH AND CASH EQUIVALENTS

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 CASH & BANK BALANCES	0.00	0.00
002 Cash & Cash Equivalents	0.00	0.00
003 Balances with Banks	240,123.40	435,387.81
004 Cheques & Drafts on hand	150,000.00	0.00
005 Cash on hand	0.00	0.00
006 Others (stamps in hand)	0.00	0.00
007 Bank deposits with original maturity upto three months	0.00	0.00
008 Balances with RBI	0.00	0.00
009	0.00	0.00
010 Total	390,123.40	435,387.81

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 16 TO THE FS-CA-BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS (Amount in ₹)

As at	31.03.2021	31.03.2020
001 Other Bank Balances	0.00	0.00
002 Deposits with original maturity of more than three months but not more than twelve months	0.00	0.00
003 Earmarked balances with banks*	0.00	0.00
004 SubTotal	0.00	0.00
005 Interest accrued on deposits	0.00	0.00
006	0.00	0.00
007 Total	0.00	0.00
008	0.00	0.00
009 Earmarked balances with banks consist of :	0.00	0.00
010 Unpaid dividend account balance	0.00	0.00
011 Towards public deposit repayment reserve	0.00	0.00
012 Towards redemption of bonds due for repayment within one year	0.00	0.00
013 Security with Government/other authorities	0.00	0.00
014 Unpaid refund/interest account balance - Tax free bonds/ Bonus Debentures	0.00	0.00
015 Earmarked for RGGVY/DDUGJY/SAUBHAGYA Fund	0.00	0.00
016 Earmarked for Flyash Utilisation Reserve Fund	0.00	0.00
017 Deposits with original maturity upto three months as per court orders	0.00	0.00
018 Payment Security Scheme of MNRE NSM (NTPC)	0.00	0.00
019 Payment Security Scheme of MNRE NSM (NVTN)	0.00	0.00
020 Enforcement Directorate of Solar Plant(NVTN)	0.00	0.00
021 Bank guarantee Fund of MNRE (NVTN)	0.00	0.00
022 Others	0.00	0.00
023	0.00	0.00
024	0.00	0.00
025	0.00	0.00
026 Sub-total	0.00	0.00
030 Total	0.00	0.00
031	0.00	0.00
032 Bank deposits with original maturity of less than three months- other than earmarked	0.00	0.00
033 Bank deposits with original maturity of more than three months but not more than twelve months- other than earmarked	0.00	0.00
034 Earmarked bank balances (current account)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 17 TO THE FS-CA-LOANS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Current financial assets - Loans	0.00	0.00
002 Loans (current)-including interest accrued	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
011 Secured	18,612,569.77	18,700,977.43
012 Unsecured	49,807,019.88	52,241,750.99
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
017	0.00	0.00
018 Others	0.00	0.00
019 Secured	0.00	0.00
020 Unsecured	0.00	0.00
021 With significant increase in Credit Risk	0.00	0.00
022 Credit impaired	0.00	0.00
023	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
025 Total (Loans)	68,419,589.65	70,942,728.42
026	0.00	0.00
027 Due from Directors and Officers of the Company	0.00	0.00
028 Directors	0.00	0.00
029 Officers	0.00	0.00
030	0.00	0.00
031 Loans to related parties include:	0.00	0.00
032 i)Key management personel	0.00	0.00
033 ii)Subsidiary companies	0.00	0.00
034 KBUNL	0.00	0.00
035 RGPPL	0.00	0.00
036 NVVN	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)others	0.00	0.00
039	0.00	0.00
059 RPD	0.00	0.00
060 i)Key management personel	0.00	0.00
061 ii)Subsidiary companies	0.00	0.00
062 iii)Joint Venture companies	0.00	0.00
063 iv)Others	0.00	0.00
064	0.00	0.00
065 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Other Financial Assets (current)	0.00	0.00
002	0.00	0.00
003 ADVANCES	0.00	0.00
004	0.00	0.00
005 Related Parties	0.00	0.00
006 Secured	0.00	0.00
007 Un-Secured	75,433,495.80	583,008,854.62
008 Considered doubtful	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
012 Unsecured	2,693,948.65	3,465,523.87
013 Considered Doubtful	0.00	0.00
014	0.00	0.00
020 Others	0.00	0.00
021 Secured	0.00	0.00
022 Unsecured	0.00	0.00
023 Considered Doubtful	0.00	0.00
024	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026	0.00	0.00
033 Total (Advances)	78,127,444.45	586,474,378.49
044	0.00	0.00
045 Claims Recoverable	0.00	0.00
046 Secured	0.00	0.00
047 Unsecured, considered good	3,413,667.00	95,503,503.01
048 Considered Doubtful	0.00	0.00
049 Less:- Allowance for doubtful claims	0.00	0.00
050 Others-Claims Recoverable	0.00	0.00
051	0.00	0.00
052 Unbilled Revenue	0.00	0.00
053 Hedging cost recoverable from beneficiaries	0.00	0.00
054 Derivative MTM Asset	0.00	0.00
055 Finance Lease Receivable	0.00	0.00
056 Mine Closure Deposit	0.00	0.00
057 Other Accrued Income	0.00	0.00
058 Secured, Considered Good	0.00	0.00
059 Unsecured , considered good	84,093,847.15	6,200,899.09
060 Credit impaired	0.00	0.00
061 Sub-Total	84,093,847.15	6,200,899.09
062 Less: Allowance for credit impaired receivables	0.00	0.00
063 Total	0.00	0.00
064	0.00	0.00
065 Others*	0.00	0.00
066 Total	165,634,958.60	688,178,780.59
067 * Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
068 Advances to related parties include:	0.00	0.00
069 i)Key management personel	0.00	0.00
070 ii)Subsidiary companies	0.00	0.00
071 iii)Joint Venture companies	0.00	0.00
072 iv)Contractors	0.00	0.00
073 v)Others	0.00	0.00
074	0.00	0.00
075 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
076	0.00	0.00
077	0.00	0.00
078 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
079 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
080 Aravali Power Company Private Ltd.	0.00	0.00
081 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
082 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
083 Meja Urja Nigam Private Limited	0.00	0.00
084 Nabinagar Power Generating Company Ltd.	0.00	0.00
085 National High Power Test Labortory Private Ltd.	0.00	0.00
086 International Coal Ventures Private Ltd.	0.00	0.00
087 CIL NTPC Urja Private Ltd.	0.00	0.00
089 Bangladesh-India Friendship Power Co. Pvt.Ltd	0.00	0.00
090 TCS Clearing	0.00	0.00
091 Related Party (Adv)- Employee	0.00	0.00
092 Related Party (Adv)- Subsidiaries	0.00	0.00
093 Related Party (Adv)- Joint Ventures	0.00	0.00
094 Related Party (Adv)- Contractors	0.00	0.00
095 Related Party (Adv)- Others	75,433,495.80	583,008,854.62
096	0.00	0.00
097	0.00	0.00
098	0.00	0.00
099	0.00	0.00
100 Total	75,433,495.80	583,008,854.62

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 OTHER CURRENT ASSETS	0.00	0.00
002 Security Deposits (Unsecured)	0.00	0.00
003 Deposit with Customs, port trust & others*	900,636.00	191,392,850.00
004 ADVANCES	0.00	0.00
005	0.00	0.00
006 Related Parties	0.00	0.00
007 Secured	0.00	0.00
008 Un-Secured	19,099,073.00	22,267,172.00
009 Considered doubtful	0.00	0.00
010	0.00	0.00
011 Employees(including imprest)	0.00	0.00
012 Secured	0.00	0.00
013 Unsecured	310,414.00	313,974.00
014 Considered Doubtful	0.00	0.00
015	0.00	0.00
016 Contractors & Suppliers	0.00	0.00
017 Secured	0.00	0.00
018 Unsecured	185,761,689.46	195,835,792.94
019 Considered Doubtful	0.00	0.00
020	0.00	0.00
021 Others**	0.00	0.00
022 Secured	0.00	0.00
023 Unsecured	24,275,748.00	12,449,859.00
024 Considered Doubtful	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026 Receivable from MCP Escrow A/c	0.00	0.00
027 Deferred Payroll Expenses (Secured)	2,319,227.24	2,488,898.40
028 Deferred Payroll Expenses (Unsecured)	3,778,654.23	3,815,730.86
029 Sub-total	6,097,881.47	6,304,629.26
030 Interest accrued on :	0.00	0.00
031 Advances to contractors	0.00	0.00
032	0.00	0.00
033 Claims Recoverable	0.00	0.00
034 Secured	0.00	0.00
035 Unsecured, considered good	227,947,046.81	207,959,344.25
036 Considered Doubtful	26,600,000.00	26,600,000.00
037 Less:- Allowance for doubtful claims	26,600,000.00	26,600,000.00
038	0.00	0.00
039 Deferred premium on forward exchange contract/ Option Assets	0.00	0.00
041 Assets Held for Disposal	42,084.39	197,831.40
042 Others	5,071,018.00	4,507,295.00
043	0.00	0.00
044 Total (Other Current Assets)	469,505,591.13	641,228,747.85
045 **Include Prepaid Expenses	24,275,748.00	12,449,859.00
046 *Includes sales tax/Entry tax/VAT deposited under protest with Sales Tax Authorities	812,756.00	812,756.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2021	31.03.2020
047 *Includes deposited with courts	0.00	0.00
048 *Includes deposited with LIC for annuity payments	0.00	0.00
049 * Includes deposits with WRD / against BG in r/o finance lease	0.00	0.00
050 Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
052 Advances to related parties include:	0.00	0.00
053 i)Key management personel	0.00	0.00
054 ii)Subsidiary companies	0.00	0.00
055 iii)Joint Venture companies	0.00	0.00
056 Contractors	0.00	0.00
057 Others	0.00	0.00
058	0.00	0.00
059 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
060	0.00	0.00
061	0.00	0.00
062 Related Party (Adv)- Employee	0.00	0.00
063 Related Party (Adv)- Subsidiaries	0.00	0.00
064 Related Party (Adv)- Joint Venture	1,407,513.00	0.00
065 Related Party (Adv)- Contractors	17,340,591.00	21,706,489.00
066 Related Party (Adv)- Others	350,969.00	560,683.00
067 Total	19,099,073.00	22,267,172.00
068	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 20 TO THE FS--REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 On account of Exchange Differences	-23,349,137.66	-15,205,072.81
002 On account of employee benefit exp	381,915,581.00	381,915,581.00
003 Regulatory deferred account - deferred	0.00	0.00
004 Deferred asset for ash transportation	312,520,012.83	0.00
005 Deferred asset for Arbitration Award	0.00	0.00
006 Total	671,086,456.17	366,710,508.19

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 21 TO THE FS-EQUITY-EQUITY SHARE CAPITAL****(Amount in ₹)**

As at	31.03.2021	31.03.2020
001 SHARE CAPITAL	0.00	0.00
002 Equity Share Capital	0.00	0.00
003 Authorised	0.00	0.00
004 10,000,000,000 equity shares of Rs.10/- each (Previous year 10,000,000,000 eq shares of Rs.10/- each)	0.00	0.00
005 Issued,Subscribed and fully Paid-up	0.00	0.00
006 9,69,66,66,134 equity shares of Rs.10/- (Pv. Year 9,894,557,280 equity shares of Rs.10/- each)	0.00	0.00
007	0.00	0.00
008 Total	0.00	0.00
009 During FY 2018-19, the company has issued 1,649,092,880 equity shares of Rs.10/- each as fully paid bonus shares	0.00	0.00
010 The holders of the equity shares are entitled to receive dividends as declared from time to time, and are entitled to one vote per share at meetings of the company.	0.00	0.00
011 Details of shareholders holding more than 5% shares in the company	0.00	0.00
012 - President of India	0.00	0.00
013 No. of Shares	0.00	0.00
014 % of holding	0.00	0.00
015 - Life Insurance Corporation of India/ICICI Prudential Mutual Fund	0.00	0.00
016 No. of Shares	0.00	0.00
017 % of holding	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 RESERVE AND SURPLUS	0.00	0.00
002	0.00	0.00
003 Capital Reserve	0.00	0.00
004 As per last financial statements	0.00	0.00
006 Add : Grants received during the year	0.00	0.00
007 Add: Transfer from Surplus	0.00	0.00
008 Less: Write back during the year/period	0.00	0.00
009 Less: Adjustments during the year/period	0.00	0.00
010 Sub-Total	0.00	0.00
011 Securities Premium Account	0.00	0.00
012 As per last financial statements	0.00	0.00
013 Add: Additions during the year/period	0.00	0.00
014 Less: Adjustments during the year/period	0.00	0.00
015 Sub-Total	0.00	0.00
016 Bonds Redemption Reserve	0.00	0.00
017 As per last financial statements	0.00	0.00
018 Add: Transfer from Surplus	0.00	0.00
019 Less: Transfer to surplus on redemption	0.00	0.00
020 Less: Adjustments during the year/ period	0.00	0.00
021 Sub-Total	0.00	0.00
022 Capital Redemption Reserve	0.00	0.00
023 As per last financial statements	0.00	0.00
024 Add: Transfer from Surplus	0.00	0.00
025 Less: Transfer to surplus on redemption	0.00	0.00
026 Less: Adjustments during the year/ period	0.00	0.00
027 Sub-Total	0.00	0.00
028 Share Application money Allotment	0.00	0.00
029 As per last financial statements	0.00	0.00
030 Add: Addition during the year	0.00	0.00
031 Less: Utilised for allotment during the year	0.00	0.00
032 Less: Adjustments during the year/ period	0.00	0.00
033 Sub-Total	0.00	0.00
034 Fly-ash utilisation reserve Fund	0.00	0.00
035 As per last financial statements	8,220,860.44	0.00
036 Transferred to CC	0.00	0.00
037 Add:Transfer from revenue from operations	15,712,224.90	9,410,400.00
038 Add:Transfer from other income	0.00	0.00
039 Less: Utilised during the year	0.00	0.00
040 Tangible assets	0.00	0.00
041 Employee benefit expenses	0.00	0.00
042 Generation,adm. and other expenses	-23,933,085.34	-1,189,539.56
043 Tax Expenses	0.00	0.00
044 Sub-Total	0.00	8,220,860.44
045 Special allowance Reserve Fund	0.00	0.00
046 As per last financial statements	0.00	0.00
047 Add: Addition during the year	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2021	31.03.2020
048 Less: Utilised for allotment during the year	0.00	0.00
049 Less: Adjustments during the year/ period	0.00	0.00
050 SUB-TOTAL	0.00	0.00
053 Corporate social responsibility (CSR) reserve	0.00	0.00
054 As per last financial statements	0.00	0.00
055 Add : Transfer from surplus	0.00	0.00
056 Less:-Write back during the year	0.00	0.00
057 Sub-Total	0.00	0.00
058 General Reserve	0.00	0.00
059 As per last financial statements	0.00	0.00
060 Add: Transfer from Surplus	0.00	0.00
061 Less: Transfer to Surplus	0.00	0.00
062 Less: Write back during the year /period	0.00	0.00
063 Less: Adjustments during the year /period	0.00	0.00
064 Sub-Total	0.00	0.00
065	0.00	0.00
066 Retained earnings	0.00	0.00
067 As per last financial statements	156,537,113,839.05	143,024,832,290.02
068 Add(Less):-Changes in accounting policy / prior period errors	0.00	0.00
069 Add(Less):-Profit (Loss) after tax for the year from Statement of Profit & Loss	11,119,632,362.03	13,512,281,549.03
070	0.00	0.00
071 Add: Write back from Bond Redemption Reserve	0.00	0.00
072 Add: Write back from Capital Reserve	0.00	0.00
073 Add: Write back from Foreign Project Reserve	0.00	0.00
074 Add: Write back from CSR Reserve	0.00	0.00
075 Add: Write back from General Reserve	0.00	0.00
076 Less: Transfer to Bonds Redemption Reserve	0.00	0.00
077 Less: Transfer to Special Allowance Reserve Fund	0.00	0.00
078 Less: Transfer to Foreign Project Reserve	0.00	0.00
080 Less:Transfer to Capital Reserve	0.00	0.00
081 Less:Transfer to CSR Reserve	0.00	0.00
082 Less:Transfer to General Reserve	0.00	0.00
083 Less:Interim Dividend Paid	0.00	0.00
084 Less:Tax on Interim Dividend Paid	0.00	0.00
085 Less:Final Dividend Paid	0.00	0.00
086 Less:Tax on Final Dividend Paid	0.00	0.00
087 Less: Issue of bonus debenture	0.00	0.00
088 Less: Tax on issue of bonus debenture	0.00	0.00
089 Sub-Total	167,656,746,201.08	156,537,113,839.05
090	0.00	0.00
091 Remeasurement of defined benefit plans	0.00	0.00
092 As per last financial statements	-172,809,279.53	-119,460,048.36
093 Add/(Less):- Actuarial Gains/loss through OCI	-24,061,329.38	-53,349,231.17
094 Sub-Total	-196,870,608.91	-172,809,279.53
095	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY

(Amount in ₹)

As at	31.03.2021	31.03.2020
096 FVTOCI Reserve	0.00	0.00
097 As per last financial statements	0.00	0.00
098 Add(Less):-Net gain/loss of equity instruments through OCI	0.00	0.00
099 Sub-Total	0.00	0.00
100	0.00	0.00
101 Total Other equity	167,459,875,592.17	156,372,525,419.96
102	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 LONG TERM BORROWINGS	0.00	0.00
002 Bonds	0.00	0.00
003 Secured	0.00	0.00
004 7.37 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3A).	0.00	0.00
005 7.62 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3 B).	0.00	0.00
006 8.61% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2034 (Fifty First Issue C - Private Placement)	0.00	0.00
007 8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3A)	0.00	0.00
008 8.91% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3B)	0.00	0.00
009 7.37% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 14th December 2031 (Sixty Sixth Issue - Private Placement)	0.00	0.00
010 7.49% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 7th November 2031 (Sixty Fourth Issue - Private Placement)	0.00	0.00
011 7.28 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020
2A)		
012 7.53 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series 2 B).	0.00	0.00
013 7.32% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 17 July 2029 (Sixty Ninth Issue - Private Placement)	0.00	0.00
014 8.63% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2029 (Fifty First Issue B - Private Placement)	0.00	0.00
015 8.30% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 15 January 2029 (Sixty Seventh Issue - Private Placement)	0.00	0.00
016 8.48% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2A)	0.00	0.00
017 8.73% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2B)	0.00	0.00
018 7.47% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 16th September 2026 (Sixty Third Issue - Private Placement)	0.00	0.00
019 7.58% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2021	31.03.2020
full on 23rd August 2026 (Sixty Second Issue - Private Placement)					
020	8.05%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 5th May 2026 (Sixtieth Issue - Private Placement)	0.00	0.00
021	8.19%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 15th December 2025 (Fifty Seventh Issue - Private Placement)	0.00	0.00
022	7.11 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1A).	0.00	0.00
023	7.36 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1 B).	0.00	0.00
024	7.15%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2015 of Rs. 10,00,000/- each redeemable at par in full on 21st August 2025 (Fifty Fifth Issue - Private Placement)	0.00	0.00
025	9.17%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 22nd September 2024 (53rd Issue - private placement).	0.00	0.00
026	9.34%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 24th March 2024 (Fifty Second Issue - private placement)	0.00	0.00
027	8.19%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2013 of ₹ 10,00,000/- each redeemable at	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

		31.03.2021	31.03.2020
	As at		
	par in full on 4th March 2024 (Fifty First Issue A - Private Placement)		
028	8.41% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1A)	0.00	0.00
029	8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1B)	0.00	0.00
030	9.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 4th May 2023 and ending on 4th May 2027 (Forty fourth issue - private placement)VII	0.00	0.00
031	8.48% Secured non-cumulative non-nonvertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 1st May 2023 (Seventeenth issue - private placement)I	0.00	0.00
032	8.80% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th April 2023 (Forty ninth issue -private placement	0.00	0.00
033	8.49% Secured non-cumulative non-convertible redeemable taxable fully paid-up bonus debentures of Rs. 12.50 each redeemable at par in three annual installments of Rs. 2.50, Rs. 5.00 and Rs. 5.00 at the end of 8th year, 9th year and 10th year on 25th March 2023, 25th March 2024 and 25th March 2025 respectively (Fifty Fourth Issue -Bonus Debentures)X - (refer Note 5 d)	0.00	0.00
034	8.73% Secured non-cumulative	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2021	31.03.2020
	non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 07th March 2023 (Forty eighth issue - private placement)		
035	9.00% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 25th January 2023 and ending on 25th January 2027 (Forty second issue- private placement)III	0.00	0.00
036	8.84% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th October 2022 (Forty seventh issue- private placement)VII	0.00	0.00
037	7.93% Secured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 03 May 2022 (68th Issue - Private Placement)	0.00	0.00
038	6.72% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 24th November 2021 (Sixty Fifth Issue - Private Placement)	0.00	0.00
039	8.10% Secured Non-Cumulative Non-Convertible Redeemable Taxable Bonds of Rs. 30,00,000/- each redeemable at par in three equal separately transferable redeemable principal parts (STRPP) at the end of 5th year, 10th year & 15th year on 27th May 2021, 27th May 2026 and 27th May 2031 respectively (Sixty First Issue- Private Placement)	0.00	0.00
040	8.33% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 24th February 2021	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020	
(Fifty Ninth Issue - Private Placement).			
042	8.93% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 19th January 2021 Thirty seventh issue - private placement)III	0.00	0.00
043	8.18% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 31st December 2020 (Fifty Eight Issue - Private Placement).	0.00	0.00
044	8.73 % Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 31st March 2020 (Thirty third issue- private placement)III	0.00	0.00
045	8.78 % Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 9th March 2020 (Thirty first issue- private placement)III	0.00	0.00
046	11.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in five equal annual installments commencing from 6th Nov 2019 and ending on 6th Nov 2023 (Twenty seventh issue - private placement)III	0.00	0.00
047	7.89% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 5th May 2019 (Thirtieth issue - private placement)III	0.00	0.00
048	8.65% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th February 2019 (Twenty ninth issue - private placement)III	0.00	0.00
049	7.50% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at				31.03.2021	31.03.2020
on 12th January 2019 (Nineteenth issue - private placement)II					
050	11%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21st November 2018 (Twenty eighth issue - private placement)III	0.00	0.00
051	9.3473%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 20th July 2018 and ending on 20th July 2032 (Forty sixth issue - private placement)VII	0.00	0.00
052	9.4376%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 16th May 2018 and ending on 16th May 2032 (Forty fifth issue - private placement)VII	0.00	0.00
053	8.00%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 10th April 2018 (Sixteenth issue -private placement)I	0.00	0.00
054	9.2573%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 2nd March 2018 and ending on 2nd March 2032 (Forty third issue - private placement)III	0.00	0.00
055	9.6713%	Secured	non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2021	31.03.2020
of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 23rd December 2017 and ending on 23rd December 2031 (Forty first issue - private placement)III		
056 9.558% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 29th July 2017 and ending on 29th July 2031(Fourtieth issue-private placement)III	0.00	0.00
057 9.3896% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 9th June 2017 and ending on 9th June 2031(Thirty ninth issue-private placement)III	0.00	0.00
058 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 22nd March 2017 and ending on 22nd March 2031(Thirty eighth issue-private placement)III	0.00	0.00
059 8.8086% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2021	31.03.2020
<p>year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th December 2016 and ending on 15th December 2030 (Thirty sixth issue - private placement)III</p>			
060	8.785% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th September 2016 and ending on 15th September 2030 (Thirty fifth issue - private placement)III	0.00	0.00
061	8.71% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 10th June 2016 and ending on 10th June 2030 (Thirty fourth issue - private placement)III	0.00	0.00
062	8.8493% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 25th March 2016 and ending on 25th March 2030 (Thirty second issue - private placement)III	0.00	0.00
063	9.37% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty fifth issue -	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at			31.03.2021	31.03.2020
private placement)III				
065	9.06%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty sixth issue - private placement)III	0.00	0.00
066	8.6077%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 9th September 2011 and ending on 9th March 2021 (Twenty fourth issue - private placement)IV	0.00	0.00
067	8.3796%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 5th August 2011 and ending on 5th February 2021 (Twenty third issue - private placement)IV	0.00	0.00
068	8.1771%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd July 2011 and ending on 2nd January 2021 (Twenty second issue - private placement)IV	0.00	0.00
069	7.7125%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd August 2010 and ending on 2nd February 2020 (Twenty first issue - private placement)V	0.00	0.00
070	7.552%	Secured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020
of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 23rd September 2009 and ending on 23rd March 2019 (Twentieth issue - private placement)VI		
071 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each with ten equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of the 6th year and in annual installments thereafter upto the end of 15th year respectively from 30th April 2002 (Thirteenth issue - Part B - private placement)VIII	0.00	0.00
072 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each redeemable at par in ten equal annual installments commencing from the end of 6th year and upto the end of 15th year respectively from 18th April 2002 (Thirteenth issue -Part A - private placement)VIII	0.00	0.00
073	0.00	0.00
074	0.00	0.00
075	0.00	0.00
076	0.00	0.00
077 Sub Total	0.00	0.00
078 Unsecured	0.00	0.00
079 6.55% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 17 April 2023 (Seventieth Issue - Private Placement)	0.00	0.00
080 6.29% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 11 April 2031 (Seventy First Issue - Private Placement)	0.00	0.00
081 5.45% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 15 October 2025 (Seventy Second Issue - Private Placement)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020
082 6.43% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 27 January 2031 (Seventy Third Issue - Private Placement)	0.00	0.00
083	0.00	0.00
084	0.00	0.00
085	0.00	0.00
086 Sub-total	0.00	0.00
087 Total	0.00	0.00
088 Foreign Currency Notes-Unsecured	0.00	0.00
089 4.50% Fixed Rate Notes Due for repayment on 19th March 2028	0.00	0.00
090 2.75% Fixed rate notes due for repayment on 1st February 2027	0.00	0.00
091 4.25 % Fixed rate notes due for repayment on 26th February 2026	0.00	0.00
092 4.375% Fixed Rate Note due for repayment on 26th November 2024	0.00	0.00
093 4.75 % Fixed Rate Notes due for repayment on 3rd Oct 2022	0.00	0.00
094 7.25 % Fixed green global INR denominated bonds due on 3 May 2022	0.00	0.00
095 7.375 % Fixed green global INR denominated bonds due on 10 August 2021	0.00	0.00
096 5.625% Fixed Rate Notes due for repayment on 14th July 2021	0.00	0.00
097 3.75 % Fixed rate notes due for repayment on 03 April 2024	0.00	0.00
098	0.00	0.00
099	0.00	0.00
100	0.00	0.00
101	0.00	0.00
102 Sub Total	0.00	0.00
103 Long term maturities of Finance Lease Obligations (Secured) IX	0.00	0.00
104 Long term maturities of Finance Lease Obligations (Unsecured) X	0.00	0.00
105 Term Loans	0.00	0.00
106 From Banks	0.00	0.00
107 Secured	0.00	0.00
108 Rupee Loans	0.00	0.00
109 Unsecured	0.00	0.00
110 Foreign Currency Loans	0.00	0.00
111 Rupee Loans	0.00	0.00
112 From Others	0.00	0.00
113 Secured	0.00	0.00
114 Rupee Loans	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2021	31.03.2020
115 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
116 Unsecured	0.00	0.00
117 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
118 Other Foreign currency loans	0.00	0.00
119 Rupee Loans	0.00	0.00
120 Deposits	0.00	0.00
121 Unsecured	0.00	0.00
122 Fixed Deposits	0.00	0.00
123 Others	0.00	0.00
124 Unsecured	0.00	0.00
125 Bonds Application Money Pending Allotment	0.00	0.00
126 Sub-total	0.00	0.00
127 Total	0.00	0.00
128	0.00	0.00
129 Less:- Interst accrued but not due on borrowings	0.00	0.00
130 Less:- Current maturities of long term borrowings	0.00	0.00
131 Bonds-Secured	0.00	0.00
132 Fixed Rate Notes	0.00	0.00
133 Foreign currency loans from Banks- unsecured	0.00	0.00
134 Rupee loans from banks- Secured	0.00	0.00
135 Rupee loans from banks- unsecured	0.00	0.00
136 Rupee Term loan from Others - Secured	0.00	0.00
137 Foreign currency loans from others- unsecured (Guaranteed by GOI)	0.00	0.00
138 Other foreign currency loans from others- unsecured	0.00	0.00
139 Rupee loans from others- unsecured	0.00	0.00
140 Finance Lease obligations - secured	0.00	0.00
141 Finance Lease obligations - unsecured	0.00	0.00
200 Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 24 TO THE FS-NCL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2021	31.03.2020
001	TRADE PAYABLES(NON CURRENT)	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	16,336,269.21	15,622,396.62
004	- Others	6,373,476.89	5,712,598.82
005		0.00	0.00
006	Total	22,709,746.10	21,334,995.44



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 OTHER FINANCIAL LIABILITIES (NON-CURRENT)	0.00	0.00
002 Payable for Capital Expenditure	0.00	0.00
003 - Micro & Small Enterprises	100,024.63	36,951.05
004 - Others	681,641,329.62	34,267,850.68
005 Others	0.00	0.00
006 Deposits from contractors and others	0.00	75,100.00
007	0.00	0.00
008	0.00	0.00
009 Total	681,741,354.25	34,379,901.73



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 26 TO THE FS-NCL-PROVISIONS

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 LONG TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening Balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
013	0.00	0.00
014 TOTAL	0.00	0.00

NOTE NO. 27 TO THE FS-NCL-DEFERRED TAX LIABILITIES (NET)
(Amount in ₹)

As at	Opening Balance on 01.04.2020	Addition	Closing Balance on 31.03.2021
001 DEFERRED TAX LIABILITIES (NET)			
002 Difference of book depreciation and tax depreciation	0.00	0.00	0.00
003 Less: Deferred tax assets			
004 Provisions & Other disallowances for tax purposes	0.00	0.00	0.00
005 Unabsorbed Depreciation	0.00	0.00	0.00
006 Disallowances u/s 43B of the Income Tax Act, 1961	0.00	0.00	0.00
007	0.00	0.00	0.00
008	0.00	0.00	0.00
009	0.00	0.00	0.00
010	0.00	0.00	0.00
011 MAT credit entitlement	0.00	0.00	0.00
012	0.00	0.00	0.00
013 Total	0.00	0.00	0.00
014	0.00	0.00	0.00
015 Total	0.00	0.00	0.00
016 Breakup of deferred tax assets	0.00	0.00	0.00
017 Provision	0.00	0.00	0.00
018 Statutory dues	0.00	0.00	0.00
019 Leave encashment	0.00	0.00	0.00
020 Others	0.00	0.00	0.00
021	0.00	0.00	0.00
022	0.00	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 28 TO THE FS-NCL-OTHER NON-CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Other Non current Liabilities	0.00	0.00
002 Advances from customers and others	0.00	0.00
003 Deposits from contractors and others	0.00	0.00
004 Grants	0.00	0.00
005 TOTAL	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 29 TO THE FS-CL-BORROWINGS****(Amount in ₹)**

As at	31.03.2021	31.03.2020
001 Short Term Borrowings	0.00	0.00
002 Loans repayable on demand	0.00	0.00
003 From Banks	0.00	0.00
004 Secured	0.00	0.00
005 Cash Credit	0.00	0.00
006 Unsecured	0.00	0.00
007 Cash Credit	0.00	0.00
008 Other loans-unsecured	0.00	0.00
009 Commercial Papers	0.00	0.00
010 Less: Unamortised discount on Commercial Papers	0.00	0.00
011 Sub-Total	0.00	0.00
012 TOTAL	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2021	31.03.2020
001	TRADE PAYABLES	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	227,641,821.80	347,533,123.95
004	- Others	1,688,677,134.68	1,929,276,543.35
005		0.00	0.00
006	Total	1,916,318,956.48	2,276,809,667.30
007		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 OTHER FINANCIAL LIABILITIES (CURRENT)	0.00	0.00
002 Current maturity of long term borrowings	0.00	0.00
003 Bonds-Secured	0.00	0.00
004 Foreign Currency Fixed Rate Notes	0.00	0.00
005 From Banks	0.00	0.00
006 Secured	0.00	0.00
007 Rupee Term Loan	0.00	0.00
008 Unsecured	0.00	0.00
009 Foreign currency loans	0.00	0.00
010 Rupee term loans	0.00	0.00
011 From Others	0.00	0.00
012 Secured	0.00	0.00
013 Rupee Term Loan	0.00	0.00
014 Unsecured	0.00	0.00
015 Foreign currency loans (Guaranteed by Government of India)	0.00	0.00
016 Other foreign currency loans	0.00	0.00
017 Rupee term loans	0.00	0.00
018 Fixed deposits	0.00	0.00
019 Sub Total	0.00	0.00
020 Current maturity of finance lease obligations (secured)	0.00	0.00
021 Current maturity of finance lease obligations (unsecured)	0.00	0.00
022 Interest accrued but not due on borrowings	0.00	0.00
023 Unpaid Dividends*	0.00	0.00
024 Unpaid matured deposits and interest accrued thereon*	0.00	0.00
025 Unpaid matured bonds and interest accrued thereon*	0.00	0.00
026 Unpaid bond refund money-Tax free bonds *	0.00	0.00
027 Book Overdraft	0.00	0.00
028 Payable to Customers	0.00	0.00
029 Liability under forward exchange contact	0.00	0.00
030 Hedging cost payable to beneficiaries	0.00	0.00
031 Derivative MTM Liability	0.00	0.00
032 Payable for Capital Expenditure	0.00	0.00
033 - Micro & Small Enterprises	114,779,286.53	118,466,640.74
034 - Others	1,769,755,357.39	1,851,731,237.95
035 Others Payables	0.00	0.00
036 Deposits from contractors and others	53,078,458.78	55,965,895.78
037 Gratuity Obligations	0.00	0.00
038 Payable to employees	10,896,978.39	21,909,288.36
039 Payable to holding company	0.00	0.00
040 Retention on A/c BG encashment (Solar)	0.00	0.00
041 Payable to Solar Payment Security Account	0.00	0.00
042 Others **	140,861,301.14	125,967,538.41

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES****(Amount in ₹)**

As at		31.03.2021	31.03.2020
043	Unspent CSR balance on ongoing Approved CSR projects	0.00	0.00
044	Total	2,089,371,382.23	2,174,040,601.24
045	* Represents the amounts which have not been claimed by the investor/holders of the bonds/fixed deposits. Out of the above, no amount is due for payment to Investor Education and Protection Fund.	0.00	0.00
046	** Include Payable to Hospital and other payable.	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 32 TO THE FS-CL-OTHER CURRENT LIABILITIES

(Amount in ₹)

	As at	31.03.2021	31.03.2020
001	OTHER CURRENT LIABILITIES	0.00	0.00
002	Advances from customers and others	35,638,788.25	10,105,072.69
003	Deferred discount on forward exchange contract	0.00	0.00
004	Tax deducted at source and other statutory dues	59,989,614.61	87,940,416.32
005	Others	0.00	0.00
006	Total	95,628,402.86	98,045,489.01

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 33 TO THE FS-CL-PROVISIONS
(Amount in ₹)

As at	31.03.2021	31.03.2020
001 SHORT TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
028 Provisions for Obligations Incidental to Land Acquisition	0.00	0.00
029 Opening balance	0.00	0.00
030 Additions during the year	0.00	0.00
031 Amounts paid during the year	0.00	0.00
032 Amounts reversed during the year	0.00	0.00
033 Closing Balance	0.00	0.00
035 Provision for Tariff Adjustment	0.00	0.00
036 Opening balance	0.00	0.00
037 Additions during the year	0.00	0.00
038 Amounts adjusted during the year	0.00	0.00
039 Amounts reversed during the year	0.00	0.00
040 Closing Balance	0.00	0.00
042 Provision for shortage in Fixed Assets Pending Investigation & Others	0.00	0.00
043 Opening balance	633,857.99	196,021.10
044 Additions during the year	0.00	437,836.89
045 Amounts adjusted during the year	54,258.29	0.00
046 Amounts reversed during the year	579,599.70	0.00
047 Closing Balance	0.00	633,857.99
048 Provision for Arbitration	0.00	0.00
049 Opening balance	7,846,960.00	7,428,608.00
050 Additions during the year	418,352.00	418,352.00
051 Amounts used during the year	0.00	0.00
052 Amounts reversed during the year	0.00	0.00
053 Closing Balance	8,265,312.00	7,846,960.00
054 Others	0.00	0.00
055 Opening balance	0.00	0.00
056 Additions during the year	0.00	0.00
057 Amounts used during the year	0.00	0.00
058 Amounts reversed during the year	0.00	0.00
059 Closing Balance	0.00	0.00
102	0.00	0.00
103 Total	8,265,312.00	8,480,817.99



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 34 TO THE FS-CL-CURRENT TAX LIABILITIES (NET)

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Current liabilities - current tax liabilities (net)	0.00	0.00
002 Opening balance	0.00	0.00
003 Additions during the year	0.00	0.00
004 Amounts adjusted during the year	0.00	0.00
005 Less: Set off against taxes paid	0.00	0.00
006 Closing Balance	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 35 TO THE FS--DEFERRED REVENUE

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Deferred Revenue	0.00	0.00
002 On account of advance against depreciation	0.00	0.00
003 On account of income from foreign currency fluctuation	1,550,313,000.00	1,990,729,000.00
004 Government grants	0.00	0.00
005	0.00	0.00
006 TOTAL	1,550,313,000.00	1,990,729,000.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 36 TO THE FS--REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES

(Amount in ₹)

As at	31.03.2021	31.03.2020
001 Regulatory deferral account credit balances	0.00	0.00
002 Exchange Differences	0.00	0.00
003	0.00	0.00
004 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 37 TO THE FS--REVENUE FROM OPERATIONS
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001	REVENUE FROM OPERATIONS	0.00	0.00
002	Sales	0.00	0.00
003	Energy Sales (including Electricity Duty)	52,226,950,763.00	52,789,447,080.00
004	Less : Advance against depreciation deferred (net)	0.00	0.00
005	Add: Revenue recognized out of advance against depreciation	0.00	0.00
006	Add : Exchange fluctuation receivable from customers	0.00	-78,857,000.00
007	Sale of energy through trading	0.00	0.00
008	Commission (NVVN)	0.00	0.00
009	Sub total	52,226,950,763.00	52,710,590,080.00
010	Less: Rebate to customers	792,896,443.92	240,351,050.12
011	Energy Sales (Total)	51,434,054,319.08	52,470,239,029.88
012	Consultancy, project management and supervision fees	0.00	41,420.00
013	Lease rentals on assets on Operating lease	0.00	0.00
014	Sale of Captive Coal	0.00	0.00
015	Intra Company Elimination	0.00	0.00
017	Sub-total	0.00	0.00
018	Total - Sales	51,434,054,319.08	52,470,280,449.88
019	Sale of fly ash/ash products	15,712,224.90	9,410,400.00
020	Less: Transferred to fly ash utilisation reserve fund	-15,712,224.90	-9,410,400.00
021	Sub-total	0.00	0.00
022	Other Operating Income	0.00	0.00
023	Interest from customers	0.00	44,084,590.00
024	Energy Internally Consumed *	32,244,116.00	30,711,686.00
025	Interest income on Assets under finance lease	0.00	0.00
026	Recognized from deferred revenue - government grant	0.00	0.00
027	Provision written back- Tariff Adjustment	0.00	0.00
028	Income form Trading of ESCerts	0.00	0.00
029	Income from E-Mobility Business & others	0.00	0.00
030		0.00	0.00
031	Total	51,466,298,435.08	52,545,076,725.88
040	* Valued at variable cost of generation and corresponding amount included in power charges (Note No. 42)	0.00	0.00
041	Excise duty on sale of flyash,cenospere & ash products	0.00	0.00
042	Energy sales of principal nature (NVVN)	0.00	0.00
043	Energy sales of agency nature (NVVN)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001	OTHER INCOME	0.00	0.00
002	Interest from	0.00	0.00
004	Financial assets at amortised cost	0.00	0.00
005	Government Securities (8.5% Tax Free Bonds issued by the State Governments)	0.00	0.00
006	Other Bonds	0.00	0.00
007		0.00	0.00
008	Interest from Government of India Securities-Non-Trade	0.00	0.00
009	Less: Amortiation of premium	0.00	0.00
010	Sub Total	0.00	0.00
011	Interest from others	0.00	0.00
012	Loan to State Government in settlement of dues from customers	0.00	0.00
013	Loan to Subsidiary Companies	0.00	0.00
014	Loan to Employees	15,321,469.09	17,127,436.11
015	Deposit with banks	0.00	0.00
016	Foreign Banks	0.00	0.00
017	Interest from Contractors	1,013,678.30	2,488,597.00
018	Interest from Income Tax Refunds	0.00	0.00
019	Less : Refundable to Customers	0.00	0.00
020	Sub Total	0.00	0.00
021	Deposits with banks-flyash utilisation reserve fund	0.00	0.00
022	Less: transferred to flyash utilisation reserve fund	0.00	0.00
023	Sub Total	0.00	0.00
024	Deposits with banks- DDUGJY funds	0.00	0.00
025	Interest from Contractors- DDUGJY funds	0.00	0.00
026	Transfer to DDUGJY-Advance from customers	0.00	0.00
027	Sub-total	0.00	0.00
030	Others	0.00	0.00
031		0.00	0.00
032	Dividend from	0.00	0.00
033	Longterm investments in	0.00	0.00
034	Subsidiaries	0.00	0.00
035	Joint Ventures	0.00	0.00
036	Equity Instruments	0.00	0.00
037	Current Investments in	0.00	0.00
038	Mutual Funds measured at fairvalue through profit or loss	0.00	0.00
039	Current investments in mutual funds-flyash utilisation reserve fund	0.00	0.00
040	Less: transferred to flyash utilisation reserve fund	0.00	0.00
041	Lease Rent # Ash Brick Plant	0.00	0.00
042	Less: transferred to flyash utilisation reserve fund	0.00	0.00
043	Other non-operating income	0.00	0.00
044	Profit on disposal of PPE	20,849.70	90,379.35
045	Profit on redemption of GOI securities	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
046	Net gain on sale of investments	0.00	0.00
047	Surcharge received from customers	2,124,147,852.00	2,550,077,957.00
048	Hire charges for equipment	151,491.00	67,561.00
049	Gain on option contract / Discount on F.ExchContract	0.00	0.00
050	Provision written back-others	4,648,573.24	6,148,851.93
051	Fair value gains/(losses) on investments in mutual funds at fair value through profit or loss	0.00	0.00
052	Interest from Solar payment security account	0.00	0.00
053	Less : Transferred to SPSA fund	0.00	0.00
054	Interest on "Retention on A/c BG encashment (Solar)"	0.00	0.00
055	Less : Transferred to "Retention on A/c BG encashment (Solar)"	0.00	0.00
056	Miscellaneous Income	399,678,154.90	459,475,589.49
057	Total	2,544,982,068.23	3,035,476,371.88
058	Less:Transferred to Development of Coal Mines- Note 43A	0.00	0.00
059	Less:Transferred to Expenditure during Construction period (net)- Note 43	73,452.78	0.00
061	Less: Others	0.00	0.00
062	Total	2,544,908,615.45	3,035,476,371.88
063		0.00	0.00
064	Details of Miscellaneous Income	0.00	0.00
065	Vehicle Hire Charges.	100,000.00	110,000.00
066	Sale of by products & residuals	0.00	0.00
067	Township recoveries(exl. Hospital Recoveries).	26,531,613.68	22,749,254.28
068	Depreciation written back	0.00	0.00
069	Sale of Scrap.	146,790,506.41	39,568,148.02
070	Receipt under loss of profit policy.	0.00	0.00
071	Receipts under MBD/Fire Policy.	105,876,803.99	315,144,938.00
072	Management development programme.	0.00	0.00
073	Management Fee - Misc (NVVN)	0.00	0.00
074	Others	120,379,230.82	81,903,249.19
075		0.00	0.00
076	Total (Miscellaneous Income)	399,678,154.90	459,475,589.49
077		0.00	0.00
078	Details of Provision written back others	0.00	0.00
079	Doubtful debts	0.00	0.00
080	Doubtful Loans, Advances and Claims	0.00	42,405.00
081	Doubtful Construction Advances	0.00	0.00
082	Shortage in Construction Stores	3,069,811.99	3,559,179.34
083	Shortage in Stores	999,161.55	2,545,110.36
084	Obsolescence in Stores	0.00	2,157.23
085	Unserviceable capital works	0.00	0.00
086	Other Obligation including Arbitration	0.00	0.00
087	Shortage in Fixed Assets	579,599.70	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

	31.03.2021	31.03.2020
088 Diminution in value of Investment	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38A TO THE FS--FUEL COST

(Amount in ₹)

For the Year ended		31.03.2021	31.03.2020
001	FUEL COST	0.00	0.00
002	Coal	0.00	0.00
003	Captive	0.00	0.00
004	Other than captive	30,976,987,392.52	30,178,971,766.14
005	Gas	0.00	0.00
006	Naptha	0.00	0.00
007	Oil	247,723,305.71	239,573,779.54
008	Total	31,224,710,698.23	30,418,545,545.68
009		0.00	0.00
010		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 39 TO THE FS--EMPLOYEE BENEFITS EXPENSE
(Amount in ₹)

For the Year ended		31.03.2021	31.03.2020
001	EMPLOYEE BENEFITS EXPENSE	0.00	0.00
002	Salaries and wages	1,515,897,759.31	1,650,643,540.59
003	Contribution to provident and other funds	192,912,222.56	173,843,153.43
004	Unwinding of deferred payroll expense	10,267,426.36	11,718,520.61
005	Staff welfare expenses	170,031,632.85	177,064,793.44
006	Less : Expenses transferred to Consultancy group	0.00	0.00
007		0.00	0.00
008	Sub Total	1,889,109,041.08	2,013,270,008.07
009	Less: Employee benefits expense allocated to fuel inventory	121,440,512.65	152,386,279.55
010	Less: Transferred/Allocated to development of coal mines	0.00	0.00
011	Less: Others	0.00	0.00
012	Less: Transferred to fly ash utilisation reserve fund	0.00	0.00
013	Less: Transferred to CSR Expenses	0.00	0.00
014	Reimbursements for employees on secondment	2,735,946.17	1,632.87
015	Less: Transferred to expenditure during construction period (net)- Note 43	19,394,829.87	6,752,468.23
016	TOTAL	1,745,537,752.39	1,854,129,627.42
017	Managerial Remuneration paid/ payable to Directors included above (except for Directors fee which is included in Note 42)	0.00	0.00
018	Salaries and wages	0.00	0.00
019	Contribution to provident and other funds	0.00	0.00
020	Staff welfare expenses	0.00	0.00
021	Directors fee	0.00	0.00
022		0.00	0.00
023		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 40 TO THE FS--FINANCE COSTS
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001	FINANCE COSTS	0.00	0.00
002	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
003	Bonds	585,552,890.58	516,674,205.82
004	Government of India Loans	0.00	0.00
005	Foreign currency term loans	19,316,822.83	34,538,576.20
006	Rupee term loans	690,539,220.00	940,580,407.00
007	Public deposits	0.00	0.00
008	Foreign currency bonds/notes	642,399,406.03	625,074,179.63
009	Cash Credit	0.00	0.00
010	Unwinding of discount on account of vendor liabilities	13,871,577.85	6,650,468.54
011	Commercial Papers	0.00	0.00
012	Sub Total	1,951,679,917.29	2,123,517,837.19
013	Interest on non financial items	0.00	0.00
014	Other Borrowing Costs	0.00	0.00
015	Bonds servicing & public deposit exp.	717,948.54	768,686.21
016	Guarantee fee	0.00	0.00
017	Management fee	0.00	0.00
018	Committ charges/exposure premium	0.00	0.00
019	Bond issue expenses	0.00	0.00
020	Legal exp on foreign currency loans	0.00	0.00
021	Foreign currency bonds/notes exp.	0.00	0.00
022	Up-front fee	0.00	0.00
023	Insurance premium on foreign currency loans	0.00	0.00
024		0.00	0.00
025	Others	0.00	0.00
026	Sub Total (Other Borrowing cost)	717,948.54	768,686.21
027		0.00	0.00
028	Exchange differences regarded as an adjustment to borrowing costs	-16,523.48	13,092,857.00
029	Sub Total	1,952,381,342.35	2,137,379,380.40
030	Less: Transferred to Expenditure during construction period (net) - Note 43	22,905,000.49	6,944,586.19
031	Less: Transferred to development of coal mines- Note 43A	0.00	0.00
032		0.00	0.00
033	Total	1,929,476,341.86	2,130,434,794.21

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 41 TO THE FS--DEPRECIATION AND AMORTIZATION EXPENSES
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001	Depreciation and amortization expenses	0.00	0.00
002	On property, plant and equipment- Note 2	4,601,404,034.44	4,377,618,570.90
003	On intangible assets- Note 4	4,317.78	115,063.13
004	Sub-total	4,601,408,352.22	4,377,733,634.03
005	Less:	0.00	0.00
006	Allocated to fuel inventory	361,624,623.95	345,650,636.39
007	Transferred to Expenditure during Construction Period (net)- Note 43	0.00	0.00
008		0.00	0.00
009	Transferred/Allocated to development of coal mines	0.00	0.00
010	Adjustment with deferred revenue from deferred foreign currency fluctuation	168,797,000.00	117,252,000.00
011		0.00	0.00
012	Total	4,070,986,728.27	3,914,830,997.64

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001 OTHER EXPENSES		0.00	0.00
002 Power charges		32,244,116.00	30,711,686.00
003 Less: Recovered from contractors & employees		10,218,976.19	10,254,267.44
004 Sub-Total(Power Charges)		22,025,139.81	20,457,418.56
005 Water charges		139,871,225.00	139,871,221.00
006 Stores consumed		30,362,577.69	25,535,090.39
007 Rent		0.00	0.00
008 Less:Recoveries		0.00	0.00
009 Sub-Total (Rent)		0.00	0.00
010 Cost of captive coal produced		0.00	0.00
011 Repairs & maintenance		0.00	0.00
012 Buildings		157,598,147.58	155,238,832.21
013 Plant & machinery		0.00	0.00
014 Power stations		2,012,457,618.12	1,971,478,736.27
015 Construction equipment		0.00	0.00
016 Others		71,233,169.46	83,615,119.59
017 Sub-total (Repairs & maintenance)		2,241,288,935.16	2,210,332,688.07
019 Load Dispatch Center Charges		16,378,065.00	31,162,794.00
021 Insurance		135,670,380.27	89,337,957.77
022 Interest to beneficiaries		0.00	0.00
023 Rates and taxes		14,719,674.88	15,456,955.21
024 Water cess & environment protection cess		0.00	0.00
025 Training & recruitment expenses		2,517,189.00	3,118,705.45
026 Less: Receipts		0.00	0.00
027 Sub-total (Training and recruitment expenses)		2,517,189.00	3,118,705.45
028 Communication expenses		20,286,959.05	22,862,791.41
029 Inland Travel		60,029,239.63	82,463,633.67
030 Foreign Travel		0.00	120,940.46
031 Tender expenses		0.00	0.00
032 Less: Receipt from sale of tenders		0.00	0.00
033 Sub-total (Tender expenses)		0.00	0.00
034 Payment to auditors		0.00	0.00
035 Audit fee		0.00	0.00
036 Tax audit fee		0.00	0.00
037 Other services		0.00	0.00
038 Reimbursement of expenses		0.00	0.00
039 Sub-total (Payment to Auditors)		0.00	0.00
040 Advertisement and publicity		657,415.36	1,212,507.00
041 Electricity duty		0.00	0.00
042 Security expenses		460,687,189.93	373,349,148.40
043 Entertainment expenses		26,655,551.12	28,763,376.25
044 Expenses for guest house		17,271,947.40	17,150,884.00
045 Less:Recoveries		0.00	0.00
046 Sub-Total (Guest house expenses)		17,271,947.40	17,150,884.00
047 Education expenses		79,480,752.00	55,250,389.00
049 Donations		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
050	Ash utilisation & marketing expenses	432,245,428.81	125,414,779.59
051	Directors sitting fee	0.00	0.00
053	Professional charges and consultancy fees	3,302,664.23	3,982,140.37
054	Legal expenses	15,480,086.00	15,785,425.50
055	EDP hire and other charges	1,336,546.59	2,894,018.79
056	Printing and stationery	1,376,617.64	3,525,595.39
057	Oil & gas exploration expenses	0.00	0.00
059	Hiring of vehicles	20,600,619.14	31,158,224.74
061	Reimbursement of L.C.charges on sales realisation	0.00	0.00
062		0.00	0.00
063	Cost of Hedging	166,468.00	0.00
064	Derivatives MTM loss/gain (Net)	0.00	0.00
065	Net loss/(gain) in foreign currency transactions & translations	-11,861,227.40	42,094,396.89
066	Transport Vehicle running expenses	936,937.36	912,881.50
067	Horticulture Expenses	59,411,651.45	59,606,958.76
068	Hire charges- helicopter/aircraft.	0.00	0.00
069	Hire charges of construction equipment	0.00	0.00
070	Demurrage Charges	0.00	0.00
072		0.00	0.00
073	Miscellaneous expenses	21,346,532.03	24,023,844.61
074	Loss on disposal/write-off of PPE	231,316,192.66	16,538,459.84
075	Sub-Total	4,043,560,757.81	3,442,383,226.62
076	Less: Other expenses allocated to fuel inventory	567,027,646.89	507,661,972.36
077	Less: Transferred/Allocated to development of coal mines	0.00	0.00
078	Less: Transferred to fly ash utilisation reserve fund	119,725,415.98	125,414,779.59
079	Less: Hedging cost Net recoverable/payable from/to beneficiaries	0.00	0.00
080	Less: Others	0.00	0.00
081	Less: Transferred to CSR Expenses	71,755,551.00	47,896,790.00
082	Less: Transferred to Expenditure during Construction period(net)-Note 43	5,629,081.66	805,829.61
083	Net (Generation, Administration and Other expenses)	3,279,423,062.28	2,760,603,855.06
084	Corporate Social Responsibility Expenses	117,469,384.87	102,505,554.21
085	Less: Grants-in-aid	0.00	0.00
086	Sub-total (Corporate Social Responsibility Expenses)	117,469,384.87	102,505,554.21
087	Provisions	0.00	0.00
088	Doubtful Debts	0.00	0.00
089	Doubtful loans, advances and claims	0.00	0.00
090	Doubtful Construction Advances	0.00	0.00
091	Shortage in stores	156,818.20	467,794.99
092	Obsolete/Diminution in the value of surplus stores	0.00	467,405.55
093	Shortage in construction stores	6,233,763.36	4,086,971.23
094	Diminution in value of long term investments	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
095	Shortage in Fixed assets	0.00	437,836.89
096	Unfinished minimum work progress from oil & gas exploration	0.00	0.00
097	Unserviceable capital works	0.00	0.00
098	Tariff Adjustment	97,702,000.00	31,997,000.00
099	Others :	0.00	0.00
100	(i) Provision for arbitration cases	418,352.00	418,352.00
101	(ii) Other provisions	0.00	0.00
102	Total (Provisions)	104,510,933.56	37,875,360.66
103		0.00	0.00
104	Total	3,501,403,380.71	2,900,984,769.93
105		0.00	0.00
106	Breakup of miscellaneous expenses.	0.00	0.00
109	Hire charges of office equipment	1,215,364.67	71,228.00
111	Operating expenses of construction equipment	0.00	0.00
112	Operating expenses of D.G. sets	0.00	0.00
113	Furnishing expenses	0.00	2,160,679.12
114	Subscription to trade and other associations.	0.00	0.00
116	Visa and entry permit charges	0.00	0.00
117	Tree plantation exp.-NTPC Land	0.00	0.00
118	Research & development expenses .	0.00	0.00
119	Less : Grants received for Research & development expenses.	0.00	0.00
120	Sub-total (Research & development expenses)	0.00	0.00
121	Bank charges	141,681.42	244,632.08
122	Business Development Expenditure	0.00	0.00
123	Surcharge (NVVN)	0.00	0.00
124	Power Trading Expenses	6,458,871.00	1,343,810.00
125	Brokerage & commission	1,951,671.00	998,531.00
129	Books and periodicals	88,572.00	214,497.55
130	Claims/advances written off	0.00	0.00
131	Stores written off	0.00	0.00
132	Survey & Investigation expenses written off	0.00	0.00
133	Others	11,490,371.94	18,990,466.86
134	Total	21,346,532.03	24,023,844.61
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
001	EXPENDITURE DURING CONSTRUCTION PERIOD (NET)	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	16,690,366.44	5,979,041.61
004	Contribution to provident and other funds	1,990,589.37	534,992.53
005	Unwinding of deferred payroll expenses	-9,214.56	-3,973.41
006	Staff welfare expenses	723,088.62	242,407.50
007	Total (A)	19,394,829.87	6,752,468.23
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	991,703.48	0.00
011	Foreign currency term loans	202,998.16	0.00
012	Rupee term loans	12,796,466.00	3,403,287.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	8,870,269.79	456,585.19
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	0.00	0.00
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	2,651,489.00
026	Others	476,690.72	0.00
027	Exchange differences regarded as adjustment to interest cost	-433,127.66	433,225.00
028	Total (B)	22,905,000.49	6,944,586.19
029		0.00	0.00
030	C. Depreciation and amortisation	0.00	0.00
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	2,653,635.00	239,312.00
033	Less: Recovered from contractors & employees	18,237.39	0.00
034	Sub-total(Net power charges)	2,635,397.61	239,312.00
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	161,732.04	0.00
041		0.00	0.00
042	Insurance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2021	31.03.2020
043	Rates and taxes	0.00	0.00
044	Communication expenses	202,309.00	46,289.00
045	Travelling expenses	1,061,207.26	489,962.71
046	Tender expenses	0.00	0.00
047	Less: Income from sale of tenders	0.00	0.00
048	Sub-total (Net tender expenses)	0.00	0.00
049	Advertisement and publicity	0.00	0.00
050	Security expenses	0.00	0.00
051	Entertainment expenses	96,997.19	29,187.94
052	Guest house expenses	0.00	0.00
053	Less: Receipt from guest house	0.00	0.00
054	Sub-total (Net Guest House Expenses)	0.00	0.00
055	Education expenses	0.00	0.00
056	Brokerage & Commission	0.00	0.00
057	Books and periodicals	0.00	0.00
058	Community development expenses	0.00	0.00
059	Professional charges and consultancy fee	0.00	0.00
060	Legal expenses	0.00	0.00
061	EDP Hire and other charges	0.00	0.00
062	Printing and stationery	0.00	0.00
063	Miscellaneous expenses	1,471,438.56	1,077.96
064	Total (D)	5,629,081.66	805,829.61
065	Total (A+B+C+D)	47,928,912.02	14,502,884.03
066	E. Less: Other Income	0.00	0.00
067	Interest from	0.00	0.00
068	Indian banks	0.00	0.00
069	Foreign banks	0.00	0.00
070	Others	0.00	0.00
071	Contractors	0.00	0.00
072	Hire charges	0.00	0.00
073	Sale of scrap	0.00	0.00
074	Exchange Differences	0.00	0.00
075	Miscellaneous income	73,452.78	0.00
076	TOTAL (E)	73,452.78	0.00
077	F. Net actuarial gain/loss OCI	201,530.19	0.00
078		0.00	0.00
079	GRAND TOTAL (A+B+C+D-E+F)	48,056,989.43	14,502,884.03
080		0.00	0.00
081	* Balance carried to Capital Work-in-progress - (Note 3)	48,056,989.43	14,502,884.03

RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2022	31.03.2021	
001	ASSETS	0.00	0.00	
002		0.00	0.00	
003	NON-CURRENT ASSETS	0.00	0.00	
004	PROPERTY, PLANT & EQUIPMENT	2	50,524,836,213.05	53,519,450,765.67
005	CAPITAL WORK-IN-PROGRESS	3	6,758,465,834.90	3,031,095,010.70
006	INTANGIBLE ASSETS	4	15,262.40	15,262.40
007	INTANGIBLE ASSETS UNDER DEVELOPMENT	5	0.00	0.00
008	FINANCIAL ASSETS	0.00	0.00	
009	I) INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES	6	0.00	0.00
010	II) INVESTMENTS	7	0.00	0.00
011	III) TRADE RECEIVABLES	8	0.00	0.00
012	IV) LOANS	9	114,504,593.97	105,360,479.31
013	V) OTHER FINANCIAL ASSETS	10	0.00	0.00
015	OTHER NON-CURRENT ASSETS	11	1,021,504,054.55	2,225,545,606.02
016	TOTAL NON-CURRENT ASSETS		58,419,228,958.88	58,980,576,136.10
017			0.00	0.00
018	CURRENT ASSETS	0.00	0.00	
019	INVENTORIES	12	6,407,743,216.55	4,599,507,206.27
020	FINANCIAL ASSETS	0.00	0.00	
021	I) INVESTMENTS	13	0.00	0.00
022	II) TRADE RECEIVABLES	14	1,733,397.09	15,464,355.69
023	III) CASH AND CASH EQUIVALENTS	15	0.00	395,123.40
024	IV) BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS	16	0.00	0.00
025	V) LOANS	17	75,812,587.55	68,814,526.95
026	VI) OTHER FINANCIAL ASSETS	18	149,290,961.93	158,476,059.43
027	CURRENT TAX ASSETS (NET)		0.00	0.00
028			0.00	0.00
029	OTHER CURRENT ASSETS	19	455,009,517.62	459,505,591.13
030			0.00	0.00
031	TOTAL CURRENT ASSETS		7,089,563,680.84	5,322,257,962.87
032	REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES	20	1,151,297,074.19	671,086,456.17
034	TOTAL ASSETS		66,660,115,723.91	64,973,914,545.14
035	EQUITY AND LIABILITIES	0.00	0.00	
036	EQUITY	0.00	0.00	
037	EQUITY SHARE CAPITAL	21	0.00	0.00
038	OTHER EQUITY	22	177,939,235,212.48	166,407,994,973.17
041	TOTAL EQUITY		177,939,235,212.48	166,407,994,973.17
042			0.00	0.00
043	LIABILITIES	0.00	0.00	
044	NON-CURRENT LIABILITIES	0.00	0.00	
045	FINANCIAL LIABILITIES	0.00	0.00	
046	I) BORROWINGS	23	0.00	0.00
047	II) LEASE LIABILITIES	23A	0.00	0.00
048	III) TRADE PAYABLES		0.00	0.00

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RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2022	31.03.2021
049 - TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	24	7,830,370.14	16,336,269.21
050 - TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	24	11,108,850.81	5,373,476.89
051 IV) OTHER FINANCIAL LIABILITIES	25	213,937,434.72	681,741,354.25
052 PROVISIONS	26	0.00	0.00
053 DEFERRED TAX LIABILITIES (NET)	27	0.00	0.00
054 OTHER NON-CURRENT LIABILITIES	28	0.00	0.00
055		0.00	0.00
056 TOTAL NON-CURRENT LIABILITIES		232,876,455.67	794,451,190.35
057		0.00	0.00
058 CURRENT LIABILITIES		0.00	0.00
059 FINANCIAL LIABILITIES		0.00	0.00
060 I) BORROWINGS	29	0.00	0.00
061 II) LEASE LIABILITIES	29A	0.00	0.00
062 II) Trade Payables		0.00	0.00
063 - TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	30	220,046,789.16	227,041,821.80
064 - TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	30	3,104,879,539.52	1,688,677,134.68
065 III) OTHER FINANCIAL LIABILITIES	31	3,800,418,199.66	2,089,371,382.23
066 OTHER CURRENT LIABILITIES	32	150,807,804.34	95,628,402.86
067 PROVISIONS	33	8,683,664.00	8,265,312.00
068 CURRENT TAX LIABILITIES (NET)	34	0.00	0.00
069		0.00	0.00
070 TOTAL CURRENT LIABILITIES		7,284,835,996.68	4,109,584,953.57
071		0.00	0.00
072 DEFERRED REVENUE	35	1,521,059,000.00	1,580,313,000.00
073 REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES	36	0.00	0.00
074 INTER UNIT ACCOUNTS		-120,317,930,940.92	-107,790,428,581.85
075		0.00	0.00
076 TOTAL EQUITY AND LIABILITIES		66,660,115,723.91	64,973,914,545.14
077 Significant Accounting Policies as per Note 1		0.00	0.00
078		0.00	0.00
079 The accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00
080		0.00	0.00

(Auditor Initial & Stamp)

NARENDER KUMAR CHATRATH
(Head of Finance)

Digitally signed by
NARENDER KUMAR
CHATRATH
Date: 2022.04.27
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(Head of Unit)

देवव्रत पॉल/DEBABRATA PAUL
मुख्य महासंचालक/Chief General Manager
एनटीपीसी लिमिटेड/NTPC Ltd.
रिहंद सुपर थर्मल पावर प्रोजेक्ट/RH-STPP
रिहंद नगर, सोनमढ़, बिहार/Sonebhadra 231223

RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2022	31.03.2021
001	Revenue		0.00	0.00
002	Revenue from operations	37	52,147,559,605.11	50,204,578,917.91
003	Other income	38	1,201,322,056.93	2,757,456,514.45
005	Total income		53,348,881,662.04	52,962,035,432.36
007	Expenses		0.00	0.00
008	Fuel including cost of captive coal	36A	30,643,568,568.19	31,227,551,790.05
009	Employee benefits expense	39	1,807,965,266.44	1,745,537,752.29
010	Electricity purchased for trading		0.00	0.00
011	Finance costs	40	1,466,105,749.88	1,529,475,341.85
012	Depreciation and amortization expenses	41	4,182,729,574.91	4,079,986,728.27
013			0.00	0.00
014	Other expenses	42	3,380,456,005.46	3,501,403,380.71
015	CC expenses charge to revenue		807,250,921.12	723,635,735.02
016	Less: Unit expenses transferred to CC		0.00	0.00
017	Total expenses		42,288,126,406.00	43,198,791,737.31
020	Profit before exceptional items & tax		11,060,755,256.04	9,763,375,795.05
021	Exceptional items		0.00	0.00
024	Profit before tax		11,060,755,256.04	9,763,375,795.05
027	Tax expense:		0.00	0.00
028	Current tax		0.00	0.00
031	Deferred tax		0.00	0.00
034			0.00	0.00
035	Total Tax expense		0.00	0.00
036	Profit for the period before regulatory deferral account balances		11,060,755,256.04	9,763,375,795.05
037	Movement in regulatory deferral account balances		0.00	0.00
038	Regulatory deferred account - deferred		0.00	0.00
039	Others		480,210,618.02	304,375,947.88
040	Tax impact on Regulatory deferral account balances		0.00	0.00
041	Movement in Regulatory deferral account balances (Net of Tax)		480,210,618.02	304,375,947.88
042	Profit for the period/ year		11,540,965,874.06	10,067,751,742.93
043	Other comprehensive Income		0.00	0.00
044	(A) Items that will not be reclassified to profit or loss		0.00	0.00
045	- Net gains/(losses) on fair value of equity instruments through other comprehensive income		0.00	0.00
046	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
047	- Net actuarial gains/(losses) on defined benefit plans		-8,725,634.75	-24,061,329.38
048	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
052		43	0.00	0.00
053	Other comprehensive Income for the year, net of Income tax		-8,725,634.75	-24,061,329.38
054			0.00	0.00
055	Total Comprehensive Income for the year		11,531,240,239.31	10,043,690,413.55
069			0.00	0.00

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A Maharatna Company

**RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS**

(Amount in ₹)

	For the Year ended	Note	31.03.2022	31.03.2021
070	Earnings per equity share:		0.00	0.00
071	Basic & Diluted		0.00	0.00
072	Significant Accounting Policies		0.00	0.00
073	Expenditure during construction period (Net)Dev. of coal mines (net) 43,43A		0.00	0.00
074	The accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00

(Auditor Initial & Stamp)

NARENDER KUMAR CHATRATH
Digitally signed by NARENDER KUMAR CHATRATH
DN: c=IN, o=NTPC, ou=RIHAND, email=NARENDER.KUMAR.CHATRATH@ntpc.co.in
(Head of Finance)

(Head of Unit)

देबब्रत पॉल/DEBABRATA PAU
मुख्य महासंचालक/Chief General Manager
एनटीपीसी लिमिटेड/NTPC Ltd
रिहंद सुपर थर्मल पावर प्रोजेक्ट/RIHAND SUPER THERMAL POWER STATION
रिहंद नगर सोनभद्र/Rihandnagar Sonbhadra 23112

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मुख्य महासंचालक (व्यवसाय)
AGM, General Manager (Commercial)
एन टी पी सी लिमिटेड/NTPC LIMITED

RIHAND SUPER THERMAL POWER STATION

OTHER COMPREHENSIVE INCOME

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001		0.00	0.00
002	Other comprehensive income	0.00	0.00
003	(A) Items that will not be reclassified to profit or loss	0.00	0.00
004	- Net gains/(losses) on fair value of equity instruments through other comprehensive income	0.00	0.00
005	Income tax on above that will not be reclassified to profit or loss	0.00	0.00
006	- Net actuarial gains/(losses) on defined benefit plans	-9,725,634.75	-24,061,329.38
007	Income tax on above that will not be reclassified to profit or loss	0.00	0.00
008		0.00	0.00
009	(B) Items that will be reclassified to profit or loss	0.00	0.00
010	Income tax relating to above items that will be reclassified to profit or loss	0.00	0.00
011		0.00	0.00
012	Other comprehensive income for the year, net of income tax	-9,725,634.75	-24,061,329.38
013		0.00	0.00
014	Total comprehensive income for the year (A+B)	-9,725,634.75	-24,061,329.38

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2022	Opening Depreciation As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2022	Net Block As At 31.03.2022	Net Block As At 31.03.2021
1 TANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Land : (including development expenses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Freehold	355016843.25	0.00	0.00	355016843.25	0.00	0.00	0.00	0.00	355016843.25	355016843.25
4 Right of Use	312564894.63	0.00	0.00	312564894.63	75199268.84	10281521.39	0.00	85480790.23	227084104.40	237365625.79
5 Submergence	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Right of use - Coal Bearing Area Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Roads,bridges, culverts & helipads	636606867.94	(269253.24)	0.00	636337614.70	133087366.86	23512878.36	0.00	156600245.22	479737369.48	503519501.08
8 Building :	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Main plant	1852956664.03	0.00	0.00	1852956664.03	375720477.77	62828072.55	0.00	438548550.32	1414408113.71	1477236186.26
11 Others	2548970049.68	12664437.15	0.00	2561634486.83	483509018.08	94762460.79	0.00	578271478.87	1983363007.96	2065461031.60
12 Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Temporary erection	231168.13	0.00	0.00	231168.13	231168.13	0.00	0.00	231168.13	0.00	0.00
14 Water Supply, drainage & sewerage system	546047713.55	174330.49	0.00	546222044.04	122630859.19	24515723.17	0.00	147146582.36	399075461.68	423416854.36
15 Hydraulic works, barrages, dams, tunnels and power channel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 MGR track and signalling system	1354372126.56	(593252.00)	0.00	1353778874.56	353590079.10	72484055.87	0.00	426074134.97	927704739.59	1000782047.46
17 Railway siding	1528212.48	0.00	0.00	1528212.48	647947.27	64482.46	0.00	712429.73	815782.75	880265.21
18 Earth dam reservoir	1456921.40	0.00	0.00	1456921.40	0.00	0.00	0.00	0.00	1456921.40	1456921.40
19 Plant and machinery(including associated civil works)	73454969525.57	1419281937.84	(709636889.90)	74164614573.51	26464731965.27	4360969561.58	(891144942.35)	29934556584.50	44230057989.01	46990237560.30
Owned Asset										


 Adil General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2022	Opening Depreciation As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2022	Net Block As At 31.03.2022	Net Block As At 31.03.2021
20 Plant and machinery(including associated civil works) -Right of use Asset	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Furniture and fixtures	174736234.40	328989.06	(100504.92)	174964718.54	65711646.15	12929549.78	(46237.44)	78594958.49	96369760.05	109024588.25
22 Assets under 5 Km Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 Vehicles including speedboats / helicopter- Owned	6558165.35	639950.00	0.00	7198115.35	2606042.68	601648.03	0.00	3207690.71	3990424.64	3952122.67
24 Vehicles including speedboats / helicopter - Leased	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Office equipment	98040349.95	4307450.36	(2030608.41)	100317191.90	49456082.48	11847049.85	(1608611.96)	59694520.37	40622671.53	48584267.47
26 EDP, WP machines and satcom equipment	91240904.66	2416725.00	(12113429.83)	81544199.83	72829119.51	5817477.91	(12113429.83)	66533167.59	15011032.24	18411785.15
27 Construction equipments	65110895.86	0.00	0.00	65110895.86	27046537.19	2027521.74	0.00	29074058.93	36036836.93	38064358.67
28 Electrical Installations	331082244.94	0.00	(4203.95)	331078040.99	118467469.81	21541198.64	(928.05)	140007740.40	191070300.59	212614775.13
29 Communication equipments	31934747.30	21600.00	0.00	31956347.30	23821990.01	782560.36	0.00	24604550.37	7351796.93	8112757.29
30 Hospital equipments	30920925.67	4058616.65	(40145.34)	34939396.98	7684258.47	9759155.28	(12511.80)	17430901.95	17508495.03	23236667.20
31 Laboratory and workshop equipments	145735570.77	3673430.05	0.00	149409000.82	43658963.64	7793475.30	0.00	51452438.94	97956561.88	102076607.13
32 Capital expenditure on assets not owned by the Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 Assets of Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


 Adil General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2022	Opening Depreciation As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2022	Net Block As At 31.03.2022	Net Block As At 31.03.2021
34 Less:Grants from Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Less: Recoverable from GOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 Assets for ash utilisation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 (Less):-Adjusted from fly ash utilisation reserve fund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 Site Restoration Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Mining Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Tangible)	82040081026.12	1446704961.36	(723925782.35)	82762860205.13	28420630260.45	4722518393.06	(904926661.43)	32238221992.08	50524638213.05	53619450765.67
Grand Total Prev Year (Tangible)	80674819862.02	1773251621.02	(407990456.92)	82040081026.12	23946318351.92	4601404034.44	(127092125.91)	28420630260.45	53619450765.67	56728501510.10


 अधी. जनरल म्यानेजर (कमर्शियल)
 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड/NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization

Particulars	Gross Block		Depreciation/Amortization	
	Tangible As At: 31.03.2022	Tangible As At: 31.03.2021	Tangible As At: 31.03.2022	Tangible As At: 31.03.2021
Disposal of assets	(352672.50)	(2046638.78)	(352672.50)	(2032443.32)
Retirement of assets	(995236466.75)	(360826985.21)	(926400049.04)	(129619476.73)
Cost adjustments	154890055.40	(61206706.58)	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	116773301.50	16089873.65	21826060.11	4559794.14
Others	0.00	0.00	0.00	0.00
TOTAL	(723925782.35)	(407990456.92)	(904926661.43)	(127092125.91)

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2021	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2022
	1	2	3	4	5	6
1	CAPITAL WORK-IN-PROGRESS					
2	Development of land					
3	Roads, bridges, culverts & helipads		369117.82	(369117.82)		
4	Piling and foundation					
5	Buildings :					
6	Main plant					
7	Others	30484260.95	69392323.59	(6172504.26)	9794375.87	83909704.41
8	Temporary erection					
9	Water supply, drainage and sewerage system	983235.00	174330.49	(174330.49)	983235.00	
10	Hydraulic works, barrages, dams, tunnels and power channel					
11	MGR track and signalling system					
12	Railway siding					
13	Earth dam reservoir					
14	Plant and equipment	2517433025.87	4706070908.49	(53446737.16)	864768104.75	6305289092.45
15	Furniture and fixtures	24645.15	14449.15	(0.30)	39094.00	
16	Vehicles					
17	Office equipment	35588.00			35588.00	
18	EDP/WP machines & satcom equipment					
19	Construction equipments					
20	Electrical installations					
21	Communication equipment					
22	Hospital equipments	256888.29		(0.29)	256888.00	
23	Laboratory and workshop equipments					
24	Assets under 5Km Scheme of the GOI					
25	Capital expenditure on assets not owned by the company					
26	Expenditure towards development of coal mines					
27	Survey,Investigation,Consultancy & Supervision Cha	2987667.50	(2987667.50)			
28	Difference in exchange on foreign currency loans					

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2021	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2022
	1	2	3	4	5	6
29	Expenditure towards diversion of forest land					
30	Pre-commissioning expenses (net)					
31	ExpPendAlloca-oth ex attribut Project					
32	Expenditure During Construction Period (net)*		120562893.48	(658525.44)		119904368.04
33	LESS : Allocated to related works		119904368.04			119904368.04
34	LESS : Provision for Unservicable works					
35	Construction stores (At Cost)					
36	Steel	30232834.59		(27684050.92)		2548783.67
37	Cement	2028131.88		(133175.58)		1894956.30
38	Others	453879656.07	35319846.24	(122905473.69)		366294028.62
39	Sub-total	486140622.54	35319846.24	(150722700.19)		370737768.59
40	LESS : Provision for shortages	7250922.60		(5781192.05)		1469730.55
41	Sub-total	478889699.94	35319846.24	(144941508.14)		369268038.04
42	Total CWIP	3031095010.70	4809011833.72	(205762723.90)	875877285.62	6758466834.90
43						
44						
45	PREVIOUS YEAR TOTAL	823654175.83	2730008295.62	(461315487.17)	463240206.90	3031095010.70

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2022	Opening Depreciation As At 01.04.2021	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2022	Net Block As At 31.03.2022	Net Block As At 31.03.2021
INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Right to Use- Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 -Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 -Software	4773867.26	0.00	0.00	4773867.26	4758604.86	0.00	0.00	4758604.86	15262.40	15262.40
Grand Total (Intangible)	4773867.26	0.00	0.00	4773867.26	4758604.86	0.00	0.00	4758604.86	15262.40	15262.40
Grand Total Prev Year (Intangible)	4773867.26	0.00	0.00	4773867.26	4754287.08	4317.78	0.00	4758604.86	15262.40	19580.18


 अनुराग मिश्रा (व्यवसायिक)
 Addl. General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	InTangible As At: 31.03.2022	InTangible As At: 31.03.2021	InTangible As At: 31.03.2022	InTangible As At: 31.03.2021
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 5: Intangible Assets under Development

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2021	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2022
	1	2	3	4	5	6
1	INTANGIBLE ASSETS UNDER DEVELOPMENT					
2	Software					
3	Right to use Others					
4	Exploration and Evaluation Expenditure - Coal Mini					
5	Exploratory wells-in-progress					
6	Less: Provision for exploratory wells-in-progress					
7	Total					
8	PREVIOUS YEAR TOTAL-I					

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2022	31.03.2021
001	NON CURRENT INVESTMENTS- INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES		0.00	0.00
012	EQUITY INSTRUMENTS - UNQUOTED-(FULLY PAID UP UNLESS OTHERWISE STATED, AT COST)		0.00	0.00
013	SUBSIDIARY COMPANIES		0.00	0.00
014	PATRATU VIDYUT UTPADAN NIGAM LTD.		0.00	0.00
015	NTPC ELECTRIC SUPPLY COMPANY LTD.		0.00	0.00
016	NTPC VIDYUT VYAPAR NIGAM LTD.		0.00	0.00
017	NABINAGAR POWER GENERATING COMPANY LTD.		0.00	0.00
018	KANTI BIJLEE UTPADAN NIGAM LTD.		0.00	0.00
019	BHARTIYA RAIL BIJLEE COMPANY LTD.		0.00	0.00
020	NTPC MINING LTD (NML)		0.00	0.00
021	THDC INDIA LTD.		0.00	0.00
022	NEEPCO LTD.		0.00	0.00
023	NTPC EDMC Waste Solutions Pvt Ltd		0.00	0.00
024	NTPC Renewables Energy Ltd		0.00	0.00
025	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
026			0.00	0.00
027			0.00	0.00
028			0.00	0.00
029			0.00	0.00
030	SUB TOTAL		0.00	0.00
055	JOINT VENTURE COMPANIES		0.00	0.00
056	Utility Powertech Ltd.		0.00	0.00
057	NTPC GE Power Services Pvt.Ltd.		0.00	0.00
058	NTPC-SAIL Power Company Ltd.		0.00	0.00
059	NTPC-Tamil Nadu Energy Company Ltd.		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2022	31.03.2021
060	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
061	ARAVALI POWER COMPANY PRIVATE LTD.		0.00	0.00
062			0.00	0.00
063	NTPC BHEL POWER PROJECTS PRIVATE LTD.		0.00	0.00
064	MEJA URJA NIGAM PRIVATE LIMITED		0.00	0.00
065	BF-NTPC ENERGY SYSTEMS LTD.		0.00	0.00
066			0.00	0.00
067	NABINAGAR POWER GENERATING COMPANY LTD.		0.00	0.00
068	TRANSFORMER AND ELECTRICAL KERALA LTD.		0.00	0.00
069	NATIONAL HIGH POWER TEST LABORTORY PRIVATE LTD.		0.00	0.00
070			0.00	0.00
071	CIL NTPC URJA PRIVATE LTD.		0.00	0.00
072	ANUSHAKTI VIDHYUT NIGAM LTD.		0.00	0.00
073	ENERGY EFFICIENCY SERVICES LTD.		0.00	0.00
074			0.00	0.00
075	TRINCOMALEE POWER COMPANY LTD.		0.00	0.00
076	BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LTD.		0.00	0.00
077	HINDUSTAN URVARAK & RASAYAN LIMITED		0.00	0.00
078	KONKAN LNG LTD		0.00	0.00
081	SUB TOTAL		0.00	0.00
109	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS		0.00	0.00
110	TOTAL (NET OF IMPAIRMENT) OF JV		0.00	0.00
111	Gross Total of Investments		0.00	0.00
134	Total		0.00	0.00
135	Details of Investments		0.00	0.00
136	Aggregate amount of Unquoted Investments		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-INVESTMENTS IN SUBSIDIARIES & JOINT VENTURES

(Amount in ₹)

As at	No. of shares	Face value	31.03.2022	31.03.2021
141			0.00	0.00
142			0.00	0.00
143			0.00	0.00
144			0.00	0.00
145			0.00	0.00
153	Valuation of Investments as per Note 1.		0.00	0.00
154			0.00	0.00
202			0.00	0.00
233			0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 7 TO THE FS-NCA-INVESTMENTS

(Amount in ₹)

As at	No. of shares	Face value	31.03.2022	31.03.2021
001	Non-current financial assets (investments)		0.00	0.00
006	Long Term - Trade		0.00	0.00
007	Equity Instruments (fully paid up-unless otherwise stated)		0.00	0.00
008	Quoted		0.00	0.00
009	JOINT VENTURE COMPANIES		0.00	0.00
010	PTC India Ltd.		0.00	0.00
070	INTERNATIONAL COAL VENTURES PRIVATE LTD.		0.00	0.00
075	BF-NTPC ENERGY SYSTEMS LTD.		0.00	0.00
098			0.00	0.00
110	COOPERATIVE SOCIETIES		0.00	0.00
111	SUB TOTAL		0.00	0.00
112	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS		0.00	0.00
115	TOTAL		0.00	0.00
120			0.00	0.00
146	NTPC EMPLOYEES CONSUMERS AND THRIFT CO-OPERATIVE SOCIETY LTD. KORBA		0.00	0.00
147	NTPC EMPLOYEES CONSUMERS AND THRIFT COOPERATIVE SOCIETY LTD. RSTPP		0.00	0.00
148	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. FARAKKA		0.00	0.00
149	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. VINDHYACHAL		0.00	0.00
150	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. ANTA		0.00	0.00
151	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. KAWAS		0.00	0.00
152	NTPC Employees Consumers Cooperative Society Ltd. Kaniha		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 8 TO THE FS-NCA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Non-current financial assets - Trade receivables	0.00	0.00
002 UNSECURED, CONSIDERED GOOD	0.00	0.00
003 CREDIT IMPAIRED	0.00	0.00
004	0.00	0.00
005	0.00	0.00
006 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 LOANS (NON CURRENT)	0.00	0.00
004 RELATED PARTIES	0.00	0.00
005 SECURED	0.00	0.00
006 UN-SECURED	0.00	0.00
007 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
008 CREDIT IMPAIRED	0.00	0.00
009	0.00	0.00
010 EMPLOYEES(INCLUDING ACCRUED INTEREST)	0.00	0.00
011 SECURED	87,385,641.00	81,563,013.15
012 UNSECURED	55,663,708.67	53,273,361.38
013 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
014 CREDIT IMPAIRED	0.00	0.00
015 LESS : EMPLOYEE LOANS DISCOUNTING	0.00	0.00
016 SECURED	21,476,411.67	22,067,890.23
017 UNSECURED	7,068,344.03	7,408,004.99
018 LOAN TO STATE GOVERNMENT IN SETTLEMENT OF DUES FROM CUSTOMERS (UNSECURED)	0.00	0.00
019 OTHERS	0.00	0.00
020 SECURED	0.00	0.00
021 UNSECURED	0.00	0.00
022 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
023 CREDIT IMPAIRED	0.00	0.00
024 LESS: ALLOWANCE FOR CREDIT IMPAIRED LOANS	0.00	0.00
025 SUB TOTAL	114,504,593.97	105,360,479.31
026	0.00	0.00
027 TOTAL	114,504,593.97	105,360,479.31
028	0.00	0.00
029	0.00	0.00
030 Due from Directors and Officers of the Company	0.00	0.00
031 Directors	0.00	0.00
032 Officers	0.00	0.00
033	0.00	0.00
034 Loans to related parties include:	0.00	0.00
035 i)Key management personel	0.00	0.00
036 ii)Subsidiary companies	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)Others	0.00	0.00
039	0.00	0.00
054 Other loans represent loans given to	0.00	0.00
055 a) APIIC	0.00	0.00
060	0.00	0.00
061 RPD	0.00	0.00
062 i)Key management personel	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

	As at	31.03.2022	31.03.2021
063	ii)Subsidiary companies	0.00	0.00
064	iii)Joint Venture companies	0.00	0.00
065	iv)Others	0.00	0.00
066	Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 10 TO THE FS-NCA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Other Financial Assets (non current)	0.00	0.00
002	0.00	0.00
003 Share application money pending allotment in (Subsidiary Companies) :	0.00	0.00
004 NTPC Electric Supply Company Ltd.	0.00	0.00
005 NTPC Vidyut Vyapar Nigam Ltd.	0.00	0.00
006 Nabinagar Power Generating Company Ltd.	0.00	0.00
007 Kanti Bijlee Utpadan Nigam Ltd.	0.00	0.00
008 Bhartiya Rail Bijlee Company Ltd.	0.00	0.00
009 Patratu Vidyut Utpadan Nigam Ltd.	0.00	0.00
010 NTPC Mining Limited	0.00	0.00
011 THDC Ltd.	0.00	0.00
012 NEEPCO Ltd	0.00	0.00
013	0.00	0.00
014 Total	0.00	0.00
015 Share application money pending allotment (Joint Venture)	0.00	0.00
016 Utility Powertech Ltd.	0.00	0.00
017 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
018 NTPC-SAIL Power Company Ltd.	0.00	0.00
019 NTPC-Tamil Nadu Energy Company Ltd.	0.00	0.00
020 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
021 Aravali Power Company Private Ltd.	0.00	0.00
022	0.00	0.00
023 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
024 Meja Urja Nigam Private Limited	0.00	0.00
025 BF-NTPC Energy Systems Ltd.	0.00	0.00
026 Anushakti Vidhyut Nigam Ltd.	0.00	0.00
027 Nabinagar Power Generating Company Ltd.	0.00	0.00
028 Energy Efficiency Services Ltd.	0.00	0.00
029 National High Power Test Labortory Private Ltd.	0.00	0.00
030	0.00	0.00
031 CIL NTPC Urja Private Ltd.	0.00	0.00
032 Trincomalee Power Company Ltd.	0.00	0.00
033 Hindustan Urvarak & Rasayan Limited	0.00	0.00
034 Bangladesh-India Friendship Power Company Private Ltd.	0.00	0.00
035 Sub Total	0.00	0.00
036	0.00	0.00
037 Claims Recoverable	0.00	0.00
038 Finance Lease Recoverable	0.00	0.00
039 Mine Closure Deposit	0.00	0.00
041 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION



A Maharatna Company

(Amount in ₹)

As at

31.03.2022

31.03.2021

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Other Non-current Assets	0.00	0.00
002	0.00	0.00
003 CAPITAL ADVANCES	0.00	0.00
004 SECURED	0.00	0.00
005 Unsecured	0.00	0.00
006 COVERED BY BANK GUARANTEE	194,789,674.00	374,937,145.32
007 OTHERS	53,588,917.11	23,546,752.62
008 CONSIDERED DOUBTFUL	0.00	0.00
009 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
010 Sub-Total	248,378,591.11	398,483,897.94
011	0.00	0.00
012 Advances other than capital advances	0.00	0.00
013 SECURITY DEPOSITS	87,880.00	1,436,400.00
019 Advances to Related parties	0.00	0.00
022 Advances to Contractors & Suppliers	0.00	0.00
023 SECURED	0.00	0.00
024 UNSECURED	0.00	0.00
025 CONSIDERED DOUBTFUL	0.00	0.00
026 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
027 Sub Total	87,880.00	1,436,400.00
028 RECEIVABLE FROM MCP ESCROW A/C	0.00	0.00
039 ADVANCE TAX & TAX DEDUCTED AT SOURCE	7,544,241.17	2,447,428.10
040 LESS:- PROVISION FOR CURRENT TAX	0.00	0.00
041	0.00	0.00
042 Sub Total	7,544,241.17	2,447,428.10
043 DEFERRED PAYROLL EXPENSES (SECURED)	16,323,225.74	17,618,156.45
044 DEFERRED PAYROLL EXPENSES (UNSECURED)	4,860,126.54	5,186,725.53
045 Sub Total	21,183,352.28	22,804,881.98
046 DEFERRED FOREIGN CURRENCY FLUCTUATION ASSET	744,410,000.00	1,799,476,000.00
048 Total	1,021,604,064.56	2,224,648,608.02
049	0.00	0.00
050	0.00	0.00
061 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
063	0.00	0.00
064 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
065	0.00	0.00
066 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
067 Aravali Power Company Private Ltd.	0.00	0.00
068 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
069 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
070 Meja Urja Nigam Private Limited	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
071 Nabinagar Power Generating Company Ltd.	0.00	0.00
072 National High Power Test Labortory Private Ltd.	0.00	0.00
074 CIL NTPC Urja Private Ltd.	0.00	0.00
076	0.00	0.00
077 Related Party (Adv)	0.00	0.00
078 Key Management personel	0.00	0.00
079 Subsidiary companies	0.00	0.00
080 Joint Venture companies	0.00	0.00
081 Contractors	0.00	0.00
082 Others	0.00	0.00
084	0.00	0.00
085 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 12 TO THE FS-CA-INVENTORIES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 INVENTORIES	0.00	0.00
002	0.00	0.00
003 Coal	2,703,905,576.35	1,293,481,712.46
004 Fuel oil	331,140,312.31	221,275,469.56
005 Naphtha	0.00	0.00
006 Stores and spares	2,663,630,801.56	2,434,045,104.96
007 Chemicals & consumables	65,606,636.51	84,873,916.88
008 Loose tools	1,308,727.02	1,320,987.78
009 Steel Scrap	6,531,859.28	10,032,350.58
010 Others	670,976,891.13	578,527,487.01
011 Sub Total	6,443,100,804.16	4,623,557,029.23
012 Less: Provision for shortages	1,655,918.65	1,116,991.43
013 Less: Provision for obsolete/ unservicable/dimuniton in value of surplus inventory	33,701,668.96	22,832,831.53
014	0.00	0.00
015 Total	6,407,743,216.55	4,599,607,206.27
016 Inventories include material in transit	0.00	0.00
017 Coal	0.00	0.00
018 Fuel oil	0.00	0.00
019 Naphtha	0.00	0.00
020 Stores and spares	7,409,492.60	14,287,641.72
021 Chemicals & consumables	8,269,466.13	0.00
022 Loose tools	0.00	0.00
023 Others	12,040,077.62	0.00
024	0.00	0.00
025 Inventory items other than steel scrap have been valued considering Note 1.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 13 TO THE FS-CA-INVESTMENTS

(Amount in ₹)

	As at	No. of shares	Face value	31.03.2022	31.03.2021
001	CURRENT INVESTMENTS			0.00	0.00
002	(Valuation as per Note 1)			0.00	0.00
003				0.00	0.00
033	Investment in Mutual Funds (Details as under)			0.00	0.00
034	SBI-Magnum Insta Cash Fund-DDR			0.00	0.00
035	SBI Premier Liquid Fund Super-IP-DDR			0.00	0.00
036	SBI-SHF Ultra Short Term Fund-IP-DDR			0.00	0.00
037	UTI Money Market- IP-Direct-Growth			0.00	0.00
038	IDBI-Liquid plan- Direct-Growth			0.00	0.00
039	Canara Robeco Liquid Fund Super-IP-DDR			0.00	0.00
040	Canara Robeco Treasury Advantage Fund Super-IP-DDR			0.00	0.00
041	IDBI Liquid Fund-DDR			0.00	0.00
042	SBI Premier Liquid fund-Direct DDR (Ash Fund)			0.00	0.00
043	UTI Liquid CashPlan - IP - DDR (Ash Funds)			0.00	0.00
044	IDBI Liquid Fund - DDR - (Ash Funds)			0.00	0.00
045	Baroda Liquid Fund - Direct - Growth			0.00	0.00
046	Sub Total			0.00	0.00
047				0.00	0.00
052	Unquoted Investments			0.00	0.00
054				0.00	0.00
066	TOTAL			0.00	0.00
067				0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 TRADE RECEIVABLES (current)*	0.00	0.00
002	0.00	0.00
003 Secured, Considered Good	0.00	0.00
004 Unsecured , considered good	1,733,397.09	15,464,355.69
005 Credit impaired	0.00	0.00
006 Unbilled Revenue	0.00	0.00
007 Sub-Total	1,733,397.09	15,464,355.69
008 Total	1,733,397.09	15,464,355.69
009 Less: Allowance for credit impaired receivables	0.00	0.00
010 Total	1,733,397.09	15,464,355.69
012 Less: Discom Clearing	0.00	0.00
013 Grand Total	1,733,397.09	15,464,355.69
014 * After adjustment for Unbilled Revenue	0.00	0.00
015 Long-term trade receivables	0.00	0.00
016 TCS Clearing	0.00	0.00
017 Discom Clearing	0.00	0.00
228 Trade Receivable	0.00	0.00
230 Not due	0.00	0.00
231 Due	0.00	0.00
232 (i) Undisputed Trade receivables # considered good	1,733,397.09	15,464,355.69
233 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
234 (iii) Undisputed Trade Receivables # credit impaired	0.00	0.00
235 (iv) Disputed Trade Receivables#considered good	0.00	0.00
236 (v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
237 (vi) Disputed Trade Receivables # credit impaired	0.00	0.00
238 Unbilled	0.00	0.00
239 Total	1,733,397.09	15,464,355.69
240	0.00	0.00
241 (i) Undisputed Trade receivables # considered good	0.00	0.00
242 Less than 6 months	1,733,397.09	15,464,355.69
243 6 months -1 year	0.00	0.00
244 1-2 years	0.00	0.00
245 2-3 years	0.00	0.00
246 More than 3 years	0.00	0.00
247 Sub Total (I)	1,733,397.09	15,464,355.69
248 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
249 Less than 6 months	0.00	0.00
250 6 months -1 year	0.00	0.00
251 1-2 years	0.00	0.00
252 2-3 years	0.00	0.00
253 More than 3 years	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2022	31.03.2021
254 Sub Total (II)	0.00	0.00
255 (iv) Disputed Trade Receivables#considered good	0.00	0.00
256 Less than 6 months	0.00	0.00
257 6 months -1 year	0.00	0.00
258 1-2 years	0.00	0.00
259 2-3 years	0.00	0.00
260 More than 3 years	0.00	0.00
261 Sub Total (IV)	0.00	0.00
262 (v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
263 Less than 6 months	0.00	0.00
264 6 months -1 year	0.00	0.00
265 1-2 years	0.00	0.00
266 2-3 years	0.00	0.00
267 More than 3 years	0.00	0.00
268 Sub Total (V)	0.00	0.00
269 (vi) Disputed Trade Receivables # credit impaired	0.00	0.00
270 Less than 6 months	0.00	0.00
271 6 months -1 year	0.00	0.00
272 1-2 years	0.00	0.00
273 2-3 years	0.00	0.00
274 More than 3 years	0.00	0.00
275 Sub Total (VI)	0.00	0.00
276 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 15 TO THE FS-CA-CASH AND CASH EQUIVALENTS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 CASH & BANK BALANCES	0.00	0.00
002 Cash & Cash Equivalents	0.00	0.00
003 Balances with Banks	0.00	240,123.40
004 Cheques & Drafts on hand	0.00	150,000.00
005 Cash on hand	0.00	0.00
006 Others (stamps in hand)	0.00	0.00
007 Bank deposits with original maturity upto three months	0.00	0.00
008 Balances with RBI	0.00	0.00
009	0.00	0.00
010 Total	0.00	390,123.40

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 16 TO THE FS-CA-BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS (Amount in ₹)

As at	31.03.2022	31.03.2021
001 Other Bank Balances	0.00	0.00
002 Deposits with original maturity of more than three months but not more than twelve months	0.00	0.00
003 Earmarked balances with banks*	0.00	0.00
004 SubTotal	0.00	0.00
005 Interest accrued on deposits	0.00	0.00
006	0.00	0.00
007 Total	0.00	0.00
008	0.00	0.00
009 Earmarked balances with banks consist of :	0.00	0.00
010 Unpaid dividend account balance	0.00	0.00
011 Towards public deposit repayment reserve	0.00	0.00
012 Towards redemption of bonds due for repayment within one year	0.00	0.00
013 Security with Government/other authorities	0.00	0.00
014 Unpaid refund/interest account balance - Tax free bonds/ Bonus Debentures	0.00	0.00
015 Earmarked for RGGVY/DDUGJY/SAUBHAGYA Fund	0.00	0.00
016 Earmarked for Flyash Utilisation Reserve Fund	0.00	0.00
017 Deposits with original maturity upto three months as per court orders	0.00	0.00
018 Payment Security Scheme of MNRE NSM (NTPC)	0.00	0.00
019 Payment Security Scheme of MNRE NSM (NVVN)	0.00	0.00
020 Enforcement Directorate of Solar Plant(NVVN)	0.00	0.00
021 Bank guarantee Fund of MNRE (NVVN)	0.00	0.00
022 Others	0.00	0.00
023 Margin Money	0.00	0.00
024	0.00	0.00
025	0.00	0.00
026 Sub-total	0.00	0.00
030 Total	0.00	0.00
031	0.00	0.00
032 Bank deposits with original maturity of less than three months- other than earmarked	0.00	0.00
033 Bank deposits with original maturity of more than three months but not more than twelve months- other than earmarked	0.00	0.00
034 Earmarked bank balances (current account)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 17 TO THE FS-CA-LOANS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Current financial assets - Loans	0.00	0.00
002 Loans (current)-including interest accrued	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
011 Secured	19,369,168.43	18,592,501.77
012 Unsecured	56,443,419.22	50,222,125.18
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
017	0.00	0.00
018 Others	0.00	0.00
019 Secured	0.00	0.00
020 Unsecured	0.00	0.00
021 With significant increase in Credit Risk	0.00	0.00
022 Credit impaired	0.00	0.00
023	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
025 Total (Loans)	75,812,587.65	68,814,626.95
026	0.00	0.00
027 Due from Directors and Officers of the Company	0.00	0.00
028 Directors	0.00	0.00
029 Officers	0.00	0.00
030	0.00	0.00
031 Loans to related parties include:	0.00	0.00
032 i)Key management personel	0.00	0.00
033 ii)Subsidiary companies	0.00	0.00
034 KBUNL	0.00	0.00
035 RGPPL	0.00	0.00
036 NVVN	0.00	0.00
037 iii)Joint Venture companies	0.00	0.00
038 iv)others	0.00	0.00
039	0.00	0.00
059 RPD	0.00	0.00
060 i)Key management personel	0.00	0.00
061 ii)Subsidiary companies	0.00	0.00
062 iii)Joint Venture companies	0.00	0.00
063 iv)Others	0.00	0.00
064	0.00	0.00
065 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Other Financial Assets (current)	0.00	0.00
002	0.00	0.00
003 ADVANCES	0.00	0.00
004	0.00	0.00
005 Related Parties	0.00	0.00
006 Secured	0.00	0.00
007 Un-Secured	75,281,568.77	75,433,495.80
008 Considered doubtful	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
012 Unsecured	4,837,250.36	2,693,948.65
013 Considered Doubtful	0.00	0.00
014	0.00	0.00
020 Others	0.00	0.00
021 Secured	0.00	0.00
022 Unsecured	0.00	0.00
023 Considered Doubtful	0.00	0.00
024	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026	0.00	0.00
033 Total (Advances)	80,118,819.13	78,127,444.45
044	0.00	0.00
045 Claims Recoverable	0.00	0.00
046 Secured	0.00	0.00
047 Unsecured, considered good	2,233,059.02	3,413,667.00
048 Considered Doubtful	0.00	0.00
049 Less:- Allowance for doubtful claims	0.00	0.00
050 Others-Claims Recoverable	0.00	0.00
051	0.00	0.00
052 Contract Asset- Revenue	2,841,100.83	2,841,100.83
053 Hedging cost recoverable from beneficiaries	0.00	0.00
054 Derivative MTM Asset	0.00	0.00
055 Finance Lease Receivable	0.00	0.00
056 Mine Closure Deposit	0.00	0.00
058 Other Accrued Income	0.00	0.00
059 Secured, Considered Good	0.00	0.00
060 Unsecured , considered good	64,097,982.95	84,093,847.15
061 Credit impaired	0.00	0.00
062 Sub-Total	64,097,982.95	84,093,847.15
063 Less: Allowance for credit impaired receivables	0.00	0.00
064 Total	64,097,982.95	84,093,847.15
065	0.00	0.00
066 Others*	0.00	0.00
067 Total	149,290,961.93	168,476,059.43
068 * Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
069 Advances to related parties include:	0.00	0.00
070 i)Key management personnel	0.00	0.00
071 ii)Subsidiary companies	0.00	0.00
072 iii)Joint Venture companies	0.00	0.00
073 iv)Contractors	0.00	0.00
074 v)Others	0.00	0.00
075	0.00	0.00
076 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
077	0.00	0.00
078 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
079 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
080 Aravali Power Company Private Ltd.	0.00	0.00
081 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00
082 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
083 Meja Urja Nigam Private Limited	0.00	0.00
084 Nabinagar Power Generating Company Ltd.	0.00	0.00
085 National High Power Test Labortory Private Ltd.	0.00	0.00
086 International Coal Ventures Private Ltd.	0.00	0.00
087 CIL NTPC Urja Private Ltd.	0.00	0.00
089 Bangladesh-India Friendship Power Co. Pvt.Ltd	0.00	0.00
090 TCS Clearing	0.00	0.00
091 Related Party (Adv)- Employee	0.00	0.00
092 Related Party (Adv)- Subsidiaries	0.00	0.00
093 Related Party (Adv)- Joint Ventures	0.00	0.00
094 Related Party (Adv)- Contractors	0.00	0.00
095 Related Party (Adv)- Others	75,281,568.77	75,433,495.80
096	0.00	0.00
097	0.00	0.00
098	0.00	0.00
099	0.00	0.00
100 Total	75,281,568.77	75,433,495.80

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 OTHER CURRENT ASSETS	0.00	0.00
002 Security Deposits (Unsecured)	0.00	0.00
003 Deposit with Customs, port trust & others*	2,249,156.00	900,636.00
004 ADVANCES	0.00	0.00
005	0.00	0.00
006 Related Parties	0.00	0.00
007 Secured	0.00	0.00
008 Un-Secured	1,407,513.00	1,407,513.00
009 Considered doubtful	0.00	0.00
010	0.00	0.00
011 Employees(including imprest)	0.00	0.00
012 Secured	0.00	0.00
013 Unsecured	355,986.00	310,414.00
014 Considered Doubtful	0.00	0.00
015	0.00	0.00
016 Contractors & Suppliers	0.00	0.00
017 Secured	0.00	0.00
018 Unsecured	136,271,338.36	203,102,280.46
019 Considered Doubtful	0.00	0.00
020	0.00	0.00
021 Others**	0.00	0.00
022 Secured	0.00	0.00
023 Unsecured	18,584,624.00	24,626,717.00
024 Considered Doubtful	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026 Receivable from MCP Escrow A/c	0.00	0.00
027 Deferred Payroll Expenses (Secured)	2,129,056.99	2,319,227.24
028 Deferred Payroll Expenses (Unsecured)	3,686,929.13	3,778,654.23
029 Sub-total	5,815,986.12	6,097,881.47
030 Interest accrued on :	0.00	0.00
031 Advances to contractors	0.00	0.00
032	0.00	0.00
033 Claims Recoverable	0.00	0.00
034 Secured	0.00	0.00
035 Unsecured, considered good	286,458,564.02	227,947,046.81
036 Considered Doubtful	26,600,000.00	26,600,000.00
037 Less:- Allowance for doubtful claims	26,600,000.00	26,600,000.00
038	0.00	0.00
039 Deferred premium on forward exchange contract/ Option Assets	0.00	0.00
041 Assets Held for Disposal	42,084.39	42,084.39
042 Others	3,824,265.73	5,071,018.00
043	0.00	0.00
044 Total (Other Current Assets)	455,009,517.62	469,505,591.13
045 **Include Prepaid Expenses	17,926,405.00	24,275,748.00
046 *Includes sales tax/Entry tax/VAT deposited under protest with Sales Tax Authorities	812,756.00	812,756.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS

(Amount in ₹)

As at	31.03.2022	31.03.2021
047 *Includes deposited with courts	0.00	0.00
048 *Includes deposited with LIC for annuity payments	0.00	0.00
049 * Includes deposits with WRD / against BG in r/o finance lease	0.00	0.00
050 Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
052 Advances to related parties include:	0.00	0.00
053 i)Key management personel	0.00	0.00
054 ii)Subsidiary companies	0.00	0.00
055 iii)Joint Venture companies	0.00	0.00
056 Contractors	0.00	0.00
057 Others	0.00	0.00
058	0.00	0.00
059 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
060	0.00	0.00
061	0.00	0.00
062 Related Party (Adv)- Employee	0.00	0.00
063 Related Party (Adv)- Subsidiaries	0.00	0.00
064 Related Party (Adv)- Joint Venture	1,407,513.00	1,407,513.00
065	0.00	0.00
066	0.00	0.00
067 Total	1,407,513.00	1,407,513.00
068	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 20 TO THE FS--REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 On account of Exchange Differences	-138,738,090.16	-23,349,137.66
002 On account of employee benefit exp	254,610,387.33	381,915,581.00
003 Regulatory deferred account - deferred	0.00	0.00
004 Deferred asset for ash transportation	1,035,424,777.02	312,520,012.83
005 Deferred asset for Arbitration Award	0.00	0.00
007 Total	1,151,297,074.19	671,086,456.17

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 21 TO THE FS-EQUITY-EQUITY SHARE CAPITAL

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 SHARE CAPITAL	0.00	0.00
002 Equity Share Capital	0.00	0.00
003 Authorised	0.00	0.00
004 10,000,000,000 equity shares of Rs.10/- each (Previous year 10,000,000,000 eq shares of Rs.10/- each)	0.00	0.00
005 Issued,Subscribed and fully Paid-up	0.00	0.00
006 9,69,66,66,134 equity shares of Rs.10/- (Pv. Year 9,894,557,280 equity shares of Rs.10/- each)	0.00	0.00
007	0.00	0.00
008 Total	0.00	0.00
009 During FY 2018-19, the company has issued 1,649,092,880 equity shares of Rs.10/- each as fully paid bonus shares	0.00	0.00
010 The holders of the equity shares are entitled to receive dividends as declared from time to time, and are entitled to one vote per share at meetings of the company.	0.00	0.00
011 Details of shareholders holding more than 5% shares in the company	0.00	0.00
012 - President of India	0.00	0.00
013 No. of Shares	0.00	0.00
014 % of holding	0.00	0.00
015 - Life Insurance Corporation of India/ICICI Prudential Mutual Fund	0.00	0.00
016 No. of Shares	0.00	0.00
017 % of holding	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 RESERVE AND SURPLUS	0.00	0.00
002	0.00	0.00
003 Capital Reserve	0.00	0.00
004 As per last financial statements	0.00	0.00
006 Add : Grants received during the year	0.00	0.00
007 Add: Transfer from Surplus	0.00	0.00
008 Less: Write back during the year/period	0.00	0.00
009 Less: Adjustments during the year/period	0.00	0.00
010 SUB-TOTAL	0.00	0.00
011	0.00	0.00
017	0.00	0.00
018 SECURITIES PREMIUM ACCOUNT	0.00	0.00
019 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
020 ADD: ADDITIONS DURING THE YEAR/PERIOD	0.00	0.00
021 LESS: ADJUSTMENTS DURING THE YEAR/PERIOD	0.00	0.00
022 SUB-TOTAL	0.00	0.00
023 BONDS REDEMPTION RESERVE	0.00	0.00
024 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
025 ADD: TRANSFER FROM SURPLUS	0.00	0.00
026 LESS: TRANSFER TO SURPLUS ON REDEMPTION	0.00	0.00
027 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
028 SUB-TOTAL	0.00	0.00
029 CAPITAL REDEMPTION RESERVE	0.00	0.00
030 As per last financial statements	0.00	0.00
031 Add: Transfer from Surplus	0.00	0.00
032 Less: Transfer to surplus on redemption	0.00	0.00
033 Less: Adjustments during the year/ period	0.00	0.00
034 Sub-Total	0.00	0.00
035 Share Application money pending Allotment	0.00	0.00
036 As per last financial statements	0.00	0.00
037 Add: Addition during the year	0.00	0.00
038 Less: Utilised for allotment during the year	0.00	0.00
039 Less: Adjustments during the year/ period	0.00	0.00
040 SUB-TOTAL	0.00	0.00
046 FLY-ASH UTILISATION RESERVE FUND	0.00	0.00
047 AS PER LAST FINANCIAL STATEMENTS	0.00	8,220,860.44
048 TRANSFERRED TO CC	0.00	0.00
049 ADD:TRANSFER FROM REVENUE FROM OPERATIONS	0.00	15,712,224.90
050 ADD:TRANSFER FROM OTHER INCOME	0.00	0.00
051 LESS: UTILISED DURING THE YEAR	0.00	0.00
052 TANGIBLE ASSETS	0.00	0.00
053 EMPLOYEE BENEFIT EXPENSES	0.00	0.00
054 GENERATION,ADMN. AND OTHER EXPENSES	0.00	23,933,085.34

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY

(Amount in ₹)

As at	31.03.2022	31.03.2021
055 TAX EXPENSES	0.00	0.00
056 SUB-TOTAL	0.00	0.00
057 Self Insurance Reserve	0.00	0.00
058 As per last financial statements	0.00	0.00
059 Add: Addition during the year	0.00	0.00
060 Less: Utilised for allotment during the year	0.00	0.00
061 Less: Adjustments during the year/ period	0.00	0.00
062 SUB-TOTAL	0.00	0.00
063 SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
064 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
065 ADD: ADDITION DURING THE YEAR	0.00	0.00
066 LESS: UTILISED FOR ALLOTMENT DURING THE YEAR	0.00	0.00
067 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
068 SUB-TOTAL	0.00	0.00
069 CORPORATE SOCIAL RESPONSIBILITY (CSR) RESERVE	0.00	0.00
070 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
071 ADD : TRANSFER FROM SURPLUS	0.00	0.00
072 LESS:-WRITE BACK DURING THE YEAR	0.00	0.00
073 SUB-TOTAL	0.00	0.00
074 GENERAL RESERVE	0.00	0.00
075 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
076 ADD: TRANSFER FROM SURPLUS	0.00	0.00
077 LESS: TRANSFER TO SURPLUS	0.00	0.00
078 LESS: WRITE BACK DURING THE YEAR /PERIOD	0.00	0.00
079 LESS: ADJUSTMENTS DURING THE YEAR /PERIOD	0.00	0.00
080 SUB-TOTAL	0.00	0.00
081	0.00	0.00
082 RETAINED EARNINGS	0.00	0.00
083 AS PER LAST FINANCIAL STATEMENTS	166,604,865,582.08	156,537,113,839.05
084 ADD(LESS):-CHANGES IN ACCOUNTING POLICY / PRIOR PERIOD ERRORS	0.00	0.00
085 ADD(LESS):-PROFIT (LOSS) AFTER TAX FOR THE YEAR FROM STATEMENT OF PROFIT & LOSS	11,540,965,874.06	10,067,751,743.03
087 ADD: WRITE BACK FROM BOND REDEMPTION RESERVE	0.00	0.00
088 ADD: WRITE BACK FROM CAPITAL RESERVE	0.00	0.00
089 ADD: WRITE BACK FROM FOREIGN PROJECT RESERVE	0.00	0.00
090 ADD: WRITE BACK FROM CSR RESERVE	0.00	0.00
091 ADD: WRITE BACK FROM GENERAL RESERVE	0.00	0.00
093 LESS: TRANSFER TO BONDS REDEMPTION RESERVE	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY

(Amount in ₹)

As at	31.03.2022	31.03.2021
094 LESS: TRANSFER TO SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
095 LESS: TRANSFER TO FOREIGN PROJECT RESERVE	0.00	0.00
096 LESS: TRANSFER TO CAPITAL RESERVE	0.00	0.00
097 LESS: TRANSFER TO CSR RESERVE	0.00	0.00
098 LESS: TRANSFER TO GENERAL RESERVE	0.00	0.00
099 LESS: INTERIM DIVIDEND PAID	0.00	0.00
100 LESS: TAX ON INTERIM DIVIDEND PAID	0.00	0.00
101 LESS: FINAL DIVIDEND PAID	0.00	0.00
102 LESS: TAX ON FINAL DIVIDEND PAID	0.00	0.00
103 LESS: ISSUE OF BONUS DEBENTURE	0.00	0.00
104 LESS: TAX ON ISSUE OF BONUS DEBENTURE	0.00	0.00
105 SUB-TOTAL	178,145,831,456.14	166,604,865,582.08
110	0.00	0.00
111 REMEASUREMENT OF DEFINED BENEFIT PLANS	0.00	0.00
112 AS PER LAST FINANCIAL STATEMENTS	-196,870,608.91	-172,809,279.53
113 ADD/(LESS):- ACTUARIAL GAINS/LOSS THROUGH OCI	-9,725,634.75	-24,061,329.38
114 SUB-TOTAL	-206,596,243.66	-196,870,608.91
115	0.00	0.00
116 FVTOCI Reserve	0.00	0.00
117 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
118 ADD/(LESS):- NET GAIN/LOSS OF EQUITY INSTRUMENTS THROUGH OCI	0.00	0.00
119 Sub-Total	0.00	0.00
120	0.00	0.00
121 Total Other equity	177,939,235,212.48	166,407,994,973.17
122	0.00	0.00
123	0.00	0.00
124	0.00	0.00
125	0.00	0.00
126	0.00	0.00
127	0.00	0.00
128	0.00	0.00

RIHAND SUPER THERMAL POWER STATION



A Maharatna Company

(Amount in ₹)

As at

31.03.2022

31.03.2021

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 LONG TERM BORROWINGS	0.00	0.00
002 Bonds	0.00	0.00
003 Secured	0.00	0.00
004 7.37 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3A).	0.00	0.00
005 7.62 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3 B).	0.00	0.00
006 8.61% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2034 (Fifty First Issue C - Private Placement)	0.00	0.00
007 8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3A)	0.00	0.00
008 8.91% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3B)	0.00	0.00
009 7.37% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 14th December 2031 (Sixty Sixth Issue - Private Placement)	0.00	0.00
010 7.49% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 7th November 2031 (Sixty Fourth Issue - Private Placement)	0.00	0.00
011 7.28 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
2A)		
012 7.53 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series 2 B).	0.00	0.00
013 7.32% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 17 July 2029 (Sixty Ninth Issue - Private Placement)	0.00	0.00
014 8.63% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2029 (Fifty First Issue B - Private Placement)	0.00	0.00
015 8.30% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 15 January 2029 (Sixty Seventh Issue - Private Placement)	0.00	0.00
016 8.48% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2A)	0.00	0.00
017 8.73% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2B)	0.00	0.00
018 7.47% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 16th September 2026 (Sixty Third Issue - Private Placement)	0.00	0.00
019 7.58% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2022	31.03.2021
full on 23rd August 2026 (Sixty Second Issue - Private Placement)					
020	8.05%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 5th May 2026 (Sixtieth Issue - Private Placement)	0.00	0.00
021	8.19%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 15th December 2025 (Fifty Seventh Issue - Private Placement)	0.00	0.00
022	7.11 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1A).	0.00	0.00
023	7.36 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1 B).	0.00	0.00
024	7.15%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2015 of Rs. 10,00,000/- each redeemable at par in full on 21st August 2025 (Fifty Fifth Issue - Private Placement)	0.00	0.00
025	9.17%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 22nd September 2024 (53rd Issue - private placement).	0.00	0.00
026	9.34%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 24th March 2024 (Fifty Second Issue - private placement)	0.00	0.00
027	8.19%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2013 of ₹ 10,00,000/- each redeemable at	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

		31.03.2022	31.03.2021
	As at		
	par in full on 4th March 2024 (Fifty First Issue A - Private Placement)		
028	8.41% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1A)	0.00	0.00
029	8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1B)	0.00	0.00
030	9.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 4th May 2023 and ending on 4th May 2027 (Forty fourth issue - private placement)VII	0.00	0.00
031	8.48% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 1st May 2023 (Seventeenth issue - private placement)I	0.00	0.00
032	8.80% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th April 2023 (Forty ninth issue -private placement	0.00	0.00
033	8.49% Secured non-cumulative non-convertible redeemable taxable fully paid-up bonus debentures of Rs. 12.50 each redeemable at par in three annual installments of Rs. 2.50, Rs. 5.00 and Rs. 5.00 at the end of 8th year, 9th year and 10th year on 25th March 2023, 25th March 2024 and 25th March 2025 respectively (Fifty Fourth Issue -Bonus Debentures)X - (refer Note 5 d)	0.00	0.00
034	8.73% Secured non-cumulative	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2022	31.03.2021
<p>non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 07th March 2023 (Forty eighth issue - private placement)</p>			
035	9.00% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 25th January 2023 and ending on 25th January 2027 (Forty second issue- private placement)III	0.00	0.00
036	8.84% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th October 2022 (Forty seventh issue- private placement)VII	0.00	0.00
037	7.93% Secured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 03 May 2022 (68th Issue - Private Placement)	0.00	0.00
038	6.72% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 24th November 2021 (Sixty Fifth Issue - Private Placement)	0.00	0.00
039	8.10% Secured Non-Cumulative Non-Convertible Redeemable Taxable Bonds of Rs. 30,00,000/- each redeemable at par in three equal separately transferable redeemable principal parts (STRPP) at the end of 5th year, 10th year & 15th year on 27th May 2021, 27th May 2026 and 27th May 2031 respectively (Sixty First Issue- Private Placement)	0.00	0.00
040	8.33% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 24th February 2021	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2022	31.03.2021
(Fifty Ninth Issue - Private Placement).					
042	8.93%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 19th January 2021 Thirty seventh issue - private placement)III	0.00	0.00
043	8.18%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 31st December 2020 (Fifty Eight Issue - Private Placement).	0.00	0.00
044	8.73 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 31st March 2020 (Thirty third issue- private placement)III	0.00	0.00
045	8.78 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 9th March 2020 (Thirty first issue- private placement)III	0.00	0.00
046	11.25%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in five equal annual installments commencing from 6th Nov 2019 and ending on 6th Nov 2023 (Twenty seventh issue - private placement)III	0.00	0.00
047	7.89%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 5th May 2019 (Thirtieth issue - private placement)III	0.00	0.00
048	8.65%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th February 2019 (Twenty ninth issue - private placement)III	0.00	0.00
049	7.50%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2022	31.03.2021
on 12th January 2019 (Nineteenth issue - private placement)II					
050	11%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21st November 2018 (Twenty eighth issue - private placement)III	0.00	0.00
051	9.3473%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 20th July 2018 and ending on 20th July 2032 (Forty sixth issue - private placement)VII	0.00	0.00
052	9.4376%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 16th May 2018 and ending on 16th May 2032 (Forty fifth issue - private placement)VII	0.00	0.00
053	8.00%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 10th April 2018 (Sixteenth issue -private placement)I	0.00	0.00
054	9.2573%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 2nd March 2018 and ending on 2nd March 2032 (Forty third issue - private placement)III	0.00	0.00
055	9.6713%	Secured	non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 23rd December 2017 and ending on 23rd December 2031 (Forty first issue - private placement)III		
056 9.558% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 29th July 2017 and ending on 29th July 2031(Fourtieth issue-private placement)III	0.00	0.00
057 9.3896% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 9th June 2017 and ending on 9th June 2031(Thirty ninth issue-private placement)III	0.00	0.00
058 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 22nd March 2017 and ending on 22nd March 2031(Thirty eighth issue-private placement)III	0.00	0.00
059 8.8086% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS**

(Amount in ₹)

As at	31.03.2022	31.03.2021
year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th December 2016 and ending on 15th December 2030 (Thirty sixth issue - private placement)III		
060 8.785% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th September 2016 and ending on 15th September 2030 (Thirty fifth issue - private placement)III	0.00	0.00
061 8.71% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 10th June 2016 and ending on 10th June 2030 (Thirty fourth issue - private placement)III	0.00	0.00
062 8.8493% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 25th March 2016 and ending on 25th March 2030 (Thirty second issue - private placement)III	0.00	0.00
063 9.37% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty fifth issue -	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at			31.03.2022	31.03.2021
private placement)III				
065	9.06%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty sixth issue - private placement)III	0.00	0.00
066	8.6077%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 9th September 2011 and ending on 9th March 2021 (Twenty fourth issue - private placement)IV	0.00	0.00
067	8.3796%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 5th August 2011 and ending on 5th February 2021 (Twenty third issue - private placement)IV	0.00	0.00
068	8.1771%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd July 2011 and ending on 2nd January 2021 (Twenty second issue - private placement)IV	0.00	0.00
069	7.7125%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd August 2010 and ending on 2nd February 2020 (Twenty first issue - private placement)V	0.00	0.00
070	7.552%	Secured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 23rd September 2009 and ending on 23rd March 2019 (Twentieth issue - private placement)VI		
071 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each with ten equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of the 6th year and in annual installments thereafter upto the end of 15th year respectively from 30th April 2002 (Thirteenth issue - Part B - private placement)VIII	0.00	0.00
072 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each redeemable at par in ten equal annual installments commencing from the end of 6th year and upto the end of 15th year respectively from 18th April 2002 (Thirteenth issue -Part A - private placement)VIII	0.00	0.00
075	0.00	0.00
076	0.00	0.00
077 Sub Total	0.00	0.00
078 Unsecured	0.00	0.00
079 6.55% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 17 April 2023 (Seventieth Issue - Private Placement)	0.00	0.00
080 6.29% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 11 April 2031 (Seventy First Issue - Private Placement)	0.00	0.00
081 5.45% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 15 October 2025 (Seventy Second Issue - Private Placement)	0.00	0.00
082 6.43% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
full on 27 January 2031 (Seventy Third Issue - Private Placement)		
083 6.87% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21 April 2036 (Seventy Fourth Issue - Private Placement)	0.00	0.00
084 6.69% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 13 September 2031 (Seventy Fifth Issue - Private Placement)	0.00	0.00
085 6.74% Unsecured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 14 April 2032 (Seventy Sixth Issue - Private Placement)	0.00	0.00
086	0.00	0.00
087	0.00	0.00
088	0.00	0.00
089 Sub-total	0.00	0.00
090 Total	0.00	0.00
091 Foreign Currency Notes-Unsecured	0.00	0.00
092 4.50% Fixed Rate Notes Due for repayment on 19th March 2028	0.00	0.00
093 2.75% Fixed rate notes due for repayment on 1st February 2027	0.00	0.00
094 4.25 % Fixed rate notes due for repayment on 26th February 2026	0.00	0.00
095 4.375% Fixed Rate Note due for repayment on 26th November 2024	0.00	0.00
096 4.75 % Fixed Rate Notes due for repayment on 3rd Oct 2022	0.00	0.00
097 7.25 % Fixed green global INR denominated bonds due on 3 May 2022	0.00	0.00
098 7.375 % Fixed green global INR denominated bonds due on 10 August 2021	0.00	0.00
099 5.625% Fixed Rate Notes due for repayment on 14th July 2021	0.00	0.00
100 3.75 % Fixed rate notes due for repayment on 03 April 2024	0.00	0.00
101	0.00	0.00
102	0.00	0.00
103	0.00	0.00
104 Sub Total	0.00	0.00
105 Term Loans	0.00	0.00
106 From Banks	0.00	0.00
107 Secured	0.00	0.00
108 Rupee Loans	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
109 Unsecured	0.00	0.00
110 Foreign Currency Loans	0.00	0.00
111 Rupee Loans	0.00	0.00
112 From Others	0.00	0.00
113 Secured	0.00	0.00
114 Rupee Loans	0.00	0.00
115 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
116 Unsecured	0.00	0.00
117 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
118 Other Foreign currency loans	0.00	0.00
120 Rupee Loans	0.00	0.00
121 Deposits	0.00	0.00
122 Unsecured	0.00	0.00
123 Fixed Deposits	0.00	0.00
124 Others	0.00	0.00
125 Unsecured	0.00	0.00
126 Bonds Application Money Pending Allotment	0.00	0.00
127 Sub-total	0.00	0.00
128 Total	0.00	0.00
129 Less:- Interst accrued but not due on secured borrowings	0.00	0.00
130 Less:- Interst accrued but not due on unsecured borrowings	0.00	0.00
131 Less:- Current maturities of long term borrowings	0.00	0.00
132 Bonds-Secured	0.00	0.00
133 Fixed Rate Notes	0.00	0.00
135 Foreign currency loans from Banks- unsecured	0.00	0.00
136 Rupee loans from banks- Secured	0.00	0.00
137 Rupee loans from banks- unsecured	0.00	0.00
138 Rupee Term loan from Others - Secured	0.00	0.00
139 Foreign currency loans from others- unsecured (Guaranteed by GOI)	0.00	0.00
140 Other foreign currency loans from others- unsecured	0.00	0.00
141 Rupee loans from others- unsecured	0.00	0.00
142	0.00	0.00
143	0.00	0.00
144	0.00	0.00
145	0.00	0.00
146	0.00	0.00
147	0.00	0.00
148	0.00	0.00
149	0.00	0.00
150	0.00	0.00
151	0.00	0.00
200 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23A TO THE FS-NCL-LEASE BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Non-current financial liabilities - Lease liabilities	0.00	0.00
002 Lease liabilities	0.00	0.00
003 Long term maturities of Finance Lease Liabilities (Secured) IX	0.00	0.00
004 Long term maturities of Finance Lease Liabilities (Unsecured) X	0.00	0.00
005 Sub-Total	0.00	0.00
006 Less: current maturities of lease liabilities	0.00	0.00
007 Finance Lease obligations - secured	0.00	0.00
008 Finance Lease obligations - unsecured	0.00	0.00
009 Sub-Total	0.00	0.00
010 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 24 TO THE FS-NCL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2022	31.03.2021
001	TRADE PAYABLES(NON CURRENT)	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	7,830,370.14	16,336,269.21
004	- Others	11,108,650.81	6,373,476.89
005		0.00	0.00
006	Total	18,939,020.95	22,709,746.10

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 OTHER FINANCIAL LIABILITIES (NON-CURRENT)	0.00	0.00
002 Payable for Capital Expenditure	0.00	0.00
003 - Micro & Small Enterprises	3,022,575.28	100,024.63
004 - Others	210,903,859.44	681,641,329.62
005 Others	0.00	0.00
006 Deposits from contractors and others	11,000.00	0.00
007	0.00	0.00
008	0.00	0.00
009 Total	213,937,434.72	681,741,354.25

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 26 TO THE FS-NCL-PROVISIONS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 LONG TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening Balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
006	0.00	0.00
007 Others	0.00	0.00
008 i) Mine Closure Provision	0.00	0.00
009 Opening Balance	0.00	0.00
010 Additions during the year	0.00	0.00
011 Amounts adjusted during the year	0.00	0.00
012 Amounts reversed during the year	0.00	0.00
013 Closing Balance	0.00	0.00
014	0.00	0.00
015 ii) Stripping Activity Adjustments	0.00	0.00
016 Opening Balance	0.00	0.00
017 Additions during the year	0.00	0.00
018 Amounts adjusted during the year	0.00	0.00
019 Amounts reversed during the year	0.00	0.00
020 Closing Balance	0.00	0.00
021	0.00	0.00
024	0.00	0.00
025 TOTAL	0.00	0.00

NOTE NO. 27 TO THE FS-NCL-DEFERRED TAX LIABILITIES (NET)

As at	Open Balance on 01.04.2021	Addition	Closing Balance on 31.03.2022
001 DEFERRED TAX LIABILITIES (NET)			
002 Difference of book depreciation and tax depreciation	0.00	0.00	0.00
003 Less: Deferred tax assets			
004 Provisions & Other disallowances for tax purposes	0.00	0.00	0.00
005 Unabsorbed Depreciation	0.00	0.00	0.00
006 Disallowances u/s 43B of the Income Tax Act, 1961	0.00	0.00	0.00
007 Others	0.00	0.00	0.00
008 Opening Balance	0.00	0.00	0.00
009 Additions during the year	0.00	0.00	0.00
010 Amounts adjusted during the year	0.00	0.00	0.00
011 Amounts reversed during the year	0.00	0.00	0.00
012 Closing Balance	0.00	0.00	0.00
013 MAT credit entitlement	0.00	0.00	0.00
014 Total	0.00	0.00	0.00
015 Total	0.00	0.00	0.00
016 Breakup of deferred tax assets	0.00	0.00	0.00
017 Provision	0.00	0.00	0.00
018 Statutory dues	0.00	0.00	0.00
019 Leave encashment	0.00	0.00	0.00
020 Others	0.00	0.00	0.00
021	0.00	0.00	0.00
022	0.00	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 28 TO THE FS-NCL-OTHER NON-CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Other Non current Liabilities	0.00	0.00
002 Advances from customers and others	0.00	0.00
003 Deposits from contractors and others	0.00	0.00
004 Grants	0.00	0.00
005 TOTAL	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 29 TO THE FS-CL-BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Short Term Borrowings	0.00	0.00
002 Loans repayable on demand	0.00	0.00
003 From Banks	0.00	0.00
004 Secured	0.00	0.00
005 Cash Credit	0.00	0.00
006 Unsecured	0.00	0.00
007 Cash Credit	0.00	0.00
008 Other loans-unsecured	0.00	0.00
009 Commercial Papers	0.00	0.00
010 Less: Unamortised discount on Commercial Papers	0.00	0.00
011 Sub-Total	0.00	0.00
012 Current maturity of long term borrowings	0.00	0.00
013 Bonds-Secured	0.00	0.00
014 Foreign Currency Fixed Rate Notes	0.00	0.00
015 From Banks	0.00	0.00
016 Secured	0.00	0.00
017 Rupee Term Loan	0.00	0.00
018 Foreign currency loans	0.00	0.00
019 Unsecured	0.00	0.00
020 Foreign currency loans	0.00	0.00
021 Rupee term loans	0.00	0.00
022 From Others	0.00	0.00
023 Secured	0.00	0.00
024 Rupee Term Loan	0.00	0.00
025 Unsecured	0.00	0.00
026 Foreign currency loans (Guaranteed by Government of India)	0.00	0.00
027 Other foreign currency loans	0.00	0.00
028 Rupee term loans	0.00	0.00
029 Fixed deposits	0.00	0.00
031 Sub Total	0.00	0.00
032 TOTAL	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 29A TO THE FS-CL-LEASE BORROWINGS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Current financial liabilities - Lease liabilities	0.00	0.00
002 Current maturity of finance lease obligations (secured)	0.00	0.00
003 Current maturity of finance lease obligations (unsecured)	0.00	0.00
004 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 TRADE PAYABLES	0.00	0.00
002 For Goods and Services	0.00	0.00
003 - Micro & Small Enterprises	220,046,789.16	227,641,821.80
004 - Others	3,104,879,539.52	1,688,677,134.68
005	0.00	0.00
006 Total	3,324,926,328.68	1,916,318,956.48
007	0.00	0.00
172 Trade payable	0.00	0.00
173 MSME	0.00	0.00
174 Unbilled	75,353,748.01	87,950,700.89
175 Not due	111,869,021.20	117,462,296.91
176 Due	32,824,020.00	22,228,824.00
177 Disputed	0.00	0.00
178 Undisputed	32,824,020.00	22,228,824.00
179	0.00	0.00
180 Sub-total (A)	220,046,789.21	227,641,821.80
181	0.00	0.00
182 Others	0.00	0.00
183 Unbilled	512,665,789.10	375,565,004.14
184 Not due	210,843,363.50	88,840,101.54
185 Due	2,381,370,387.00	1,224,272,029.00
186 Disputed	0.00	0.00
187 Undisputed	2,381,370,387.00	1,224,272,029.00
188	0.00	0.00
189 Sub-total (B)	3,104,879,539.60	1,688,677,134.68
190	0.00	0.00
191 Total	3,324,926,328.81	1,916,318,956.48
192	0.00	0.00
193 Ageing	0.00	0.00
194 MSME	0.00	0.00
195 Disputed	0.00	0.00
196 Less than 1 year	0.00	0.00
197 1-2 years	0.00	0.00
198 2-3 years	0.00	0.00
199 More than 3 years	0.00	0.00
200 Sub Total (I)	0.00	0.00
201	0.00	0.00
202 Undisputed	0.00	0.00
203 Less than 1 year	32,824,020.00	22,228,824.00
204 1-2 years	0.00	0.00
205 2-3 years	0.00	0.00
206 More than 3 years	0.00	0.00
207 Sub Total (II)	32,824,020.00	22,228,824.00
208	0.00	0.00
209 Total MSME (III)	32,824,020.00	22,228,824.00
210	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at	31.03.2022	31.03.2021
211 Others	0.00	0.00
212 Disputed	0.00	0.00
213 Less than 1 year	0.00	0.00
214 1-2 years	0.00	0.00
215 2-3 years	0.00	0.00
216 More than 3 years	0.00	0.00
217 Sub Total (IV)	0.00	0.00
218	0.00	0.00
219 Undisputed	0.00	0.00
220 Less than 1 year	1,676,015,685.00	730,603,504.30
221 1-2 years	85,164,135.00	430,819,121.70
222 2-3 years	193,027,381.00	1,186,607.00
223 More than 3 years	427,163,186.00	61,662,796.00
224 Sub Total (V)	2,381,370,387.00	1,224,272,029.00
225	0.00	0.00
226 Total Others (VI)	2,381,370,387.00	1,224,272,029.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 OTHER FINANCIAL LIABILITIES (CURRENT)	0.00	0.00
020	0.00	0.00
021 Interest accrued but not due on secured borrowings	0.00	0.00
022 Interest accrued but not due on unsecured borrowings	0.00	0.00
023 Unpaid Dividends*	0.00	0.00
024 Unpaid matured deposits and interest accrued thereon*	0.00	0.00
025 Unpaid matured bonds and interest accrued thereon*	0.00	0.00
026 Unpaid bond refund money-Tax free bonds *	0.00	0.00
027 Book Overdraft	0.00	0.00
028 Payable to Customers	0.00	0.00
029 Liability under forward exchange contract	0.00	0.00
030 Hedging cost payable to beneficiaries	0.00	0.00
031 Derivative MTM Liability	0.00	0.00
032 Payable for Capital Expenditure	0.00	0.00
033 - Micro & Small Enterprises	113,167,223.51	114,779,286.53
034 - Others	3,485,636,092.15	1,769,755,357.39
035 Others Payables	0.00	0.00
036 Deposits from contractors and others	85,251,588.78	53,078,458.78
037 Gratuity Obligations	0.00	0.00
038 Payable to employees	19,782,024.00	10,896,978.39
039 Payable to holding company	0.00	0.00
040 Retention on A/c BG encashment (Solar)	0.00	0.00
041 Payable to Solar Payment Security Account	0.00	0.00
042 Others **	96,581,271.22	140,861,301.14
043 Unspent CSR balance on ongoing Approved CSR projects	0.00	0.00
044 Total	3,800,418,199.66	2,089,371,382.23
045 * Represents the amounts which have not been claimed by the investor/holders of the bonds/ fixed deposits. Out of the above, no amount is due for payment to Investor Education and Protection Fund.	0.00	0.00
046 ** Include Payable to Hospital and other payable.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 32 TO THE FS-CL-OTHER CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 OTHER CURRENT LIABILITIES	0.00	0.00
002 Advances from customers and others	66,809,931.25	35,638,788.25
003 Deferred discount on forward exchange contact	0.00	0.00
004 Tax deducted at source and other statutory dues	83,997,873.09	59,989,614.61
005 Deposits from contractors and others	0.00	0.00
006 Government grants	0.00	0.00
007 Others	0.00	0.00
008 Total	150,807,804.34	95,628,402.86

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 33 TO THE FS-CL-PROVISIONS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 SHORT TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
028 Provisions for Obligations Incidental to Land Acquisition	0.00	0.00
029 Opening balance	0.00	0.00
030 Additions during the year	0.00	0.00
031 Amounts paid during the year	0.00	0.00
032 Amounts reversed during the year	0.00	0.00
033 Closing Balance	0.00	0.00
035 Provision for Tariff Adjustment	0.00	0.00
036 Opening balance	0.00	0.00
037 Additions during the year	0.00	0.00
038 Amounts adjusted during the year	0.00	0.00
039 Amounts reversed during the year	0.00	0.00
040 Closing Balance	0.00	0.00
042 Provision for shortage in Fixed Assets Pending Investigation & Others	0.00	0.00
043 Opening balance	0.00	633,857.99
044 Additions during the year	0.00	0.00
045 Amounts adjusted during the year	0.00	54,258.29
046 Amounts reversed during the year	0.00	579,599.70
047 Closing Balance	0.00	0.00
048 Provision for Arbitration	0.00	0.00
049 Opening balance	8,265,312.00	7,846,960.00
050 Additions during the year	418,352.00	418,352.00
051 Amounts used during the year	0.00	0.00
052 Amounts reversed during the year	0.00	0.00
053 Closing Balance	8,683,664.00	8,265,312.00
054 Others	0.00	0.00
055 Opening balance	0.00	0.00
056 Additions during the year	0.00	0.00
057 Amounts used during the year	0.00	0.00
058 Amounts reversed during the year	0.00	0.00
059 Closing Balance	0.00	0.00
102	0.00	0.00
103 Total	8,683,664.00	8,265,312.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 34 TO THE FS-CL-CURRENT TAX LIABILITIES (NET)

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Current liabilities - current tax liabilities (net)	0.00	0.00
002 Opening balance	0.00	0.00
003 Additions during the year	0.00	0.00
004 Amounts adjusted during the year	0.00	0.00
005 Less: Set off against taxes paid	0.00	0.00
006 Closing Balance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 35 TO THE FS--DEFERRED REVENUE

(Amount in ₹)

	As at	31.03.2022	31.03.2021
001	Deferred Revenue	0.00	0.00
002	On account of advance against depreciation	0.00	0.00
003	On account of income from foreign currency fluctuation	1,521,099,000.00	1,550,313,000.00
004	Government grants	0.00	0.00
006	TOTAL	1,521,099,000.00	1,550,313,000.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 36 TO THE FS--REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Regulatory deferral account credit balances	0.00	0.00
002 Exchange Differences	0.00	0.00
003	0.00	0.00
004 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 37 TO THE FS--REVENUE FROM OPERATIONS

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001	REVENUE FROM OPERATIONS	0.00	0.00
002	Sales	0.00	0.00
003	Energy Sales (including Electricity Duty)	53,443,276,351.00	50,965,331,245.83
004	Less : Advance against depreciation deferred (net)	0.00	0.00
005	Add: Revenue recognized out of advance against depreciation	0.00	0.00
006	Add : Exchange fluctuation receivable from customers	-1,191,045,000.00	0.00
007	Sale of energy through trading	0.00	0.00
008	Commission (NVVN)	0.00	0.00
009	Sub total	52,252,231,351.00	50,965,331,245.83
010	Less: Rebate to customers	244,496,889.89	792,896,443.92
011	Energy Sales (Total)	52,007,734,461.11	50,172,434,801.91
012	Consultancy, project management and supervision fees	0.00	0.00
013	Lease rentals on assets on Operating lease	0.00	0.00
014	Sale of Captive Coal	0.00	0.00
015	Intra Company Elimination	0.00	0.00
017	Sub-total	0.00	0.00
018	Total - Sales	52,007,734,461.11	50,172,434,801.91
019	Sale of fly ash/ash products	0.00	15,712,224.90
020	Less: Transferred to fly ash utilisation reserve fund	0.00	-15,712,224.90
021	Sub-total	0.00	0.00
022	Other Operating Income	0.00	0.00
023	Interest from customers	107,849,212.00	0.00
024	Energy Internally Consumed *	31,975,932.00	32,244,116.00
025	Interest income on Assets under finance lease	0.00	0.00
026	Recognized from deferred revenue - government grant	0.00	0.00
027	Provision written back- Tariff Adjustment	0.00	0.00
028	Income form Trading of ESCerts	0.00	0.00
029	Income from E-Mobility Business & others	0.00	0.00
030	Others	0.00	0.00
031	Total	52,147,559,605.11	50,204,678,917.91
040	* Valued at variable cost of generation and corresponding amount included in power charges (Note No. 42)	0.00	0.00
041	Excise duty on sale of flyash,cenospere & ash products	0.00	0.00
042	Energy sales of principal nature (NVVN)	0.00	0.00
043	Energy sales of agency nature (NVVN)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

For the Year ended	31.03.2022	31.03.2021
001 OTHER INCOME	0.00	0.00
002 Interest from	0.00	0.00
004 Financial assets at amortised cost	0.00	0.00
005 Government Securities (8.5% Tax Free Bonds issued by the State Governments)	0.00	0.00
006 Other Bonds	0.00	0.00
007	0.00	0.00
008 Interest from Government of India Securities-Non-Trade	0.00	0.00
009 Less: Amortziation of premium	0.00	0.00
010 Sub Total	0.00	0.00
011 Interest from others	0.00	0.00
012 Loan to State Government in settlement of dues from customers	0.00	0.00
013 Loan to Subsidiary Companies	0.00	0.00
014 Loan to Employees	15,984,260.52	15,321,469.09
015 Deposit with banks	0.00	0.00
016 Foreign Banks	0.00	0.00
017 Interest from Contractors	915,881.70	1,013,678.30
018 Interest from Income Tax Refunds	0.00	0.00
019 Less : Refundable to Customers	0.00	0.00
020 Sub Total	0.00	0.00
021 Deposits with banks-flyash utilisation reserve fund	0.00	0.00
022 Less: transferred to flyash utilisation reserve fund	0.00	0.00
023 Sub Total	0.00	0.00
024 Deposits with banks- DDUGJY funds	0.00	0.00
025 Interest from Contractors- DDUGJY funds	0.00	0.00
026 Transfer to DDUGJY-Advance from customers	0.00	0.00
027 Sub-total	0.00	0.00
030 Others	1,179,995.49	0.00
031	0.00	0.00
032 Dividend from	0.00	0.00
033 Longterm investments in	0.00	0.00
034 Subsidiaries	0.00	0.00
035 Joint Ventures	0.00	0.00
036 Equity Instruments	0.00	0.00
037 Current Investments in	0.00	0.00
038 Mutual Funds measured at fairvalue through profit or loss	0.00	0.00
039 Current investments in mutual funds-flyash utilisation reserve fund	0.00	0.00
040 Less: transferred to flyash utilisation reserve fund	0.00	0.00
041 Lease Rent # Ash Brick Plant	0.00	0.00
042 Less: transferred to flyash utilisation reserve fund	0.00	0.00
043 Other non-operating income	0.00	0.00
044 Profit on disposal of PPE	3,591.10	20,849.70
045 Profit on redemption of GOI securities	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
046	Net gain on sale of investments	0.00	0.00
047	Surcharge received from customers	890,083,371.00	2,336,727,851.00
048	Hire charges for equipment	0.00	151,491.00
049	Gain on option contract / Discount on F.ExchContract	27,567,170.36	0.00
050	Provision written back-others	8,667,761.36	4,648,573.24
051	Fair value gains/(losses) on investments in mutual funds at fair value through profit or loss	0.00	0.00
052	Interest from Solar payment security account	0.00	0.00
053	Less : Transferred to SPSA fund	0.00	0.00
054	Interest on "Retention on A/c BG encashment (Solar)"	0.00	0.00
055	Less : Transferred to "Retention on A/c BG encashment (Solar)"	0.00	0.00
056	Miscellaneous Income	257,016,760.40	399,678,154.90
057	Total	1,201,418,791.93	2,757,562,067.23
058	Less:Transferred to Development of Coal Mines- Note 43A	0.00	0.00
059	Less:Transferred to Expenditure during Construction period (net)- Note 43	96,735.00	73,452.78
060	Less: Others	0.00	0.00
062	Total	1,201,322,056.93	2,757,488,614.45
063		0.00	0.00
064	Details of Miscellaneous Income	0.00	0.00
065	Vehicle Hire Charges.	118,000.00	100,000.00
066	Sale of by products & residuals	0.00	0.00
067	Township recoveries(exl. Hospital Recoveries).	22,530,387.46	26,531,613.68
068	Depreciation written back	0.00	0.00
069	Sale of Scrap.	118,949,651.93	146,790,506.41
070	Receipt under loss of profit policy.	0.00	0.00
071	Receipts under MBD/Fire Policy.	0.00	105,876,803.99
072	Management development programme.	0.00	0.00
073	Management Fee - Misc (NVVN)	0.00	0.00
074	Others	115,418,721.01	120,379,230.82
075		0.00	0.00
076	Total (Miscellaneous Income)	257,016,760.40	399,678,154.90
077		0.00	0.00
078	Details of Provision written back others	0.00	0.00
079	Doubtful debts	0.00	0.00
080	Doubtful Loans, Advances and Claims	0.00	0.00
081	Doubtful Construction Advances	0.00	0.00
082	Shortage in Construction Stores	548,546.87	3,069,811.99
083	Shortage in Stores	6,867,724.99	999,161.55
084	Obsolescence in Stores	1,251,489.50	0.00
085	Unserviceable capital works	0.00	0.00
086	Other Obligation including Arbitration	0.00	0.00
087	Shortage in Fixed Assets	0.00	579,599.70



A Maharatna Company

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
088	Diminution in value of Investment	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38A TO THE FS--FUEL COST

(Amount in ₹)

For the Year ended		31.03.2022	31.03.2021
001	FUEL COST	0.00	0.00
002	Coal	0.00	0.00
003	Captive	0.00	0.00
004	Other than captive	30,357,469,404.43	30,979,828,493.35
005	Gas	0.00	0.00
006	Naptha	0.00	0.00
007	Oil	286,119,163.76	247,723,305.71
008	Biomass Pellets	0.00	0.00
009	Total	30,643,588,568.19	31,227,551,799.06
010		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 39 TO THE FS--EMPLOYEE BENEFITS EXPENSE

(Amount in ₹)

For the Year ended		31.03.2022	31.03.2021
001	EMPLOYEE BENEFITS EXPENSE	0.00	0.00
002	Salaries and wages	1,545,790,249.09	1,515,897,759.31
003	Contribution to provident and other funds	204,663,720.58	192,912,222.56
004	Unwinding of deferred payroll expense	10,256,372.76	10,267,426.36
005	Staff welfare expenses	188,061,328.44	170,031,632.85
006	Less : Expenses transferred to Consultancy group	0.00	0.00
007		0.00	0.00
008	Sub Total	1,948,771,670.87	1,889,109,041.08
009	Less: Employee benefits expense allocated to fuel inventory	112,502,448.72	121,440,512.65
010	Less: Transferred/Allocated to development of coal mines	0.00	0.00
011	Less: Others	0.00	0.00
012	Less: Transferred to fly ash utilisation reserve fund	0.00	0.00
013	Less: Transferred to CSR Expenses	0.00	0.00
014	Reimbursements for employees on secondment	3,377,875.77	2,735,946.17
015	Less: Transferred to expenditure during construction period (net)- Note 43	24,926,059.94	19,394,829.87
016	TOTAL	1,807,965,286.44	1,745,537,752.39
017	Managerial Remuneration paid/ payable to Directors included above (except for Directors fee which is included in Note 42)	0.00	0.00
018	Salaries and wages	0.00	0.00
019	Contribution to provident and other funds	0.00	0.00
020	Staff welfare expenses	0.00	0.00
021	Directors fee	0.00	0.00
022		0.00	0.00
023		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 40 TO THE FS--FINANCE COSTS

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001	FINANCE COSTS	0.00	0.00
002	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
003	Bonds	710,804,516.35	585,552,890.58
004	Government of India Loans	0.00	0.00
005	Foreign currency term loans	19,995,984.52	19,316,822.83
006	Rupee term loans	438,724,318.00	690,539,220.00
007	Public deposits	0.00	0.00
008	Foreign currency bonds/notes	316,443,493.96	642,399,406.03
009	Cash Credit	0.00	0.00
010	Unwinding of discount on account of vendor liabilities	79,228,121.55	13,871,577.85
011	Commercial Papers	0.00	0.00
012	Sub Total	1,565,196,434.38	1,951,679,917.29
013	Interest on non financial items	0.00	0.00
014	Other Borrowing Costs	0.00	0.00
015	Bonds servicing & public deposit exp.	863,783.14	717,948.54
016	Guarantee fee	0.00	0.00
017	Management fee	0.00	0.00
018	Committ charges/exposure premium	1,126,265.00	0.00
019	Bond issue expenses	0.00	0.00
020	Legal exp on foreign currency loans	0.00	0.00
021	Foreign currency bonds/notes exp.	0.00	0.00
022	Up-front fee	0.00	0.00
023	Insurance premium on foreign currency loans	0.00	0.00
024		0.00	0.00
025	Others	0.00	0.00
026	Sub Total (Other Borrowing cost)	1,990,048.14	717,948.54
027		0.00	0.00
028	Exchange differences regarded as an adjustment to borrowing costs	-2,773,694.67	-16,523.48
029	Sub Total	1,564,412,787.85	1,952,381,342.35
030	Less: Transferred to Expenditure during construction period (net) - Note 43	98,307,037.97	22,905,000.49
031	Less: Transferred to development of coal mines- Note 43A	0.00	0.00
032		0.00	0.00
033	Total	1,466,105,749.88	1,929,476,341.86

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 41 TO THE FS--DEPRECIATION AND AMORTIZATION EXPENSES

(Amount in ₹)

For the Year ended		31.03.2022	31.03.2021
001	Depreciation and amortization expenses	0.00	0.00
002	On property, plant and equipment- Note 2	4,722,518,393.06	4,601,404,034.44
003	On intangible assets- Note 4	0.00	4,317.78
004	Sub-total	4,722,518,393.06	4,601,408,352.22
005	Less:	0.00	0.00
006	Allocated to fuel inventory	374,595,518.15	361,624,623.95
007	Transferred to Expenditure during Construction Period (net)- Note 43	0.00	0.00
008		0.00	0.00
009	Transferred/Allocated to development of coal mines	0.00	0.00
010	Adjustment with deferred revenue from deferred foreign currency fluctuation	165,193,000.00	168,797,000.00
011		0.00	0.00
012	Total	4,182,729,874.91	4,070,986,728.27

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 42 TO THE FS--OTHER EXPENSE

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001 OTHER EXPENSES		0.00	0.00
002 Power charges		31,976,053.83	32,244,116.00
003 Less: Recovered from contractors & employees		18,059,198.89	10,218,976.19
004 Sub-Total(Power Charges)		13,916,854.94	22,025,139.81
005 Water charges		139,871,225.00	139,871,225.00
006 Stores consumed		52,633,011.12	30,362,577.69
007 Rent		0.00	0.00
008 Less:Recoveries		0.00	0.00
009 Sub-Total (Rent)		0.00	0.00
010 Cost of captive coal produced		0.00	0.00
011 Repairs & maintenance		0.00	0.00
012 Buildings		129,376,643.93	157,598,147.58
013 Plant & machinery		0.00	0.00
014 Power stations		1,746,499,355.61	2,012,457,618.12
015 Construction equipment		0.00	0.00
016 Others		106,882,579.98	71,233,169.46
017 Sub-total (Repairs & maintenance)		1,982,758,579.52	2,241,288,935.16
019 Load Dispatch Center Charges		25,361,760.00	16,378,065.00
021 Insurance		141,466,994.50	135,670,380.27
022 Interest to beneficiaries		0.00	0.00
023 Rates and taxes		14,847,960.99	14,719,674.88
024 Water cess & environment protection cess		0.00	0.00
025 Training & recruitment expenses		688,607.70	2,517,189.00
026 Less: Receipts		0.00	0.00
027 Sub-total (Training and recruitment expenses)		688,607.70	2,517,189.00
028 Communication expenses		21,264,678.98	20,286,959.05
029 Inland Travel		66,788,667.74	60,029,239.63
030 Foreign Travel		0.00	0.00
031 Tender expenses		0.00	0.00
032 Less: Receipt from sale of tenders		0.00	0.00
033 Sub-total (Tender expenses)		0.00	0.00
034 Payment to auditors		0.00	0.00
035 Audit fee		0.00	0.00
036 Tax audit fee		0.00	0.00
037 Other services		0.00	0.00
038 Reimbursement of expenses		0.00	0.00
039 Sub-total (Payment to Auditors)		0.00	0.00
040 Advertisement and publicity		1,007,008.21	657,415.36
041 Electricity duty		0.00	0.00
042 Security expenses		375,343,967.09	460,687,189.93
043 Entertainment expenses		25,139,954.44	26,655,551.12
044 Expenses for guest house		18,821,757.77	17,271,947.40
045 Less:Recoveries		2,432,785.40	0.00
046 Sub-Total (Guest house expenses)		16,388,972.37	17,271,947.40
047 Education expenses		58,099,926.00	79,480,752.00
049 Donations		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 42 TO THE FS--OTHER EXPENSE

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
050	Ash utilisation & marketing expenses	796,403,425.57	432,245,428.81
051	Directors sitting fee	0.00	0.00
053	Professional charges and consultancy fees	2,058,930.20	3,302,664.23
054	Legal expenses	15,869,702.68	15,480,086.00
055	EDP hire and other charges	778,677.16	1,336,546.59
056	Printing and stationery	1,845,738.55	1,376,617.64
057	Oil & gas exploration expenses	0.00	0.00
059	Hiring of vehicles	25,296,051.88	20,600,619.14
061	Reimbursement of L.C.charges on sales realisation	0.00	0.00
062		0.00	0.00
063	Cost of Hedging	0.00	166,468.00
064	Derivatives MTM loss/gain (Net)	0.00	0.00
065	Net loss/(gain) in foreign currency transactions & translations	-89,322,683.55	-11,861,227.40
066	Transport Vehicle running expenses	1,160,422.83	936,937.36
067	Horticulture Expenses	63,583,840.61	59,411,651.45
068	Hire charges- helicopter/aircraft.	0.00	0.00
069	Hire charges of construction equipment	0.00	0.00
070	Demurrage Charges	0.00	0.00
072		0.00	0.00
073	Miscellaneous expenses	55,867,107.84	21,346,532.03
074	Loss on disposal/write-off of PPE	68,736,584.56	231,316,192.66
075	Sub-Total	3,877,855,966.93	4,043,560,757.81
076	Less: Other expenses allocated to fuel inventory	588,057,845.97	567,027,646.89
077	Less: Transferred/Allocated to development of coal mines	0.00	0.00
078	Less: Transferred to fly ash utilisation reserve fund	73,498,661.01	119,725,415.98
079	Less: Hedging cost Net recoverable/payable from/to beneficiaries	0.00	0.00
080	Less: Others	0.00	0.00
081	Less: Transferred to CSR Expenses	58,647,288.00	71,755,551.00
082	Less: Transferred to Expenditure during Construction period(net)-Note 43	-2,659,409.99	5,629,081.66
083	Net (Generation, Administration and Other expenses)	3,160,311,581.94	3,279,423,062.28
084	Corporate Social Responsibility Expenses	98,681,095.39	117,469,384.87
085	Less: Grants-in-aid	0.00	0.00
086	Sub-total (Corporate Social Responsibility Expenses)	98,681,095.39	117,469,384.87
087	Provisions	0.00	0.00
088	Doubtful Debts	0.00	0.00
089	Doubtful loans, advances and claims	0.00	0.00
090	Doubtful Construction Advances	0.00	0.00
091	Shortage in stores	1,655,918.65	156,818.20
092	Obsolete/Diminution in the value of surplus stores	12,120,326.93	0.00
093	Shortage in construction stores	1,469,730.55	6,233,763.36
094	Diminution in value of long term investments	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

NOTE NO. 42 TO THE FS--OTHER EXPENSE

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
095	Shortage in Fixed assets	0.00	0.00
096	Unfinished minimum work progress from oil & gas exploration	0.00	0.00
097	Unserviceable capital works	0.00	0.00
098	Tariff Adjustment	105,799,000.00	97,702,000.00
099	Others :	0.00	0.00
100	(i) Provision for arbitration cases	418,352.00	418,352.00
101	(ii) Other provisions	0.00	0.00
102	Total (Provisions)	121,463,328.13	104,510,933.56
103		0.00	0.00
104	Total	3,380,456,005.46	3,501,403,380.71
105		0.00	0.00
106	Breakup of miscellaneous expenses.	0.00	0.00
109	Hire charges of office equipment	1,714,504.43	1,215,364.67
111	Operating expenses of construction equipment	0.00	0.00
112	Operating expenses of D.G. sets	0.00	0.00
113	Furnishing expenses	111,933.41	0.00
114	Subscription to trade and other associations.	0.00	0.00
116	Visa and entry permit charges	0.00	0.00
117	Tree plantation exp.-NTPC Land	0.00	0.00
118	Research & development expenses .	0.00	0.00
119	Less : Grants received for Research & development expenses.	0.00	0.00
120	Sub-total (Research & development expenses)	0.00	0.00
121	Bank charges	57,713.83	141,681.42
122	Business Development Expenditure	0.00	0.00
123	Surcharge (NVVN)	0.00	0.00
124	Power Trading Expenses	23,017,240.00	6,458,871.00
125	Brokerage & commission	8,510,225.90	1,951,671.00
129	Books and periodicals	61,430.00	88,572.00
130	Claims/advances written off	0.00	0.00
131	Stores written off	0.00	0.00
132	Survey & Investigation expenses written off	2,987,667.50	0.00
133	Others	19,406,392.77	11,490,371.94
134	Total	55,867,107.84	21,346,532.03
135		0.00	0.00
136		0.00	0.00
137		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)

(Amount in ₹)

For the Year ended		31.03.2022	31.03.2021
001	EXPENDITURE DURING CONSTRUCTION PERIOD (NET)	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	21,286,958.63	16,690,366.44
004	Contribution to provident and other funds	2,431,771.71	1,990,589.37
005	Unwinding of deferred payroll expenses	0.00	-9,214.56
006	Staff welfare expenses	1,207,329.60	723,088.62
007	Total (A)	24,926,059.94	19,394,829.87
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	5,668,439.23	991,703.48
011	Foreign currency term loans	3,847,461.50	202,998.16
012	Rupee term loans	12,081,882.00	12,796,466.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	74,018,223.04	8,870,269.79
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	1,126,265.00	0.00
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	0.00
026	Others	1,564,768.20	476,690.72
027	Exchange differences regarded as adjustment to interest cost	-1.00	-433,127.66
028	Total (B)	98,307,037.97	22,905,000.49
029		0.00	0.00
030	C. Depreciation and amortisation	0.00	0.00
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	872,302.00	2,653,635.00
033	Less: Recovered from contractors & employees	6,316,951.40	18,237.39
034	Sub-total(Net power charges)	-5,444,649.40	2,635,397.61
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	0.00	161,732.04
041		0.00	0.00
042	Insurance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
043	Rates and taxes	93.60	0.00
044	Communication expenses	194,837.00	202,309.00
045	Travelling expenses	863,550.68	1,061,207.26
046	Tender expenses	0.00	0.00
047	Less: Income from sale of tenders	0.00	0.00
048	Sub-total (Net tender expenses)	0.00	0.00
049	Advertisement and publicity	0.00	0.00
050	Security expenses	0.00	0.00
051	Entertainment expenses	82,552.00	96,997.19
052	Guest house expenses	0.00	0.00
053	Less: Receipt from guest house	0.00	0.00
054	Sub-total (Net Guest House Expenses)	0.00	0.00
055	Education expenses	0.00	0.00
056	Brokerage & Commission	0.00	0.00
057	Books and periodicals	0.00	0.00
058	Community development expenses	0.00	0.00
059	Professional charges and consultancy fee	0.00	0.00
060	Legal expenses	0.00	0.00
061	EDP Hire and other charges	0.00	0.00
062	Printing and stationery	0.00	0.00
063	Miscellaneous expenses	1,644,206.13	1,471,438.56
064	Total (D)	-2,659,409.99	5,629,081.66
065	Total (A+B+C+D)	120,573,687.92	47,928,912.02
066	E. Less: Other Income	0.00	0.00
067	Interest from	0.00	0.00
068	Indian banks	0.00	0.00
069	Foreign banks	0.00	0.00
070	Others	0.00	0.00
071	Contractors	0.00	0.00
072	Hire charges	0.00	0.00
073	Sale of scrap	0.00	0.00
074	Exchange Differences	0.00	0.00
075	Miscellaneous income	96,735.00	73,452.78
076	TOTAL (E)	96,735.00	73,452.78
077	F. Net actuarial gain/loss OCI	85,940.56	201,530.19
078		0.00	0.00
079	GRAND TOTAL (A+B+C+D-E+F)	120,562,893.48	48,056,989.43
080		0.00	0.00
081	* Balance carried to Capital Work-in-progress - (Note 3)	120,562,893.48	48,056,989.43

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43A TO THE FS--EDC- COAL MINING

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001	EDC- Coal Mining	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	0.00	0.00
004	Contribution to provident and other funds	0.00	0.00
005	Unwinding of deffered payroll expenses	0.00	0.00
006	Staff welfare expenses	0.00	0.00
007	Total (A)	0.00	0.00
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	0.00	0.00
011	Foreign currency term loans	0.00	0.00
012	Rupee term loans	0.00	0.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	0.00	0.00
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	0.00	0.00
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	0.00
026	Others	0.00	0.00
027	Exchange differences regarded as adjustment to interest cost	0.00	0.00
028	Total (B)	0.00	0.00
029		0.00	0.00
030	C. Depreciation and amortisation	0.00	0.00
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	0.00	0.00
033	Less: Recovered from contractors & employees	0.00	0.00
034	Sub-total(Net power charges)	0.00	0.00
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	0.00	0.00
041	Cost of Captive Coal	0.00	0.00
042	Insurance	0.00	0.00
043	Rates and taxes	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43A TO THE FS--EDC- COAL MINING

(Amount in ₹)

For the Year ended	31.03.2022	31.03.2021
044 Communication expenses	0.00	0.00
045 Travelling expenses	0.00	0.00
046 Tender expenses	0.00	0.00
047 Less: Income from sale of tenders	0.00	0.00
048 Sub-total (Net tender expenses)	0.00	0.00
049 Advertisement and publicity	0.00	0.00
050 Security expenses	0.00	0.00
051 Entertainment expenses	0.00	0.00
052 Guest house expenses	0.00	0.00
053 Less: Receipt from guest house	0.00	0.00
054 Sub-total (Net Guest House Expenses)	0.00	0.00
055 Education expenses	0.00	0.00
056 Brokerage & Commission	0.00	0.00
057 Books and periodicals	0.00	0.00
058 Community development expenses	0.00	0.00
059 Professional charges and consultancy fee	0.00	0.00
060 Legal expenses	0.00	0.00
061 EDP Hire and other charges	0.00	0.00
062 Printing and stationery	0.00	0.00
063 Miscellaneous expenses	0.00	0.00
064 Total (D)	0.00	0.00
065 Total (A+B+C+D)	0.00	0.00
066 E. Less: Other Income	0.00	0.00
067 Interest from	0.00	0.00
068 Indian banks	0.00	0.00
069 Foreign banks	0.00	0.00
070 Others	0.00	0.00
071 Contractors	0.00	0.00
072 Hire charges	0.00	0.00
073 Sale of scrap	0.00	0.00
074 Exchange Differences	0.00	0.00
075 Miscellaneous income	0.00	0.00
076 TOTAL (E)	0.00	0.00
077 F. Net actuarial gain/loss OCI	0.00	0.00
078	0.00	0.00
079 GRAND TOTAL (A+B+C+D-E+F)	0.00	0.00
080	0.00	0.00
081 * Balance carried to Capital Work-in-progress - (Note 3)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Balance sheet	0.00	0.00
002 Freehold land for which conveyancing of the title is awaiting completion of legal formalities	0.00	0.00
003 (a) area (in acres)	1,277.87	1,277.87
004 (b) value (in rs)	50,838,469.84	50,838,469.84
005 Right-of-use land for which execution of lease deed is awaiting completion of legal formalities	0.00	0.00
006 (a) area (in acres)	1,966.04	1,966.04
007 (b) value (in rs)	312,091,923.56	312,091,923.56
008 Right-of-use land acquired on perpetual lease and accordingly not amortised	0.00	0.00
009 (a) area (in acres)	0.00	0.00
010 (b) value (in rs.)	0.00	0.00
011 Land in physical possession of the company which has not been shown in the books pending settlement of price (in acres)	0.00	0.00
012 Deposit with government authorities towards land in possession of the company included in cost of land which is subject to adjus	0.00	0.00
013 Land not in possession of the company	0.00	0.00
014 (a) area (in acres)	0.00	0.00
015 -Freehold	786.37	786.37
016 -Right of Use	0.00	72.47
017 (b) value (in rs)	0.00	0.00
018 -Freehold	14,409,326.78	14,409,326.78
019 -Right of Use	0.00	31,000,000.00
020 Right-of-use buildings pending completion of legal fomalities - value (in rs.)	0.00	0.00
021 Estimated amount of contracts remaining to be executed on capital account and not provided for	0.00	0.00
022 Property, plant & equipment	17,845,234,843.44	13,007,728,593.40
023 Intangible assets	0.00	0.00
024 Details of precommissioning expenditure	0.00	0.00
025 (a) precommissioning expenses	0.00	0.00
026 (b) precommissioning income	0.00	0.00
027 (c) net precommissioning expenditure	0.00	0.00
028	0.00	0.00
029	0.00	0.00
030	0.00	0.00
031 Exchange rate variation taken to revenue during the year (with -ve sign, if favourable)	-92,096,377.22	-15,064,742.92
045 Exchange rate variation capitalised during the year (with -ve sign, if favourable)	154,890,055.40	-258,283,111.07
064 Short Term Leases	0.00	0.00
065 A) Rent	0.00	0.00
066 Company lease accomodation - executives	0.00	0.00
067 Company lease accomodation - directors	0.00	0.00
068 Others	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2022	31.03.2021
069 Total	0.00	0.00
101 Borrowing cost capitalised during the year	24,288,814.93	22,905,000.49
102 Revenue grants recognized during the year	0.00	0.00
103 Revenue expenditure on research and development	0.00	0.00
104 Capital expenditure on research and development.	0.00	0.00
105 Expenditure on sustainability development - capital	0.00	0.00
106 Expenditure on csr- capital	0.00	0.00
107 Opening balance - CSR Liability	39,305,330.19	12,146,990.00
108 Paid/Adjusted during the Year out of Opening above	-36,690,803.19	-11,111,558.00
109 Amount yet to be paid against Cr Year CSR Exp	3,179,626.00	38,269,898.19
110 Closing Balance CSR- Liability (110)	5,794,153.00	39,305,330.19
111	0.00	0.00
112	0.00	0.00
113	0.00	0.00
114	0.00	0.00
115 Disclosure under msmed act 2006.	0.00	0.00
116 (i) (a) the principal amount remaining unpaid as at year end	344,066,958.09	358,855,306.17
117 (i) (b) interest due there on remaining unpaid as at Year end	0.00	0.00
118 (ii) the amount of interest paid by the buyer in terms of section 16, along with the amounts of the payment made to the supplier	0.00	0.00
119 (iii) the amount of interest due and payable for the period of delay in making payment(which has been paid but beyond the appoin	0.00	0.00
120 (iv) the amount of interest accrued and remaining unpaid at the end of the year; and	0.00	0.00
121 (v) the amount of further interest remaining due and payable even in the succeeding years, until such date when the interest due	0.00	0.00
122 Amount of inventories recognized as an expense (including fuel)	31,594,433,719.35	32,450,425,492.54
123 Amount of inventories capitalised as overhauling assets out of 122 above	138,605,728.72	211,306,876.17
124 Amount capitalised as edc out of 122 above	0.00	0.00
133 Value of Imported Material Consumed during the Year	0.00	0.00
134	0.00	0.00
135 Contingent liabilities	0.00	0.00
136 A. Claims against the company not acknowledged as debts in respect of :	0.00	0.00
137 (i)Capital works	0.00	0.00
138 (ii)Land compensation cases	35,769,736.80	36,846,334.60
139 (iii)Others by state authorities towards:-	0.00	0.00
140 (a) Water royalty / water charges / nala tax	0.00	0.00
141 (b) Diversion of land / building permission fees	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2022	31.03.2021
142 (c) Other demands by state authorities	257,912,490.57	213,444,000.00
143 (iv) Others by fuel companies	0.00	0.00
144 (a) Disputes related to grade slippage-third party sampling	521,176,520.00	674,113,356.00
145 (b) Surface transportation charges on coal	911,712,917.66	911,712,917.66
146 (c) Take or pay claim - Gas stations	0.00	0.00
147 (d) Other claims by fuel companies not acknowledged as debt	291,000,980.00	288,553,832.00
149 B.Disputed tax demands	0.00	0.00
150 (i) Income tax	0.00	0.00
151 (ii) Excise duty	3,691,823.00	3,691,823.00
152 (iii) Sales tax	145,060,360.00	144,606,592.00
153 (iv) Service tax	4,080,007.53	3,934,244.13
154 (v) Entry tax	0.00	0.00
155 C. Others	240,865,291.85	244,114,529.58
156 Total	2,411,270,127.41	2,521,017,628.97
157 D. Possible reimbursement on account of contingent liabilities	0.00	0.00
158 (i) Capital works	0.00	0.00
159 (ii) Land compensation cases	0.00	0.00
160 (iii) Others (by state authorities)	0.00	0.00
161	0.00	0.00
162 (iv) Others by fuel companies	1,723,890,417.66	1,874,380,105.66
163 (v) Disputed income tax demand	0.00	0.00
164 (vi) Disputed tax demands -others	148,752,183.00	147,399,897.00
165 (vii) Others	118,267,099.00	124,237,101.00
167 Total	1,990,909,699.66	2,146,017,103.66
168 E.AMOUNT PAID UNDER PROTEST/ADJUSTED BY AUTHORITIES - TAX CASES	812,756.00	812,756.00
169 F.CONTINGENT ASSETS	0.00	0.00
170 Intangible under development : less than 1 year	0.00	0.00
171 Intangible under development #: 1-2 year	0.00	0.00
227 Intangible under development #: 2-3 year	0.00	0.00
277 Intangible under development #: More than 3 years	0.00	0.00
278 Capital-Work-in Progress (CWIP)	0.00	0.00
279 Projects in progress	6,758,466,834.90	3,031,095,010.70
280 Projects temporarily suspended	0.00	0.00
281	0.00	0.00
282	0.00	0.00
283 Projects in progress	0.00	0.00
284 Less than 1 year	4,445,877,958.44	2,464,027,384.05
285 1-2 years	1,791,003,583.98	275,380,547.60
286 2-3 years	268,220,634.24	47,112,066.26
287 More than 3 years	253,364,658.24	244,575,012.79
288 Sub Total (I)	6,758,466,834.90	3,031,095,010.70
289	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44-A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2022	31.03.2021
290 Projects temporarily suspended	0.00	0.00
291 Less than 1 year	0.00	0.00
292 1-2 years	0.00	0.00
293 2-3 years	0.00	0.00
294 More than 3 years	0.00	0.00
295 Sub Total (II)	0.00	0.00
296	0.00	0.00
380 Previous year figures have been regrouped/rearranged wherever necessary.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-B TO THE FS--RPD DISCLOSURE- TRANSACTIONS DURING THE PERIOD

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
001	1) Transactions during the year- subsidiaries	0.00	0.00
002	Purchase of equipment, supply & erection services	0.00	0.00
003	Purchase of spares	0.00	0.00
004	Maintenance services	0.00	0.00
005	Contracts for works/services for services provided by the company	0.00	0.00
006	Deputation of employees	0.00	0.00
007	Sales of goods	0.00	0.00
008	Sales of property and other assets	0.00	0.00
009	Sub-total	0.00	0.00
010		0.00	0.00
011	Dividend received	0.00	0.00
012	Equity contributions made	0.00	0.00
013	Share application money pending allotment	0.00	0.00
014	Loans granted	0.00	0.00
015	Interest on Loan	0.00	0.00
016	Guarantees received	0.00	0.00
017	Guarantees provided	0.00	0.00
018	Sub-total	0.00	0.00
019		0.00	0.00
020	Transactions during the year- jvs	0.00	0.00
021	Purchase of equipment, supply & erection services	5,024,657.17	-1,682,896.23
022	Purchase of spares	0.00	0.00
023	Maintenance services	859,040,089.80	997,681,580.70
024	Contracts for works/services for services provided by the company	0.00	1,329,798.62
025	Deputation of employees	0.00	0.00
026	Sales of goods	0.00	0.00
027	Sales of property and other assets	0.00	0.00
028	Sub-total	864,064,746.97	997,328,483.09
029		0.00	0.00
030	Dividend received	0.00	0.00
031	Equity contributions made	0.00	0.00
032	Share application money pending allotment	0.00	0.00
033	Loans granted	0.00	0.00
034	Guarantees received	0.00	0.00
035	Guarantees provided	0.00	0.00
036	Sub-total	0.00	0.00
037	Total	864,064,746.97	997,328,483.09
038	Transactions with post employment benefit plans	0.00	0.00
039	Contributions made during the year	0.00	0.00
040	Compensation to key management personnel	0.00	0.00
041	Short term employee benefits	0.00	0.00
042	Post employment benefits	0.00	0.00
043	Other long term benefits	0.00	0.00
044	Termination benefits	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-B TO THE FS--RPD DISCLOSURE- TRANSACTIONS DURING THE PERIOD

(Amount in ₹)

	For the Year ended	31.03.2022	31.03.2021
045	Sitting Fee	0.00	0.00
046	Share based payments	0.00	0.00
047	Sub-total	0.00	0.00
048	Transactions with the related parties under the control of the same government:	0.00	0.00
049	Coal india ltd.. And its subsidiaries- purchase of coal	29,254,471,598.00	29,065,603,324.00
050	Singareni coalfields ltd- purchase of coal	0.00	0.00
051	Bhel ltd.	0.00	0.00
052	Purchase of equipment, supply & erection services	83,658,474.64	242,365,356.74
053	Purchase of spares	132,241,476.97	108,328,927.92
054	Maintenance services	255,496,685.48	221,583,436.88
055	Sub-total	471,396,637.09	572,277,721.54
056	Gail (i) ltd. Supply of natural gas	0.00	0.00
057	locl supply of oil products	757,980,356.02	576,989,518.01
058	Bpcl-supply of natural gas and oil	54,520,164.69	36,610,626.00
059	Sail-supply of steel and iron products	218,133,550.53	191,925,531.94
060	Other entities	0.00	0.00
061	Purchase of equipments & erection services	2,578,991.04	558,043.00
062	Purchase of spares	29,830,616.57	43,435,715.81
063	Maintenance services	116,741,621.33	134,637,356.67
064		0.00	0.00
065	Total	30,905,653,535.27	30,622,037,836.97
066	Transaction with other	0.00	0.00
067	Transaction with ntpc education and research society and ntpc foundation	0.00	0.00
068	- transactions during the year	0.00	0.00
069	ADDITIONAL TRANSACTIONS WITH RELATED PARTIES FOR PSU	0.00	0.00
070	Additional Transactions with GAIL	0.00	0.00
071	Additional Transactions with subsidiaries	0.00	0.00
072	Additional Transactions with joint ventures	0.00	0.00
073		0.00	0.00
074		0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 44-C TO THE FS--RPD DISCLOSURE- OUTSTANDING BALANCES

(Amount in ₹)

As at	31.03.2022	31.03.2021
001 Outstanding balance	0.00	0.00
002 Amount recoverable towards loans	0.00	0.00
003 - From Subsidiaries	0.00	0.00
004 - From JVC	0.00	0.00
005 - From KMP	0.00	0.00
006 - From Others	0.00	0.00
007 Sub-total	0.00	0.00
008 Amount recoverable other than loan	0.00	0.00
009 - from subsidiaries	0.00	0.00
010 - from joint ventures	0.00	35,658.00
011 - from key managerial personnel	0.00	0.00
012 - from post employment benefit plans	0.00	0.00
013 - from others	0.00	0.00
014 Sub-total	0.00	35,658.00
015 Amount payable	0.00	0.00
016 - from subsidiaries	0.00	0.00
017 - from joint ventures	102,917,865.18	115,175,286.78
018 - from key managerial personnel	0.00	0.00
019 - from post employment benefit plans	0.00	0.00
020 - from others	0.00	0.00
021 Sub-total	102,917,865.18	115,175,286.78
022	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2023	31.03.2022
001	ASSETS	0.00	0.00
002		0.00	0.00
003	NON-CURRENT ASSETS	0.00	0.00
004	PROPERTY, PLANT & EQUIPMENT	49,021,309,183.59	50,524,838,213.05
005	CAPITAL WORK-IN-PROGRESS	8,960,205,455.82	6,758,466,834.90
006	INVESTMENT PROPERTY	0.00	0.00
007	INTANGIBLE ASSETS	73,793.85	15,282.40
008	INTANGIBLE ASSETS UNDER DEVELOPMENT	0.00	0.00
009	FINANCIAL ASSETS	0.00	0.00
010	I) EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES	0.00	0.00
011	II) OTHER INVESTMENTS	0.00	0.00
012	III) TRADE RECEIVABLES	0.00	0.00
013	IV) LOANS	111,577,788.06	114,504,593.97
014	V) OTHER FINANCIAL ASSETS	0.00	0.00
016	OTHER NON-CURRENT ASSETS	696,673,872.57	1,023,040,464.58
017	TOTAL NON-CURRENT ASSETS	59,379,845,893.79	58,420,665,369.38
018		0.00	0.00
019	CURRENT ASSETS	0.00	0.00
020	INVENTORIES	7,344,113,893.80	6,407,743,216.55
021	FINANCIAL ASSETS	0.00	0.00
022	I) OTHER INVESTMENTS	0.00	0.00
023	II) TRADE RECEIVABLES	1,737,334.04	1,733,397.09
024	III) CASH AND CASH EQUIVALENTS	0.00	0.00
025	IV) BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS	0.00	0.00
026	V) LOANS	69,609,653.52	75,812,587.85
027	VI) OTHER FINANCIAL ASSETS	126,649,551.86	149,290,961.93
028	CURRENT TAX ASSETS (NET)	0.00	0.00
029		0.00	0.00
030	OTHER CURRENT ASSETS	682,394,268.11	453,531,000.23
031		0.00	0.00
032	TOTAL CURRENT ASSETS	8,224,504,791.53	7,888,111,198.45
033	ASSETS CLASSIFIED AS HELD FOR SALE	6,037,344.90	42,064.39
036	REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES	-43,260,292.59	381,102,021.19
037	TOTAL ASSETS	67,567,127,737.83	66,489,920,679.91
038	EQUITY AND LIABILITIES	0.00	0.00
039	EQUITY	0.00	0.00
040	EQUITY SHARE CAPITAL	0.00	0.00
041	OTHER EQUITY	178,727,729,333.48	178,727,729,333.48
044	TOTAL EQUITY	178,727,729,333.48	178,727,729,333.48
045		0.00	0.00
046	LIABILITIES	0.00	0.00
047	NON-CURRENT LIABILITIES	0.00	0.00
048	FINANCIAL LIABILITIES	0.00	0.00
049	I) BORROWINGS	0.00	0.00

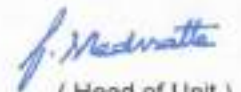
**RIHAND SUPER THERMAL POWER STATION
BALANCE SHEET**

(Amount in ₹)

As at	Note	31.03.2023	31.03.2022
050 II) LEASE LIABILITIES	23A	200,090,601.98	0.00
051 III) TRADE PAYABLES		0.00	0.00
052 - TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	24	3,290,711.73	7,630,370.14
053 - TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	24	7,141,146.39	11,100,050.81
054 IV) OTHER FINANCIAL LIABILITIES	25	45,450,369.21	213,937,434.72
055 PROVISIONS	26	0.00	0.00
056 DEFERRED TAX LIABILITIES (NET)	27	0.00	0.00
057 OTHER NON-CURRENT LIABILITIES	28	0.00	0.00
058		0.00	0.00
059 TOTAL NON-CURRENT LIABILITIES		255,960,829.31	232,876,455.67
060		0.00	0.00
061 CURRENT LIABILITIES		0.00	0.00
062 FINANCIAL LIABILITIES		0.00	0.00
063 I) BORROWINGS	29	0.00	0.00
064 II) LEASE LIABILITIES	29A	15,669,307.00	0.00
065 III) TRADE PAYABLES		0.00	0.00
066 - TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	30	177,806,736.80	220,046,789.16
067 - TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	30	2,778,477,796.80	3,104,879,536.52
068 III) OTHER FINANCIAL LIABILITIES	31	4,329,158,828.22	3,800,418,199.66
069 OTHER CURRENT LIABILITIES	32	124,300,877.64	150,867,804.94
070 PROVISIONS	33	9,102,016.00	8,583,884.00
071 CURRENT TAX LIABILITIES (NET)	34	0.00	0.00
072		0.00	0.00
073 TOTAL CURRENT LIABILITIES		7,434,413,564.46	7,284,835,996.68
074		0.00	0.00
077 DEFERRED REVENUE	35	1,576,387,000.00	1,521,099,000.00
078 REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES	36	0.00	0.00
079 INTER UNIT ACCOUNTS		-130,781,938,495.19	-121,276,820,114.92
080		0.00	0.00
081 TOTAL EQUITY AND LIABILITIES		67,567,127,737.63	66,489,920,670.91
082 Significant Accounting Policies as per note 1	1	0.00	0.00
083		0.00	0.00
084 The Accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00
085		0.00	0.00

(Auditor Initial & Stamp)

(Head of Finance)


(Head of Unit)

पी. मैदीरत्ता/P. Mediratta
महाप्रबंधक (प्रवा. एवं अनु)/GM (O&M)
एनटीपीसी-रिहन्दनगर/NTPC-Rihandnagar
सोनभद्र (उ.प्र.)/Sonebhadra (U.P.) 231223

**RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS**

(Amount in ₹)

	For the Year ended	Note	31.03.2023	31.03.2022
001	Revenue		0.00	0.00
002	Revenue from operations	37	58,472,623,746.09	53,148,219,779.11
003	Other income	38	494,325,517.35	1,201,322,056.93
005	Total Income		58,956,949,263.47	54,349,541,836.94
007	Expenses		0.00	0.00
008	Fuel including cost of captive coal	38A	34,514,855,222.10	30,643,588,586.19
009	Employee benefits expense	39	1,777,403,106.11	1,507,965,286.44
010	Electricity purchased for trading		0.00	0.00
011	Finance costs	40	1,283,819,909.71	1,466,105,749.88
012	Depreciation and amortization expenses	41	4,307,908,550.58	4,182,729,874.91
013			0.00	0.00
014	Other expenses	42	4,773,404,303.59	3,422,427,005.46
015	CC expenses charge to revenue		900,990,130.26	807,280,921.12
016	Less: Unit expenses transferred to CC		0.00	0.00
017	Total expenses		47,558,469,292.35	42,336,097,406.90
020	Profit before exceptional items & tax		11,398,479,971.12	12,019,444,430.04
021	Exceptional items		0.00	0.00
024	Profit before tax		11,398,479,971.12	12,019,444,430.04
027	Tax expense:		0.00	0.00
028	Current tax		0.00	0.00
031	Deferred tax		0.00	0.00
034			0.00	0.00
035	Total Tax expense		0.00	0.00
036	Profit for the period before regulatory deferral account balances		11,398,479,971.12	12,019,444,430.04
037	Movement in regulatory deferral account balances		0.00	0.00
038	Regulatory deferred account - deferred		0.00	0.00
039	Others		-1,024,362,313.78	316,015,565.02
040	Tax impact on Regulatory deferral account balances		0.00	0.00
041	Movement in Regulatory deferral account balances (Net of Tax)		-1,024,362,313.78	316,015,565.02
042	Profit for the period/ year		10,374,117,657.34	12,325,459,995.06
055	Other comprehensive income		0.00	0.00
056	(A) Items that will not be reclassified to profit or loss		0.00	0.00
057	- Net gains/(losses) on fair value of equity instruments through other comprehensive income		0.00	0.00
058	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
059	- Net actuarial gains/(losses) on defined benefit plans		-19,544,151.77	-9,725,834.75
060	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
064			0.00	0.00
065	Other comprehensive income for the year, net of income tax		-19,544,151.77	-9,725,834.75
070			0.00	0.00
071			0.00	0.00
072	Total Comprehensive Income for the year		10,354,573,505.57	12,319,734,360.31

**RIHAND SUPER THERMAL POWER STATION
STATEMENT OF PROFIT AND LOSS**

(Amount in ₹)

	For the Year ended	Note	31.03.2023	31.03.2022
088			0.00	0.00
087	Earnings per equity share:		0.00	0.00
088	Basic & Diluted		0.00	0.00
089	Significant Accounting Policies		0.00	0.00
090			0.00	0.00
091	The accompanying notes 1 to 44 form an integral part of these financial statements.		0.00	0.00

(Auditor Initial & Stamp)

(Head of Finance)

P. Mediratta
(Head of Unit)

पी. मैदीरत्ता/P. Mediratta
महाप्रबंधक (प्रचा. एवं अनु.)/GM (O&M)
एनटीपीसी-रिहन्दनगर/NTPC-Rihandnagar
सोनभद्र (उ०प्र०)/Sonebhadra (U.P.) 231223

For CEO and CFO Certification

(a) We acknowledge our responsibility for preparation of financial statements in accordance with the requirements of the Companies Act 2013 and recognised accounting policies and practices. We further acknowledge our responsibility for preparation of financial statement according to the requirement of Section 134(5) of the Companies Act, 2013 relating to Director's Responsibilities Statement.

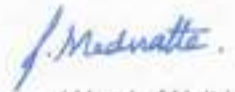
(b) We have reviewed these financial statements to the best of our knowledge and belief that these statements do not contain any materially untrue statement or omit any material fact or contain statements that might be misleading and these statements together present a true and fair view of the our Unit's affairs and are in compliance with existing accounting standards, applicable laws and regulations.

(c) To the best of our knowledge and belief, there are no transactions entered into by the Unit during the year which are fraudulent, illegal or violative of the company's code of conduct.

(d) We are responsible for establishing and maintaining internal controls for financial reporting and we have evaluated the effectiveness of the internal control system of the Unit pertaining to financial reporting and have disclosed to the auditors, the deficiencies in the design or operation of such internal controls, if any, of which we are aware and the steps we have taken or propose to take to rectify these deficiencies.

(e) We have indicated to the company's auditors significant changes in internal control over financial reporting during the year; significant changes, if any, in accounting policies during the year and the same have been disclosed in the notes to the financial statements; and instances of significant fraud of which we have become aware and the involvement therein, if any, of the management or an employee having a significant role in the company's internal control system over financial reporting.

(Head of Finance)



(Head of Unit)

पी. मैदीरत्ता/P. Mediratta
महाप्रबंधक (प्रचा. एवं जनु.)/GM (O&M)
एनटीपीसी-रिहन्दनगर/NTPC-Rihandnagar
सोनबद्र (उ०प्र०)/Sonebhadra (U.P.) 231223

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

(Amount in Rupees)

Asset Class	Opening Gross Block As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2023	Opening Depreciation As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2023	Net Block As At 31.03.2023	Net Block As At 31.03.2022
1 TANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Land : (including development expenses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Freehold	355016843.25	0.00	0.00	355016843.25	0.00	0.00	0.00	0.00	355016843.25	355016843.25
4 Right of Use	312564894.63	381975426.98	(16402587.63)	678137733.98	85480790.23	19559265.37	(5616449.11)	99423606.49	578714127.49	227084104.40
5 Submergence	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Right of use - Coal Bearing Area Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Roads,bridges, culverts & helipads	636337614.70	0.00	0.00	636337614.70	156600245.22	23556879.21	0.00	180157124.43	456180490.27	479737369.48
8 Building :	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Main plant	1852956664.03	16844083.76	0.00	1869800747.79	438548550.32	63015588.18	0.00	501564138.50	1368236609.29	1414408113.71
11 Others	2561634486.83	13176738.39	0.00	2574811225.22	578271478.87	95496029.90	0.00	673767508.77	1901043716.45	1983363007.96
12 Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Temporary erection	231168.13	0.00	0.00	231168.13	231168.13	0.00	0.00	231168.13	0.00	0.00
14 Water Supply, drainage & sewerage system	546222044.04	0.00	0.00	546222044.04	147146582.36	24193063.05	0.00	171339645.41	374882398.63	399075461.68
15 Hydraulic works, barrages, dams, tunnels and power channel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 MGR track and signalling system	1353778874.56	530569.59	0.00	1354309444.15	426074134.97	61386311.34	0.00	487460446.31	866848997.84	927704739.59
17 Railway siding	1528212.48	0.00	0.00	1528212.48	712429.73	64482.46	0.00	776912.19	751300.29	815782.75
18 Earth dam reservoir	1456921.40	0.00	0.00	1456921.40	0.00	0.00	0.00	0.00	1456921.40	1456921.40
19 Plant and machinery(including associated civil works)	74164614573.51	3340241532.80	(544289440.95)	76960566665.36	29934556584.50	4541497258.31	(731981424.62)	33744072418.19	43216494247.17	44230057989.01
Owned Asset										


 Adil General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2023	Opening Depreciation As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2023	Net Block As At 31.03.2023	Net Block As At 31.03.2022
20 Plant and machinery(including associated civil works) -Right of use Asset	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Furniture and fixtures	174964718.54	1676350.00	0.00	176641068.54	78594958.49	9625497.17	0.00	88220455.66	88420612.88	96369760.05
22 Assets under 5 Km Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 Vehicles including speedboats / helicopter- Owned	7198115.35	1836000.00	0.00	9034115.35	3207690.71	671403.19	0.00	3879093.90	5155021.45	3990424.64
24 Vehicles including speedboats / helicopter - Leased	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Office equipment	100317191.90	496281.64	0.00	100813473.54	59694520.37	6658250.27	0.00	66352770.64	34460702.90	40622671.53
26 EDP, WP machines and satcom equipment	81544199.83	55528767.92	(11294623.43)	125778344.32	66533167.59	14980080.67	(11232170.33)	70281077.93	55497266.39	15011032.24
27 Construction equipments	65110895.86	0.00	0.00	65110895.86	29074058.93	2027521.71	0.00	31101580.64	34009315.22	36036836.93
28 Electrical Installations	331078040.99	0.00	0.00	331078040.99	140007740.40	21198417.68	0.00	161206158.08	169871882.91	191070300.59
29 Communication equipments	31956347.30	855500.00	0.00	32811847.30	24604550.37	483314.00	0.00	25087864.37	7723982.93	7351796.93
30 Hospital equipments	34939396.98	1223800.08	0.00	36163197.06	17430901.95	3295165.86	0.00	20726067.81	15437129.25	17508495.03
31 Laboratory and workshop equipments	149409000.82	1573758.95	0.00	150982759.77	51452438.94	8422703.15	0.00	59875142.09	91107617.68	97956561.88
32 Capital expenditure on assets not owned by the Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 Assets of Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


 Adil General Manager (Commercial)
 एन सी ई सी लिमिटेड/NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2023	Opening Depreciation As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2023	Net Block As At 31.03.2023	Net Block As At 31.03.2022
34 Less:Grants from Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Less: Recoverable from GOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 Assets for ash utilisation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 (Less):-Adjusted from fly ash utilisation reserve fund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 Site Restoration Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Mining Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Tangible)	82762860205.13	3815958810.11	(571986652.01)	86006832363.23	32238221992.08	4896131231.52	(748830044.06)	36385523179.54	49621309183.69	50524638213.05
Grand Total Prev Year (Tangible)	82040081026.12	1446704961.36	(723925782.35)	82762860205.13	28420630260.45	4722518393.06	(904926661.43)	32238221992.08	50524638213.05	53619450765.67


 अधी. जनरल म्यानेजर (कमर्शियल)
 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड/NTPC LIMITED

Note forming part of Balance Sheet
Note 2 : Property, Plant And Equipment
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization

Particulars	Gross Block		Depreciation/Amortization	
	Tangible As At: 31.03.2023	Tangible As At: 31.03.2022	Tangible As At: 31.03.2023	Tangible As At: 31.03.2022
Disposal of assets	(11218922.70)	(352672.50)	(11218922.70)	(352672.50)
Retirement of assets	(832440819.19)	(995236466.75)	(738408039.74)	(926400049.04)
Cost adjustments	254681373.92	154890055.40	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	26964560.27	116773301.50	796918.38	21826060.11
Others	(9972844.31)	0.00	0.00	0.00
TOTAL	(571986652.01)	(723925782.35)	(748830044.06)	(904926661.43)

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2022	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2023
	1	2	3	4	5	6
1	CAPITAL WORK-IN-PROGRESS					
2	Development of land					
3	Roads, bridges, culverts & helipads					
4	Piling and foundation					
5	Buildings :					
6	Main plant					
7	Others	83909704.41	57882229.10	(13733403.39)		128058530.12
8	Temporary erection					
9	Water supply, drainage and sewerage system					
10	Hydraulic works, barrages, dams, tunnels and power channel					
11	MGR track and signalling system		530569.59	(530569.59)		
12	Railway siding					
13	Earth dam reservoir					
14	Plant and equipment	6305289092.45	4838729538.38	(1260069968.84)	1167430596.92	8716518065.07
15	Furniture and fixtures					
16	Vehicles					
17	Office equipment					
18	EDP/WP machines & satcom equipment					
19	Construction equipments					
20	Electrical installations					
21	Communication equipment					
22	Hospital equipments					
23	Laboratory and workshop equipments					
24	Assets under 5Km Scheme of the GOI					
25	Capital expenditure on assets not owned by the company					
26	Expenditure towards development of coal mines					
27	Survey,Investigation,Consultancy & Supervision Cha		391613.00			391613.00
28	Difference in exchange on foreign currency loans					

Note forming part of Balance Sheet

Note 3: Capital-Work-in-Progress

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2022	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2023
	1	2	3	4	5	6
29	Expenditure towards diversion of forest land					
30	Pre-commissioning expenses (net)					
31	ExpPendAlloca-oth ex attribut Project					
32	Expenditure During Construction Period (net)*		101556618.75	3866764.12		105423382.87
33	LESS : Allocated to related works		105423382.87			105423382.87
34	LESS : Provision for Unservicable works					
35	Construction stores (At Cost)					
36	Steel	2548783.67		43276.08		2592059.75
37	Cement	1894956.30		(171047.43)		1723908.87
38	Others	366294028.62	5343628.00	(260627980.45)		111009676.17
39	Sub-total	370737768.59	5343628.00	(260755751.80)		115325644.79
40	LESS : Provision for shortages	1469730.55		(1381333.39)		88397.16
41	Sub-total	369268038.04	5343628.00	(259374418.41)		115237247.63
42	Total CWIP	6758466834.90	4899010813.95	(1529841596.11)	1167430596.92	8960205455.82
43						
44						
45	PREVIOUS YEAR TOTAL	3031095010.70	4746007936.56	(60821215.76)	875877285.62	6758466834.90

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2023	Opening Depreciation As At 01.04.2022	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2023	Net Block As At 31.03.2023	Net Block As At 31.03.2022
INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Right to Use- Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 -Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 -Software	4773867.26	92925.00	0.00	4866792.26	4758604.86	28393.75	0.00	4786998.61	79793.65	15262.40
Grand Total (Intangible)	4773867.26	92925.00	0.00	4866792.26	4758604.86	28393.75	0.00	4786998.61	79793.65	15262.40
Grand Total Prev Year (Intangible)	4773867.26	0.00	0.00	4773867.26	4758604.86	0.00	0.00	4758604.86	15262.40	15262.40


 अधी. महाप्रबन्धक (वाणिज्यिक)
 Adil, General Manager (Commercial)
 एन टी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
Note-4 Non Current Assets- Intangible Assets
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	InTangible As At: 31.03.2023	InTangible As At: 31.03.2022	InTangible As At: 31.03.2023	InTangible As At: 31.03.2022
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मनेजर (कमर्शियल)
 Adil, General Manager (Commercial)
 एन सी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet

Note 5: Intangible Assets under Development

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2022	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2023
	1	2	3	4	5	6
1	INTANGIBLE ASSETS UNDER DEVELOPMENT					
2	Software					
3	Right to use Others					
4	Exploration and Evaluation Expenditure - Coal Mini					
5	Exploratory wells-in-progress					
6	Less: Provision for exploratory wells-in-progress					
7	Total					
8	PREVIOUS YEAR TOTAL-I					

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

As at	No. of shares	Face value	31.03.2023	31.03.2022
001	NON CURRENT INVESTMENTS- INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES		0.00	0.00
012	EQUITY INSTRUMENTS - UNQUOTED-(FULLY PAID UP UNLESS OTHERWISE STATED, AT COST)		0.00	0.00
013	SUBSIDIARY COMPANIES		0.00	0.00
014	PATRATU VIDYUT UTPADAN NIGAM LTD.		0.00	0.00
015	NTPC ELECTRIC SUPPLY COMPANY LTD.		0.00	0.00
016	NTPC VIDYUT VYAPAR NIGAM LTD.		0.00	0.00
017	NABINAGAR POWER GENERATING COMPANY LTD.		0.00	0.00
018	KANTI BIJLEE UTPADAN NIGAM LTD.		0.00	0.00
019	BHARTIYA RAIL BIJLEE COMPANY LTD.		0.00	0.00
020	NTPC MINING LTD (NML)		0.00	0.00
021	THDC INDIA LTD.		0.00	0.00
022	NEEPCO LTD.		0.00	0.00
023	NTPC EDMC Waste Solutions Pvt Ltd		0.00	0.00
024	NTPC Renewables Energy Ltd		0.00	0.00
025	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
026	NTPC Green Energy Limited		0.00	0.00
027	Green Valley Renewable Energy Limited		0.00	0.00
028			0.00	0.00
029			0.00	0.00
030	SUB TOTAL		0.00	0.00
055	JOINT VENTURE COMPANIES		0.00	0.00
056	Utility Powertech Ltd.		0.00	0.00
057	NTPC GE Power Services Pvt.Ltd.		0.00	0.00
058	NTPC-SAIL Power Company Ltd.		0.00	0.00
059	NTPC-Tamil Nadu Energy Company Ltd.		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

	As at	No. of shares	Face value	31.03.2023	31.03.2022
060	Ratnagiri Gas & Power Pvt. Limited (RGPPL)			0.00	0.00
061	ARAVALI POWER COMPANY PRIVATE LTD.			0.00	0.00
062	Jhabua Power Ltd.			0.00	0.00
063	NTPC BHEL POWER PROJECTS PRIVATE LTD.			0.00	0.00
064	MEJA URJA NIGAM PRIVATE LIMITED			0.00	0.00
065	BF-NTPC ENERGY SYSTEMS LTD.			0.00	0.00
066				0.00	0.00
067	NABINAGAR POWER GENERATING COMPANY LTD.			0.00	0.00
068	TRANSFORMER AND ELECTRICAL KERALA LTD.			0.00	0.00
069	NATIONAL HIGH POWER TEST LABORTORY PRIVATE LTD.			0.00	0.00
070				0.00	0.00
071	CIL NTPC URJA PRIVATE LTD.			0.00	0.00
072	ANUSHAKTI VIDHYUT NIGAM LTD.			0.00	0.00
073	ENERGY EFFICIENCY SERVICES LTD.			0.00	0.00
074				0.00	0.00
075	TRINCOMALEE POWER COMPANY LTD.			0.00	0.00
076	BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LTD.			0.00	0.00
077	HINDUSTAN URVARAK & RASAYAN LIMITED			0.00	0.00
078	KONKAN LNG LTD			0.00	0.00
081	SUB TOTAL			0.00	0.00
109	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS			0.00	0.00
110	TOTAL (NET OF IMPAIRMENT) OF JV			0.00	0.00
111	Gross Total of Investments			0.00	0.00
134	Total			0.00	0.00
135	Details of Investments			0.00	0.00
136	Aggregate amount of Unquoted Investments			0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 6 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

As at	No. of shares	Face value	31.03.2023	31.03.2022
141			0.00	0.00
142			0.00	0.00
143			0.00	0.00
144			0.00	0.00
145			0.00	0.00
153	Valuation of Investments as per Note 1.		0.00	0.00
154			0.00	0.00
202			0.00	0.00
233			0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 7 TO THE FS-NCA-OTHER INVESTMENTS
(Amount in ₹)

As at	No. of shares	Face value	31.03.2023	31.03.2022
001	Non-current financial assets (investments)		0.00	0.00
006	Long Term - Trade		0.00	0.00
007	Equity Instruments (fully paid up-unless otherwise stated)		0.00	0.00
008	Quoted		0.00	0.00
009	JOINT VENTURE COMPANIES		0.00	0.00
010	PTC India Ltd.		0.00	0.00
070	INTERNATIONAL COAL VENTURES PRIVATE LTD.		0.00	0.00
075	BF-NTPC ENERGY SYSTEMS LTD.		0.00	0.00
098	Jhabua Power Limited-8.5% Non convertible debentures - private placement		0.00	0.00
110	COOPERATIVE SOCIETIES		0.00	0.00
111			0.00	0.00
112	SUB TOTAL		0.00	0.00
113	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS		0.00	0.00
115	TOTAL		0.00	0.00
120			0.00	0.00
146	NTPC EMPLOYEES CONSUMERS AND THRIFT CO-OPERATIVE SOCIETY LTD. KORBA		0.00	0.00
147	NTPC EMPLOYEES CONSUMERS AND THRIFT COOPERATIVE SOCIETY LTD. RSTPP		0.00	0.00
148	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. FARAKKA		0.00	0.00
149	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. VINDHYACHAL		0.00	0.00
150	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. ANTA		0.00	0.00
151	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. KAWAS		0.00	0.00
152	NTPC Employees Consumers Cooperative Society Ltd. Kaniha		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 8 TO THE FS-NCA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Non-current financial assets - Trade receivables	0.00	0.00
002 UNSECURED, CONSIDERED GOOD	0.00	0.00
003 CREDIT IMPAIRED	0.00	0.00
004	0.00	0.00
006 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 9 TO THE FS-NCA-LOANS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 LOANS (NON CURRENT)	0.00	0.00
004 RELATED PARTIES	0.00	0.00
005 SECURED	0.00	0.00
006 UN-SECURED	0.00	0.00
007 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
008 CREDIT IMPAIRED	0.00	0.00
009	0.00	0.00
010 EMPLOYEES(INCLUDING ACCRUED INTEREST)	0.00	0.00
011 SECURED	94,115,817.95	87,385,641.00
012 UNSECURED	45,955,656.57	55,663,708.67
013 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
014 CREDIT IMPAIRED	0.00	0.00
015 LESS : EMPLOYEE LOANS DISCOUNTING	0.00	0.00
016 SECURED	22,171,388.03	21,476,411.67
017 UNSECURED	6,322,298.43	7,068,344.03
018 LOAN TO STATE GOVERNMENT IN SETTLEMENT OF DUES FROM CUSTOMERS (UNSECURED)	0.00	0.00
019 OTHERS	0.00	0.00
020 SECURED	0.00	0.00
021 UNSECURED	0.00	0.00
022 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
023 CREDIT IMPAIRED	0.00	0.00
024 LESS: ALLOWANCE FOR CREDIT IMPAIRED LOANS	0.00	0.00
026 SUB TOTAL	111,577,788.06	114,504,593.97
027	0.00	0.00
028 TOTAL	111,577,788.06	114,504,593.97
029	0.00	0.00
030	0.00	0.00
031 Due from Directors and Officers of the Company	0.00	0.00
032 Directors	0.00	0.00
033 Officers	0.00	0.00
034	0.00	0.00
035 Loans to related parties include:	0.00	0.00
036 i)Key management personel	0.00	0.00
037 ii)Subsidiary companies	0.00	0.00
038 iii)Joint Venture companies	0.00	0.00
039 iv)Others	0.00	0.00
040	0.00	0.00
055 Other loans represent loans given to	0.00	0.00
056 a) APIIC	0.00	0.00
061	0.00	0.00
062 RPD	0.00	0.00
063 i)Key management personel	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

As at	31.03.2023	31.03.2022
064 ii)Subsidiary companies	0.00	0.00
065 iii)Joint Venture companies	0.00	0.00
066 iv)Others	0.00	0.00
067 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 10 TO THE FS-NCA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Other Financial Assets (non current)	0.00	0.00
002	0.00	0.00
003 Share application money pending allotment in (Subsidiary Companies) :	0.00	0.00
004 NTPC Electric Supply Company Ltd.	0.00	0.00
005 NTPC Vidyut Vyapar Nigam Ltd.	0.00	0.00
006 Nabinagar Power Generating Company Ltd.	0.00	0.00
007 Kanti Bijlee Utpadan Nigam Ltd.	0.00	0.00
008 Bhartiya Rail Bijlee Company Ltd.	0.00	0.00
009 Patratu Vidyut Utpadan Nigam Ltd.	0.00	0.00
010 NTPC Mining Limited	0.00	0.00
011 THDC Ltd.	0.00	0.00
012 NEEPCO Ltd	0.00	0.00
013	0.00	0.00
014 Total	0.00	0.00
015 Share application money pending allotment (Joint Venture)	0.00	0.00
016 Utility Powertech Ltd.	0.00	0.00
017 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
018 NTPC-SAIL Power Company Ltd.	0.00	0.00
019 NTPC-Tamil Nadu Energy Company Ltd.	0.00	0.00
020 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
021 Aravali Power Company Private Ltd.	0.00	0.00
022	0.00	0.00
023 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
024 Meja Urja Nigam Private Limited	0.00	0.00
025 BF-NTPC Energy Systems Ltd.	0.00	0.00
026 Anushakti Vidhyut Nigam Ltd.	0.00	0.00
027 Nabinagar Power Generating Company Ltd.	0.00	0.00
028 Energy Efficiency Services Ltd.	0.00	0.00
029 National High Power Test Labortory Private Ltd.	0.00	0.00
030	0.00	0.00
031 CIL NTPC Urja Private Ltd.	0.00	0.00
032 Trincomalee Power Company Ltd.	0.00	0.00
033 Hindustan Urvarak & Rasayan Limited	0.00	0.00
034 Bangladesh-India Friendship Power Company Private Ltd.	0.00	0.00
035 Sub Total	0.00	0.00
036	0.00	0.00
037 Claims Recoverable	0.00	0.00
038 Finance Lease Recoverable	0.00	0.00
039 Mine Closure Deposit	0.00	0.00
040 Financial Deposit	0.00	0.00
041	0.00	0.00
042 Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

(Amount in ₹)

As at	31.03.2023	31.03.2022
010	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Other Non-current Assets	0.00	0.00
002	0.00	0.00
003 CAPITAL ADVANCES	0.00	0.00
004 SECURED	0.00	0.00
005 Unsecured	0.00	0.00
006 COVERED BY BANK GUARANTEE	600,930,914.00	194,789,674.00
007 OTHERS	54,522,506.49	53,588,917.11
008 CONSIDERED DOUBTFUL	0.00	0.00
009 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
010 Sub-Total	655,453,420.49	248,378,591.11
011	0.00	0.00
012 Advances other than capital advances	0.00	0.00
013 SECURITY DEPOSITS	1,524,280.00	1,524,280.00
019 Advances to Related parties	0.00	0.00
022 Advances to Contractors & Suppliers	0.00	0.00
023 SECURED	0.00	0.00
024 UNSECURED	0.00	0.00
025 CONSIDERED DOUBTFUL	0.00	0.00
026 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
027 Sub Total	1,524,280.00	1,524,280.00
028 RECEIVABLE FROM MCP ESCROW A/C	0.00	0.00
029 Pre Paid expenses	0.00	0.00
039 ADVANCE TAX & TAX DEDUCTED AT SOURCE	9,747,424.13	7,544,241.17
040 LESS:- PROVISION FOR CURRENT TAX	0.00	0.00
041	0.00	0.00
042 Sub Total	9,747,424.13	7,544,241.17
043 DEFERRED PAYROLL EXPENSES (SECURED)	15,584,840.68	16,323,225.74
044 DEFERRED PAYROLL EXPENSES (UNSECURED)	4,362,707.27	4,860,126.54
045 Sub Total	19,947,547.95	21,183,352.28
046 DEFERRED FOREIGN CURRENCY FLUCTUATION ASSET	1,000.00	744,410,000.00
049	0.00	0.00
050 Total	686,673,672.57	1,023,040,464.56
051	0.00	0.00
052	0.00	0.00
062 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
064	0.00	0.00
065 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
066	0.00	0.00
067 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
068 Aravali Power Company Private Ltd.	0.00	0.00
069 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 11 TO THE FS-NCA-OTHER NON-CURRENT ASSETS****(Amount in ₹)**

As at	31.03.2023	31.03.2022
070 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
071 Meja Urja Nigam Private Limited	0.00	0.00
072 Nabinagar Power Generating Company Ltd.	0.00	0.00
073 National High Power Test Laboratory Private Ltd.	0.00	0.00
075 CIL NTPC Urja Private Ltd.	0.00	0.00
077	0.00	0.00
078 Related Party (Adv)	0.00	0.00
079 Key Management personel	0.00	0.00
080 Subsidiary companies	0.00	0.00
081 Joint Venture companies	0.00	0.00
082 Contractors	0.00	0.00
083 Others	0.00	0.00
085	0.00	0.00
086 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 12 TO THE FS-CA-INVENTORIES

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 INVENTORIES	0.00	0.00
002	0.00	0.00
003 Coal	2,580,101,057.99	2,703,905,576.35
004 Fuel oil	547,439,933.51	331,140,312.31
005 Naphtha	0.00	0.00
006 Stores and spares	3,448,710,137.80	2,663,630,801.56
007 Chemicals & consumables	76,411,103.07	65,606,636.51
008 Loose tools	2,161,544.92	1,308,727.02
009 Steel Scrap	6,955,006.69	6,531,859.28
010 Others	726,364,476.25	670,976,891.13
011	0.00	0.00
012 Sub Total	7,388,143,260.23	6,443,100,804.16
013 Less: Provision for shortages	222,450.81	1,655,918.65
014 Less: Provision for obsolete/ unserviceable/dimuniton in value of surplus inventory	43,806,915.82	33,701,668.96
016	0.00	0.00
017 Total	7,344,113,893.60	6,407,743,216.55
018 Inventories include material in transit	0.00	0.00
019 Coal	0.00	0.00
020 Fuel oil	0.00	0.00
021 Naphtha	0.00	0.00
022 Stores and spares	180,646.08	7,409,492.60
023 Chemicals & consumables	1,207,500.10	8,269,466.13
024 Loose tools	0.00	0.00
025 Others	0.00	12,040,077.62
026	0.00	0.00
028 Inventory items other than steel scrap have been valued considering Note 1.	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 13 TO THE FS-CA-OTHER INVESTMENTS

(Amount in ₹)

	As at	No. of shares	Face value	31.03.2023	31.03.2022
001	CURRENT INVESTMENTS			0.00	0.00
002	(Valuation as per Note 1)			0.00	0.00
003	Jhabua Power Limited-8.5% Non convertible debentures - private placement			0.00	0.00
033	Investment in Mutual Funds (Details as under)			0.00	0.00
034	SBI-Magnum Insta Cash Fund-DDR			0.00	0.00
035	SBI Premier Liquid Fund Super-IP-DDR			0.00	0.00
036	SBI-SHF Ultra Short Term Fund-IP-DDR			0.00	0.00
037	UTI Money Market- IP-Direct-Growth			0.00	0.00
038	IDBI-Liquid plan- Direct-Growth			0.00	0.00
039	Canara Robeco Liquid Fund Super-IP-DDR			0.00	0.00
040	Canara Robeco Treasury Advantage Fund Super-IP-DDR			0.00	0.00
041	IDBI Liquid Fund-DDR			0.00	0.00
042	SBI Premier Liquid fund-Direct DDR (Ash Fund)			0.00	0.00
043	UTI Liquid CashPlan - IP - DDR (Ash Funds)			0.00	0.00
044	IDBI Liquid Fund - DDR - (Ash Funds)			0.00	0.00
045	Baroda Liquid Fund - Direct - Growth			0.00	0.00
046				0.00	0.00
047	Sub Total			0.00	0.00
048				0.00	0.00
052	Unquoted Investments			0.00	0.00
054				0.00	0.00
066	TOTAL			0.00	0.00
067				0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 TRADE RECEIVABLES (current)*	0.00	0.00
002	0.00	0.00
003 Secured, Considered Good	0.00	0.00
004 Unsecured , considered good	1,737,334.04	1,733,397.09
005 Credit impaired	0.00	0.00
006 Unbilled Revenue	0.00	0.00
007 Sub-Total	1,737,334.04	1,733,397.09
008 Total	1,737,334.04	1,733,397.09
009 Less: Allowance for credit impaired receivables	0.00	0.00
010 Total	1,737,334.04	1,733,397.09
012 Less: Discom Clearing	0.00	0.00
014	0.00	0.00
015 Grand Total	1,737,334.04	1,733,397.09
016 Other Unsecured	0.00	0.00
017 Long-term trade receivables	0.00	0.00
018 TCS Clearing	0.00	0.00
019 Discom Clearing	0.00	0.00
228 Trade Receivable	0.00	0.00
230 Not due	0.00	0.00
231 Due	0.00	0.00
232 (i) Undisputed Trade receivables # considered good	1,737,334.04	1,733,397.09
233 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
234 (iii) Undisputed Trade Receivables # credit impaired	0.00	0.00
235 (iv) Disputed Trade Receivables#considered good	0.00	0.00
236 (v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
237 (vi) Disputed Trade Receivables # credit impaired	0.00	0.00
238 Unbilled	0.00	0.00
239 Total	1,737,334.04	1,733,397.09
240	0.00	0.00
241 (i) Undisputed Trade receivables # considered good	0.00	0.00
242 Less than 6 months	1,737,334.04	1,733,397.09
243 6 months -1 year	0.00	0.00
244 1-2 years	0.00	0.00
245 2-3 years	0.00	0.00
246 More than 3 years	0.00	0.00
247 Sub Total (I)	1,737,334.04	1,733,397.09
248 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
249 Less than 6 months	0.00	0.00
250 6 months -1 year	0.00	0.00
251 1-2 years	0.00	0.00
252 2-3 years	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 14 TO THE FS-CA-TRADE RECEIVABLES
(Amount in ₹)

As at		31.03.2023	31.03.2022
253	More than 3 years	0.00	0.00
254	Sub Total (II)	0.00	0.00
255	(iii) Undisputed Trade Receivables -credit impaired	0.00	0.00
256	Less than 6 months	0.00	0.00
257	6 months -1 year	0.00	0.00
258	1-2 years	0.00	0.00
259	2-3 years	0.00	0.00
260	More than 3 years	0.00	0.00
261	Sub Total (III)	0.00	0.00
262		0.00	0.00
263	(iv) Disputed Trade Receivables#considered good	0.00	0.00
264	Less than 6 months	0.00	0.00
265	6 months -1 year	0.00	0.00
266	1-2 years	0.00	0.00
267	2-3 years	0.00	0.00
268	More than 3 years	0.00	0.00
269	Sub Total (IV)	0.00	0.00
270	(v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
271	Less than 6 months	0.00	0.00
272	6 months -1 year	0.00	0.00
273	1-2 years	0.00	0.00
274	2-3 years	0.00	0.00
275	More than 3 years	0.00	0.00
276	Sub Total (V)	0.00	0.00
277	(vi) Disputed Trade Receivables # credit impaired	0.00	0.00
278	Less than 6 months	0.00	0.00
279	6 months -1 year	0.00	0.00
280	1-2 years	0.00	0.00
281	2-3 years	0.00	0.00
282	More than 3 years	0.00	0.00
283	Sub Total (VI)	0.00	0.00
284	Total	-3,474,668.08	-3,466,794.18

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 15 TO THE FS-CA-CASH AND CASH EQUIVALENTS

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 CASH & BANK BALANCES	0.00	0.00
002 Cash & Cash Equivalents	0.00	0.00
003 Balances with Banks	0.00	0.00
004 Cheques & Drafts on hand	0.00	0.00
005 Cash on hand	0.00	0.00
006 Others (stamps in hand)	0.00	0.00
007 Bank deposits with original maturity upto three months	0.00	0.00
008 Balances with RBI	0.00	0.00
009	0.00	0.00
011 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 16 TO THE FS-CA-BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS (Amount in ₹)

As at	31.03.2023	31.03.2022
001 Other Bank Balances	0.00	0.00
002 Deposits with original maturity of more than three months but not more than twelve months	0.00	0.00
003 Earmarked balances with banks*	0.00	0.00
004 SubTotal	0.00	0.00
005 Interest accrued on deposits	0.00	0.00
006	0.00	0.00
008 Total	0.00	0.00
009	0.00	0.00
010 Earmarked balances with banks consist of :	0.00	0.00
011 Unpaid dividend account balance	0.00	0.00
012 Towards public deposit repayment reserve	0.00	0.00
013 Towards redemption of bonds due for repayment within one year	0.00	0.00
014 Security with Government/other authorities	0.00	0.00
015 Unpaid refund/interest account balance - Tax free bonds/ Bonus Debentures	0.00	0.00
016 Earmarked for RGGVY/DDUGJY/SAUBHAGYA Fund	0.00	0.00
017 Earmarked for Flyash Utilisation Reserve Fund	0.00	0.00
018 Deposits with original maturity upto three months as per court orders	0.00	0.00
019 Payment Security Scheme of MNRE NSM (NTPC)	0.00	0.00
020 Payment Security Scheme of MNRE NSM (NVVN)	0.00	0.00
021 Enforcement Directorate of Solar Plant(NVVN)	0.00	0.00
022 Bank guarantee Fund of MNRE (NVVN)	0.00	0.00
023 Others	0.00	0.00
024 Margin Money	0.00	0.00
025	0.00	0.00
026	0.00	0.00
027 Sub-total	0.00	0.00
031 Total	0.00	0.00
032	0.00	0.00
033 Bank deposits with original maturity of less than three months- other than earmarked	0.00	0.00
034 Bank deposits with original maturity of more than three months but not more than twelve months- other than earmarked	0.00	0.00
035 Earmarked bank balances (current account)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 17 TO THE FS-CA-LOANS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Current financial assets - Loans	0.00	0.00
002 Loans (current)-including interest accrued	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
011 Secured	20,385,267.61	19,369,168.43
012 Unsecured	49,224,386.31	56,443,419.22
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
017	0.00	0.00
018 Others	0.00	0.00
019 Secured	0.00	0.00
020 Unsecured	0.00	0.00
021 With significant increase in Credit Risk	0.00	0.00
022 Credit impaired	0.00	0.00
023	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
026	0.00	0.00
027 Total (Loans)	69,609,653.92	75,812,587.65
028	0.00	0.00
029 Due from Directors and Officers of the Company	0.00	0.00
030 Directors	0.00	0.00
031 Officers	0.00	0.00
032	0.00	0.00
033 Loans to related parties include:	0.00	0.00
034 i)Key management personel	0.00	0.00
035 ii)Subsidiary companies	0.00	0.00
036 KBUNL	0.00	0.00
037 RGPPL	0.00	0.00
038 NVVN	0.00	0.00
039 iii)Joint Venture companies	0.00	0.00
040 iv)others	0.00	0.00
041	0.00	0.00
060 RPD	0.00	0.00
061 i)Key management personel	0.00	0.00
062 ii)Subsidiary companies	0.00	0.00
063 iii)Joint Venture companies	0.00	0.00
064 iv)Others	0.00	0.00
065	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 17 TO THE FS-CA-LOANS

(Amount in ₹)

	As at	31.03.2023	31.03.2022
066	Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Other Financial Assets (current)	0.00	0.00
002	0.00	0.00
003 ADVANCES	0.00	0.00
004	0.00	0.00
005 Related Parties	0.00	0.00
006 Secured	0.00	0.00
007 Un-Secured	84,291,452.19	75,281,568.77
008 Considered doubtful	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
012 Unsecured	4,592,765.26	4,837,250.36
013 Considered Doubtful	0.00	0.00
014	0.00	0.00
020 Others	0.00	0.00
021 Secured	0.00	0.00
022 Unsecured	0.00	0.00
023 Considered Doubtful	0.00	0.00
024	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026	0.00	0.00
033 Total (Advances)	88,884,217.45	80,118,819.13
044	0.00	0.00
045 Claims Recoverable	0.00	0.00
046 Secured	0.00	0.00
047 Unsecured, considered good	10,262,639.69	2,233,059.02
048 Considered Doubtful	0.00	0.00
049 Less:- Allowance for doubtful claims	0.00	0.00
050 Others-Claims Recoverable	0.00	0.00
051	0.00	0.00
052 Contract Asset- Revenue	2,663,746.83	2,841,100.83
053 Hedging cost recoverable from beneficiaries	0.00	0.00
054 Derivative MTM Asset	0.00	0.00
055 Finance Lease Receivable	0.00	0.00
056 Mine Closure Deposit	0.00	0.00
057 Financial Deposit	0.00	0.00
059 Other Accrued Income	0.00	0.00
060 Secured,Considered Good	0.00	0.00
061 Unsecured , considered good	24,838,947.89	64,097,982.95
062 Credit impaired	0.00	0.00
063	0.00	0.00
064 Sub-Total	24,838,947.89	64,097,982.95
065 Less: Allowance for credit impaired receivables	0.00	0.00
066 Total	24,838,947.89	64,097,982.95
067	0.00	0.00
068 Others*	0.00	0.00
070	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 18 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2023	31.03.2022
071 Total	126,649,551.86	149,290,961.93
072 * Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
073 Advances to related parties include:	0.00	0.00
074 i)Key management personel	0.00	0.00
075	0.00	0.00
076 iii)Joint Venture companies	0.00	0.00
077	0.00	0.00
078 v)Others	0.00	0.00
079	0.00	0.00
080 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
081 Related Party (Adv)- Employee	0.00	0.00
082 Related Party (Adv)- Subsidiaries	83,366,423.19	75,281,568.77
083 Related Party (Adv)- Joint Ventures	925,029.00	0.00
084	0.00	0.00
085 Related Party (Adv)- Others	0.00	0.00
086	0.00	0.00
099	0.00	0.00
100	0.00	0.00
101 Total	84,291,452.19	75,281,568.77

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 OTHER CURRENT ASSETS	0.00	0.00
002 Security Deposits (Unsecured)	0.00	0.00
003 Deposit with Customs, port trust & others*	812,756.00	812,756.00
004 ADVANCES	0.00	0.00
005	0.00	0.00
006 Related Parties	0.00	0.00
007 Secured	0.00	0.00
008 Un-Secured	1,407,513.00	1,407,513.00
009 Considered doubtful	0.00	0.00
010	0.00	0.00
011 Employees(including imprest)	0.00	0.00
012 Secured	0.00	0.00
013 Unsecured	1,322,275.00	355,986.00
014 Considered Doubtful	0.00	0.00
015	0.00	0.00
016 Contractors & Suppliers	0.00	0.00
017 Secured	0.00	0.00
018 Unsecured	205,359,772.28	136,271,338.36
019 Considered Doubtful	0.00	0.00
020	0.00	0.00
021 Others**	0.00	0.00
022 Secured	0.00	0.00
023 Unsecured	18,994,496.00	18,584,624.00
024 Considered Doubtful	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026 Receivable from MCP Escrow A/c	0.00	0.00
027 Deferred Payroll Expenses (Secured)	1,972,468.83	2,129,056.99
028 Deferred Payroll Expenses (Unsecured)	3,069,573.18	3,686,929.13
029 Sub-total	5,042,042.01	5,815,986.12
030 Interest accrued on :	0.00	0.00
031 Advances to contractors	0.00	0.00
032	0.00	0.00
033 Claims Recoverable	0.00	0.00
034 Secured	0.00	0.00
035 Unsecured, considered good	445,294,831.82	286,458,564.02
036 Considered Doubtful	26,600,000.00	26,600,000.00
037 Less:- Allowance for doubtful claims	26,600,000.00	26,600,000.00
038	0.00	0.00
039 Deferred premium on forward exchange contract/ Option Assets	0.00	0.00
041	0.00	0.00
042 Others	4,160,672.00	3,824,265.73
043	0.00	0.00
045 Total (Other Current Assets)	682,394,358.11	453,531,033.23
046 **Include Prepaid Expenses	18,220,222.00	17,926,405.00
047 *Includes sales tax/Entry tax/VAT deposited under protest with Sales Tax Authorities	812,756.00	812,756.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 19 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2023	31.03.2022
048 *Includes deposited with courts	0.00	0.00
049 *Includes deposited with LIC for annuity payments	0.00	0.00
050 * Includes deposits with WRD / against BG in r/o finance lease	0.00	0.00
051 Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
053 Advances to related parties include:	0.00	0.00
054 i)Key management personnel	0.00	0.00
055 ii)Subsidiary companies	0.00	0.00
056 iii)Joint Venture companies	0.00	0.00
057 Contractors	0.00	0.00
058 Others	0.00	0.00
059	0.00	0.00
060 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
061	0.00	0.00
062	0.00	0.00
063 Related Party (Adv)- Employee	0.00	0.00
064 Related Party (Adv)- Subsidiaries	0.00	0.00
065 Related Party (Adv)- Joint Venture	1,407,513.00	1,407,513.00
066	0.00	0.00
067	0.00	0.00
068 Total	1,407,513.00	1,407,513.00
069	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 20 TO THE FS--REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES****(Amount in ₹)**

As at	31.03.2023	31.03.2022
001 On account of Exchange Differences	-127,675,626.92	-138,738,090.16
002 On account of employee benefit exp	84,415,334.33	84,415,334.33
003 Regulatory deferred account - deferred	0.00	0.00
004 Deferred asset for ash transportation	0.00	1,035,424,777.02
005 Deferred asset for Arbitration Award	0.00	0.00
008	0.00	0.00
009 Total	-43,260,292.59	981,102,021.19

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 21 TO THE FS-EQUITY-EQUITY SHARE CAPITAL

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 SHARE CAPITAL	0.00	0.00
002 Equity Share Capital	0.00	0.00
003 Authorised	0.00	0.00
004 16,60,00,00,000 equity shares of Rs.10/- each (Previous year 10,000,000,000 equity shares of Rs.10/- each)	0.00	0.00
005 Issued,Subscribed and fully Paid-up	0.00	0.00
006 9,69,66,66,134 equity shares of Rs.10/- (Pv. Year 9,894,557,280 equity shares of Rs.10/- each)	0.00	0.00
007	0.00	0.00
008 Total	0.00	0.00
009 During FY 2018-19, the company has issued 1,649,092,880 equity shares of Rs.10/- each as fully paid bonus shares	0.00	0.00
010 The holders of the equity shares are entitled to receive dividends as declared from time to time, and are entitled to one vote per share at meetings of the company.	0.00	0.00
011 Details of shareholders holding more than 5% shares in the company	0.00	0.00
012 - President of India	0.00	0.00
013 No. of Shares	0.00	0.00
014 % of holding	0.00	0.00
015 - Life Insurance Corporation of India/ICICI Prudential Mutual Fund	0.00	0.00
016 No. of Shares	0.00	0.00
017 % of holding	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 RESERVE AND SURPLUS	0.00	0.00
002	0.00	0.00
003 Capital Reserve	0.00	0.00
004 As per last financial statements	0.00	0.00
006 Add : Grants received during the year	0.00	0.00
007 Add: Transfer from Surplus	0.00	0.00
008 Less: Write back during the year/period	0.00	0.00
009 Less: Adjustments during the year/period	0.00	0.00
010 SUB-TOTAL	0.00	0.00
011	0.00	0.00
017	0.00	0.00
018 SECURITIES PREMIUM ACCOUNT	0.00	0.00
019 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
020 ADD: ADDITIONS DURING THE YEAR/PERIOD	0.00	0.00
021 LESS: ADJUSTMENTS DURING THE YEAR/PERIOD	0.00	0.00
022 SUB-TOTAL	0.00	0.00
023 BONDS REDEMPTION RESERVE	0.00	0.00
024 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
025 ADD: TRANSFER FROM SURPLUS	0.00	0.00
026 LESS: TRANSFER TO SURPLUS ON REDEMPTION	0.00	0.00
027 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
028 SUB-TOTAL	0.00	0.00
029 CAPITAL REDEMPTION RESERVE	0.00	0.00
030 As per last financial statements	0.00	0.00
031 Add: Transfer from Surplus	0.00	0.00
032 Less: Transfer to surplus on redemption	0.00	0.00
033 Less: Adjustments during the year/ period	0.00	0.00
034 Sub-Total	0.00	0.00
035 Share Application money pending Allotment	0.00	0.00
036 As per last financial statements	0.00	0.00
037 Add: Addition during the year	0.00	0.00
038 Less: Utilised for allotment during the year	0.00	0.00
039 Less: Adjustments during the year/ period	0.00	0.00
040 SUB-TOTAL	0.00	0.00
046 FLY-ASH UTILISATION RESERVE FUND	0.00	0.00
047 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
048 TRANSFERRED TO CC	0.00	0.00
049 ADD:TRANSFER FROM REVENUE FROM OPERATIONS	549,433.49	0.00
050 ADD:TRANSFER FROM OTHER INCOME	0.00	0.00
051 LESS: UTILISED DURING THE YEAR	0.00	0.00
052 TANGIBLE ASSETS	0.00	0.00
053 EMPLOYEE BENEFIT EXPENSES	0.00	0.00
054 GENERATION,ADMN. AND OTHER EXPENSES	549,433.49	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2023	31.03.2022
055 TAX EXPENSES	0.00	0.00
056 SUB-TOTAL	0.00	0.00
057 Self Insurance Reserve	0.00	0.00
058 As per last financial statements	0.00	0.00
059 Add: Addition during the year	0.00	0.00
060 Less: Utilised for allotment during the year	0.00	0.00
061 Less: Adjustments during the year/ period	0.00	0.00
062 SUB-TOTAL	0.00	0.00
063 SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
064 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
065 ADD: ADDITION DURING THE YEAR	0.00	0.00
066 LESS: UTILISED FOR ALLOTMENT DURING THE YEAR	0.00	0.00
067 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
068 SUB-TOTAL	0.00	0.00
069 CORPORATE SOCIAL RESPONSIBILITY (CSR) RESERVE	0.00	0.00
070 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
071 ADD : TRANSFER FROM SURPLUS	0.00	0.00
072 LESS:-WRITE BACK DURING THE YEAR	0.00	0.00
073 SUB-TOTAL	0.00	0.00
074 GENERAL RESERVE	0.00	0.00
075 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
076 ADD: TRANSFER FROM SURPLUS	0.00	0.00
077 LESS: TRANSFER TO SURPLUS	0.00	0.00
078 LESS: WRITE BACK DURING THE YEAR /PERIOD	0.00	0.00
079 LESS: ADJUSTMENTS DURING THE YEAR /PERIOD	0.00	0.00
080 SUB-TOTAL	0.00	0.00
081	0.00	0.00
082 RETAINED EARNINGS	0.00	0.00
083 AS PER LAST FINANCIAL STATEMENTS	178,934,325,577.14	166,604,865,582.08
084 ADD(LESS):-CHANGES IN ACCOUNTING POLICY / PRIOR PERIOD ERRORS	0.00	0.00
085 ADD(LESS):-PROFIT (LOSS) AFTER TAX FOR THE YEAR FROM STATEMENT OF PROFIT & LOSS	10,374,117,657.34	12,329,459,995.06
087 ADD: WRITE BACK FROM BOND REDEMPTION RESERVE	0.00	0.00
088 ADD: WRITE BACK FROM CAPITAL RESERVE	0.00	0.00
089 ADD: WRITE BACK FROM FOREIGN PROJECT RESERVE	0.00	0.00
090 ADD: WRITE BACK FROM CSR RESERVE	0.00	0.00
091 ADD: WRITE BACK FROM GENERAL RESERVE	0.00	0.00
093 LESS: TRANSFER TO BONDS REDEMPTION RESERVE	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 22 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2023	31.03.2022
094 LESS: TRANSFER TO SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
095 LESS: TRANSFER TO FOREIGN PROJECT RESERVE	0.00	0.00
096 LESS: TRANSFER TO CAPITAL RESERVE	0.00	0.00
097 LESS: TRANSFER TO CSR RESERVE	0.00	0.00
098 LESS: TRANSFER TO GENERAL RESERVE	0.00	0.00
099 LESS: INTERIM DIVIDEND PAID	0.00	0.00
100 LESS: TAX ON INTERIM DIVIDEND PAID	0.00	0.00
101 LESS: FINAL DIVIDEND PAID	0.00	0.00
102 LESS: TAX ON FINAL DIVIDEND PAID	0.00	0.00
103 LESS: ISSUE OF BONUS DEBENTURE	0.00	0.00
104 LESS: TAX ON ISSUE OF BONUS DEBENTURE	0.00	0.00
105 SUB-TOTAL	189,308,443,234.48	178,934,325,577.14
110	0.00	0.00
111 REMEASUREMENT OF DEFINED BENEFIT PLANS	0.00	0.00
112 AS PER LAST FINANCIAL STATEMENTS	-206,596,243.66	-196,870,608.91
113 ADD/(LESS):- ACTUARIAL GAINS/LOSS THROUGH OCI	-19,544,151.77	-9,725,634.75
114 SUB-TOTAL	-226,140,395.43	-206,596,243.66
115	0.00	0.00
116 FVTOCI Reserve	0.00	0.00
117 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
118 ADD/(LESS):- NET GAIN/LOSS OF EQUITY INSTRUMENTS THROUGH OCI	0.00	0.00
119 Sub-Total	0.00	0.00
120	0.00	0.00
121 Total Other equity	189,082,302,839.05	178,727,729,333.48
122	0.00	0.00
123	0.00	0.00
124	0.00	0.00
125	0.00	0.00
126	0.00	0.00
127	0.00	0.00
128	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

(Amount in ₹)

As at

31.03.2023

31.03.2022

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 LONG TERM BORROWINGS	0.00	0.00
002 Bonds	0.00	0.00
003 Secured	0.00	0.00
004 7.37 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3A).	0.00	0.00
005 7.62 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3 B).	0.00	0.00
006 8.61% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2034 (Fifty First Issue C - Private Placement)	0.00	0.00
007 8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3A)	0.00	0.00
008 8.91% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3B)	0.00	0.00
009 7.37% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 14th December 2031 (Sixty Sixth Issue - Private Placement)	0.00	0.00
010 7.49% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 7th November 2031 (Sixty Fourth Issue - Private Placement)	0.00	0.00
011 7.28 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2023	31.03.2022
2A)		
012 7.53 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series 2 B).	0.00	0.00
013 7.32% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 17 July 2029 (Sixty Ninth Issue - Private Placement)	0.00	0.00
014 8.63% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2029 (Fifty First Issue B - Private Placement)	0.00	0.00
015 8.30% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 15 January 2029 (Sixty Seventh Issue - Private Placement)	0.00	0.00
016 8.48% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2A)	0.00	0.00
017 8.73% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2B)	0.00	0.00
018 7.47% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 16th September 2026 (Sixty Third Issue - Private Placement)	0.00	0.00
019 7.58% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2023	31.03.2022
full on 23rd August 2026 (Sixty Second Issue - Private Placement)					
020	8.05%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 5th May 2026 (Sixtieth Issue - Private Placement)	0.00	0.00
021	8.19%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 15th December 2025 (Fifty Seventh Issue - Private Placement)	0.00	0.00
022	7.11 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1A).	0.00	0.00
023	7.36 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1 B).	0.00	0.00
024	7.15%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2015 of Rs. 10,00,000/- each redeemable at par in full on 21st August 2025 (Fifty Fifth Issue - Private Placement)	0.00	0.00
025	9.17%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 22nd September 2024 (53rd Issue - private placement).	0.00	0.00
026	9.34%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 24th March 2024 (Fifty Second Issue - private placement)	0.00	0.00
027	8.19%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2013 of ₹ 10,00,000/- each redeemable at	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

		31.03.2023	31.03.2022
	As at		
	par in full on 4th March 2024 (Fifty First Issue A - Private Placement)		
028	8.41% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1A)	0.00	0.00
029	8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1B)	0.00	0.00
030	9.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 4th May 2023 and ending on 4th May 2027 (Forty fourth issue - private placement)VII	0.00	0.00
031	8.48% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 1st May 2023 (Seventeenth issue - private placement)I	0.00	0.00
032	8.80% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th April 2023 (Forty ninth issue -private placement	0.00	0.00
033	8.49% Secured non-cumulative non-convertible redeemable taxable fully paid-up bonus debentures of Rs. 12.50 each redeemable at par in three annual installments of Rs. 2.50, Rs. 5.00 and Rs. 5.00 at the end of 8th year, 9th year and 10th year on 25th March 2023, 25th March 2024 and 25th March 2025 respectively (Fifty Fourth Issue -Bonus Debentures)X - (refer Note 5 d)	0.00	0.00
034	8.73% Secured non-cumulative	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2023	31.03.2022
	non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 07th March 2023 (Forty eighth issue - private placement)		
035	9.00% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 25th January 2023 and ending on 25th January 2027 (Forty second issue- private placement)III	0.00	0.00
036	8.84% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th October 2022 (Forty seventh issue- private placement)VII	0.00	0.00
037	7.93% Secured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 03 May 2022 (68th Issue - Private Placement)	0.00	0.00
038	6.72% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 24th November 2021 (Sixty Fifth Issue - Private Placement)	0.00	0.00
039	8.10% Secured Non-Cumulative Non-Convertible Redeemable Taxable Bonds of Rs. 30,00,000/- each redeemable at par in three equal separately transferable redeemable principal parts (STRPP) at the end of 5th year, 10th year & 15th year on 27th May 2021, 27th May 2026 and 27th May 2031 respectively (Sixty First Issue- Private Placement)	0.00	0.00
040	8.33% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 24th February 2021	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2023	31.03.2022
(Fifty Ninth Issue - Private Placement).					
042	8.93%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 19th January 2021 Thirty seventh issue - private placement)III	0.00	0.00
043	8.18%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 31st December 2020 (Fifty Eight Issue - Private Placement).	0.00	0.00
044	8.73 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 31st March 2020 (Thirty third issue- private placement)III	0.00	0.00
045	8.78 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 9th March 2020 (Thirty first issue- private placement)III	0.00	0.00
046	11.25%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in five equal annual installments commencing from 6th Nov 2019 and ending on 6th Nov 2023 (Twenty seventh issue - private placement)III	0.00	0.00
047	7.89%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 5th May 2019 (Thirtieth issue - private placement)III	0.00	0.00
048	8.65%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th February 2019 (Twenty ninth issue - private placement)III	0.00	0.00
049	7.50%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2023	31.03.2022
on 12th January 2019 (Nineteenth issue - private placement)II					
050	11%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21st November 2018 (Twenty eighth issue - private placement)III	0.00	0.00
051	9.3473%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 20th July 2018 and ending on 20th July 2032 (Forty sixth issue - private placement)VII	0.00	0.00
052	9.4376%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 16th May 2018 and ending on 16th May 2032 (Forty fifth issue - private placement)VII	0.00	0.00
053	8.00%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 10th April 2018 (Sixteenth issue -private placement)I	0.00	0.00
054	9.2573%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 2nd March 2018 and ending on 2nd March 2032 (Forty third issue - private placement)III	0.00	0.00
055	9.6713%	Secured	non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2023	31.03.2022
of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 23rd December 2017 and ending on 23rd December 2031 (Forty first issue - private placement)III		
056 9.558% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 29th July 2017 and ending on 29th July 2031(Fourtieth issue-private placement)III	0.00	0.00
057 9.3896% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 9th June 2017 and ending on 9th June 2031(Thirty ninth issue-private placement)III	0.00	0.00
058 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 22nd March 2017 and ending on 22nd March 2031(Thirty eighth issue-private placement)III	0.00	0.00
059 8.8086% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2023	31.03.2022
year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th December 2016 and ending on 15th December 2030 (Thirty sixth issue - private placement)III		
060 8.785% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th September 2016 and ending on 15th September 2030 (Thirty fifth issue - private placement)III	0.00	0.00
061 8.71% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 10th June 2016 and ending on 10th June 2030 (Thirty fourth issue - private placement)III	0.00	0.00
062 8.8493% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 25th March 2016 and ending on 25th March 2030 (Thirty second issue - private placement)III	0.00	0.00
063 9.37% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty fifth issue -	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at			31.03.2023	31.03.2022
private placement)III				
065	9.06%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty sixth issue - private placement)III	0.00	0.00
066	8.6077%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 9th September 2011 and ending on 9th March 2021 (Twenty fourth issue - private placement)IV	0.00	0.00
067	8.3796%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 5th August 2011 and ending on 5th February 2021 (Twenty third issue - private placement)IV	0.00	0.00
068	8.1771%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd July 2011 and ending on 2nd January 2021 (Twenty second issue - private placement)IV	0.00	0.00
069	7.7125%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd August 2010 and ending on 2nd February 2020 (Twenty first issue - private placement)V	0.00	0.00
070	7.552%	Secured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2023	31.03.2022
of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 23rd September 2009 and ending on 23rd March 2019 (Twentieth issue - private placement)VI		
071 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each with ten equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of the 6th year and in annual installments thereafter upto the end of 15th year respectively from 30th April 2002 (Thirteenth issue - Part B - private placement)VIII	0.00	0.00
072 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each redeemable at par in ten equal annual installments commencing from the end of 6th year and upto the end of 15th year respectively from 18th April 2002 (Thirteenth issue -Part A - private placement)VIII	0.00	0.00
075	0.00	0.00
076	0.00	0.00
077 Sub Total	0.00	0.00
078 Unsecured	0.00	0.00
079 6.55% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 17 April 2023 (Seventieth Issue - Private Placement)	0.00	0.00
080 6.29% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 11 April 2031 (Seventy First Issue - Private Placement)	0.00	0.00
081 5.45% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 15 October 2025 (Seventy Second Issue - Private Placement)	0.00	0.00
082 6.43% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2023	31.03.2022
full on 27 January 2031 (Seventy Third Issue - Private Placement)		
083 6.87% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21 April 2036 (Seventy Fourth Issue - Private Placement)	0.00	0.00
084 6.69% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 13 September 2031 (Seventy Fifth Issue - Private Placement)	0.00	0.00
085 6.74% Unsecured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 14 April 2032 (Seventy Sixth Issue - Private Placement)	0.00	0.00
086 5.78% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 29 April 2024 (Seventy Seventh Issue - Private Placement)	0.00	0.00
087 7.44% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 25 August 2032 (Seventy Eighth Issue - Private Placement)	0.00	0.00
088 7.44% Unsecured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 15 April 2033 (Seventy Ninth Issue - Private Placement)	0.00	0.00
089	0.00	0.00
090 Sub-total	0.00	0.00
091 Total	0.00	0.00
092 Foreign Currency Notes-Unsecured	0.00	0.00
093 4.50% Fixed Rate Notes Due for repayment on 19th March 2028	0.00	0.00
094 2.75% Fixed rate notes due for repayment on 1st February 2027	0.00	0.00
095 4.25 % Fixed rate notes due for repayment on 26th February 2026	0.00	0.00
096 4.375% Fixed Rate Note due for repayment on 26th November 2024	0.00	0.00
097 4.75 % Fixed Rate Notes due for repayment on 3rd Oct 2022	0.00	0.00
098 7.25 % Fixed green global INR denominated bonds due on 3 May 2022	0.00	0.00
099 7.375 % Fixed green global INR denominated bonds due on 10 August 2021	0.00	0.00
100 5.625% Fixed Rate Notes due for repayment on	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2023	31.03.2022
14th July 2021		
101 3.75 % Fixed rate notes due for repayment on 03 April 2024	0.00	0.00
102	0.00	0.00
103	0.00	0.00
104	0.00	0.00
105 Sub Total	0.00	0.00
106 Term Loans	0.00	0.00
107 From Banks	0.00	0.00
108 Secured	0.00	0.00
109 Rupee Loans	0.00	0.00
110 Unsecured	0.00	0.00
111 Foreign Currency Loans	0.00	0.00
112 Rupee Loans	0.00	0.00
113 From Others	0.00	0.00
114 Secured	0.00	0.00
115 Rupee Loans	0.00	0.00
116 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
117 Unsecured	0.00	0.00
118 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
119 Other Foreign currency loans	0.00	0.00
121 Rupee Loans	0.00	0.00
122 Deposits	0.00	0.00
123 Unsecured	0.00	0.00
124 Fixed Deposits	0.00	0.00
125 Others	0.00	0.00
126 Unsecured	0.00	0.00
127 Bonds Application Money Pending Allotment	0.00	0.00
128 Sub-total	0.00	0.00
129 Total	0.00	0.00
130 Less:- Interst accrued but not due on secured borrowings	0.00	0.00
131 Less:- Interst accrued but not due on unsecured borrowings	0.00	0.00
132 Less:- Current maturities of long term borrowings	0.00	0.00
133 Bonds-Secured	0.00	0.00
134 Fixed Rate Notes	0.00	0.00
136 Foreign currency loans from Banks- unsecured	0.00	0.00
137 Rupee loans from banks- Secured	0.00	0.00
138 Rupee loans from banks- unsecured	0.00	0.00
139 Rupee Term loan from Others - Secured	0.00	0.00
140 Foreign currency loans from others- unsecured (Guaranteed by GOI)	0.00	0.00
141 Other foreign currency loans from others- unsecured	0.00	0.00
142 Rupee loans from others- unsecured	0.00	0.00
143	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 23 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2023	31.03.2022
144	0.00	0.00
145	0.00	0.00
146	0.00	0.00
147	0.00	0.00
148	0.00	0.00
149	0.00	0.00
150	0.00	0.00
151	0.00	0.00
201 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 23A TO THE FS-NCL-LEASE BORROWINGS

(Amount in ₹)

	31.03.2023	31.03.2022
As at		
001 Non-current financial liabilities - Lease liabilities	0.00	0.00
002 Lease liabilities	0.00	0.00
003 Long term maturities of Finance Lease Liabilities (Secured) IX	0.00	0.00
004 Long term maturities of Finance Lease Liabilities (Unsecured) X	215,659,908.98	0.00
005 Sub-Total	215,659,908.98	0.00
006 Less: current maturities of lease liabilities	0.00	0.00
007 Finance Lease obligations - secured	0.00	0.00
008 Finance Lease obligations - unsecured	15,569,307.00	0.00
009 Sub-Total	15,569,307.00	0.00
011 Total	200,090,601.98	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 24 TO THE FS-NCL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2023	31.03.2022
001	TRADE PAYABLES(NON CURRENT)	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	3,269,711.73	7,830,370.14
004	- Others	7,141,146.39	11,108,650.81
005		0.00	0.00
007	Total	10,410,858.12	18,939,020.95



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 OTHER FINANCIAL LIABILITIES (NON-CURRENT)	0.00	0.00
002 Payable for Capital Expenditure	0.00	0.00
003 - Micro & Small Enterprises	1,225,518.70	3,022,575.28
004 - Others	44,233,850.51	210,903,859.44
005 Others	0.00	0.00
006 Deposits from contractors and others	0.00	11,000.00
007	0.00	0.00
008	0.00	0.00
010 Total	45,459,369.21	213,937,434.72

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 26 TO THE FS-NCL-PROVISIONS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 LONG TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening Balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
006	0.00	0.00
007 Others	0.00	0.00
008 i) Mine Closure Provision	0.00	0.00
009 Opening Balance	0.00	0.00
010 Additions during the year	0.00	0.00
011 Amounts adjusted during the year	0.00	0.00
012 Amounts reversed during the year	0.00	0.00
013 Closing Balance	0.00	0.00
014	0.00	0.00
015 ii) Stripping Activity Adjustments	0.00	0.00
016 Opening Balance	0.00	0.00
017 Additions during the year	0.00	0.00
018 Amounts adjusted during the year	0.00	0.00
019 Amounts reversed during the year	0.00	0.00
020 Closing Balance	0.00	0.00
021	0.00	0.00
024	0.00	0.00
026 TOTAL	0.00	0.00

NOTE NO. 27 TO THE FS-NCL-DEFERRED TAX LIABILITIES (NET)
(Amount in ₹)

As at	Open Balance on 01.04.2022	Addition	Closing Balance on 31.03.2023
001 DEFERRED TAX LIABILITIES (NET)			
002 Difference of book depreciation and tax depreciation	0.00	0.00	0.00
003 Less: Deferred tax assets			
004 Provisions & Other disallowances for tax purposes	0.00	0.00	0.00
005 Unabsorbed Depreciation	0.00	0.00	0.00
006 Disallowances u/s 43B of the Income Tax Act, 1961	0.00	0.00	0.00
007 Others	0.00	0.00	0.00
008 Opening Balance	0.00	0.00	0.00
009 Additions during the year	0.00	0.00	0.00
010 Amounts adjusted during the year	0.00	0.00	0.00
011 Amounts reversed during the year	0.00	0.00	0.00
012 Closing Balance	0.00	0.00	0.00
013 MAT credit entitlement	0.00	0.00	0.00
014 Total	0.00	0.00	0.00
016	0.00	0.00	0.00
017 Total	0.00	0.00	0.00
018 Breakup of deferred tax assets	0.00	0.00	0.00
019 Provision	0.00	0.00	0.00
020 Statutory dues	0.00	0.00	0.00
021 Leave encashment	0.00	0.00	0.00
022 Others	0.00	0.00	0.00
023	0.00	0.00	0.00
024	0.00	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 28 TO THE FS-NCL-OTHER NON-CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Other Non current Liabilities	0.00	0.00
002 Advances from customers and others	0.00	0.00
003 Deposits from contractors and others	0.00	0.00
004 Grants	0.00	0.00
006	0.00	0.00
007 TOTAL	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 29 TO THE FS-CL-BORROWINGS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Short Term Borrowings	0.00	0.00
002 Loans repayable on demand	0.00	0.00
003 From Banks	0.00	0.00
004 Secured	0.00	0.00
005 Cash Credit	0.00	0.00
006 Unsecured	0.00	0.00
007 Cash Credit	0.00	0.00
008 Other loans-unsecured	0.00	0.00
009 Commercial Papers	0.00	0.00
010 Less: Unamortised discount on Commercial Papers	0.00	0.00
011 Sub-Total	0.00	0.00
012 Current maturity of long term borrowings	0.00	0.00
013 Bonds-Secured	0.00	0.00
014 Foreign Currency Fixed Rate Notes	0.00	0.00
015 From Banks	0.00	0.00
016 Secured	0.00	0.00
017 Rupee Term Loan	0.00	0.00
018 Foreign currency loans	0.00	0.00
019 Unsecured	0.00	0.00
020 Foreign currency loans	0.00	0.00
021 Rupee term loans	0.00	0.00
022 From Others	0.00	0.00
023 Secured	0.00	0.00
024 Rupee Term Loan	0.00	0.00
025 Unsecured	0.00	0.00
026 Foreign currency loans (Guaranteed by Government of India)	0.00	0.00
027 Other foreign currency loans	0.00	0.00
028 Rupee term loans	0.00	0.00
029 Fixed deposits	0.00	0.00
031 Sub Total	0.00	0.00
032	0.00	0.00
034 TOTAL	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 29A TO THE FS-CL-LEASE BORROWINGS

(Amount in ₹)

	As at	31.03.2023	31.03.2022
001	Current financial liabilities - Lease liabilities	0.00	0.00
002	Current maturity of finance lease obligations (secured)	0.00	0.00
003	Current maturity of finance lease obligations (unsecured)	15,569,307.00	0.00
005	Total	15,569,307.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 TRADE PAYABLES	0.00	0.00
002 For Goods and Services	0.00	0.00
003 - Micro & Small Enterprises	177,806,736.80	220,046,789.16
004 - Others	2,778,477,798.80	3,104,879,539.52
005	0.00	0.00
007 Total	2,956,284,535.60	3,324,926,328.68
008	0.00	0.00
172 Trade payable	0.00	0.00
173 MSME	0.00	0.00
174 Unbilled	74,792,751.08	75,353,748.01
175 Not due	73,630,183.72	111,869,021.20
176 Due	29,383,802.00	32,824,020.00
177 Disputed	0.00	0.00
178 Undisputed	29,383,802.00	32,824,020.00
179	0.00	0.00
180 Sub-total (A)	177,806,736.80	220,046,789.21
181	0.00	0.00
182 Others	0.00	0.00
183 Unbilled	526,354,427.03	512,665,789.10
184 Not due	313,362,335.66	210,843,363.50
185 Due	1,938,761,036.11	2,381,370,387.00
186 Disputed	0.00	0.00
187 Undisputed	1,938,761,036.11	2,381,370,387.00
188	0.00	0.00
189 Sub-total (B)	2,778,477,798.80	3,104,879,539.60
190	0.00	0.00
191 Total	2,956,284,535.60	3,324,926,328.81
192	0.00	0.00
193 Ageing	0.00	0.00
194 MSME	0.00	0.00
195 Disputed	0.00	0.00
196 Less than 1 year	0.00	0.00
197 1-2 years	0.00	0.00
198 2-3 years	0.00	0.00
199 More than 3 years	0.00	0.00
200 Sub Total (I)	0.00	0.00
201	0.00	0.00
202 Undisputed	0.00	0.00
203 Less than 1 year	29,383,802.00	32,824,020.00
204 1-2 years	0.00	0.00
205 2-3 years	0.00	0.00
206 More than 3 years	0.00	0.00
207 Sub Total (II)	29,383,802.00	32,824,020.00
208	0.00	0.00
209 Total MSME (III)	29,383,802.00	32,824,020.00
210	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 30 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at	31.03.2023	31.03.2022
211 Others	0.00	0.00
212 Disputed	0.00	0.00
213 Less than 1 year	0.00	0.00
214 1-2 years	0.00	0.00
215 2-3 years	0.00	0.00
216 More than 3 years	0.00	0.00
217 Sub Total (IV)	0.00	0.00
218	0.00	0.00
219 Undisputed	0.00	0.00
220 Less than 1 year	1,209,670,512.11	1,676,015,685.00
221 1-2 years	42,685,077.00	85,164,135.00
222 2-3 years	84,846,453.00	193,027,381.00
223 More than 3 years	601,558,994.00	427,163,186.00
224 Sub Total (V)	1,938,761,036.11	2,381,370,387.00
225	0.00	0.00
226 Total Others (VI)	1,938,761,036.11	2,381,370,387.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 31 TO THE FS-CL-OTHER FINANCIAL LIABILITIES
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 OTHER FINANCIAL LIABILITIES (CURRENT)	0.00	0.00
020 Interest accrued but not due on Unsecured Short Term Borrowing	0.00	0.00
021 Interest accrued but not due on secured borrowings	0.00	0.00
022 Interest accrued but not due on unsecured borrowings	0.00	0.00
023 Unpaid Dividends*	0.00	0.00
024 Unpaid matured deposits and interest accrued thereon*	0.00	0.00
025 Unpaid matured bonds and interest accrued thereon*	0.00	0.00
026 Unpaid bond refund money-Tax free bonds *	0.00	0.00
027 Book Overdraft	0.00	0.00
028 Payable to Customers	0.00	0.00
029 Liability under forward exchange contract	0.00	0.00
030 Hedging cost payable to beneficiaries	0.00	0.00
031 Derivative MTM Liability	0.00	0.00
032 Payable for Capital Expenditure	0.00	0.00
033 - Micro & Small Enterprises	54,992,423.13	113,167,223.51
034 - Others	4,136,529,470.41	3,485,636,092.15
035 Others Payables	0.00	0.00
036 Deposits from contractors and others	85,777,478.98	85,251,588.78
037 Gratuity Obligations	0.00	0.00
038 Payable to employees	34,784,381.31	19,782,024.00
039 Payable to holding company	0.00	0.00
040 Retention on A/c BG encashment (Solar)	0.00	0.00
041 Payable to Solar Payment Security Account	0.00	0.00
042 Others **	17,075,074.39	96,581,271.22
043 Unspent CSR balance on ongoing Approved CSR projects	0.00	0.00
045	0.00	0.00
046	0.00	0.00
047 Total	4,329,158,828.22	3,800,418,199.66
048 * Represents the amounts which have not been claimed by the investor/holders of the bonds/ fixed deposits. Out of the above, no amount is due for payment to Investor Education and Protection Fund.	0.00	0.00
049 ** Include Payable to Hospital and other payable.	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 32 TO THE FS-CL-OTHER CURRENT LIABILITIES****(Amount in ₹)**

As at	31.03.2023	31.03.2022
001 OTHER CURRENT LIABILITIES	0.00	0.00
002 Advances from customers and others	25,885,048.95	66,809,931.25
003 Deferred discount on forward exchange contact	0.00	0.00
004 Tax deducted at source and other statutory dues	98,415,828.69	83,997,873.09
005 Deposits from contractors and others	0.00	0.00
006 Government grants	0.00	0.00
007 Others	0.00	0.00
009	0.00	0.00
010	0.00	0.00
011 Total	124,300,877.64	150,807,804.34

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 33 TO THE FS-CL-PROVISIONS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 SHORT TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
028 Provisions for Obligations Incidental to Land Acquisition	0.00	0.00
029 Opening balance	0.00	0.00
030 Additions during the year	0.00	0.00
031 Amounts paid during the year	0.00	0.00
032 Amounts reversed during the year	0.00	0.00
033 Closing Balance	0.00	0.00
035 Provision for Tariff Adjustment	0.00	0.00
036 Opening balance	0.00	0.00
037 Additions during the year	0.00	0.00
038 Amounts adjusted during the year	0.00	0.00
039 Amounts reversed during the year	0.00	0.00
040 Closing Balance	0.00	0.00
042 Provision for shortage in Fixed Assets Pending Investigation & Others	0.00	0.00
043 Opening balance	0.00	0.00
044 Additions during the year	0.00	0.00
045 Amounts adjusted during the year	0.00	0.00
046 Amounts reversed during the year	0.00	0.00
047 Closing Balance	0.00	0.00
048 Provision for Arbitration	0.00	0.00
049 Opening balance	8,683,664.00	8,265,312.00
050 Additions during the year	418,352.00	418,352.00
051 Amounts used during the year	0.00	0.00
052 Amounts reversed during the year	0.00	0.00
053 Closing Balance	9,102,016.00	8,683,664.00
054 Others	0.00	0.00
055 Opening balance	0.00	0.00
056 Additions during the year	0.00	0.00
057 Amounts used during the year	0.00	0.00
058 Amounts reversed during the year	0.00	0.00
059 Closing Balance	0.00	0.00
102	0.00	0.00
104 Total	9,102,016.00	8,683,664.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 34 TO THE FS-CL-CURRENT TAX LIABILITIES (NET)

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Current liabilities - current tax liabilities (net)	0.00	0.00
002 Opening balance	0.00	0.00
003 Additions during the year	0.00	0.00
004 Amounts adjusted during the year	0.00	0.00
005 Less: Set off against taxes paid	0.00	0.00
007	0.00	0.00
008 Closing Balance	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 35 TO THE FS--DEFERRED REVENUE

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Deferred Revenue	0.00	0.00
002 On account of advance against depreciation	0.00	0.00
003 On account of income from foreign currency fluctuation	1,576,387,000.00	1,521,099,000.00
004 Government grants	0.00	0.00
007	0.00	0.00
008	0.00	0.00
009 TOTAL	1,576,387,000.00	1,521,099,000.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 36 TO THE FS--REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES

(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Regulatory deferral account credit balances	0.00	0.00
002 Exchange Differences	0.00	0.00
003	0.00	0.00
005 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 37 TO THE FS--REVENUE FROM OPERATIONS
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001	REVENUE FROM OPERATIONS	0.00	0.00
002	Sales	0.00	0.00
003	Energy Sales (including Electricity Duty)	59,501,444,689.70	53,502,461,025.00
004	Less : Advance against depreciation deferred (net)	0.00	0.00
005	Add: Revenue recognized out of advance against depreciation	0.00	0.00
006	Add : Exchange fluctuation receivable from customers	-1,007,159,000.00	-1,191,045,000.00
007	Sale of energy through trading	0.00	0.00
008	Commission (NVVN)	0.00	0.00
009	Sub total	58,494,285,689.70	52,311,416,025.00
010	Less: Rebate to customers	365,485,046.28	244,496,889.89
011	Energy Sales (Total)	58,128,800,643.42	52,066,919,135.11
012	Consultancy, project management and supervision fees	0.00	0.00
013	Lease rentals on assets on Operating lease	0.00	0.00
014	Sale of Captive Coal	0.00	0.00
015	Intra Company Elimination	0.00	0.00
017	Sub-total	0.00	0.00
018	Total - Sales	58,128,800,643.42	52,066,919,135.11
019	Sale of fly ash/ash products	549,433.49	0.00
020	Less: Transferred to fly ash utilisation reserve fund	-549,433.49	0.00
021	Sub-total	0.00	0.00
022	Other Operating Income	0.00	0.00
023	Interest from customers	301,077,404.00	1,049,324,712.00
024	Energy Internally Consumed *	34,769,384.00	31,975,932.00
025	Interest income on Assets under finance lease	0.00	0.00
026	Recognized from deferred revenue - government grant	0.00	0.00
027	Provision written back- Tariff Adjustment	0.00	0.00
028	Income form Trading of ESCerts	7,976,314.67	0.00
029	Income from E-Mobility Business & others	0.00	0.00
030	Others	0.00	0.00
032		0.00	0.00
033		0.00	0.00
034	Total	58,472,623,746.09	53,148,219,779.11
040	* Valued at variable cost of generation and corresponding amount included in power charges (Note No. 42)	0.00	0.00
041	Excise duty on sale of flyash,cenospere & ash products	0.00	0.00
042	Energy sales of principal nature (NVVN)	0.00	0.00
043	Energy sales of agency nature (NVVN)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001	OTHER INCOME	0.00	0.00
002	Interest from	0.00	0.00
004	Financial assets at amortised cost	0.00	0.00
005	Government Securities (8.5% Tax Free Bonds issued by the State Governments)	0.00	0.00
006	Other Bonds	0.00	0.00
007	Non current Trade Receivable	0.00	0.00
008	Interest from Government of India Securities-Non-Trade	0.00	0.00
009	Less: Amortziation of premium	0.00	0.00
010	Sub Total	0.00	0.00
011	Interest from others	0.00	0.00
012	Loan to State Government in settlement of dues from customers	0.00	0.00
013	Loan to Subsidiary Companies	0.00	0.00
014	Loan to Employees	14,118,222.87	15,984,260.52
015	Deposit with banks	0.00	0.00
016	Foreign Banks	0.00	0.00
017	Interest from Contractors	825,495.00	915,881.70
018	Interest from Income Tax Refunds	0.00	0.00
019	Less : Refundable to Customers	0.00	0.00
020	Sub Total	0.00	0.00
021	Deposits with banks-flyash utilisation reserve fund	0.00	0.00
022	Less: transferred to flyash utilisation reserve fund	0.00	0.00
023	Sub Total	0.00	0.00
024	Deposits with banks- DDUGJY funds	0.00	0.00
025	Interest from Contractors- DDUGJY funds	0.00	0.00
026	Transfer to DDUGJY-Advance from customers	0.00	0.00
027	Sub-total	0.00	0.00
030	Others	689,007.00	1,179,995.49
031	Other investments in Joint venture companies	0.00	0.00
032	Dividend from	0.00	0.00
033	Longterm investments in	0.00	0.00
034	Subsidiaries	0.00	0.00
035	Joint Ventures	0.00	0.00
036	Equity Instruments	0.00	0.00
037	Current Investments in	0.00	0.00
038	Mutual Funds measured at fairvalue through profit or loss	0.00	0.00
039	Current investments in mutual funds-flyash utilisation reserve fund	0.00	0.00
040	Less: transferred to flyash utilisation reserve fund	0.00	0.00
041	Lease Rent # Ash Brick Plant	0.00	0.00
042	Less: transferred to flyash utilisation reserve fund	0.00	0.00
043	Other non-operating income	0.00	0.00
044	Profit on disposal of PPE	113,631.34	3,591.10
045	Profit on redemption of GOI securities	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 38 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
046	Net gain on sale of investments	0.00	0.00
047	Surcharge received from customers	156,699,458.00	890,083,371.00
048	Hire charges for equipment	498,590.40	0.00
049	Gain on option contract / Discount on F.ExchContract	6,390,259.00	27,567,170.36
050	Provision written back-others	3,573,171.43	8,667,761.36
051	Fair value gains/(losses) on investments in mutual funds at fair value through profit or loss	0.00	0.00
052	Interest from Solar payment security account	0.00	0.00
053	Less : Transferred to SPSA fund	0.00	0.00
054	Interest on "Retention on A/c BG encashment (Solar)"	0.00	0.00
055	Less : Transferred to "Retention on A/c BG encashment (Solar)"	0.00	0.00
056	Miscellaneous Income	301,521,785.10	257,016,760.40
057	Total	484,429,620.14	1,201,418,791.93
058	Less:Transferred to Development of Coal Mines- Note 43A	0.00	0.00
059	Less:Transferred to Expenditure during Construction period (net)- Note 43	104,102.76	96,735.00
060	Less: Others	0.00	0.00
061	Less:Transferred to payable to Govt. of Jharkhand	0.00	0.00
063		0.00	0.00
064		0.00	0.00
065	Total	484,325,517.38	1,201,322,056.93
066		0.00	0.00
067	Details of Miscellaneous Income	0.00	0.00
068	Vehicle Hire Charges.	90,000.00	118,000.00
069	Sale of by products & residuals	0.00	0.00
070	Township recoveries(exl. Hospital Recoveries).	32,573,133.11	22,530,387.46
071	Depreciation written back	0.00	0.00
072	Sale of Scrap.	217,087,073.50	118,949,651.93
073	Receipt under loss of profit policy.	0.00	0.00
074	Receipts under MBD/Fire Policy.	0.00	0.00
075	Management development programme.	0.00	0.00
076	Management Fee - Misc (NVVN)	0.00	0.00
077	Others	51,771,578.49	115,418,721.01
078		0.00	0.00
079	Total (Miscellaneous Income)	301,521,785.10	257,016,760.40
080		0.00	0.00
081	Details of Provision written back others	0.00	0.00
082	Doubtful debts	0.00	0.00
083	Doubtful Loans, Advances and Claims	0.00	0.00
084	Doubtful Construction Advances	0.00	0.00
085	Shortage in Construction Stores	1,458,151.13	548,546.87
086	Shortage in Stores	1,607,821.96	6,867,724.99
087	Obsolescence in Stores	507,198.34	1,251,489.50



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS--OTHER INCOME

(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
088	Unserviceable capital works	0.00	0.00
089	Other Obligation including Arbitration	0.00	0.00
090	Shortage in Fixed Assets	0.00	0.00
091	Diminution in value of Investment	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 38A TO THE FS--FUEL COST****(Amount in ₹)**

	For the Year ended	31.03.2023	31.03.2022
001 FUEL COST		0.00	0.00
002 Coal		0.00	0.00
003 Captive		0.00	0.00
004 Other than captive	34,092,322,865.30		30,357,469,404.43
005 Gas		0.00	0.00
006 Naptha		0.00	0.00
007 Oil	422,532,356.80		286,119,163.76
008 Biomass Pellets & Others		0.00	0.00
009		0.00	0.00
010 Total		34,514,855,222.10	30,643,588,568.19
011		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 39 TO THE FS--EMPLOYEE BENEFITS EXPENSE
(Amount in ₹)

For the Year ended		31.03.2023	31.03.2022
001	EMPLOYEE BENEFITS EXPENSE	0.00	0.00
002	Salaries and wages	1,521,094,969.69	1,545,790,249.09
003	Contribution to provident and other funds	203,254,370.35	207,134,289.14
004	Unwinding of deferred payroll expense	8,416,475.20	10,256,372.76
005	Staff welfare expenses	203,775,030.45	185,590,759.88
006	Less : Expenses transferred to Consultancy group	0.00	0.00
007		0.00	0.00
008	Sub Total	1,936,540,845.69	1,948,771,670.87
009	Less: Employee benefits expense allocated to fuel inventory	124,169,760.51	112,502,448.72
010	Less: Transferred/Allocated to development of coal mines	0.00	0.00
011	Less: Others	0.00	0.00
012	Less: Transferred to fly ash utilisation reserve fund	0.00	0.00
013	Less: Transferred to CSR Expenses	0.00	0.00
014	Reimbursements for employees on secondment	3,276,040.25	3,377,875.77
015	Less: Transferred to expenditure during construction period (net)- Note 43	31,691,938.82	24,926,059.94
016	Less: Transfer to Govt of Jharkhand A/c as recoverable	0.00	0.00
018		0.00	0.00
019	TOTAL	1,777,403,106.11	1,807,965,286.44
020	Managerial Remuneration paid/ payable to Directors included above (except for Directors fee which is included in Note 42)	0.00	0.00
021	Salaries and wages	0.00	0.00
022	Contribution to provident and other funds	0.00	0.00
023	Staff welfare expenses	0.00	0.00
024	Directors fee	0.00	0.00
025		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 40 TO THE FS--FINANCE COSTS
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001	FINANCE COSTS	0.00	0.00
002	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
003	Bonds	731,574,881.93	710,804,516.35
004	Government of India Loans	0.00	0.00
005	Foreign currency term loans	40,412,501.47	19,995,984.52
006	Rupee term loans	450,875,180.00	438,724,318.00
007	Public deposits	0.00	0.00
008	Foreign currency bonds/notes	99,701,512.71	316,443,493.96
009	Cash Credit	0.00	0.00
010	Unwinding of discount on account of vendor liabilities	11,815,161.51	79,228,121.55
011	Commercial Papers	0.00	0.00
012	Sub Total	1,334,379,237.62	1,565,196,434.38
013	Interest on non financial items	0.00	0.00
014	Other Borrowing Costs	0.00	0.00
015	Bonds servicing & public deposit exp.	858,707.62	863,783.14
016	Guarantee fee	0.00	0.00
017	Management fee	0.00	0.00
018	Committ charges/exposure premium	129,975.15	1,126,265.00
019	Bond issue expenses	0.00	0.00
020	Legal exp on foreign currency loans	0.00	0.00
021	Foreign currency bonds/notes exp.	0.00	0.00
022	Up-front fee	0.00	0.00
023	Insurance premium on foreign currency loans	0.00	0.00
024		0.00	0.00
025	Others	0.00	0.00
026	Sub Total (Other Borrowing cost)	988,682.77	1,990,048.14
027		0.00	0.00
028	Exchange differences regarded as an adjustment to borrowing costs	16,291,816.52	-2,773,694.67
029	Sub Total	1,351,659,736.91	1,564,412,787.85
030	Less: Transferred to Expenditure during construction period (net) - Note 43	67,839,767.20	98,307,037.97
031	Less: Transferred to development of coal mines- Note 43A	0.00	0.00
032		0.00	0.00
034	Total	1,283,819,969.71	1,466,105,749.88



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 41 TO THE FS--DEPRECIATION AND AMORTIZATION EXPENSES

(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001	Depreciation and amortization expenses	0.00	0.00
002	On property, plant and equipment- Note 2	4,896,131,231.52	4,722,518,393.06
003	On investment property	0.00	0.00
004	On intangible assets- Note 4	28,393.75	0.00
005		0.00	0.00
006	Sub-total	4,896,159,625.27	4,722,518,393.06
007	Less:	0.00	0.00
008	Allocated to fuel inventory	380,700,405.43	374,595,518.15
009	Transferred to Expenditure during Construction Period (net)- Note 43	659.26	0.00
010		0.00	0.00
011	Transferred/Allocated to development of coal mines	0.00	0.00
012	Adjustment with deferred revenue from deferred foreign currency fluctuation	207,462,000.00	165,193,000.00
013		0.00	0.00
015	Total	4,307,996,560.58	4,182,729,874.91

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001 OTHER EXPENSES		0.00	0.00
002 Power charges		36,602,545.00	31,976,053.83
003 Less: Recovered from contractors & employees		16,759,983.93	18,059,198.89
004 Sub-Total(Power Charges)		19,842,561.07	13,916,854.94
005 Water charges		139,871,225.00	139,871,225.00
006 Stores consumed		72,975,803.55	52,633,011.12
007 Rent		0.00	0.00
008 Less:Recoveries		0.00	0.00
009 Sub-Total (Rent)		0.00	0.00
010 Cost of captive coal produced		0.00	0.00
011 Repairs & maintenance		0.00	0.00
012 Buildings		158,149,415.92	129,376,643.93
013 Plant & machinery		0.00	0.00
014 Power stations		2,228,227,417.39	1,746,499,355.61
015 Construction equipment		0.00	0.00
016 Others		133,139,689.40	106,882,579.98
017 Sub-total (Repairs & maintenance)		2,519,516,522.71	1,982,758,579.52
019 Load Dispatch Center Charges		13,176,411.00	25,361,760.00
021 Insurance		176,259,470.09	141,466,994.50
022 Interest to beneficiaries		0.00	0.00
023 Rates and taxes		-6,259,316.14	14,847,960.99
024 Water cess & environment protection cess		0.00	0.00
025 Training & recruitment expenses		2,049,738.99	688,607.70
026 Less: Receipts		0.00	0.00
027 Sub-total (Training and recruitment expenses)		2,049,738.99	688,607.70
028 Communication expenses		18,055,262.15	21,264,678.98
029 Inland Travel		73,825,041.75	66,788,667.74
030 Foreign Travel		153,377.00	0.00
031 Tender expenses		0.00	0.00
032 Less: Receipt from sale of tenders		0.00	0.00
033 Sub-total (Tender expenses)		0.00	0.00
034 Payment to auditors		0.00	0.00
035 Audit fee		0.00	0.00
036 Tax audit fee		0.00	0.00
037 Other services		0.00	0.00
038 Reimbursement of expenses		0.00	0.00
039 Sub-total (Payment to Auditors)		0.00	0.00
040 Advertisement and publicity		715,426.60	1,007,008.21
041 Electricity duty		0.00	0.00
042 Security expenses		450,957,342.53	375,343,967.09
043 Entertainment expenses		26,443,229.39	25,139,954.44
044 Expenses for guest house		20,529,003.23	18,821,757.77
045 Less:Recoveries		5,102,224.90	2,432,785.40
046 Sub-Total (Guest house expenses)		15,426,778.33	16,388,972.37
047 Education expenses		60,990,719.00	58,099,926.00
049 Donations		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	31.03.2023	31.03.2022
For the Year ended		
050 Ash utilisation & marketing expenses	1,205,661,111.07	796,403,425.57
051 Directors sitting fee	0.00	0.00
053 Professional charges and consultancy fees	85,099,069.19	2,058,930.20
054 Legal expenses	25,564,410.00	15,869,702.68
055 EDP hire and other charges	9,686,180.09	778,677.16
056 Printing and stationery	2,413,162.68	1,845,738.55
057 Oil & gas exploration expenses	0.00	0.00
059 Hiring of vehicles	36,342,493.81	25,296,051.88
061 Reimbursement of L.C.charges on sales realisation	0.00	0.00
062 LOSS ON FAIR VALUATION OF NON- CURRENT TRADE RECEIVABLE AT AMORTISED COST	0.00	0.00
063 Cost of Hedging	0.00	0.00
064 Derivatives MTM loss/gain (Net)	0.00	0.00
065 Net loss/(gain) in foreign currency transactions & translations	15,280,472.25	-89,322,683.55
066 Transport Vehicle running expenses	1,883,079.38	1,160,422.83
067 Horticulture Expenses	82,919,539.21	63,583,840.61
068 Hire charges- helicopter/aircraft.	0.00	0.00
069 Hire charges of construction equipment	0.00	0.00
070 Demurrage Charges	0.00	0.00
072	0.00	0.00
073 Miscellaneous expenses	54,556,145.78	55,867,107.84
074 Loss on disposal/write-off of PPE	81,328,604.99	68,736,584.56
075 Sub-Total	5,184,733,861.47	3,877,855,966.93
076 Less: Other expenses allocated to fuel inventory	584,991,830.30	588,057,845.97
077 Less: Transferred/Allocated to development of coal mines	0.00	0.00
078 Less: Transferred to fly ash utilisation reserve fund	25,183,231.73	73,498,661.01
079 Less: Hedging cost Net recoverable/payable from/to beneficiaries	0.00	0.00
080 Less: Others	0.00	0.00
081 Less: Transferred to CSR Expenses	0.00	58,647,288.00
082 Less: Transferred to Expenditure during Construction period(net)-Note 43	2,525,818.02	-2,659,409.99
083 Less: Transfer to Govt of Jharkhand A/c as recoverable	0.00	0.00
084 Net (Generation, Administration and Other expenses)	4,572,032,981.42	3,160,311,581.94
085 Corporate Social Responsibility Expenses	35,175,677.26	98,681,095.39
086 Less: Grants-in-aid	0.00	0.00
087 Sub-total (Corporate Social Responsibility Expenses)	35,175,677.26	98,681,095.39
088 Provisions	0.00	0.00
089 Doubtful Debts	0.00	0.00
090 Doubtful loans, advances and claims	0.00	0.00
091 Doubtful Construction Advances	0.00	0.00
092 Shortage in stores	222,450.81	1,655,918.65

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 42 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
093	Obsolete/Dimunition in the value of surplus stores	10,612,444.94	12,120,326.93
094	Shortage in construction stores	88,397.16	1,469,730.55
095	Dimunition in value of long term investments	0.00	0.00
096	Shortage in Fixed assets	0.00	0.00
097	Unfinished minimum work progress from oil & gas exploration	0.00	0.00
098	Unserviceable capital works	0.00	0.00
099	Tariff Adjustment	154,854,000.00	147,770,000.00
100	Others :	0.00	0.00
101	(i) Provision for arbitration cases	418,352.00	418,352.00
102	(ii) Other provisions	0.00	0.00
103	Total (Provisions)	166,195,644.91	163,434,328.13
104		0.00	0.00
106	Total	4,773,404,303.59	3,422,427,005.46
107		0.00	0.00
108	Breakup of miscellaneous expenses.	0.00	0.00
110	Hire charges of office equipment	2,178,920.46	1,714,504.43
112	Operating expenses of construction equipment	0.00	0.00
113	Operating expenses of D.G. sets	0.00	0.00
114	Furnishing expenses	253,934.89	111,933.41
115	Subscription to trade and other associations.	0.00	0.00
117	Visa and entry permit charges	0.00	0.00
118	Tree plantation exp.-NTPC Land	0.00	0.00
119	Research & development expenses .	0.00	0.00
120	Less : Grants received for Research & development expenses.	0.00	0.00
121	Sub-total (Research & development expenses)	0.00	0.00
122	Bank charges	90,956.68	57,713.83
123	Business Development Expenditure	0.00	0.00
124	Surcharge (NVVN)	0.00	0.00
125	Power Trading Expenses	30,539,939.00	23,017,240.00
126	Brokerage & commission	8,616,631.00	8,510,225.90
130	Books and periodicals	408,733.00	61,430.00
131	Claims/advances written off	0.00	0.00
132	Stores written off	0.00	0.00
133	Survey &Investigation expenses written off	0.00	2,987,667.50
134	Others	12,467,030.75	19,406,392.77
135	Total	54,556,145.78	55,867,107.84
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended 31.03.2023	31.03.2022
001 EXPENDITURE DURING CONSTRUCTION PERIOD (NET)	0.00	0.00
002 A. Employee benefits expense	0.00	0.00
003 Salaries and wages	26,501,611.63	21,286,958.63
004 Contribution to provident and other funds	3,509,615.20	2,431,771.71
005 Unwinding of deffered payroll expenses	0.00	0.00
006 Staff welfare expenses	1,680,711.99	1,207,329.60
007 Total (A)	31,691,938.82	24,926,059.94
008 B. Finance Costs	0.00	0.00
009 Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010 Bonds	9,928,869.03	5,668,439.23
011 Foreign currency term loans	26,164,411.47	3,847,461.50
012 Rupee term loans	16,080,739.00	12,081,882.00
013 Foreign currency bonds/notes	0.00	0.00
014 Unwinding of discount on account of vendor liabilities	0.00	74,018,223.04
015 Others	0.00	0.00
016	0.00	0.00
017 Other Borrowings Costs	0.00	0.00
018 Guarantee Commission	0.00	0.00
019 Management Fees/Arrangers Fees	0.00	0.00
020 Commitment charges/Exposure Premium	129,975.15	1,126,265.00
021 Legal Expenses on foreign currency loans	0.00	0.00
022 Foreign currency bonds/notes expenses	0.00	0.00
023 Foreign Credit Insurance Premium	0.00	0.00
024 Upfront Fee	0.00	0.00
025 Exchange Differences	0.00	0.00
026 Others	3,705,070.96	1,564,768.20
027 Exchange differences regarded as adjustment to interest cost	11,830,701.59	-1.00
028 Total (B)	67,839,767.20	98,307,037.97
029	0.00	0.00
030 C. Depreciation and amortisation	659.26	0.00
031 D. Generation , administration and other expenses	0.00	0.00
032 Power charges	314,305.00	872,302.00
033 Less: Recovered from contractors & employees	39,741.55	6,316,951.40
034 Sub-total(Net power charges)	274,563.45	-5,444,649.40
035 Water charges	0.00	0.00
036 Rent	0.00	0.00
037 Repairs & maintenance	0.00	0.00
038 Buildings	0.00	0.00
039 Construction equipment	0.00	0.00
040 Others	456.75	0.00
041	0.00	0.00
042 Insurance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
043	Rates and taxes	108.00	93.60
044	Communication expenses	463,943.00	194,837.00
045	Travelling expenses	1,173,914.46	863,550.68
046	Tender expenses	0.00	0.00
047	Less: Income from sale of tenders	0.00	0.00
048	Sub-total (Net tender expenses)	0.00	0.00
049	Advertisement and publicity	0.00	0.00
050	Security expenses	0.00	0.00
051	Entertainment expenses	109,860.70	82,552.00
052	Guest house expenses	0.00	0.00
053	Less: Receipt from guest house	0.00	0.00
054	Sub-total (Net Guest House Expenses)	0.00	0.00
055	Education expenses	0.00	0.00
056	Brokerage & Commission	0.00	0.00
057	Books and periodicals	0.00	0.00
058	Community development expenses	0.00	0.00
059	Professional charges and consultancy fee	0.00	0.00
060	Legal expenses	0.00	0.00
061	EDP Hire and other charges	0.00	0.00
062	Printing and stationery	19,534.00	0.00
063	Miscellaneous expenses	483,437.66	1,644,206.13
064	Total (D)	2,525,818.02	-2,659,409.99
065	Total (A+B+C+D)	102,058,183.30	120,573,687.92
066	E. Less: Other Income	0.00	0.00
067	Interest from	0.00	0.00
068	Indian banks	0.00	0.00
069	Foreign banks	0.00	0.00
070	Others	0.00	0.00
071	Contractors	0.00	0.00
072	Hire charges	0.00	0.00
073	Sale of scrap	0.00	0.00
074	Exchange Differences	0.00	0.00
075	Miscellaneous income	104,102.76	96,735.00
076	TOTAL (E)	104,102.76	96,735.00
077	F. Net actuarial gain/loss OCI	-397,461.79	85,940.56
078		0.00	0.00
079	GRAND TOTAL (A+B+C+D-E+F)	101,556,618.75	120,562,893.48
080		0.00	0.00
081	* Balance carried to Capital Work-in-progress - (Note 3)	101,556,618.75	120,562,893.48

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43A TO THE FS--EDC- COAL MINING

(Amount in ₹)

	For the Year ended	31.03.2023	31.03.2022
001	EDC- Coal Mining	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	0.00	0.00
004	Contribution to provident and other funds	0.00	0.00
005	Unwinding of deferred payroll expenses	0.00	0.00
006	Staff welfare expenses	0.00	0.00
007	Total (A)	0.00	0.00
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	0.00	0.00
011	Foreign currency term loans	0.00	0.00
012	Rupee term loans	0.00	0.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	0.00	0.00
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	0.00	0.00
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	0.00
026	Others	0.00	0.00
027	Exchange differences regarded as adjustment to interest cost	0.00	0.00
028	Total (B)	0.00	0.00
029		0.00	0.00
030	C. Depreciation and amortisation	0.00	0.00
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	0.00	0.00
033	Less: Recovered from contractors & employees	0.00	0.00
034	Sub-total(Net power charges)	0.00	0.00
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	0.00	0.00
041	Cost of Captive Coal	0.00	0.00
042	Insurance	0.00	0.00
043	Rates and taxes	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43A TO THE FS--EDC- COAL MINING

(Amount in ₹)

For the Year ended	31.03.2023	31.03.2022
044 Communication expenses	0.00	0.00
045 Travelling expenses	0.00	0.00
046 Tender expenses	0.00	0.00
047 Less: Income from sale of tenders	0.00	0.00
048 Sub-total (Net tender expenses)	0.00	0.00
049 Advertisement and publicity	0.00	0.00
050 Security expenses	0.00	0.00
051 Entertainment expenses	0.00	0.00
052 Guest house expenses	0.00	0.00
053 Less: Receipt from guest house	0.00	0.00
054 Sub-total (Net Guest House Expenses)	0.00	0.00
055 Education expenses	0.00	0.00
056 Brokerage & Commission	0.00	0.00
057 Books and periodicals	0.00	0.00
058 Community development expenses	0.00	0.00
059 Professional charges and consultancy fee	0.00	0.00
060 Legal expenses	0.00	0.00
061 EDP Hire and other charges	0.00	0.00
062 Printing and stationery	0.00	0.00
063 Miscellaneous expenses	0.00	0.00
064 Total (D)	0.00	0.00
065 Total (A+B+C+D)	0.00	0.00
066 E. Less: Other Income	0.00	0.00
067 Interest from	0.00	0.00
068 Indian banks	0.00	0.00
069 Foreign banks	0.00	0.00
070 Others	0.00	0.00
071 Contractors	0.00	0.00
072 Hire charges	0.00	0.00
073 Sale of scrap	0.00	0.00
074 Exchange Differences	0.00	0.00
075 Miscellaneous income	0.00	0.00
076 TOTAL (E)	0.00	0.00
077 F. Net actuarial gain/loss OCI	0.00	0.00
078	0.00	0.00
079 GRAND TOTAL (A+B+C+D-E+F)	0.00	0.00
080	0.00	0.00
081 * Balance carried to Capital Work-in-progress - (Note 3)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44-A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2023	31.03.2022
001 Balance sheet	0.00	0.00
002 Freehold land for which conveyancing of the title is awaiting completion of legal formalities	0.00	0.00
003 (a) area (in acres)	1,272.13	1,277.87
004 (b) value (in rs)	116,742,467.99	50,838,469.84
005 Right-of-use land for which execution of lease deed is awaiting completion of legal formalities	0.00	0.00
006 (a) area (in acres)	227.63	1,966.04
007 (b) value (in rs)	208,310,187.38	312,091,923.56
008 Right-of-use land acquired on perpetual lease and accordingly not amortised	0.00	0.00
009 (a) area (in acres)	0.00	0.00
010 (b) value (in rs.)	0.00	0.00
011 Land in physical possession of the company which has not been shown in the books pending settlement of price (in acres)	0.00	0.00
012 Deposit with government authorities towards land in possession of the company included in cost of land which is subject to adjus	0.00	0.00
013 Land not in possession of the company	0.00	0.00
014 (a) area (in acres)	0.00	0.00
015 -Freehold	776.45	786.37
016 -Right of Use	72.33	72.47
017 (b) value (in rs)	0.00	0.00
018 -Freehold	71,250,885.34	14,409,326.78
019 -Right of Use	30,718,588.01	31,000,000.00
020 Right-of-use buildings pending completion of legal fomalities - value (in rs.)	0.00	0.00
021 Estimated amount of contracts remaining to be executed on capital account and not provided for	0.00	0.00
022 Property, plant & equipment	13,566,754,374.00	17,596,562,343.00
023 Intangible assets	0.00	0.00
024 Details of precommissioning expenditure	0.00	0.00
025 (a) precommissioning expenses	0.00	0.00
026 (b) precommissioning income	0.00	0.00
027 (c) net precommissioning expenditure	0.00	0.00
028	0.00	0.00
029	0.00	0.00
030	0.00	0.00
031 Exchange rate variation taken to revenue during the year (with -ve sign, if favourable)	19,741,587.18	-92,096,377.22
045 Exchange rate variation capitalised during the year (with -ve sign, if favourable)	282,259,548.61	154,890,055.40
064 Short Term Leases	0.00	0.00
065 A) Rent	0.00	0.00
066 Company lease accomodation - executives	0.00	0.00
067 Company lease accomodation - directors	0.00	0.00
068 Others	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44-A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2023	31.03.2022
069 Total	0.00	0.00
101 Borrowing cost capitalised during the year	67,839,767.20	24,288,814.93
102 Revenue grants recognized during the year	0.00	0.00
103 Revenue expenditure on research and development	0.00	0.00
104 Capital expenditure on research and development.	0.00	0.00
105 Expenditure on sustainability development - capital	1,321,815.00	0.00
106 Expenditure on csr- capital	0.00	0.00
107 Opening balance - CSR Liability	5,794,153.00	39,305,330.19
108 Paid/Adjusted during the Year out of Opening above	-1,456,484.00	36,690,803.19
109 Amount yet to be paid against Cr Year CSR Exp	1,408,871.00	-3,179,626.00
110 Closing Balance CSR- Liability (110)	5,746,540.00	-5,794,153.00
111	0.00	0.00
112	0.00	0.00
113	0.00	0.00
114	0.00	0.00
115 Disclosure under msmed act 2006.	0.00	0.00
116 (i) (a) the principal amount remaining unpaid as at year end	237,294,393.36	344,066,958.09
117 (i) (b) interest due there on remaining unpaid as at Year end	0.00	0.00
118 (ii) the amount of interest paid by the buyer in terms of section 16, along with the amounts of the payment made to the supplier	0.00	0.00
119 (iii) the amount of interest due and payable for the period of delay in making payment(which has been paid but beyond the appoin	0.00	0.00
120 (iv) the amount of interest accrued and remaining unpaid at the end of the year; and	0.00	0.00
121 (v) the amount of further interest remaining due and payable even in the succeeding years, until such date when the interest due	0.00	0.00
122 Amount of inventories recognized as an expense (including fuel)	36,118,519,159.86	31,594,433,719.35
123 Amount of inventories capitalised as overhauling assets out of 122 above	479,006,817.39	138,552,137.00
124 Amount capitalised as edc out of 122 above	0.00	0.00
133 Value of Imported Material Consumed during the Year	0.00	0.00
134	0.00	0.00
135 Contingent liabilities	0.00	0.00
136 A. Claims against the company not acknowledged as debts in respect of :	0.00	0.00
137 (i)Capital works	0.00	0.00
138 (ii)Land compensation cases	35,769,736.80	35,769,736.80
139 (iii)Others by state authorities towards:-	0.00	0.00
140 (a) Water royalty / water charges / nala tax	0.00	0.00
141 (b) Diversion of land / building permission fees	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44-A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2023	31.03.2022
142 (c) Other demands by state authorities	4,590,000.00	4,590,000.00
143 (iv) Others by fuel companies	0.00	0.00
144 (a) Disputes related to grade slippage-third party sampling	1,346,927,154.99	521,176,520.00
145 (b) Surface transportation charges on coal	911,712,917.69	911,712,917.66
146 (c) Take or pay claim - Gas stations	0.00	0.00
147 (d) Other claims by fuel companies not acknowledged as debt	686,853,915.00	291,000,980.00
149 B.Disputed tax demands	0.00	0.00
150 (i) Income tax	0.00	0.00
151 (ii) Excise duty	3,691,823.00	3,691,823.00
152 (iii) Sales tax	146,412,646.00	145,060,360.00
153 (iv) Service tax/GST	4,225,770.93	4,080,007.53
154 (v) Entry tax	0.00	0.00
155 C. Others	183,583,292.71	240,865,291.85
156 Total	3,323,767,257.12	2,157,947,636.84
157 D. Possible reimbursement on account of contingent liabilities	0.00	0.00
158 (i) Capital works	0.00	0.00
159 (ii) Land compensation cases	0.00	0.00
160 (iii) Others (by state authorities)	0.00	0.00
161	0.00	0.00
162 (iv) Others by fuel companies	2,945,493,987.65	1,723,890,417.66
163 (v) Disputed income tax demand	0.00	0.00
164 (vi) Disputed tax demands -others	150,104,469.00	148,752,183.00
165 (vii) Others	58,203.00	118,267,099.00
167 Total	3,095,656,659.65	1,990,909,699.66
168 E.AMOUNT PAID UNDER PROTEST/ADJUSTED BY AUTHORITIES - TAX CASES	812,756.00	812,756.00
169 F.CONTINGENT ASSETS	0.00	0.00
170 Intangible under development : less than 1 year	0.00	0.00
171 Intangible under development #: 1-2 year	0.00	0.00
227 Intangible under development #: 2-3 year	0.00	0.00
277 Intangible under development #: More than 3 years	0.00	0.00
278 Capital-Work-in Progress (CWIP)	0.00	0.00
279 Projects in progress	8,960,205,455.82	6,758,466,834.90
280 Projects temporarily suspended	0.00	0.00
281	0.00	0.00
282	0.00	0.00
283 Projects in progress	0.00	0.00
284 Less than 1 year	3,744,284,084.47	4,445,877,958.44
285 1-2 years	3,074,034,597.30	1,791,003,583.98
286 2-3 years	1,738,373,963.21	268,220,634.24
287 More than 3 years	403,512,810.84	253,364,658.24
288 Sub Total (I)	8,960,205,455.82	6,758,466,834.90
289	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44-A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2023	31.03.2022
290 Projects temporarily suspended	0.00	0.00
291 Less than 1 year	0.00	0.00
292 1-2 years	0.00	0.00
293 2-3 years	0.00	0.00
294 More than 3 years	0.00	0.00
295 Sub Total (II)	0.00	0.00
296	0.00	0.00
380 Previous year figures have been regrouped/rearranged wherever necessary.	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

BALANCE SHEET

(Amount in ₹)

As at	Note	31.03.2024	31.03.2023
001	ASSETS	0.00	0.00
002		0.00	0.00
003	NON-CURRENT ASSETS	0.00	0.00
004	PROPERTY, PLANT & EQUIPMENT	48,149,067,190.98	49,621,309,183.69
005	CAPITAL-WORK-IN-PROGRESS	12,848,933,527.77	8,960,205,455.82
006	INVESTMENT PROPERTY	0.00	0.00
007	INTANGIBLE ASSETS	745,236.92	79,793.65
008	INTANGIBLE ASSETS UNDER DEVELOPMENT	0.00	0.00
009	FINANCIAL ASSETS	0.00	0.00
010	I) EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES	0.00	0.00
011	II) OTHER INVESTMENTS	0.00	0.00
012	III) LOANS	117,068,687.39	111,577,788.06
013	IV) TRADE RECEIVABLES	0.00	0.00
014	V) OTHER FINANCIAL ASSETS	0.00	0.00
016	OTHER NON-CURRENT ASSETS	461,005,117.71	686,673,672.57
017	TOTAL NON-CURRENT ASSETS	61,576,819,760.77	59,379,845,893.79
018		0.00	0.00
019	CURRENT ASSETS	0.00	0.00
020	INVENTORIES	7,732,979,740.05	7,344,113,893.60
021	FINANCIAL ASSETS	0.00	0.00
022	I) OTHER INVESTMENTS	0.00	0.00
023	II) TRADE RECEIVABLES	0.00	1,737,334.04
024	III) CASH AND CASH EQUIVALENTS	0.00	0.00
025	IV) BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS	0.00	0.00
026	V) LOANS	68,365,126.48	69,609,653.92
027	VI) OTHER FINANCIAL ASSETS	123,372,990.93	126,338,115.86
028	CURRENT TAX ASSETS (NET)	0.00	0.00
029		0.00	0.00
030	OTHER CURRENT ASSETS	599,590,417.73	682,394,358.11
031		0.00	0.00
032	TOTAL CURRENT ASSETS	8,524,308,275.19	8,224,193,355.53
033	ASSETS HELD FOR SALE	6,036,716.90	6,037,344.90
036	REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES	-227,495,204.34	-43,260,292.59
037	TOTAL ASSETS	69,879,669,548.52	67,566,816,301.63
038	EQUITY AND LIABILITIES	0.00	0.00
039	EQUITY	0.00	0.00
040	EQUITY SHARE CAPITAL	0.00	0.00
041	OTHER EQUITY	201,165,336,384.38	189,186,278,816.05
044	TOTAL EQUITY	201,165,336,384.38	189,186,278,816.05
045		0.00	0.00
046	LIABILITIES	0.00	0.00
047	NON-CURRENT LIABILITIES	0.00	0.00
048	FINANCIAL LIABILITIES	0.00	0.00
049	I) BORROWINGS	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****BALANCE SHEET****(Amount in ₹)**

	As at	Note	31.03.2024	31.03.2023
050	II) LEASE LIABILITIES	26	229,338,533.00	201,162,209.87
051	III) TRADE PAYABLES		0.00	0.00
052	- TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	27	0.00	0.00
053	- TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	27	0.00	0.00
054	IV) OTHER FINANCIAL LIABILITIES	28	42,444,386.96	55,870,227.33
055	PROVISIONS	29	0.00	0.00
056	DEFERRED TAX LIABILITIES (NET)	30	0.00	0.00
057	OTHER NON-CURRENT LIABILITIES	31	0.00	0.00
058			0.00	0.00
059	TOTAL NON-CURRENT LIABILITIES		271,782,919.96	257,032,437.20
060			0.00	0.00
061	CURRENT LIABILITIES		0.00	0.00
062	FINANCIAL LIABILITIES		0.00	0.00
063	I) BORROWINGS	32	0.00	0.00
064	II) LEASE LIABILITIES	33	14,911,924.69	14,497,699.11
065	III) TRADE PAYABLES		0.00	0.00
066	- TOTAL OUTSTANDING DUES OF MICRO AND SMALL ENTERPRISES	34	193,435,115.38	124,444,057.60
067	- TOTAL OUTSTANDING DUES OF CREDITORS OTHER THAN MICRO AND SMALL ENTERPRISES	34	2,199,580,679.48	2,444,847,958.62
068	III) OTHER FINANCIAL LIABILITIES	35	5,857,083,484.21	4,716,151,347.60
069	OTHER CURRENT LIABILITIES	36	110,599,056.76	124,300,877.64
070	PROVISIONS	37	13,133,268.00	9,102,016.00
071	CURRENT TAX LIABILITIES (NET)	38	0.00	0.00
072			0.00	0.00
073	TOTAL CURRENT LIABILITIES		8,388,743,528.52	7,433,343,956.57
074			0.00	0.00
077	DEFERRED REVENUE	39	1,356,547,000.00	1,576,387,000.00
078	REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES	39A	0.00	0.00
079	INTER UNIT ACCOUNTS		-141,302,740,284.34	-130,886,225,908.19
080			0.00	0.00
081	TOTAL EQUITY AND LIABILITIES		69,879,669,548.52	67,566,816,301.63
082	Material Accounting Policies as per note 1	1	0.00	0.00
083			0.00	0.00
084	The Accompanying notes 1 to 48A form an integral part of these financial statements.		0.00	0.00
085			0.00	0.00

SUYASH SOMNATH KAPUR
 Digitally signed by SUYASH SOMNATH KAPUR
 Date: 2024.04.30 13:42:51 +05'30'
 (Auditor Initial & Stamp)

VENKATESWAR BOMPADA
 Digitally signed by VENKATESWAR BOMPADA
 Date: 2024.04.27 20:03:24 +05'30'
 (Head of Finance)

Pankaj Mediratta
 Digitally signed by Pankaj Mediratta
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 (Head of Unit)





RIHAND SUPER THERMAL POWER STATION

STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

	For the Year ended	Note	31.03.2024	31.03.2023
001	Revenue		0.00	0.00
002	Revenue from operations	40	61,383,428,894.96	58,630,687,159.09
003	Other income	41	370,257,225.47	484,325,517.38
005	Total Income		61,753,686,120.43	59,115,012,676.47
007	Expenses		0.00	0.00
008	Fuel including cost of captive coal	42	35,194,069,965.70	34,514,855,222.10
009	Employee benefits expense	43	1,711,955,663.11	1,777,403,106.11
010	Electricity purchased for trading		0.00	0.00
011	Finance costs	44	1,002,897,400.49	1,283,819,969.71
012	Depreciation, amortization and impairment expenses	45	4,670,852,246.89	4,307,996,560.58
013			0.00	0.00
014	Other expenses	46	6,154,530,321.04	4,827,491,739.59
015	CC expenses charge to revenue		860,491,973.00	900,990,130.26
016	Less: Unit expenses transferred to CC		0.00	0.00
017	Total expenses		49,594,797,570.23	47,612,556,728.35
020	Profit before exceptional items & tax		12,158,888,550.20	11,502,455,948.12
021	Exceptional items		0.00	0.00
024	Profit before tax		12,158,888,550.20	11,502,455,948.12
027	Tax expense:		0.00	0.00
028	Current tax		0.00	0.00
031	Deferred tax		0.00	0.00
034			0.00	0.00
035	Total Tax expense		0.00	0.00
036	Profit for the period before regulatory deferral account balances		12,158,888,550.20	11,502,455,948.12
037	Movement in regulatory deferral account balances		0.00	0.00
038	Regulatory deferred account - deferred		0.00	0.00
039	Others		-184,234,911.75	-1,024,362,313.78
040	Tax impact on regulatory deferral account balances		0.00	0.00
041	Net movement in regulatory deferral account balances (net of tax)		-184,234,911.75	-1,024,362,313.78
042	Profit for the period/ year		11,974,653,638.45	10,478,093,634.34
055	Other comprehensive income		0.00	0.00
056	(A) Items that will not be reclassified to profit or loss		0.00	0.00
057	- Net gains/(losses) on fair value of equity instruments through other comprehensive income		0.00	0.00
058	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
059	- Net actuarial gains/(losses) on defined benefit plans		4,403,929.88	-19,544,151.77
060	Income tax on above that will not be reclassified to profit or loss		0.00	0.00
064			0.00	0.00
065	Other comprehensive income for the year, net of income tax		4,403,929.88	-19,544,151.77
070			0.00	0.00
071			0.00	0.00
072	Total Comprehensive Income for the year		11,979,057,568.33	10,458,549,482.57



RIHAND SUPER THERMAL POWER STATION

STATEMENT OF PROFIT AND LOSS

(Amount in ₹)

For the Year ended	Note	31.03.2024	31.03.2023
086		0.00	0.00
087	Earnings per equity share:	0.00	0.00
088	Basic & Diluted	0.00	0.00
089	Material Accounting Policies	0.00	0.00
090		0.00	0.00
091	The accompanying notes 1 to 48 form an integral part of these financial statements.	0.00	0.00

SUYASH
SOMNATH
KAPUR

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SUYASH SOMNATH
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Date: 2024.04.30
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(Auditor Initial & Stamp)

VENKATESWA
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VENKATESWAR BOMPADA
Date: 2024.04.27 20:03:46
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(Head of Finance)

Pankaj
Mediratta

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serialNumber=3775aaf0381d6ba22
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Date: 2024.04.27 18:25:10 +05'30'

(Head of Unit)

RIHAND SUPER THERMAL POWER STATION
OTHER COMPREHENSIVE INCOME
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001		0.00	0.00
002	Other comprehensive income	0.00	0.00
003	(A) Items that will not be reclassified to profit or loss	0.00	0.00
004	- Net gains/(losses) on fair value of equity instruments through other comprehensive income	0.00	0.00
005	Income tax on above that will not be reclassified to profit or loss	0.00	0.00
006	- Net actuarial gains/(losses) on defined benefit plans	4,403,929.88	-19,544,151.77
007	Income tax on above that will not be reclassified to profit or loss	0.00	0.00
008		0.00	0.00
009	(B) Items that will be reclassified to profit or loss	0.00	0.00
010	Income tax relating to above items that will be reclassified to profit or loss	0.00	0.00
011		0.00	0.00
012	Other comprehensive income for the year, net of income tax	4,403,929.88	-19,544,151.77
013		0.00	0.00
014	Total comprehensive income for the year (A+B)	4,403,929.88	-19,544,151.77

Note forming part of Balance Sheet
NOTE NO. 2 TO THE FS-NCA-PROPERTY, PLANT AND EQUIPMENT
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2024	Opening Depreciation As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2024	Net Block As At 31.03.2024	Net Block As At 31.03.2023
1 TANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Land : (including development expenses)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 Freehold	355016843.25	0.00	0.00	355016843.25	0.00	0.00	0.00	0.00	355016843.25	355016843.25
4 Right of Use	678137733.98	32546505.48	0.00	710684239.46	99423606.49	23536626.93	0.00	122960233.42	587724006.04	578714127.49
5 Submergence	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 Right of use - Coal Bearing Area Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 Roads,bridges, culverts & helipads	636337614.70	0.00	0.00	636337614.70	180157124.43	23626463.25	0.00	203783587.68	432554027.02	456180490.27
8 Building :	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Main plant	1869800747.79	980.66	0.00	1869801728.45	501564138.50	63390639.75	0.00	564954778.25	1304846950.20	1368236609.29
11 Others	2574811225.22	91130304.03	(201140.39)	2665740388.86	673767508.77	177207020.14	0.00	850974528.91	1814765859.95	1901043716.45
12 Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 Temporary erection	231168.13	832000.00	0.00	1063168.13	231168.13	624000.00	0.00	855168.13	208000.00	0.00
14 Water Supply, drainage & sewerage system	546222044.04	913668.44	0.00	547135712.48	171339645.41	24175812.19	0.00	195515457.60	351620254.88	374882398.63
15 Hydraulic works, barrages, dams, tunnels and power channel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 MGR track and signalling system	1354309444.15	0.00	(2292175.64)	1352017268.51	487460446.31	57038141.70	0.00	544498588.01	807518680.50	866848997.84
17 Railway siding	1528212.48	0.00	0.00	1528212.48	776912.19	64482.46	0.00	841394.65	686817.83	751300.29
18 Earth dam reservoir	1456921.40	0.00	0.00	1456921.40	0.00	0.00	0.00	0.00	1456921.40	1456921.40
19 Plant and machinery(including associated civil works)	76960566665.36	3668820918.91	(481206360.20)	80148181224.07	33744072418.19	4821123153.64	(336854991.71)	38228340580.12	41919840643.95	43216494247.17
Owned Asset										


 Adil, General Manager (Commercial)
 एन सी ई सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
NOTE NO. 2 TO THE FS-NCA-PROPERTY, PLANT AND EQUIPMENT
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2024	Opening Depreciation As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2024	Net Block As At 31.03.2024	Net Block As At 31.03.2023
20 Plant and machinery(including associated civil works) -Right of use Asset	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 Furniture and fixtures	176641068.54	5613399.10	0.00	182254467.64	88220455.66	8592917.30	0.00	96813372.96	85441094.68	88420612.88
22 Assets under 5 Km Scheme	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 Vehicles including speedboats / helicopter- Owned	9034115.35	2809838.00	0.00	11843953.35	3879093.90	878459.75	0.00	4757553.65	7086399.70	5155021.45
24 Vehicles including speedboats / helicopter - Right of Use	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25 Office equipment	100813473.54	132053544.87	4313542.89	237180561.30	66352770.64	13950822.72	1220794.20	81524387.56	155656173.74	34460702.90
26 EDP, WP machines and satcom equipment	125778344.32	8349424.51	(22304907.51)	111822861.32	70281077.93	21296402.28	(13488215.74)	78089264.47	33733596.85	55497266.39
27 Construction equipments	65110895.86	0.00	0.00	65110895.86	31101580.64	2027269.30	0.00	33128849.94	31982045.92	34009315.22
28 Electrical Installations	331078040.99	0.00	0.00	331078040.99	161206158.08	20440092.85	0.00	181646250.93	149431790.06	169871882.91
29 Communication equipments	32811847.30	1102000.00	9617420.83	43531268.13	25087864.37	3179304.32	5088397.55	33355566.24	10175701.89	7723982.93
30 Hospital equipments	36163197.06	419979.92	0.00	36583176.98	20726067.81	2773084.36	0.00	23499152.17	13084024.81	15437129.25
31 Laboratory and workshop equipments	150982759.77	3755889.57	0.00	154738649.34	59875142.09	8626148.94	0.00	68501291.03	86237358.31	91107617.68
32 Capital expenditure on assets not owned by the Company	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 Assets of Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


 Adil General Manager (Commercial)
 एन सी सी लिमिटेड / NTPC LIMITED

Note forming part of Balance Sheet
NOTE NO. 2 TO THE FS-NCA-PROPERTY, PLANT AND EQUIPMENT
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2024	Opening Depreciation As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2024	Net Block As At 31.03.2024	Net Block As At 31.03.2023
34 Less:Grants from Government	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35 Less: Recoverable from GOI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36 Assets for ash utilisation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37 (Less):-Adjusted from fly ash utilisation reserve fund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38 Site Restoration Cost	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39 Mining Properties	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Tangible)	86006832363.23	3948348453.49	(492073620.02)	89463107196.70	36385523179.54	5272550841.88	(344034015.70)	41314040005.72	48149067190.98	49621309183.69
Grand Total Prev Year (Tangible)	82762860205.13	3815958810.11	(571986652.01)	86006832363.23	32238221992.08	4896131231.52	(748830044.06)	36385523179.54	49621309183.69	50524638213.05


 अधी. जनरल म्यानेजर (कमर्शियल)
 Adil, General Manager (Commercial)
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Note forming part of Balance Sheet
NOTE NO. 2 TO THE FS-NCA-PROPERTY, PLANT AND EQUIPMENT
Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization

Particulars	Gross Block		Depreciation/Amortization	
	Tangible As At: 31.03.2024	Tangible As At: 31.03.2023	Tangible As At: 31.03.2024	Tangible As At: 31.03.2023
Disposal of assets	(4490895.36)	(11218922.70)	(4490895.36)	(11218922.70)
Retirement of assets	(473215802.77)	(832440819.19)	(331266377.67)	(738408039.74)
Cost adjustments	(5073602.86)	254681373.92	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	(10213221.96)	26964560.27	(9196645.60)	796918.38
Others	919902.93	(9972844.31)	919902.93	0.00
TOTAL	(492073620.02)	(571986652.01)	(344034015.70)	(748830044.06)

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
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Note forming part of Balance Sheet
NOTE NO. 3 TO THE FS-NCA-CAPITAL WORK-IN-PROGRESS
Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2023	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2024
	1	2	3	4	5	6
1	CAPITAL WORK-IN-PROGRESS					
2	Development of land					
3	Roads, bridges, culverts & helipads					
4	Piling and foundation					
5	Buildings :					
6	Main plant					
7	Others	128058530.12	39533683.72	(1320674.48)		166271539.36
8	Temporary erection					
9	Water supply, drainage and sewerage system		913668.44	(913668.44)		
10	Hydraulic works, barrages, dams, tunnels and power channel					
11	MGR track and signalling system					
12	Railway siding					
13	Earth dam reservoir					
14	Plant and equipment	8716518065.07	6303220680.72	(1025443862.29)	1514617344.31	12479677539.19
15	Furniture and fixtures					
16	Vehicles					
17	Office equipment		153600.00			153600.00
18	EDP/WP machines & satcom equipment					
19	Construction equipments		4400000.87			4400000.87
20	Electrical installations					
21	Communication equipment					
22	Hospital equipments					
23	Laboratory and workshop equipments					
24	Assets under 5Km Scheme of the GOI					
25	Capital expenditure on assets not owned by the company					
26	Expenditure towards development of coal mines					
27	Survey,Investigation,Consultancy & Supervision Cha	391613.00	(391613.00)			
28	Difference in exchange on foreign currency loans					

Note forming part of Balance Sheet
NOTE NO. 3 TO THE FS-NCA-CAPITAL WORK-IN-PROGRESS
Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2023	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2024
	1	2	3	4	5	6
29	Expenditure towards diversion of forest land					
30	Pre-commissioning expenses (net)					
31	ExpPendAlloca-oth ex attribut Project					
32	Expenditure During Construction Period (net)*		180736283.64	2202066.94		182938350.58
33	LESS : Allocated to related works		182938350.58			182938350.58
34	LESS : Provision for Unservicable works					
35	Construction stores (At Cost)					
36	Steel	2592059.75		(461242.18)		2130817.57
37	Cement	1723908.87		(9323.78)		1714585.09
38	Others	111009676.17	20465330.00	65006759.50		196481765.67
39	Sub-total	115325644.79	20465330.00	64536193.54		200327168.33
40	LESS : Provision for shortages	88397.16		1807922.82		1896319.98
41	Sub-total	115237247.63	20465330.00	62728270.72		198430848.35
42	Total CWIP	8960205455.82	6366093283.81	(962747867.55)	1514617344.31	12848933527.77
43						
44						
45	PREVIOUS YEAR TOTAL	6758466834.90	4893710462.03	(1270467177.70)	1167430596.92	8960205455.82

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

Note forming part of Balance Sheet
NOTE NO. 4 TO THE FS-NCA-INVESTMENT PROPERTY
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2024	Opening Depreciation As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2024	Net Block As At 31.03.2024	Net Block As At 31.03.2023
INVESTMENT PROPERTY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Free Hold Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 ROU Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total (Investment Property)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grand Total Prev Year (Investment Property)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00


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Note forming part of Balance Sheet
NOTE NO. 4 TO THE FS-NCA-INVESTMENT PROPERTY
Business Area :1005

(Amount in Rupees)

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	Investment Property As At: 31.03.2024	Investment Property As At: 31.03.2023	Investment Property As At: 31.03.2024	Investment Property As At: 31.03.2023
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
 Adil, General Manager (Commercial)
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Note forming part of Balance Sheet
NOTE NO. 5 TO THE FS-NCA-INTANGIBLE ASSETS
Business Area :1005

Asset Class	Opening Gross Block As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Gross Block As At 31.03.2024	Opening Depreciation As At 01.04.2023	Additions	Deductions/ Adjustments	Closing Depreciation As At 31.03.2024	Net Block As At 31.03.2024	Net Block As At 31.03.2023
INTANGIBLE ASSETS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 Right to Use- Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 -Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3 -Software	4866792.26	985404.00	0.00	5852196.26	4786998.61	319960.73	0.00	5106959.34	745236.92	79793.65
Grand Total (Intangible)	4866792.26	985404.00	0.00	5852196.26	4786998.61	319960.73	0.00	5106959.34	745236.92	79793.65
Grand Total Prev Year (Intangible)	4773867.26	92925.00	0.00	4866792.26	4758604.86	28393.75	0.00	4786998.61	79793.65	15262.40


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Note forming part of Balance Sheet
NOTE NO. 5 TO THE FS-NCA-INTANGIBLE ASSETS
 Business Area :1005

Details of Adjustments of Gross Block and Depreciation/Amortization				
Particulars	Gross Block		Depreciation/Amortization	
	InTangible As At: 31.03.2024	InTangible As At: 31.03.2023	InTangible As At: 31.03.2024	InTangible As At: 31.03.2023
Disposal of assets	0.00	0.00	0.00	0.00
Retirement of assets	0.00	0.00	0.00	0.00
Cost adjustments	0.00	0.00	0.00	0.00
Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Depreciation on construction equipment capitalised as EDC	0.00	0.00	0.00	0.00
Prior Period Depreciation due to Assets capitalised with retrospective effect / Write back of excess capitalisation	0.00	0.00	0.00	0.00
Special Depreciation (As per New Policy)	0.00	0.00	0.00	0.00
Transfer in /out because of Inter Unit transfers	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) : 0.00


 अधी. जनरल मॅनेजर (कॉमर्शियल)
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Note forming part of Balance Sheet

NOTE NO. 6 TO THE FS-NCA-INTANGIBLE ASSETS UNDER DEVELOPMENT

Business Area: RIHAND SUPER THERMAL POWER STATION

SI No	Asset Class	As At 01.04.2023	Addition	Deduction/ Adjustment	Capitalized	As At 31.03.2024
	1	2	3	4	5	6
1	INTANGIBLE ASSETS UNDER DEVELOPMENT					
2	Software					
3	Right to use Others					
4	Exploration and Evaluation Expenditure - Coal Mini					
5	Exploratory wells-in-progress					
6	Less: Provision for exploratory wells-in-progress					
7	Total					
8	PREVIOUS YEAR TOTAL-I					

Note:- Additions during the year includes capital expenditure towards CSR (in Rs.) :

0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 7 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

As at	No. of shares	Face value	31.03.2024	31.03.2023
001	NON CURRENT INVESTMENTS- INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES		0.00	0.00
012	EQUITY INSTRUMENTS - UNQUOTED-(FULLY PAID UP UNLESS OTHERWISE STATED, AT COST)		0.00	0.00
013	SUBSIDIARY COMPANIES		0.00	0.00
014	PATRATU VIDYUT UTPADAN NIGAM LTD.		0.00	0.00
015	NTPC ELECTRIC SUPPLY COMPANY LTD.		0.00	0.00
016	NTPC VIDYUT VYAPAR NIGAM LTD.		0.00	0.00
017	NABINAGAR POWER GENERATING COMPANY LTD.		0.00	0.00
018	KANTI BIJLEE UTPADAN NIGAM LTD.		0.00	0.00
019	BHARTIYA RAIL BIJLEE COMPANY LTD.		0.00	0.00
020	NTPC MINING LTD (NML)		0.00	0.00
021	THDC INDIA LTD.		0.00	0.00
022	NEEPCO LTD.		0.00	0.00
023	NTPC EDMC Waste Solutions Pvt Ltd		0.00	0.00
024	NTPC Renewables Energy Ltd		0.00	0.00
025	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
026	NTPC Green Energy Limited		0.00	0.00
027	Green Valley Renewable Energy Limited		0.00	0.00
028			0.00	0.00
029			0.00	0.00
030	SUB TOTAL		0.00	0.00
055	JOINT VENTURE COMPANIES		0.00	0.00
056	Utility Powertech Ltd.		0.00	0.00
057	NTPC GE Power Services Pvt.Ltd.		0.00	0.00
058	NTPC-SAIL Power Company Ltd.		0.00	0.00
059	NTPC-Tamil Nadu Energy Company Ltd.		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 7 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

As at	No. of shares	Face value	31.03.2024	31.03.2023
060	Ratnagiri Gas & Power Pvt. Limited (RGPPL)		0.00	0.00
061	ARAVALI POWER COMPANY PRIVATE LTD.		0.00	0.00
062	Jhabua Power Ltd.		0.00	0.00
063	NTPC BHEL POWER PROJECTS PRIVATE LTD.		0.00	0.00
064	MEJA URJA NIGAM PRIVATE LIMITED		0.00	0.00
065	BF-NTPC ENERGY SYSTEMS LTD.		0.00	0.00
066			0.00	0.00
067	NABINAGAR POWER GENERATING COMPANY LTD.		0.00	0.00
068	TRANSFORMER AND ELECTRICAL KERALA LTD.		0.00	0.00
069	NATIONAL HIGH POWER TEST LABORTORY PRIVATE LTD.		0.00	0.00
070			0.00	0.00
071	CIL NTPC URJA PRIVATE LTD.		0.00	0.00
072	ANUSHAKTI VIDHYUT NIGAM LTD.		0.00	0.00
073	ENERGY EFFICIENCY SERVICES LTD.		0.00	0.00
074			0.00	0.00
075	TRINCOMALEE POWER COMPANY LTD.		0.00	0.00
076	BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LTD.		0.00	0.00
077	HINDUSTAN URVARAK & RASAYAN LIMITED		0.00	0.00
078	KONKAN LNG LTD		0.00	0.00
085	SUB TOTAL		0.00	0.00
109	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS		0.00	0.00
110	TOTAL (NET OF IMPAIRMENT) OF JV		0.00	0.00
111	Gross Total of Investments		0.00	0.00
134	Total		0.00	0.00
135	Details of Investments		0.00	0.00
136	Aggregate amount of Unquoted Investments		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 7 TO THE FS-NCA-EQUITY INVESTMENTS IN SUBSIDIARIES AND JOINT VENTURES (Amount in ₹)

As at	No. of shares	Face value	31.03.2024	31.03.2023
141			0.00	0.00
142			0.00	0.00
143			0.00	0.00
144			0.00	0.00
145			0.00	0.00
153	Valuation of Investments as per Note 1.		0.00	0.00
154			0.00	0.00
202			0.00	0.00
233			0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 8 TO THE FS-NCA-OTHER INVESTMENTS
(Amount in ₹)

	As at	No. of shares	Face value	31.03.2024	31.03.2023
001	Non-current financial assets (investments)			0.00	0.00
006	Long Term - Trade			0.00	0.00
007	Equity Instruments (fully paid up-unless otherwise stated)			0.00	0.00
008	Quoted			0.00	0.00
009	JOINT VENTURE COMPANIES			0.00	0.00
010	PTC India Ltd.			0.00	0.00
070	INTERNATIONAL COAL VENTURES PRIVATE LTD.			0.00	0.00
075	BF-NTPC ENERGY SYSTEMS LTD.			0.00	0.00
098	Jhabua Power Limited-8.5% Non convertible debentures - private placement			0.00	0.00
110	COOPERATIVE SOCIETIES			0.00	0.00
111				0.00	0.00
112	SUB TOTAL			0.00	0.00
113	AGGREGATE AMOUNT OF IMPAIRMENT IN THE VALUE OF INVESTMENTS			0.00	0.00
115	TOTAL			0.00	0.00
120				0.00	0.00
146	NTPC EMPLOYEES CONSUMERS AND THRIFT CO-OPERATIVE SOCIETY LTD. KORBA			0.00	0.00
147	NTPC EMPLOYEES CONSUMERS AND THRIFT COOPERATIVE SOCIETY LTD. RSTPP			0.00	0.00
148	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. FARAKKA			0.00	0.00
149	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. VINDHYACHAL			0.00	0.00
150	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. ANTA			0.00	0.00
151	NTPC EMPLOYEES CONSUMERS COOPERATIVE SOCIETY LTD. KAWAS			0.00	0.00
152	NTPC Employees Consumers Cooperative Society Ltd. Kaniha			0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 LOANS (NON CURRENT)	0.00	0.00
004 RELATED PARTIES	0.00	0.00
005 SECURED	0.00	0.00
006 UN-SECURED	0.00	0.00
007 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
008 CREDIT IMPAIRED	0.00	0.00
009	0.00	0.00
010 EMPLOYEES(INCLUDING ACCRUED INTEREST)	0.00	0.00
011 SECURED	100,515,451.47	94,523,507.55
012 UNSECURED	45,987,192.18	45,547,966.97
013 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
014 CREDIT IMPAIRED	0.00	0.00
015 LESS : EMPLOYEE LOANS DISCOUNTING	0.00	0.00
016 SECURED	22,007,280.80	22,171,388.03
017 UNSECURED	7,426,675.46	6,322,298.43
018 LOAN TO STATE GOVERNMENT IN SETTLEMENT OF DUES FROM CUSTOMERS (UNSECURED)	0.00	0.00
019 OTHERS	0.00	0.00
020 SECURED	0.00	0.00
021 UNSECURED	0.00	0.00
022 WITH SIGNIFICANT INCREASE IN CREDIT RISK	0.00	0.00
023 CREDIT IMPAIRED	0.00	0.00
024 LESS: ALLOWANCE FOR CREDIT IMPAIRED LOANS	0.00	0.00
026 SUB TOTAL	117,068,687.39	111,577,788.06
027	0.00	0.00
028 TOTAL	117,068,687.39	111,577,788.06
029	0.00	0.00
030	0.00	0.00
031 Due from Directors and Officers of the Company	0.00	0.00
032 Directors	0.00	0.00
033 Officers	0.00	0.00
034	0.00	0.00
035 Loans to related parties include:	0.00	0.00
036 i)Key management personnel	0.00	0.00
037 ii)Subsidiary companies	0.00	0.00
038 iii)Joint Venture companies	0.00	0.00
039 iv)Others	0.00	0.00
040	0.00	0.00
055 Other loans represent loans given to	0.00	0.00
056 a) APIIC	0.00	0.00
061	0.00	0.00
062 RPD	0.00	0.00
063 i)Key management personnel	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 9 TO THE FS-NCA-LOANS

(Amount in ₹)

As at	31.03.2024	31.03.2023
064 ii)Subsidiary companies	0.00	0.00
065 iii)Joint Venture companies	0.00	0.00
066 iv)Others	0.00	0.00
067 Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 10 TO THE FS-NCA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Non-current financial assets - Trade receivables	0.00	0.00
002 UNSECURED, CONSIDERED GOOD	0.00	0.00
003 CREDIT IMPAIRED	0.00	0.00
004	0.00	0.00
006 Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
ANNEXURE TO NOTE 9- RPD (LOANS) SUBSIDIARIES

(Amount in ₹)

As at	31.03.2024	31.03.2023
010	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 11 TO THE FS-NCA-OTHER FINANCIAL ASSETS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Other Financial Assets (non current)	0.00	0.00
002	0.00	0.00
003 Share application money pending allotment in (Subsidiary Companies) :	0.00	0.00
004 NTPC Electric Supply Company Ltd.	0.00	0.00
005 NTPC Vidyut Vyapar Nigam Ltd.	0.00	0.00
006 Nabinagar Power Generating Company Ltd.	0.00	0.00
007 Kanti Bijlee Utpadan Nigam Ltd.	0.00	0.00
008 Bhartiya Rail Bijlee Company Ltd.	0.00	0.00
009 Patratu Vidyut Utpadan Nigam Ltd.	0.00	0.00
010 NTPC Mining Limited	0.00	0.00
011 THDC Ltd.	0.00	0.00
012 NEEPCO Ltd	0.00	0.00
013	0.00	0.00
014 Total	0.00	0.00
015 Share application money pending allotment (Joint Venture)	0.00	0.00
016 Utility Powertech Ltd.	0.00	0.00
017 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
018 NTPC-SAIL Power Company Ltd.	0.00	0.00
019 NTPC-Tamil Nadu Energy Company Ltd.	0.00	0.00
020 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
021 Aravali Power Company Private Ltd.	0.00	0.00
022	0.00	0.00
023 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
024 Meja Urja Nigam Private Limited	0.00	0.00
025 BF-NTPC Energy Systems Ltd.	0.00	0.00
026 Anushakti Vidhyut Nigam Ltd.	0.00	0.00
027 Nabinagar Power Generating Company Ltd.	0.00	0.00
028 Energy Efficiency Services Ltd.	0.00	0.00
029 National High Power Test Labortory Private Ltd.	0.00	0.00
030	0.00	0.00
031 CIL NTPC Urja Private Ltd.	0.00	0.00
032 Trincomalee Power Company Ltd.	0.00	0.00
033 Hindustan Urvarak & Rasayan Limited	0.00	0.00
034 Bangladesh-India Friendship Power Company Private Ltd.	0.00	0.00
035 Sub Total	0.00	0.00
036	0.00	0.00
037 Claims Recoverable	0.00	0.00
038 Finance Lease Recoverable	0.00	0.00
039 Mine Closure Deposit	0.00	0.00
040 Financial Deposit	0.00	0.00
041	0.00	0.00
042 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 12 TO THE FS-NCA-OTHER NON-CURRENT ASSETS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Other Non-current Assets	0.00	0.00
002	0.00	0.00
003 CAPITAL ADVANCES	0.00	0.00
004 SECURED	0.00	0.00
005 Unsecured	0.00	0.00
006 COVERED BY BANK GUARANTEE	314,389,169.00	600,930,914.00
007 OTHERS	112,549,980.49	54,522,506.49
008 CONSIDERED DOUBTFUL	0.00	0.00
009 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
010 Sub-Total	426,939,149.49	655,453,420.49
011	0.00	0.00
012 Advances other than capital advances	0.00	0.00
013 SECURITY DEPOSITS	1,524,280.00	1,524,280.00
019 Advances to Related parties	0.00	0.00
022 Advances to Contractors & Suppliers	0.00	0.00
023 SECURED	0.00	0.00
024 UNSECURED	0.00	0.00
025 CONSIDERED DOUBTFUL	0.00	0.00
026 LESS: ALLOWANCE FOR BAD & DOUBTFUL ADVANCES	0.00	0.00
027 Sub Total	1,524,280.00	1,524,280.00
028 RECEIVABLE FROM MCP ESCROW A/C	0.00	0.00
029 Pre Paid expenses	0.00	0.00
039 ADVANCE TAX & TAX DEDUCTED AT SOURCE	12,506,572.01	9,747,424.13
040 LESS:- PROVISION FOR CURRENT TAX	0.00	0.00
041	0.00	0.00
042 Sub Total	12,506,572.01	9,747,424.13
043 DEFERRED PAYROLL EXPENSES (SECURED)	14,750,249.21	15,584,840.68
044 DEFERRED PAYROLL EXPENSES (UNSECURED)	5,284,867.00	4,362,707.27
045 Sub Total	20,035,116.21	19,947,547.95
046 DEFERRED FOREIGN CURRENCY FLUCTUATION ASSET	0.00	1,000.00
049	0.00	0.00
050 Total	461,005,117.71	686,673,672.57
051	0.00	0.00
052	0.00	0.00
062 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
064	0.00	0.00
065 NTPC GE Power Services Pvt.Ltd.	0.00	0.00
066	0.00	0.00
067 Ratnagiri Gas & Power Private Ltd.	0.00	0.00
068 Aravali Power Company Private Ltd.	0.00	0.00
069 NTPC-SCCL Global Ventures Private Ltd.	0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 12 TO THE FS-NCA-OTHER NON-CURRENT ASSETS****(Amount in ₹)**

As at	31.03.2024	31.03.2023
070 NTPC BHEL Power Projects Private Ltd.	0.00	0.00
071 Meja Urja Nigam Private Limited	0.00	0.00
072 Nabinagar Power Generating Company Ltd.	0.00	0.00
073 National High Power Test Laboratory Private Ltd.	0.00	0.00
075 CIL NTPC Urja Private Ltd.	0.00	0.00
077	0.00	0.00
078 Related Party (Adv)	0.00	0.00
079 Key Management personel	0.00	0.00
080 Subsidiary companies	0.00	0.00
081 Joint Venture companies	0.00	0.00
082 Contractors	0.00	0.00
083 Others	0.00	0.00
085	0.00	0.00
086 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 13 TO THE FS-CA-INVENTORIES

(Amount in ₹)

As at		31.03.2024	31.03.2023
001	INVENTORIES	0.00	0.00
002		0.00	0.00
003	Coal	2,320,889,949.63	2,580,101,057.99
004	Fuel oil	579,514,381.49	547,439,933.51
005	Naphtha	0.00	0.00
006	Stores and spares	3,748,306,665.33	3,448,710,137.80
007	Chemicals & consumables	78,857,515.31	76,411,103.07
008	Loose tools	2,454,415.01	2,161,544.92
009	Others	1,131,368,725.79	733,319,482.94
010		0.00	0.00
011		0.00	0.00
012	Sub Total	7,861,391,652.56	7,388,143,260.23
013	Less: Provision for shortages	5,923,534.81	222,450.81
014	Less: Provision for obsolete/ unserviceable/dimuniton in value of surplus inventory	122,488,377.70	43,806,915.82
016		0.00	0.00
017	Total	7,732,979,740.05	7,344,113,893.60
018	Inventories include material in transit	0.00	0.00
019	Coal	0.00	0.00
020	Fuel oil	0.00	0.00
021	Naphtha	0.00	0.00
022	Stores and spares	1,527,560.48	180,646.08
023	Chemicals & consumables	2,300,535.00	1,207,500.10
024	Loose tools	0.00	0.00
025	Others	1,104,669.12	0.00
026		0.00	0.00
028		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 14 TO THE FS-CA-OTHER INVESTMENTS

(Amount in ₹)

	As at	No. of shares	Face value	31.03.2024	31.03.2023
001	CURRENT INVESTMENTS			0.00	0.00
002	(Valuation as per Note 1)			0.00	0.00
003	Jhabua Power Limited-8.5% Non convertible debentures - private placement			0.00	0.00
033	Investment in Mutual Funds (Details as under)			0.00	0.00
034	SBI-Magnum Insta Cash Fund-DDR			0.00	0.00
035	SBI Premier Liquid Fund Super-IP-DDR			0.00	0.00
036	SBI-SHF Ultra Short Term Fund-IP-DDR			0.00	0.00
037	UTI Money Market- IP-Direct-Growth			0.00	0.00
038	IDBI-Liquid plan- Direct-Growth			0.00	0.00
039	Canara Robeco Liquid Fund Super-IP-DDR			0.00	0.00
040	Canara Robeco Treasury Advantage Fund Super-IP-DDR			0.00	0.00
041	IDBI Liquid Fund-DDR			0.00	0.00
042	SBI Premier Liquid fund-Direct DDR (Ash Fund)			0.00	0.00
043	UTI Liquid CashPlan - IP - DDR (Ash Funds)			0.00	0.00
044	IDBI Liquid Fund - DDR - (Ash Funds)			0.00	0.00
045	Baroda Liquid Fund - Direct - Growth			0.00	0.00
046				0.00	0.00
047				0.00	0.00
048	Sub Total			0.00	0.00
049				0.00	0.00
052	Unquoted Investments			0.00	0.00
054				0.00	0.00
066	TOTAL			0.00	0.00
067				0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 15 TO THE FS-CA-TRADE RECEIVABLES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 TRADE RECEIVABLES (current)*	0.00	0.00
002	0.00	0.00
003 Secured, Considered Good	0.00	0.00
004 Unsecured , considered good	0.00	1,737,334.04
005 Credit impaired	0.00	0.00
006 Unbilled Revenue	0.00	0.00
007 Sub-Total	0.00	1,737,334.04
008 Total	0.00	1,737,334.04
009 Less: Allowance for credit impaired receivables	0.00	0.00
010 Total	0.00	1,737,334.04
012 Less: Discom Clearing	0.00	0.00
014	0.00	0.00
015 Grand Total	0.00	1,737,334.04
016 Other Unsecured	0.00	0.00
017 Long-term trade receivables	0.00	0.00
018 TCS Clearing	0.00	0.00
019 Discom Clearing	0.00	0.00
228 Trade Receivable	0.00	0.00
230 Not due	0.00	0.00
231 Due	0.00	0.00
232 (i) Undisputed Trade receivables # considered good	0.00	1,737,334.04
233 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
234 (iii) Undisputed Trade Receivables # credit impaired	0.00	0.00
235 (iv) Disputed Trade Receivables#considered good	0.00	0.00
236 (v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
237 (vi) Disputed Trade Receivables # credit impaired	0.00	0.00
238 Unbilled	0.00	0.00
239 Total	0.00	1,737,334.04
240	0.00	0.00
241 (i) Undisputed Trade receivables # considered good	0.00	0.00
242 Less than 6 months	0.00	1,737,334.04
243 6 months -1 year	0.00	0.00
244 1-2 years	0.00	0.00
245 2-3 years	0.00	0.00
246 More than 3 years	0.00	0.00
247 Sub Total (I)	0.00	1,737,334.04
248 (ii) Undisputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
249 Less than 6 months	0.00	0.00
250 6 months -1 year	0.00	0.00
251 1-2 years	0.00	0.00
252 2-3 years	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 15 TO THE FS-CA-TRADE RECEIVABLES
(Amount in ₹)

As at		31.03.2024	31.03.2023
253	More than 3 years	0.00	0.00
254	Sub Total (II)	0.00	0.00
255	(iii) Undisputed Trade Receivables -credit impaired	0.00	0.00
256	Less than 6 months	0.00	0.00
257	6 months -1 year	0.00	0.00
258	1-2 years	0.00	0.00
259	2-3 years	0.00	0.00
260	More than 3 years	0.00	0.00
261	Sub Total (III)	0.00	0.00
262		0.00	0.00
263	(iv) Disputed Trade Receivables#considered good	0.00	0.00
264	Less than 6 months	0.00	0.00
265	6 months -1 year	0.00	0.00
266	1-2 years	0.00	0.00
267	2-3 years	0.00	0.00
268	More than 3 years	0.00	0.00
269	Sub Total (IV)	0.00	0.00
270	(v) Disputed Trade Receivables # which have significant increase in credit risk	0.00	0.00
271	Less than 6 months	0.00	0.00
272	6 months -1 year	0.00	0.00
273	1-2 years	0.00	0.00
274	2-3 years	0.00	0.00
275	More than 3 years	0.00	0.00
276	Sub Total (V)	0.00	0.00
277	(vi) Disputed Trade Receivables # credit impaired	0.00	0.00
278	Less than 6 months	0.00	0.00
279	6 months -1 year	0.00	0.00
280	1-2 years	0.00	0.00
281	2-3 years	0.00	0.00
282	More than 3 years	0.00	0.00
283	Sub Total (VI)	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 16 TO THE FS-CA-CASH AND CASH EQUIVALENTS

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 CASH & BANK BALANCES	0.00	0.00
002 Cash & Cash Equivalents	0.00	0.00
003 Balances with Banks	0.00	0.00
004 Cheques & Drafts on hand	0.00	0.00
005 Cash on hand	0.00	0.00
006 Others (stamps in hand)	0.00	0.00
007 Bank deposits with original maturity upto three months	0.00	0.00
008 Balances with RBI	0.00	0.00
009	0.00	0.00
011 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 17 TO THE FS-CA-BANK BALANCES OTHER THAN CASH AND CASH EQUIVALENTS (Amount in ₹)

As at	31.03.2024	31.03.2023
001 Other Bank Balances	0.00	0.00
002 Deposits with original maturity of more than three months but not more than twelve months	0.00	0.00
003 Earmarked balances with banks*	0.00	0.00
004 SubTotal	0.00	0.00
005 Interest accrued on deposits	0.00	0.00
006	0.00	0.00
008 Total	0.00	0.00
009	0.00	0.00
010 Earmarked balances with banks consist of :	0.00	0.00
011 Unpaid dividend account balance	0.00	0.00
012 Towards public deposit repayment reserve	0.00	0.00
013 Towards redemption of bonds due for repayment within one year	0.00	0.00
014 Security with Government/other authorities	0.00	0.00
015 Unpaid refund/interest account balance - Tax free bonds/ Bonus Debentures	0.00	0.00
016 Earmarked for RGGVY/DDUGJY/SAUBHAGYA Fund/RDSS	0.00	0.00
017 Earmarked for Flyash Utilisation Reserve Fund	0.00	0.00
018 Deposits with original maturity upto three months as per court orders	0.00	0.00
019 Payment Security Scheme of MNRE NSM (NTPC)	0.00	0.00
020 Payment Security Scheme of MNRE NSM (NVVN)	0.00	0.00
021 Enforcement Directorate of Solar Plant(NVVN)	0.00	0.00
022 Bank guarantee Fund of MNRE (NVVN)	0.00	0.00
023 Others	0.00	0.00
024 Margin Money	0.00	0.00
025	0.00	0.00
026	0.00	0.00
027	0.00	0.00
031 Total	0.00	0.00
032	0.00	0.00
033 Bank deposits with original maturity of less than three months- other than earmarked	0.00	0.00
034 Bank deposits with original maturity of more than three months but not more than twelve months- other than earmarked	0.00	0.00
035 Earmarked bank balances (current account)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 18 TO THE FS-CA-LOANS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Current financial assets - Loans	0.00	0.00
002 Loans (current)-including interest accrued	0.00	0.00
004 Related Parties	0.00	0.00
005 Secured	0.00	0.00
006 Un-Secured	0.00	0.00
007 With significant increase in Credit Risk	0.00	0.00
008 Credit impaired	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
011 Secured	20,444,141.39	20,505,267.61
012 Unsecured	47,920,985.09	49,104,386.31
013 With significant increase in Credit Risk	0.00	0.00
014 Credit impaired	0.00	0.00
015 Less : Employee Loans Discounting	0.00	0.00
016 Loan to State Government in settlement of dues from customers (Unsecured)	0.00	0.00
017	0.00	0.00
018 Others	0.00	0.00
019 Secured	0.00	0.00
020 Unsecured	0.00	0.00
021 With significant increase in Credit Risk	0.00	0.00
022 Credit impaired	0.00	0.00
023	0.00	0.00
024 Less: Allowance for credit impaired loans	0.00	0.00
026	0.00	0.00
027 Total (Loans)	68,365,126.48	69,609,653.92
028	0.00	0.00
029 Due from Directors and Officers of the Company	0.00	0.00
030 Directors	0.00	0.00
031 Officers	0.00	0.00
032	0.00	0.00
033 Loans to related parties include:	0.00	0.00
034 i)Key management personel	0.00	0.00
035 ii)Subsidiary companies	0.00	0.00
036 KBUNL	0.00	0.00
037 RGPPL	0.00	0.00
038 NVVN	0.00	0.00
039 iii)Joint Venture companies	0.00	0.00
040 iv)others	0.00	0.00
041	0.00	0.00
060 RPD	0.00	0.00
061 i)Key management personel	0.00	0.00
062 ii)Subsidiary companies	0.00	0.00
063 iii)Joint Venture companies	0.00	0.00
064 iv)Others	0.00	0.00
065	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 18 TO THE FS-CA-LOANS

(Amount in ₹)

	As at	31.03.2024	31.03.2023
066	Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 19 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Other Financial Assets (current)	0.00	0.00
002	0.00	0.00
003 ADVANCES	0.00	0.00
004	0.00	0.00
005 Related Parties	0.00	0.00
006 Secured	0.00	0.00
007 Un-Secured	83,198,965.55	84,291,452.19
008 Considered doubtful	0.00	0.00
009	0.00	0.00
010 Employees	0.00	0.00
012 Unsecured	2,570,249.72	4,592,765.26
013 Considered Doubtful	0.00	0.00
014	0.00	0.00
020 Others	0.00	0.00
021 Secured	0.00	0.00
022 Unsecured	0.00	0.00
023 Considered Doubtful	0.00	0.00
024	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026	0.00	0.00
033 Total (Advances)	85,769,215.27	88,884,217.45
044	0.00	0.00
045 Claims Recoverable	0.00	0.00
046 Secured	0.00	0.00
047 Unsecured, considered good	6,009,309.00	9,951,203.69
048 Considered Doubtful	0.00	0.00
049 Less:- Allowance for doubtful claims	0.00	0.00
050 Others-Claims Recoverable	0.00	0.00
051	0.00	0.00
052 Contract Asset- Revenue	2,663,746.83	2,663,746.83
053 Hedging cost recoverable from beneficiaries	0.00	0.00
054 Derivative MTM Asset	0.00	0.00
055 Finance Lease Receivable	0.00	0.00
056 Mine Closure Deposit	0.00	0.00
057 Financial Deposit	0.00	0.00
059 Other Accrued Income	0.00	0.00
060 Secured,Considered Good	0.00	0.00
061 Unsecured , considered good	28,930,719.83	24,838,947.89
062 Credit impaired	0.00	0.00
063	0.00	0.00
064 Sub-Total	28,930,719.83	24,838,947.89
065 Less: Allowance for credit impaired receivables	0.00	0.00
066 Total	28,930,719.83	24,838,947.89
067	0.00	0.00
068 Others*	0.00	0.00
070	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 19 TO THE FS-CA-OTHER FINANCIAL ASSETS

(Amount in ₹)

As at	31.03.2024	31.03.2023
071 Total	123,372,990.93	126,338,115.86
072 * Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
073 Advances to related parties include:	0.00	0.00
074 i)Key management personel	0.00	0.00
075	0.00	0.00
076 iii)Joint Venture companies	0.00	0.00
077	0.00	0.00
078 v)Others	0.00	0.00
079	0.00	0.00
080 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
081 Related Party (Adv)- Employee	0.00	0.00
082 Related Party (Adv)- Subsidiaries	82,273,936.55	83,366,423.19
083 Related Party (Adv)- Joint Ventures	925,029.00	925,029.00
084	0.00	0.00
085 Related Party (Adv)- Others	0.00	0.00
086	0.00	0.00
099	0.00	0.00
100	0.00	0.00
101 Total	83,198,965.55	84,291,452.19

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 20 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 OTHER CURRENT ASSETS	0.00	0.00
002 Security Deposits (Unsecured)	0.00	0.00
003 Deposit with Customs, port trust & others*	812,756.00	812,756.00
004 ADVANCES	0.00	0.00
005	0.00	0.00
006 Related Parties	0.00	0.00
007 Secured	0.00	0.00
008 Un-Secured	1,407,513.00	1,407,513.00
009 Considered doubtful	0.00	0.00
010	0.00	0.00
011 Employees(including imprest)	0.00	0.00
012 Secured	0.00	0.00
013 Unsecured	303,927.00	1,322,275.00
014 Considered Doubtful	0.00	0.00
015	0.00	0.00
016 Contractors & Suppliers	0.00	0.00
017 Secured	0.00	0.00
018 Unsecured	189,173,545.01	205,359,772.28
019 Considered Doubtful	0.00	0.00
020	0.00	0.00
021 Others**	0.00	0.00
022 Secured	0.00	0.00
023 Unsecured	17,155,797.00	18,994,496.00
024 Considered Doubtful	0.00	0.00
025 Less: Allowance for bad & doubtful advances	0.00	0.00
026 Receivable from MCP Escrow A/c	0.00	0.00
027 Deferred Payroll Expenses (Secured)	1,712,152.62	1,972,468.83
028 Deferred Payroll Expenses (Unsecured)	3,511,865.88	3,069,573.18
029 Sub-total	5,224,018.50	5,042,042.01
030 Interest accrued on :	0.00	0.00
031 Advances to contractors	0.00	0.00
032	0.00	0.00
033 Claims Recoverable	0.00	0.00
034 Secured	0.00	0.00
035 Unsecured, considered good	378,936,323.22	445,294,831.82
036 Considered Doubtful	26,600,000.00	26,600,000.00
037 Less:- Allowance for doubtful claims	26,600,000.00	26,600,000.00
038	0.00	0.00
039 Deferred premium on forward exchange contract/ Option Assets	0.00	0.00
041	0.00	0.00
042 Others	6,576,538.00	4,160,672.00
043	0.00	0.00
045 Total (Other Current Assets)	599,590,417.73	682,394,358.11
046 **Include Prepaid Expenses	17,061,077.00	18,220,222.00
047 *Includes sales tax/Entry tax/VAT deposited under protest with Sales Tax Authorities	812,756.00	812,756.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 20 TO THE FS-CA-OTHER CURRENT ASSETS
(Amount in ₹)

As at	31.03.2024	31.03.2023
048 *Includes deposited with courts	0.00	0.00
049 *Includes deposited with LIC for annuity payments	0.00	0.00
050 * Includes deposits with WRD / against BG in r/o finance lease	0.00	0.00
051 Other include amount recoverable from contractors and other parties towards hire charges, rent/electricity etc.	0.00	0.00
053 Advances to related parties include:	0.00	0.00
054 i)Key management personel	0.00	0.00
055 ii)Subsidiary companies	0.00	0.00
056 iii)Joint Venture companies	0.00	0.00
057 Contractors	0.00	0.00
058 Others	0.00	0.00
059	0.00	0.00
060 Advances include amount due from the following Private Companies in which Directors of the Company are also Directors in such Companies	0.00	0.00
061	0.00	0.00
062	0.00	0.00
063 Related Party (Adv)- Employee	0.00	0.00
064 Related Party (Adv)- Subsidiaries	0.00	0.00
065 Related Party (Adv)- Joint Venture	1,407,513.00	1,407,513.00
066	0.00	0.00
067	0.00	0.00
068 Total	1,407,513.00	1,407,513.00
069	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 21 TO THE FS-ASSETS HELD FOR SALE

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 ASSET HELD FOR SALE	0.00	0.00
002	0.00	0.00
003 Assets held for Sale	6,036,716.90	6,037,344.90
004	0.00	0.00
005 Total	6,036,716.90	6,037,344.90
031	0.00	0.00
032 Assets held for sale includes:-	0.00	0.00
033	0.00	0.00
034 Land	0.00	0.00
035 Building	0.00	0.00
036 Plant and equipment	5,995,260.51	5,995,260.51
037 Other assets	41,456.39	42,084.39
038 Total	6,036,716.90	6,037,344.90
039	0.00	0.00
040	0.00	0.00
041	0.00	0.00
042	0.00	0.00
043	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 22 TO THE FS--REGULATORY DEFERRAL ACCOUNT DEBIT BALANCES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 On account of Exchange Differences	-311,910,538.67	-127,675,626.92
002 On account of employee benefit exp	84,415,334.33	84,415,334.33
003 Regulatory deferred account - deferred	0.00	0.00
004 Deferred asset for ash transportation	0.00	0.00
005 Deferred asset for Arbitration Award	0.00	0.00
008	0.00	0.00
009 Total	-227,495,204.34	-43,260,292.59



RIHAND SUPER THERMAL POWER STATION
ANNEXURE TO NOTE 9- RPD (LOANS) JOINT VENTURE

(Amount in ₹)

As at

31.03.2024

31.03.2023

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 23 TO THE FS-EQUITY-EQUITY SHARE CAPITAL****(Amount in ₹)**

As at	31.03.2024	31.03.2023
001 SHARE CAPITAL	0.00	0.00
002 Equity Share Capital	0.00	0.00
003 Authorised	0.00	0.00
004 16,60,00,00,000 equity shares of Rs.10/- each (Previous year 10,000,000,000 equity shares of Rs.10/- each)	0.00	0.00
005 Issued,Subscribed and fully Paid-up	0.00	0.00
006 9,69,66,66,134 equity shares of Rs.10/- (Pv. Year 9,894,557,280 equity shares of Rs.10/- each)	0.00	0.00
007	0.00	0.00
008 Total	0.00	0.00
009 During FY 2018-19, the company has issued 1,649,092,880 equity shares of Rs.10/- each as fully paid bonus shares	0.00	0.00
010 The holders of the equity shares are entitled to receive dividends as declared from time to time, and are entitled to one vote per share at meetings of the company.	0.00	0.00
011 Details of shareholders holding more than 5% shares in the company	0.00	0.00
012 - President of India	0.00	0.00
013 No. of Shares	0.00	0.00
014 % of holding	0.00	0.00
015 - Life Insurance Corporation of India/ICICI Prudential Mutual Fund	0.00	0.00
016 No. of Shares	0.00	0.00
017 % of holding	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 24 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 RESERVE AND SURPLUS	0.00	0.00
002	0.00	0.00
003 Capital Reserve	0.00	0.00
004 As per last financial statements	0.00	0.00
006 Add : Grants received during the year	0.00	0.00
007 Add: Transfer from Surplus	0.00	0.00
008 Less: Write back during the year/period	0.00	0.00
009 Less: Adjustments during the year/period	0.00	0.00
010 SUB-TOTAL	0.00	0.00
011	0.00	0.00
017	0.00	0.00
018 SECURITIES PREMIUM ACCOUNT	0.00	0.00
019 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
020 ADD: ADDITIONS DURING THE YEAR/PERIOD	0.00	0.00
021 LESS: ADJUSTMENTS DURING THE YEAR/PERIOD	0.00	0.00
022 SUB-TOTAL	0.00	0.00
023 BONDS REDEMPTION RESERVE	0.00	0.00
024 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
025 ADD: TRANSFER FROM SURPLUS	0.00	0.00
026 LESS: TRANSFER TO SURPLUS ON REDEMPTION	0.00	0.00
027 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
028 SUB-TOTAL	0.00	0.00
029 CAPITAL REDEMPTION RESERVE	0.00	0.00
030 As per last financial statements	0.00	0.00
031 Add: Transfer from Surplus	0.00	0.00
032 Less: Transfer to surplus on redemption	0.00	0.00
033 Less: Adjustments during the year/ period	0.00	0.00
034 Sub-Total	0.00	0.00
035 Share Application money pending Allotment	0.00	0.00
036 As per last financial statements	0.00	0.00
037 Add: Addition during the year	0.00	0.00
038 Less: Utilised for allotment during the year	0.00	0.00
039 Less: Adjustments during the year/ period	0.00	0.00
040 SUB-TOTAL	0.00	0.00
046 FLY-ASH UTILISATION RESERVE FUND	0.00	0.00
047 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
048 TRANSFERRED TO CC	0.00	0.00
049 ADD:TRANSFER FROM REVENUE FROM OPERATIONS	4,409,268.00	549,433.49
050 ADD:TRANSFER FROM OTHER INCOME	0.00	0.00
051 LESS: UTILISED DURING THE YEAR	0.00	0.00
052 TANGIBLE ASSETS	0.00	0.00
053 EMPLOYEE BENEFIT EXPENSES	0.00	0.00
054 GENERATION,ADMN. AND OTHER EXPENSES	4,409,268.00	549,433.49

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 24 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2024	31.03.2023
055 TAX EXPENSES	0.00	0.00
056 SUB-TOTAL	0.00	0.00
057 Self Insurance Reserve	0.00	0.00
058 As per last financial statements	0.00	0.00
059 Add: Addition during the year	0.00	0.00
060 Less: Utilised for allotment during the year	0.00	0.00
061 Less: Adjustments during the year/ period	0.00	0.00
062 SUB-TOTAL	0.00	0.00
063 SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
064 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
065 ADD: ADDITION DURING THE YEAR	0.00	0.00
066 LESS: UTILISED FOR ALLOTMENT DURING THE YEAR	0.00	0.00
067 LESS: ADJUSTMENTS DURING THE YEAR/ PERIOD	0.00	0.00
068 SUB-TOTAL	0.00	0.00
069 CORPORATE SOCIAL RESPONSIBILITY (CSR) RESERVE	0.00	0.00
070 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
071 ADD : TRANSFER FROM SURPLUS	0.00	0.00
072 LESS:-WRITE BACK DURING THE YEAR	0.00	0.00
073 SUB-TOTAL	0.00	0.00
074 GENERAL RESERVE	0.00	0.00
075 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
076 ADD: TRANSFER FROM SURPLUS	0.00	0.00
077 LESS: TRANSFER TO SURPLUS	0.00	0.00
078 LESS: WRITE BACK DURING THE YEAR /PERIOD	0.00	0.00
079 LESS: ADJUSTMENTS DURING THE YEAR /PERIOD	0.00	0.00
080 SUB-TOTAL	0.00	0.00
081	0.00	0.00
082 RETAINED EARNINGS	0.00	0.00
083 AS PER LAST FINANCIAL STATEMENTS	189,412,419,211.48	178,934,325,577.14
084 ADD(LESS):-CHANGES IN ACCOUNTING POLICY / PRIOR PERIOD ERRORS	0.00	0.00
085 ADD(LESS):-PROFIT (LOSS) AFTER TAX FOR THE YEAR FROM STATEMENT OF PROFIT & LOSS	11,974,653,638.45	10,478,093,634.34
087 ADD: WRITE BACK FROM BOND REDEMPTION RESERVE	0.00	0.00
088 ADD: WRITE BACK FROM CAPITAL RESERVE	0.00	0.00
089 ADD: WRITE BACK FROM FOREIGN PROJECT RESERVE	0.00	0.00
090 ADD: WRITE BACK FROM CSR RESERVE	0.00	0.00
091 ADD: WRITE BACK FROM GENERAL RESERVE	0.00	0.00
093 LESS: TRANSFER TO BONDS REDEMPTION RESERVE	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 24 TO THE FS-EQUITY-OTHER EQUITY
(Amount in ₹)

As at	31.03.2024	31.03.2023
094 LESS: TRANSFER TO SPECIAL ALLOWANCE RESERVE FUND	0.00	0.00
095 LESS: TRANSFER TO FOREIGN PROJECT RESERVE	0.00	0.00
096 LESS: TRANSFER TO CAPITAL RESERVE	0.00	0.00
097 LESS: TRANSFER TO CSR RESERVE	0.00	0.00
098 LESS: TRANSFER TO GENERAL RESERVE	0.00	0.00
099 LESS: INTERIM DIVIDEND PAID	0.00	0.00
100 LESS: TAX ON INTERIM DIVIDEND PAID	0.00	0.00
101 LESS: FINAL DIVIDEND PAID	0.00	0.00
102 LESS: TAX ON FINAL DIVIDEND PAID	0.00	0.00
103 LESS: ISSUE OF BONUS DEBENTURE	0.00	0.00
104 LESS: TAX ON ISSUE OF BONUS DEBENTURE	0.00	0.00
105 SUB-TOTAL	201,387,072,849.93	189,412,419,211.48
110	0.00	0.00
111 REMEASUREMENT OF DEFINED BENEFIT PLANS	0.00	0.00
112 AS PER LAST FINANCIAL STATEMENTS	-226,140,395.43	-206,596,243.66
113 ADD/(LESS):- ACTUARIAL GAINS/LOSS THROUGH OCI	4,403,929.88	-19,544,151.77
114 SUB-TOTAL	-221,736,465.55	-226,140,395.43
115	0.00	0.00
116 FVTOCI Reserve	0.00	0.00
117 AS PER LAST FINANCIAL STATEMENTS	0.00	0.00
118 ADD/(LESS):- NET GAIN/LOSS OF EQUITY INSTRUMENTS THROUGH OCI	0.00	0.00
119 Sub-Total	0.00	0.00
120	0.00	0.00
121 Total Other equity	201,165,336,384.38	189,186,278,816.05
122	0.00	0.00
123	0.00	0.00
124	0.00	0.00
125	0.00	0.00
126	0.00	0.00
127	0.00	0.00
128 The fly ash utilization reserve fund is controlled at Corporate Centre.	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 25 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

	As at	31.03.2024	31.03.2023
001	LONG TERM BORROWINGS	0.00	0.00
002	Bonds	0.00	0.00
003	Secured	0.00	0.00
004	7.37 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3A).	0.00	0.00
005	7.62 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2035 (Fifty Sixth Issue - Public Issue - Series 3 B).	0.00	0.00
006	8.61% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2034 (Fifty First Issue C - Private Placement)	0.00	0.00
007	8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3A)	0.00	0.00
008	8.91% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2033 (Fiftieth Issue - Public Issue - Series 3B)	0.00	0.00
009	7.37% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 14th December 2031 (Sixty Sixth Issue - Private Placement)	0.00	0.00
010	7.49% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 7th November 2031 (Sixty Fourth Issue - Private Placement)	0.00	0.00
011	7.28 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 25 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2024	31.03.2023
2A)		
012 7.53 % Tax free secured non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2030 (Fifty Sixth Issue - Public Issue - Series 2 B).	0.00	0.00
013 7.32% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 17 July 2029 (Sixty Ninth Issue - Private Placement)	0.00	0.00
014 8.63% Tax free secured non-cumulative non-convertible redeemable bonds of ₹ 10,00,000/- each redeemable at par in full on 4th March 2029 (Fifty First Issue B - Private Placement)	0.00	0.00
015 8.30% Secured non-cumulative non-convertible redeemable taxable bonds of Rs 10,00,000/- each redeemable at par in full on 15 January 2029 (Sixty Seventh Issue - Private Placement)	0.00	0.00
016 8.48% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2A)	0.00	0.00
017 8.73% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2028 (Fiftieth Issue - Public Issue - Series 2B)	0.00	0.00
018 7.47% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 16th September 2026 (Sixty Third Issue - Private Placement)	0.00	0.00
019 7.58% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2024	31.03.2023
full on 23rd August 2026 (Sixty Second Issue - Private Placement)					
020	8.05%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 5th May 2026 (Sixtieth Issue - Private Placement)	0.00	0.00
021	8.19%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 15th December 2025 (Fifty Seventh Issue - Private Placement)	0.00	0.00
022	7.11 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1A).	0.00	0.00
023	7.36 %	Tax free secured	non-cumulative non-convertible redeemable bonds-2015 of Rs. 1,000/- each redeemable at par in full on 5th October 2025 (Fifty Sixth Issue - Public Issue - Series 1 B).	0.00	0.00
024	7.15%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2015 of Rs. 10,00,000/- each redeemable at par in full on 21st August 2025 (Fifty Fifth Issue - Private Placement)	0.00	0.00
025	9.17%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 22nd September 2024 (53rd Issue - private placement).	0.00	0.00
026	9.34%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 24th March 2024 (Fifty Second Issue - private placement)	0.00	0.00
027	8.19%	Tax free secured	non-cumulative non-convertible redeemable bonds - 2013 of ₹ 10,00,000/- each redeemable at	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

		31.03.2024	31.03.2023
	As at		
	par in full on 4th March 2024 (Fifty First Issue A - Private Placement)		
028	8.41% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1A)	0.00	0.00
029	8.66% Tax free secured non-cumulative non-convertible redeemable bonds - 2013 of ₹ 1000/- each redeemable at par in full on 16th December 2023 (Fiftieth Issue - Public Issue - Series 1B)	0.00	0.00
030	9.25% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each with five equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 11th year and in annual installments thereafter upto the end of 15th year respectively commencing from 4th May 2023 and ending on 4th May 2027 (Forty fourth issue - private placement)VII	0.00	0.00
031	8.48% Secured non-cumulative non-nonvertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 1st May 2023 (Seventeenth issue - private placement)I	0.00	0.00
032	8.80% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th April 2023 (Forty ninth issue -private placement	0.00	0.00
033	8.49% Secured non-cumulative non-convertible redeemable taxable fully paid-up bonus debentures of Rs. 12.50 each redeemable at par in three annual installments of Rs. 2.50, Rs. 5.00 and Rs. 5.00 at the end of 8th year, 9th year and 10th year on 25th March 2023, 25th March 2024 and 25th March 2025 respectively (Fifty Fourth Issue -Bonus Debentures)X - (refer Note 5 d)	0.00	0.00
034	8.73% Secured non-cumulative	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2024	31.03.2023
035	9.00% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 07th March 2023 (Forty eighth issue - private placement)	0.00	0.00
036	8.84% Secured non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th October 2022 (Forty seventh issue- private placement)VII	0.00	0.00
037	7.93% Secured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 03 May 2022 (68th Issue - Private Placement)	0.00	0.00
038	6.72% Secured non-cumulative non-convertible redeemable taxable bonds of Rs. 10,00,000/- each redeemable at par in full on 24th November 2021 (Sixty Fifth Issue - Private Placement)	0.00	0.00
039	8.10% Secured Non-Cumulative Non-Convertible Redeemable Taxable Bonds of Rs. 30,00,000/- each redeemable at par in three equal separately transferable redeemable principal parts (STRPP) at the end of 5th year, 10th year & 15th year on 27th May 2021, 27th May 2026 and 27th May 2031 respectively (Sixty First Issue- Private Placement)	0.00	0.00
040	8.33% Secured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 24th February 2021	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2024	31.03.2023
(Fifty Ninth Issue - Private Placement).					
042	8.93%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 19th January 2021 Thirty seventh issue - private placement)III	0.00	0.00
043	8.18%	Secured	non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 31st December 2020 (Fifty Eight Issue - Private Placement).	0.00	0.00
044	8.73 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 31st March 2020 (Thirty third issue- private placement)III	0.00	0.00
045	8.78 %	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 9th March 2020 (Thirty first issue- private placement)III	0.00	0.00
046	11.25%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in five equal annual installments commencing from 6th Nov 2019 and ending on 6th Nov 2023 (Twenty seventh issue - private placement)III	0.00	0.00
047	7.89%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 5th May 2019 (Thirtieth issue - private placement)III	0.00	0.00
048	8.65%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹10,00,000/- each redeemable at par in full on 4th February 2019 (Twenty ninth issue - private placement)III	0.00	0.00
049	7.50%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at				31.03.2024	31.03.2023
on 12th January 2019 (Nineteenth issue - private placement)II					
050	11%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21st November 2018 (Twenty eighth issue - private placement)III	0.00	0.00
051	9.3473%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 20th July 2018 and ending on 20th July 2032 (Forty sixth issue - private placement)VII	0.00	0.00
052	9.4376%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 16th May 2018 and ending on 16th May 2032 (Forty fifth issue - private placement)VII	0.00	0.00
053	8.00%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 10th April 2018 (Sixteenth issue -private placement)I	0.00	0.00
054	9.2573%	Secured	non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 2nd March 2018 and ending on 2nd March 2032 (Forty third issue - private placement)III	0.00	0.00
055	9.6713%	Secured	non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2024	31.03.2023
of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 23rd December 2017 and ending on 23rd December 2031 (Forty first issue - private placement)III		
056 9.558% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 29th July 2017 and ending on 29th July 2031(Fourtieth issue-private placement)III	0.00	0.00
057 9.3896% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 9th June 2017 and ending on 9th June 2031(Thirty ninth issue-private placement)III	0.00	0.00
058 9.17% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 22nd March 2017 and ending on 22nd March 2031(Thirty eighth issue-private placement)III	0.00	0.00
059 8.8086% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at		31.03.2024	31.03.2023
<p>year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th December 2016 and ending on 15th December 2030 (Thirty sixth issue - private placement)III</p>			
060	8.785% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 15th September 2016 and ending on 15th September 2030 (Thirty fifth issue - private placement)III	0.00	0.00
061	8.71% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 10th June 2016 and ending on 10th June 2030 (Thirty fourth issue - private placement)III	0.00	0.00
062	8.8493% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 15,00,000/- each with fifteen equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of 6th year and in annual installments thereafter upto the end of 20th year respectively commencing from 25th March 2016 and ending on 25th March 2030 (Thirty second issue - private placement)III	0.00	0.00
063	9.37% Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty fifth issue -	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at			31.03.2024	31.03.2023
private placement)III				
065	9.06%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 70,00,000/- each with fourteen separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 4th June 2012 and ending on 4th December 2018 (Twenty sixth issue - private placement)III	0.00	0.00
066	8.6077%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 9th September 2011 and ending on 9th March 2021 (Twenty fourth issue - private placement)IV	0.00	0.00
067	8.3796%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 5th August 2011 and ending on 5th February 2021 (Twenty third issue - private placement)IV	0.00	0.00
068	8.1771%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd July 2011 and ending on 2nd January 2021 (Twenty second issue - private placement)IV	0.00	0.00
069	7.7125%	Secured non-cumulative non-convertible redeemable taxable bonds of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 2nd August 2010 and ending on 2nd February 2020 (Twenty first issue - private placement)V	0.00	0.00
070	7.552%	Secured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

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RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2024	31.03.2023
of ₹ 20,00,000/- each with twenty equal separately transferable redeemable principal parts (STRPP) redeemable at par semi-annually commencing from 23rd September 2009 and ending on 23rd March 2019 (Twentieth issue - private placement)VI		
071 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each with ten equal separately transferable redeemable principal parts (STRPP) redeemable at par at the end of the 6th year and in annual installments thereafter upto the end of 15th year respectively from 30th April 2002 (Thirteenth issue - Part B - private placement)VIII	0.00	0.00
072 9.55% Secured non-cumulative non-convertible taxable redeemable bonds of ₹ 10,00,000/- each redeemable at par in ten equal annual installments commencing from the end of 6th year and upto the end of 15th year respectively from 18th April 2002 (Thirteenth issue -Part A - private placement)VIII	0.00	0.00
075	0.00	0.00
076	0.00	0.00
077	0.00	0.00
078	0.00	0.00
079	0.00	0.00
080	0.00	0.00
081	0.00	0.00
082 Sub Total	0.00	0.00
083 Unsecured	0.00	0.00
084 6.55% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 17 April 2023 (Seventieth Issue - Private Placement)	0.00	0.00
085 6.29% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 11 April 2031 (Seventy First Issue - Private Placement)	0.00	0.00
086 5.45% Unsecured non-cumulative non-convertible redeemable taxable bonds	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2024	31.03.2023
of ₹ 10,00,000/- each redeemable at par in full on 15 October 2025 (Seventy Second Issue - Private Placement)		
087 6.43% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 27 January 2031 (Seventy Third Issue - Private Placement)	0.00	0.00
088 6.87% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 21 April 2036 (Seventy Fourth Issue - Private Placement)	0.00	0.00
089 6.69% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 13 September 2031 (Seventy Fifth Issue - Private Placement)	0.00	0.00
090 6.74% Unsecured non-cumulative non-convertible redeemable taxable bonds of Rs.10,00,000/- each redeemable at par in full on 14 April 2032 (Seventy Sixth Issue - Private Placement)	0.00	0.00
091 5.78% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 29 April 2024 (Seventy Seventh Issue - Private Placement)	0.00	0.00
092 7.44% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 10,00,000/- each redeemable at par in full on 25 August 2032 (Seventy Eighth Issue - Private Placement)	0.00	0.00
093 7.44% Unsecured non-cumulative non-convertible redeemable taxable bonds of ` 10,00,000/- each redeemable at par in full on 15 April 2033 (Seventy Ninth Issue - Private Placement)	0.00	0.00
094 7.35% Unsecured non-cumulative non-convertible redeemable taxable bonds of ` 1,00,000/- each redeemable at par in full on 17 April 2026 (Eightieth Issue - Private Placement)	0.00	0.00
095 7.48% Unsecured non-cumulative non-convertible redeemable taxable bonds of ₹ 1,00,000/- each redeemable at par in full on 21 March 2026 (Eighty First Issue - Private Placement)	0.00	0.00
096	0.00	0.00
097	0.00	0.00
098	0.00	0.00
099	0.00	0.00
100 Sub-total	0.00	0.00
101 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 25 TO THE FS-NCL-BORROWINGS
(Amount in ₹)

As at	31.03.2024	31.03.2023
102 Foreign Currency Notes-Unsecured	0.00	0.00
103 4.50% Fixed Rate Notes Due for repayment on 19th March 2028	0.00	0.00
104 2.75% Fixed rate notes due for repayment on 1st February 2027	0.00	0.00
105 4.25 % Fixed rate notes due for repayment on 26th February 2026	0.00	0.00
106 4.375% Fixed Rate Note due for repayment on 26th November 2024	0.00	0.00
107 4.75 % Fixed Rate Notes due for repayment on 3rd Oct 2022	0.00	0.00
108 7.25 % Fixed green global INR denominated bonds due on 3 May 2022	0.00	0.00
109 7.375 % Fixed green global INR denominated bonds due on 10 August 2021	0.00	0.00
110 5.625% Fixed Rate Notes due for repayment on 14th July 2021	0.00	0.00
111 3.75 % Fixed rate notes due for repayment on 03 April 2024	0.00	0.00
112	0.00	0.00
113	0.00	0.00
114	0.00	0.00
115 Sub Total	0.00	0.00
116 Term Loans	0.00	0.00
117 From Banks	0.00	0.00
118 Secured	0.00	0.00
119 Rupee Loans	0.00	0.00
120 Unsecured	0.00	0.00
121 Foreign Currency Loans	0.00	0.00
122 Rupee Loans	0.00	0.00
123 From Others	0.00	0.00
124 Secured	0.00	0.00
125 Rupee Loans	0.00	0.00
126 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
127 Unsecured	0.00	0.00
128 Foreign Currency loans (guaranteed by GOI)	0.00	0.00
129 Other Foreign currency loans	0.00	0.00
131 Rupee Loans	0.00	0.00
132 Deposits	0.00	0.00
133 Unsecured	0.00	0.00
134 Fixed Deposits	0.00	0.00
135 Others	0.00	0.00
136 Unsecured	0.00	0.00
137 Bonds Application Money Pending Allotment	0.00	0.00
138 Sub-total	0.00	0.00
139 Total	0.00	0.00
140 Less:- Interst accrued but not due on secured	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 25 TO THE FS-NCL-BORROWINGS

(Amount in ₹)

As at	31.03.2024	31.03.2023
borrowings		
141 Less:- Interst accrued but not due on unsecured borrowings	0.00	0.00
142 Less:- Current maturities of long term borrowings	0.00	0.00
143 Bonds-Secured	0.00	0.00
144 Fixed Rate Notes	0.00	0.00
146 Foreign currency loans from Banks- unsecured	0.00	0.00
147 Rupee loans from banks- Secured	0.00	0.00
148 Rupee loans from banks- unsecured	0.00	0.00
149 Rupee Term loan from Others - Secured	0.00	0.00
150 Foreign currency loans from others- unsecured (Guaranteed by GOI)	0.00	0.00
151 Other foreign currency loans from others- unsecured	0.00	0.00
152 Rupee loans from others- unsecured	0.00	0.00
153	0.00	0.00
154	0.00	0.00
155	0.00	0.00
156	0.00	0.00
157	0.00	0.00
158	0.00	0.00
159	0.00	0.00
160	0.00	0.00
161	0.00	0.00
201 Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 26 TO THE FS-NCL-LEASE LIABILITIES

(Amount in ₹)

	31.03.2024	31.03.2023
As at		
001 Non-current financial liabilities - Lease liabilities	0.00	0.00
002 Lease liabilities	0.00	0.00
003 Long term maturities of Finance Lease Liabilities (Secured) IX	0.00	0.00
004 Long term maturities of Finance Lease Liabilities (Unsecured) X	244,250,457.69	215,659,908.98
005 Sub-Total	244,250,457.69	215,659,908.98
006 Less: current maturities of lease liabilities	0.00	0.00
007 Finance Lease obligations - secured	0.00	0.00
008 Finance Lease obligations - unsecured	14,911,924.69	14,497,699.11
009 Sub-Total	14,911,924.69	14,497,699.11
011 Total	229,338,533.00	201,162,209.87



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 27 TO THE FS-NCL-TRADE PAYABLES

(Amount in ₹)

	As at	31.03.2024	31.03.2023
001	TRADE PAYABLES(NON CURRENT)	0.00	0.00
002	For Goods and Services	0.00	0.00
003	- Micro & Small Enterprises	0.00	0.00
004	- Others	0.00	0.00
005		0.00	0.00
007	Total	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 28 TO THE FS-NCL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 OTHER FINANCIAL LIABILITIES (NON-CURRENT)	0.00	0.00
002 Payable for Capital Expenditure	0.00	0.00
003 - Micro & Small Enterprises	581,704.72	1,146,502.70
004 - Others	13,812,425.91	44,312,866.51
005 Contractual Obligations	28,050,256.33	10,410,858.12
006 Others	0.00	0.00
007 Deposits from contractors and others	0.00	0.00
008	0.00	0.00
009	0.00	0.00
011 Total	42,444,386.96	55,870,227.33
020	0.00	0.00
021 Payable for Capital Expenditure - SD/retntion	0.00	0.00
022 - Micro & Small Enterprises	581,704.72	1,146,502.70
023 - Others	951,500.41	1,612,484.59
024 Sub-total	1,533,205.13	2,758,987.29
025 Contractual Obligations	0.00	0.00
026 - Micro & Small Enterprises	10,583,409.69	4,753,648.08
027 - Others	17,466,846.64	5,657,210.04
028 Sub-total	28,050,256.33	10,410,858.12
029 Total (24+28)	29,583,461.46	13,169,845.41
030	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 29 TO THE FS-NCL-PROVISIONS

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 LONG TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening Balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
006	0.00	0.00
007 Others	0.00	0.00
008 i) Mine Closure Provision	0.00	0.00
009 Opening Balance	0.00	0.00
010 Additions during the year	0.00	0.00
011 Amounts adjusted during the year	0.00	0.00
012 Amounts reversed during the year	0.00	0.00
013 Closing Balance	0.00	0.00
014	0.00	0.00
015 ii) Stripping Activity Adjustments	0.00	0.00
016 Opening Balance	0.00	0.00
017 Additions during the year	0.00	0.00
018 Amounts adjusted during the year	0.00	0.00
019 Amounts reversed during the year	0.00	0.00
020 Closing Balance	0.00	0.00
021	0.00	0.00
024	0.00	0.00
026 TOTAL	0.00	0.00

NOTE NO. 30 TO THE FS-NCL-DEFERRED TAX LIABILITIES (NET)
(Amount in ₹)

As at	Opening Balance on 01.04.2023	Addition	Closing Balance on 31.03.2024
001 DEFERRED TAX LIABILITIES (NET)			
002 Difference of book depreciation and tax depreciation	0.00	0.00	0.00
003 Less: Deferred tax assets			
004 Provisions & Other disallowances for tax purposes	0.00	0.00	0.00
005 Unabsorbed Depreciation	0.00	0.00	0.00
006 Disallowances u/s 43B of the Income Tax Act, 1961	0.00	0.00	0.00
007 Others	0.00	0.00	0.00
008 Opening Balance	0.00	0.00	0.00
009 Additions during the year	0.00	0.00	0.00
010 Amounts adjusted during the year	0.00	0.00	0.00
011 Amounts reversed during the year	0.00	0.00	0.00
012 Closing Balance	0.00	0.00	0.00
013 MAT credit entitlement	0.00	0.00	0.00
014 Total	0.00	0.00	0.00
016	0.00	0.00	0.00
017 Total	0.00	0.00	0.00
018 Breakup of deferred tax assets	0.00	0.00	0.00
019 Provision	0.00	0.00	0.00
020 Statutory dues	0.00	0.00	0.00
021 Leave encashment	0.00	0.00	0.00
022 Others	0.00	0.00	0.00
023	0.00	0.00	0.00
024	0.00	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 31 TO THE FS-NCL-OTHER NON-CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Other Non current Liabilities	0.00	0.00
002 Advances from customers and others	0.00	0.00
003 Deposits from contractors and others	0.00	0.00
004 Grants	0.00	0.00
006	0.00	0.00
007 TOTAL	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 32 TO THE FS-CL-BORROWINGS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Short Term Borrowings	0.00	0.00
002 Loans repayable on demand	0.00	0.00
003 From Banks	0.00	0.00
004 Secured	0.00	0.00
005 Cash Credit	0.00	0.00
006 Unsecured	0.00	0.00
007 Cash Credit	0.00	0.00
008 Other loans-unsecured	0.00	0.00
009 Commercial Papers	0.00	0.00
010 Less: Unamortised discount on Commercial Papers	0.00	0.00
011 Sub-Total	0.00	0.00
012 Current maturity of long term borrowings	0.00	0.00
013 Bonds-Secured	0.00	0.00
014 Foreign Currency Fixed Rate Notes	0.00	0.00
015 From Banks	0.00	0.00
016 Secured	0.00	0.00
017 Rupee Term Loan	0.00	0.00
018 Foreign currency loans	0.00	0.00
019 Unsecured	0.00	0.00
020 Foreign currency loans	0.00	0.00
021 Rupee term loans	0.00	0.00
022 From Others	0.00	0.00
023 Secured	0.00	0.00
024 Rupee Term Loan	0.00	0.00
025 Unsecured	0.00	0.00
026 Foreign currency loans (Guaranteed by Government of India)	0.00	0.00
027 Other foreign currency loans	0.00	0.00
028 Rupee term loans	0.00	0.00
029 Fixed deposits	0.00	0.00
030 Bill discounted	0.00	0.00
031	0.00	0.00
032 Sub Total	0.00	0.00
034	0.00	0.00
035 TOTAL	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 33 TO THE FS-CL-LEASE LIABILITIES

(Amount in ₹)

	As at	31.03.2024	31.03.2023
001	Current financial liabilities - Lease liabilities	0.00	0.00
002	Current maturity of finance lease obligations (secured)	0.00	0.00
003	Current maturity of finance lease obligations (unsecured)	14,911,924.69	14,497,699.11
005	Total	14,911,924.69	14,497,699.11



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 34 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 TRADE PAYABLES	0.00	0.00
002 For Goods and Services	0.00	0.00
003 - Micro & Small Enterprises	193,435,115.38	124,444,057.60
004 - Others	2,199,580,679.48	2,444,847,958.62
005	0.00	0.00
007 Total	2,393,015,794.86	2,569,292,016.22
008	0.00	0.00
172 Trade payable	0.00	0.00
173 MSME	0.00	0.00
174 Unbilled	111,479,469.38	90,554,124.60
175 Not due	0.00	0.00
176 Due	81,955,646.00	33,889,933.00
177 Disputed	0.00	0.00
178 Undisputed	81,955,646.00	33,889,933.00
179	0.00	0.00
180 Sub-total (A)	193,435,115.38	124,444,057.60
181	0.00	0.00
182 Others	0.00	0.00
183 Unbilled	382,056,604.52	510,593,053.51
184 Not due	0.00	0.00
185 Due	1,817,524,074.96	1,934,254,905.11
186 Disputed	0.00	0.00
187 Undisputed	1,817,524,074.96	1,934,254,905.11
188	0.00	0.00
189 Sub-total (B)	2,199,580,679.48	2,444,847,958.62
190	0.00	0.00
191 Total	2,393,015,794.86	2,569,292,016.22
192	0.00	0.00
193 Ageing	0.00	0.00
194 MSME	0.00	0.00
195 Disputed	0.00	0.00
196 Less than 1 year	0.00	0.00
197 1-2 years	0.00	0.00
198 2-3 years	0.00	0.00
199 More than 3 years	0.00	0.00
200 Sub Total (I)	0.00	0.00
201	0.00	0.00
202 Undisputed	0.00	0.00
203 Less than 1 year	81,955,646.00	33,889,933.00
204 1-2 years	0.00	0.00
205 2-3 years	0.00	0.00
206 More than 3 years	0.00	0.00
207 Sub Total (II)	81,955,646.00	33,889,933.00
208	0.00	0.00
209 Total MSME (III)	81,955,646.00	33,889,933.00
210	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 34 TO THE FS-CL-TRADE PAYABLES

(Amount in ₹)

As at	31.03.2024	31.03.2023
211 Others	0.00	0.00
212 Disputed	0.00	0.00
213 Less than 1 year	0.00	0.00
214 1-2 years	0.00	0.00
215 2-3 years	0.00	0.00
216 More than 3 years	0.00	0.00
217 Sub Total (IV)	0.00	0.00
218	0.00	0.00
219 Undisputed	0.00	0.00
220 Less than 1 year	520,486,166.86	1,205,164,381.11
221 1-2 years	568,292,226.10	42,685,077.00
222 2-3 years	42,422,625.00	84,846,453.00
223 More than 3 years	686,323,057.00	601,558,994.00
224 Sub Total (V)	1,817,524,074.96	1,934,254,905.11
225	0.00	0.00
226 Total Others (VI)	1,817,524,074.96	1,934,254,905.11

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 35 TO THE FS-CL-OTHER FINANCIAL LIABILITIES
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 OTHER FINANCIAL LIABILITIES (CURRENT)	0.00	0.00
020 Interest accrued but not due on Unsecured Short Term Borrowing	0.00	0.00
021 Interest accrued but not due on secured borrowings	0.00	0.00
022 Interest accrued but not due on unsecured borrowings	0.00	0.00
023 Unpaid Dividends*	0.00	0.00
024 Unpaid matured deposits and interest accrued thereon*	0.00	0.00
025 Unpaid matured bonds and interest accrued thereon*	0.00	0.00
026 Unpaid bond refund money-Tax free bonds *	0.00	0.00
027 Book Overdraft	0.00	0.00
028 Payable to Customers	0.00	0.00
029 Liability under forward exchange contract	0.00	0.00
030 Hedging cost payable to beneficiaries	0.00	0.00
031 Derivative MTM Liability	0.00	0.00
032 Payable for Capital Expenditure	0.00	0.00
033 - Micro & Small Enterprises	69,094,120.25	73,235,010.01
034 - Others	4,687,516,054.53	4,118,286,883.53
035 Contractual Obligations	744,674,868.69	386,992,519.38
036 Others Payables	0.00	0.00
037 Deposits from contractors and others	291,609,186.35	85,777,478.98
038 Gratuity Obligations	0.00	0.00
039 Payable to employees	49,496,513.31	34,784,381.31
040 Payable to holding company	0.00	0.00
041 Retention on A/c BG encashment (Solar)	0.00	0.00
042 Payable to Solar Payment Security Account	0.00	0.00
043 Others **	14,692,741.08	17,075,074.39
044 Unspent CSR balance on ongoing Approved CSR projects	0.00	0.00
046	0.00	0.00
047	0.00	0.00
048 Total	5,857,083,484.21	4,716,151,347.60
049 * Represents the amounts which have not been claimed by the investor/holders of the bonds/ fixed deposits. Out of the above, no amount is due for payment to Investor Education and Protection Fund.	0.00	0.00
050 ** Include Payable to Hospital and other payable.	0.00	0.00
051 Payable for Capital Expenditure - SD/retntion	0.00	0.00
052 - Micro & Small Enterprises	51,495,838.26	37,883,895.26
053 - Others	830,776,903.27	870,016,808.78
054 Sub-total	882,272,741.53	907,900,704.04
055 Contractual Obligations	0.00	0.00
056 - Micro & Small Enterprises	134,203,480.99	87,455,777.24
057 - Others	610,471,387.70	299,536,742.14



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 35 TO THE FS-CL-OTHER FINANCIAL LIABILITIES

(Amount in ₹)

	As at	31.03.2024	31.03.2023
058	Sub-total	744,674,868.69	386,992,519.38
059	Total	1,626,947,610.22	1,294,893,223.42
060		0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 36 TO THE FS-CL-OTHER CURRENT LIABILITIES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 OTHER CURRENT LIABILITIES	0.00	0.00
002 Advances from customers and others	36,309,666.57	25,885,048.95
003 Deferred discount on forward exchange contact	0.00	0.00
004 Tax deducted at source and other statutory dues	74,289,390.19	98,415,828.69
005 Deposits from contractors and others	0.00	0.00
006 Government grants	0.00	0.00
007 Others	0.00	0.00
009	0.00	0.00
010	0.00	0.00
011 Total	110,599,056.76	124,300,877.64

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 37 TO THE FS-CL-PROVISIONS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 SHORT TERM PROVISIONS	0.00	0.00
002 Provision for Employee Benefits	0.00	0.00
003 Opening balance	0.00	0.00
004 Additions/ (adjustments) during the year	0.00	0.00
005 Closing Balance	0.00	0.00
028 Provisions for Obligations Incidental to Land Acquisition	0.00	0.00
029 Opening balance	0.00	0.00
030 Additions during the year	0.00	0.00
031 Amounts paid during the year	0.00	0.00
032 Amounts reversed during the year	0.00	0.00
033 Closing Balance	0.00	0.00
035 Provision for Tariff Adjustment	0.00	0.00
036 Opening balance	0.00	0.00
037 Additions during the year	0.00	0.00
038 Amounts adjusted during the year	0.00	0.00
039 Amounts reversed during the year	0.00	0.00
040 Closing Balance	0.00	0.00
042 Provision for shortage in Fixed Assets Pending Investigation & Others	0.00	0.00
043 Opening balance	0.00	0.00
044 Additions during the year	3,612,900.00	0.00
045 Amounts adjusted during the year	0.00	0.00
046 Amounts reversed during the year	0.00	0.00
047 Closing Balance	3,612,900.00	0.00
048 Provision for Arbitration	0.00	0.00
049 Opening balance	9,102,016.00	8,683,664.00
050 Additions during the year	418,352.00	418,352.00
051 Amounts used during the year	0.00	0.00
052 Amounts reversed during the year	0.00	0.00
053 Closing Balance	9,520,368.00	9,102,016.00
054 Others	0.00	0.00
055 Opening balance	0.00	0.00
056 Additions during the year	0.00	0.00
057 Amounts used during the year	0.00	0.00
058 Amounts reversed during the year	0.00	0.00
059 Closing Balance	0.00	0.00
102	0.00	0.00
104 Total	13,133,268.00	9,102,016.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 38 TO THE FS-CL-CURRENT TAX LIABILITIES (NET)

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Current liabilities - current tax liabilities (net)	0.00	0.00
002 Opening balance	0.00	0.00
003 Additions during the year	0.00	0.00
004 Amounts adjusted during the year	0.00	0.00
005 Less: Set off against taxes paid	0.00	0.00
007	0.00	0.00
008 Closing Balance	0.00	0.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 39 TO THE FS--DEFERRED REVENUE

(Amount in ₹)

	As at	31.03.2024	31.03.2023
001	Deferred Revenue	0.00	0.00
002	On account of advance against depreciation	0.00	0.00
003	On account of income from foreign currency fluctuation	1,356,547,000.00	1,576,387,000.00
004	Government grants	0.00	0.00
007		0.00	0.00
008		0.00	0.00
009	TOTAL	1,356,547,000.00	1,576,387,000.00



RIHAND SUPER THERMAL POWER STATION

NOTE NO. 39A TO THE FS--REGULATORY DEFERRAL ACCOUNT CREDIT BALANCES

(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Regulatory deferral account credit balances	0.00	0.00
002 Exchange Differences	0.00	0.00
003	0.00	0.00
005 Total	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 40 TO THE FS--REVENUE FROM OPERATIONS
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001	REVENUE FROM OPERATIONS	0.00	0.00
002	Sales	0.00	0.00
003	Energy Sales (including Electricity Duty)	58,808,609,858.29	59,510,085,389.70
004	Less : Advance against depreciation deferred (net)	0.00	0.00
005	Add: Revenue recognized out of advance against depreciation	0.00	0.00
006	Add : Exchange fluctuation receivable from customers	-1,000.00	-1,007,159,000.00
007	Sale of energy through trading	0.00	0.00
008	Commission (NVVN)	0.00	0.00
009	Sub total	58,808,608,858.29	58,502,926,389.70
010	Less: Rebate to customers	361,523,638.66	375,810,995.28
011	Energy Sales (Total)	58,447,085,219.63	58,127,115,394.42
012	Consultancy, project management and supervision fees	0.00	0.00
013	Lease rentals on assets on Operating lease	0.00	0.00
014	Sale of Captive Coal	0.00	0.00
015	Intra Company Elimination	0.00	0.00
017	Sub-total	0.00	0.00
018	Total - Sales	58,447,085,219.63	58,127,115,394.42
019	Sale of fly ash/ash products	4,409,268.00	549,433.49
020	Less: Transferred to fly ash utilisation reserve fund	-4,409,268.00	-549,433.49
021	Sub-total	0.00	0.00
022	Other Operating Income	0.00	0.00
023	Interest from customers	2,871,210,514.00	460,826,066.00
024	Energy Internally Consumed *	34,638,756.00	34,769,384.00
025	Interest income on Assets under finance lease	0.00	0.00
026	Recognized from deferred revenue - government grant	0.00	0.00
027	Provision written back- Tariff Adjustment	0.00	0.00
028	Income form Trading of ESCerts	30,494,405.33	7,976,314.67
029	Income from E-Mobility Business & others	0.00	0.00
030	Others	0.00	0.00
032		0.00	0.00
033		0.00	0.00
034	Total	61,383,428,894.96	58,630,687,159.09
040	* Valued at variable cost of generation and corresponding amount included in power charges (Note No. 42)	0.00	0.00
041	Excise duty on sale of flyash,cenospere & ash products	0.00	0.00
042	Energy sales of principal nature (NVVN)	0.00	0.00
043	Energy sales of agency nature (NVVN)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 41 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001	OTHER INCOME	0.00	0.00
002	Interest from	0.00	0.00
004	Financial assets at amortised cost	0.00	0.00
005	Government Securities (8.5% Tax Free Bonds issued by the State Governments)	0.00	0.00
006	Other Bonds	0.00	0.00
007	Non current Trade Receivable	0.00	0.00
008	Interest from Government of India Securities-Non-Trade	0.00	0.00
009	Less: Amortziation of premium	0.00	0.00
010	Sub Total	0.00	0.00
011	Interest from others	0.00	0.00
012	Loan to State Government in settlement of dues from customers	0.00	0.00
013	Loan to Subsidiary Companies	0.00	0.00
014	Loan to Employees	14,636,986.49	14,118,222.87
015	Deposit with banks	0.00	0.00
016	Foreign Banks	0.00	0.00
017	Interest from Contractors	689,008.00	825,495.00
018	Interest from Income Tax Refunds	0.00	0.00
019	Less : Refundable to Customers	0.00	0.00
020	Sub Total	0.00	0.00
021	Deposits with banks-flyash utilisation reserve fund	0.00	0.00
022	Less: transferred to flyash utilisation reserve fund	0.00	0.00
023	Sub Total	0.00	0.00
024	Deposits with banks- DDUGJY funds	0.00	0.00
025	Interest from Contractors- DDUGJY funds	0.00	0.00
026	Transfer to DDUGJY-Advance from customers	0.00	0.00
027	Sub-total	0.00	0.00
030	Others	0.00	689,007.00
031	Other investments in Joint venture companies	0.00	0.00
032	Dividend from	0.00	0.00
033	Longterm investments in	0.00	0.00
034	Subsidiaries	0.00	0.00
035	Joint Ventures	0.00	0.00
036	Equity Instruments	0.00	0.00
037	Current Investments in	0.00	0.00
038	Mutual Funds measured at fairvalue through profit or loss	0.00	0.00
039	Current investments in mutual funds-flyash utilisation reserve fund	0.00	0.00
040		0.00	0.00
041	Less: transferred to flyash utilisation reserve fund	0.00	0.00
042	Lease Rent # Ash Brick Plant	0.00	0.00
043	Less: transferred to flyash utilisation reserve fund	0.00	0.00
044	Other non-operating income	0.00	0.00
045	Profit on disposal of PPE	45,389.99	113,631.34

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 41 TO THE FS--OTHER INCOME
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
046	Profit on redemption of GOI securities	0.00	0.00
047	Net gain on sale of investments	0.00	0.00
048	Surcharge received from customers	33,273,196.00	156,699,458.00
049	Hire charges for equipment	0.00	498,590.40
050	Gain on option contract / Discount on F.ExchContract	73,463.00	6,390,259.00
051	Lease rent from investment property	0.00	0.00
052	Provision written back-others	424,646.47	3,573,171.43
053	Fair value gains/(losses) on investments in mutual funds at fair value through profit or loss	0.00	0.00
054	Interest from Solar payment security account	0.00	0.00
055	Less : Transferred to SPSA fund	0.00	0.00
056	Interest on "Retention on A/c BG encashment (Solar)"	0.00	0.00
057	Less : Transferred to "Retention on A/c BG encashment (Solar)"	0.00	0.00
058		0.00	0.00
059		0.00	0.00
060		0.00	0.00
061	Miscellaneous Income	321,248,438.51	301,521,785.10
062	Total	370,391,128.46	484,429,620.14
063	Less:Transferred to Development of Coal Mines- Note 47A	0.00	0.00
064	Less:Transferred to Expenditure during Construction period (net)- Note 47	133,902.99	104,102.76
065	Less: Others	0.00	0.00
066	Less:Transferred to payable to Govt. of Jharkhand	0.00	0.00
068		0.00	0.00
069		0.00	0.00
070	Total	370,257,225.47	484,325,517.38
071		0.00	0.00
101	Details of Miscellaneous Income	0.00	0.00
102	Vehicle Hire Charges.	66,000.00	90,000.00
103	Sale of by products & residuals	0.00	0.00
104	Township recoveries(exl. Hospital Recoveries).	32,804,843.22	32,573,133.11
105	Depreciation written back	0.00	0.00
106	Sale of Scrap.	162,364,764.27	217,087,073.50
107	Receipt under loss of profit policy.	0.00	0.00
108	Receipts under MBD/Fire Policy.	0.00	0.00
109	Management development programme.	0.00	0.00
110	Management Fee - Misc (NVVN)	0.00	0.00
111	Others	126,012,831.02	51,771,578.49
112		0.00	0.00
113		0.00	0.00
114	Total (Miscellaneous Income)	321,248,438.51	301,521,785.10
115		0.00	0.00
131	Details of Provision written back others	0.00	0.00

RIHAND SUPER THERMAL POWER STATION

NOTE NO. 41 TO THE FS--OTHER INCOME

(Amount in ₹)

For the Year ended		31.03.2024	31.03.2023
132	Doubtful debts	0.00	0.00
133	Doubtful Loans, Advances and Claims	0.00	0.00
134	Doubtful Construction Advances	0.00	0.00
135	Shortage in Construction Stores	88,397.16	1,458,151.13
136	Shortage in Stores	196,939.31	1,607,821.96
137	Obsolescence in Stores	139,310.00	507,198.34
138	Unserviceable capital works	0.00	0.00
139	Other Obligation including Arbitration	0.00	0.00
140	Shortage in Fixed Assets	0.00	0.00
141	Diminution in value of Investment	0.00	0.00
142		0.00	0.00
143		0.00	0.00

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 42 TO THE FS--FUEL COST****(Amount in ₹)**

For the Year ended		31.03.2024	31.03.2023
001	FUEL COST	0.00	0.00
002	Coal	0.00	0.00
003	Captive	0.00	0.00
004	Other than captive	34,687,386,295.68	34,092,322,865.30
005	Gas	0.00	0.00
006	Naptha	0.00	0.00
007	Oil	506,683,670.02	422,532,356.80
008	Biomass Pellets & Others	0.00	0.00
009		0.00	0.00
010		0.00	0.00
011	Total	35,194,069,965.70	34,514,855,222.10
012		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 43 TO THE FS--EMPLOYEE BENEFITS EXPENSE
(Amount in ₹)

For the Year ended		31.03.2024	31.03.2023
001	EMPLOYEE BENEFITS EXPENSE	0.00	0.00
002	Salaries and wages	1,420,229,075.93	1,521,094,969.69
003	Contribution to provident and other funds	230,813,260.68	203,254,370.35
004	Unwinding of deferred payroll expense	8,197,455.70	8,416,475.20
005	Staff welfare expenses	228,872,600.84	203,775,030.45
006	Less : Expenses transferred to Consultancy group	0.00	0.00
007		0.00	0.00
008	Sub Total	1,888,112,393.15	1,936,540,845.69
009	Less: Employee benefits expense allocated to fuel inventory	126,414,506.69	124,169,760.51
010	Less: Transferred/Allocated to development of coal mines - Note 47A	0.00	0.00
011	Less: Others	0.00	0.00
012	Less: Transferred to fly ash utilisation reserve fund	0.00	0.00
013	Less: Transferred to CSR Expenses	0.00	0.00
014	Reimbursements for employees on secondment	3,533,759.52	3,276,040.25
015	Less: Transferred to expenditure during construction period (net)- Note 47	46,208,463.83	31,691,938.82
016	Less: Transfer to Govt of Jharkhand A/c as recoverable	0.00	0.00
018		0.00	0.00
019	TOTAL	1,711,955,663.11	1,777,403,106.11
020	Managerial Remuneration paid/ payable to Directors included above (except for Directors fee which is included in Note 42)	0.00	0.00
021	Salaries and wages	0.00	0.00
022	Contribution to provident and other funds	0.00	0.00
023	Staff welfare expenses	0.00	0.00
024	Directors fee	0.00	0.00
025		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 44 TO THE FS--FINANCE COSTS
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001	FINANCE COSTS	0.00	0.00
002	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
003	Bonds	616,779,786.46	731,574,881.93
004	Government of India Loans	0.00	0.00
005	Foreign currency term loans	65,542,908.37	40,412,501.47
006	Rupee term loans	450,346,229.00	450,875,180.00
007	Public deposits	0.00	0.00
008	Foreign currency bonds/notes	0.00	99,701,512.71
009	Cash Credit	0.00	0.00
010	Unwinding of discount on account of vendor liabilities	19,827,484.33	11,815,161.51
011	Commercial Papers	0.00	0.00
012	Sub Total	1,152,496,408.16	1,334,379,237.62
013	Interest on non financial items	18,086.00	0.00
014	Other Borrowing Costs	0.00	0.00
015	Bonds servicing & public deposit exp.	945,192.25	858,707.62
016	Guarantee fee	0.00	0.00
017	Management fee	0.00	0.00
018	Committ charges/exposure premium	0.00	129,975.15
019	Bond issue expenses	0.00	0.00
020	Legal exp on foreign currency loans	0.00	0.00
021	Foreign currency bonds/notes exp.	0.00	0.00
022	Up-front fee	0.00	0.00
023	Insurance premium on foreign currency loans	0.00	0.00
024		0.00	0.00
025	Others	0.00	0.00
026	Sub Total (Other Borrowing cost)	963,278.25	988,682.77
027		0.00	0.00
028	Exchange differences regarded as an adjustment to borrowing costs	-31,247,413.53	16,291,816.52
029	Sub Total	1,122,212,272.88	1,351,659,736.91
030	Less: Transferred to Expenditure during construction period (net) - Note 47	119,314,872.39	67,839,767.20
031	Less: Transferred to development of coal mines- Note 47A	0.00	0.00
032		0.00	0.00
034	Total	1,002,897,400.49	1,283,819,969.71

**RIHAND SUPER THERMAL POWER STATION****NOTE NO. 45 TO THE FS--DEPRECIATION, AMORTIZATION AND IMPAIRMENT EXPENSES****(Amount in ₹)**

	For the Year ended	31.03.2024	31.03.2023
001	Depreciation, amortization and impairment expenses	0.00	0.00
002	On property, plant and equipment- Note 2	5,272,550,841.88	4,896,131,231.52
003	On investment property- Note 2A	0.00	0.00
004	On intangible assets- Note 4	319,960.73	28,393.75
005		0.00	0.00
006	Sub-total	5,272,870,802.61	4,896,159,625.27
007	Less:	0.00	0.00
008	Allocated to fuel inventory	382,176,014.60	380,700,405.43
009	Transferred to Expenditure during Construction Period (net)- Note 47	2,541.12	659.26
010		0.00	0.00
011	Transferred/Allocated to development of coal mines - Note 47A	0.00	0.00
012	Adjustment with deferred revenue from deferred foreign currency fluctuation	219,840,000.00	207,462,000.00
013		0.00	0.00
015	Total	4,670,852,246.89	4,307,996,560.58

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 46 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001 OTHER EXPENSES		0.00	0.00
002 Power charges		114,071,005.38	36,602,545.00
003 Less: Recovered from contractors & employees		21,997,304.57	16,759,983.93
004 Sub-Total(Power Charges)		92,073,700.81	19,842,561.07
005 Water charges		143,348,894.00	139,871,225.00
006 Stores consumed		109,080,768.02	72,975,803.55
007 Rent		0.00	0.00
008 Less:Recoveries		0.00	0.00
009 Sub-Total (Rent)		0.00	0.00
010 Cost of captive coal produced		0.00	0.00
011 Repairs & maintenance		0.00	0.00
012 Buildings		115,052,101.97	158,149,415.92
013 Plant & machinery		0.00	0.00
014 Power stations		2,814,572,400.22	2,228,227,417.39
015 Construction equipment		0.00	0.00
016 Others		119,810,327.85	133,139,689.40
017 Sub-total (Repairs & maintenance)		3,049,434,830.04	2,519,516,522.71
019 Load Dispatch Center Charges		39,049,786.00	13,176,411.00
021 Insurance		177,744,689.07	176,259,470.09
022 Interest to beneficiaries		502,602,488.00	0.00
023 Rates and taxes		12,356,937.15	-6,259,316.14
024 Water cess & environment protection cess		0.00	0.00
025 Training & recruitment expenses		1,295,003.27	2,049,738.99
026 Less: Receipts		0.00	0.00
027 Sub-total (Training and recruitment expenses)		1,295,003.27	2,049,738.99
028 Communication expenses		24,933,224.99	18,055,262.15
029 Inland Travel		70,077,362.54	73,825,041.75
030 Foreign Travel		-13,890.00	153,377.00
031 Tender expenses		0.00	0.00
032 Less: Receipt from sale of tenders		0.00	0.00
033 Sub-total (Tender expenses)		0.00	0.00
034 Payment to auditors		0.00	0.00
035 Audit fee		0.00	0.00
036 Tax audit fee		0.00	0.00
037 Other services		0.00	0.00
038 Reimbursement of expenses		0.00	0.00
039 Sub-total (Payment to Auditors)		0.00	0.00
040 Advertisement and publicity		609,800.66	715,426.60
041 Electricity duty		0.00	0.00
042 Security expenses		500,034,468.77	450,957,342.53
043 Entertainment expenses		22,830,953.50	26,443,229.39
044 Expenses for guest house		22,417,249.24	20,529,003.23
045 Less:Recoveries		4,681,184.90	5,102,224.90
046 Sub-Total (Guest house expenses)		17,736,064.34	15,426,778.33
047 Education expenses		72,472,675.00	60,990,719.00
049 Donations		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 46 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	31.03.2024	31.03.2023
For the Year ended		
050 Ash utilisation & marketing expenses	2,171,797,468.80	1,205,661,111.07
051 Directors sitting fee	0.00	0.00
053 Professional charges and consultancy fees	18,247,979.65	85,099,069.19
054 Legal expenses	28,418,531.00	25,564,410.00
055 EDP hire and other charges	4,342,518.74	9,686,180.09
056 Printing and stationery	2,895,337.34	2,413,162.68
057 Oil & gas exploration expenses	0.00	0.00
059 Hiring of vehicles	37,940,272.90	36,342,493.81
061 Reimbursement of L.C.charges on sales realisation	0.00	0.00
062 LOSS ON FAIR VALUATION OF NON- CURRENT TRADE RECEIVABLE AT AMORTISED COST	0.00	0.00
063 Cost of Hedging	0.00	0.00
064 Derivatives MTM loss/gain (Net)	0.00	0.00
065 Net loss/(gain) in foreign currency transactions & translations	-168,732,271.52	15,280,472.25
066 Transport Vehicle running expenses	1,305,447.75	1,883,079.38
067 Horticulture Expenses	60,083,345.45	82,919,539.21
068 Hire charges- helicopter/aircraft.	0.00	0.00
069 Hire charges of construction equipment	0.00	0.00
070 Demurrage Charges	0.00	0.00
072	0.00	0.00
073 Miscellaneous expenses	131,684,397.10	54,556,145.78
074 Loss on disposal/write-off of PPE	134,550,634.28	81,328,604.99
075 Sub-Total	7,258,201,417.65	5,184,733,861.47
076 Less: Other expenses allocated to fuel inventory	685,238,571.79	584,991,830.30
077 Less: Transferred/Allocated to development of coal mines - Note 47A	0.00	0.00
078 Less: Transferred to fly ash utilisation reserve fund	48,712,813.41	25,183,231.73
079 Less: Hedging cost Net recoverable/payable from/to beneficiaries	0.00	0.00
080 Less: Others	0.00	0.00
081 Less: Transferred to CSR Expenses	0.00	0.00
082 Less:Transferred to Expenditure during Construction period(net)-Note 47	15,557,399.80	2,525,818.02
083 Less: Transfer to Govt of Jharkhand A/c as recoverable	0.00	0.00
084 Net (Generation, Administration and Other expenses)	6,508,692,632.65	4,572,032,981.42
085 Corporate Social Responsibility Expenses	41,264,811.94	35,487,113.26
086 Less: Grants-in-aid	0.00	0.00
087 Sub-total (Corporate Social Responsibility Expenses)	41,264,811.94	35,487,113.26
088 Provisions	0.00	0.00
089 Doubtful Debts	0.00	0.00
090 Doubtful loans, advances and claims	0.00	0.00
091 Doubtful Construction Advances	0.00	0.00
092 Shortage in stores	5,923,534.81	222,450.81

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RIHAND SUPER THERMAL POWER STATION
NOTE NO. 46 TO THE FS--OTHER EXPENSE
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
093	Obsolete/Dimunition in the value of surplus stores	78,820,769.66	10,612,444.94
094	Shortage in construction stores	1,896,319.98	88,397.16
095	Dimunition in value of long term investments	0.00	0.00
096	Shortage in Fixed assets	3,612,900.00	0.00
097	Unfinished minimum work progress from oil & gas exploration	0.00	0.00
098	Unserviceable capital works	0.00	0.00
099	Tariff Adjustment	-486,099,000.00	208,630,000.00
100	Others :	0.00	0.00
101	(i) Provision for arbitration cases	418,352.00	418,352.00
102	(ii) Other provisions	0.00	0.00
103	Total (Provisions)	-395,427,123.55	219,971,644.91
104		0.00	0.00
106	Total	6,154,530,321.04	4,827,491,739.59
107		0.00	0.00
108	Breakup of miscellaneous expenses.	0.00	0.00
110	Hire charges of office equipment	1,014,069.25	2,178,920.46
112	Operating expenses of construction equipment	0.00	0.00
113	Operating expenses of D.G. sets	0.00	0.00
114	Furnishing expenses	1,216,856.77	253,934.89
115	Subscription to trade and other associations.	0.00	0.00
117	Visa and entry permit charges	0.00	0.00
118	Tree plantation exp.-NTPC Land	0.00	0.00
119	Research & development expenses .	0.00	0.00
120	Less : Grants received for Research & development expenses.	0.00	0.00
121	Sub-total (Research & development expenses)	0.00	0.00
122	Bank charges	64,876.52	90,956.68
123	Business Development Expenditure	0.00	0.00
124	Surcharge (NVVN)	0.00	0.00
125	Power Trading Expenses	58,605,449.00	30,539,939.00
126	Brokerage & commission	16,345,004.00	8,616,631.00
130	Books and periodicals	71,235.00	408,733.00
131	Claims/advances written off	0.00	0.00
132	Stores written off	0.00	0.00
133	Survey & Investigation expenses written off	0.00	0.00
134	Others	54,366,906.56	12,467,030.75
135	Total	131,684,397.10	54,556,145.78
136		0.00	0.00
137		0.00	0.00
138		0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 47 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001	EXPENDITURE DURING CONSTRUCTION PERIOD (NET)	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	36,814,049.23	26,501,611.63
004	Contribution to provident and other funds	5,706,688.39	3,509,615.20
005	Unwinding of deferred payroll expenses	0.00	0.00
006	Staff welfare expenses	3,687,726.21	1,680,711.99
007	Total (A)	46,208,463.83	31,691,938.82
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	12,419,822.69	9,928,869.03
011	Foreign currency term loans	52,297,655.15	26,164,411.47
012	Rupee term loans	60,296,295.00	16,080,739.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	0.00	0.00
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	0.00	129,975.15
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	0.00
026	Others	6,131,800.75	3,705,070.96
027	Exchange differences regarded as adjustment to interest cost	-11,830,701.20	11,830,701.59
028	Total (B)	119,314,872.39	67,839,767.20
029		0.00	0.00
030	C. Depreciation and amortisation	2,541.12	659.26
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	8,614,842.00	314,305.00
033	Less: Recovered from contractors & employees	144,064.99	39,741.55
034	Sub-total(Net power charges)	8,470,777.01	274,563.45
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	35,196.45	456.75
041		0.00	0.00
042	Insurance	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 47 TO THE FS--EXPENDITURE DURING CONSTRUCTION PERIOD (NET)
(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
043	Rates and taxes	466.20	108.00
044	Communication expenses	182,703.00	463,943.00
045	Travelling expenses	2,240,084.41	1,173,914.46
046	Tender expenses	0.00	0.00
047	Less: Income from sale of tenders	0.00	0.00
048	Sub-total (Net tender expenses)	0.00	0.00
049	Advertisement and publicity	0.00	0.00
050	Security expenses	0.00	0.00
051	Entertainment expenses	133,743.00	109,860.70
052	Guest house expenses	0.00	0.00
053	Less: Receipt from guest house	0.00	0.00
054	Sub-total (Net Guest House Expenses)	0.00	0.00
055	Education expenses	0.00	0.00
056	Brokerage & Commission	0.00	0.00
057	Books and periodicals	0.00	0.00
058	Community development expenses	0.00	0.00
059	Professional charges and consultancy fee	0.00	0.00
060	Legal expenses	67,493.00	0.00
061	EDP Hire and other charges	0.00	0.00
062	Printing and stationery	2,794.00	19,534.00
063	Miscellaneous expenses	4,424,142.73	483,437.66
064	Total (D)	15,557,399.80	2,525,818.02
065	Total (A+B+C+D)	181,083,277.14	102,058,183.30
066	E. Less: Other Income	0.00	0.00
067	Interest from	0.00	0.00
068	Indian banks	0.00	0.00
069	Foreign banks	0.00	0.00
070	Others	0.00	0.00
071	Contractors	0.00	0.00
072	Hire charges	0.00	0.00
073	Sale of scrap	0.00	0.00
074	Exchange Differences	0.00	0.00
075	Miscellaneous income	133,902.99	104,102.76
076	TOTAL (E)	133,902.99	104,102.76
077	F. Net actuarial gain/loss OCI	-213,090.51	-397,461.79
078		0.00	0.00
079	GRAND TOTAL (A+B+C+D-E+F)	180,736,283.64	101,556,618.75
080		0.00	0.00
081	* Balance carried to Capital Work-in-progress - (Note 3)	180,736,283.64	101,556,618.75

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 47A TO THE FS--EDC- COAL MINING

(Amount in ₹)

	For the Year ended	31.03.2024	31.03.2023
001	EDC- Coal Mining	0.00	0.00
002	A. Employee benefits expense	0.00	0.00
003	Salaries and wages	0.00	0.00
004	Contribution to provident and other funds	0.00	0.00
005	Unwinding of deffered payroll expenses	0.00	0.00
006	Staff welfare expenses	0.00	0.00
007	Total (A)	0.00	0.00
008	B. Finance Costs	0.00	0.00
009	Finance charges on financial liabilities measured at amortised cost	0.00	0.00
010	Bonds	0.00	0.00
011	Foreign currency term loans	0.00	0.00
012	Rupee term loans	0.00	0.00
013	Foreign currency bonds/notes	0.00	0.00
014	Unwinding of discount on account of vendor liabilities	0.00	0.00
015	Others	0.00	0.00
016		0.00	0.00
017	Other Borrowings Costs	0.00	0.00
018	Guarantee Commission	0.00	0.00
019	Management Fees/Arrangers Fees	0.00	0.00
020	Commitment charges/Exposure Premium	0.00	0.00
021	Legal Expenses on foreign currency loans	0.00	0.00
022	Foreign currency bonds/notes expenses	0.00	0.00
023	Foreign Credit Insurance Premium	0.00	0.00
024	Upfront Fee	0.00	0.00
025	Exchange Differences	0.00	0.00
026	Others	0.00	0.00
027	Exchange differences regarded as adjustment to interest cost	0.00	0.00
028	Total (B)	0.00	0.00
029		0.00	0.00
030	C. Depreciation and amortisation	0.00	0.00
031	D. Generation , administration and other expenses	0.00	0.00
032	Power charges	0.00	0.00
033	Less: Recovered from contractors & employees	0.00	0.00
034	Sub-total(Net power charges)	0.00	0.00
035	Water charges	0.00	0.00
036	Rent	0.00	0.00
037	Repairs & maintenance	0.00	0.00
038	Buildings	0.00	0.00
039	Construction equipment	0.00	0.00
040	Others	0.00	0.00
041	Cost of Captive Coal	0.00	0.00
042	Insurance	0.00	0.00
043	Rates and taxes	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 47A TO THE FS--EDC- COAL MINING

(Amount in ₹)

For the Year ended	31.03.2024	31.03.2023
044 Communication expenses	0.00	0.00
045 Travelling expenses	0.00	0.00
046 Tender expenses	0.00	0.00
047 Less: Income from sale of tenders	0.00	0.00
048 Sub-total (Net tender expenses)	0.00	0.00
049 Advertisement and publicity	0.00	0.00
050 Security expenses	0.00	0.00
051 Entertainment expenses	0.00	0.00
052 Guest house expenses	0.00	0.00
053 Less: Receipt from guest house	0.00	0.00
054 Sub-total (Net Guest House Expenses)	0.00	0.00
055 Education expenses	0.00	0.00
056 Brokerage & Commission	0.00	0.00
057 Books and periodicals	0.00	0.00
058 Community development expenses	0.00	0.00
059 Professional charges and consultancy fee	0.00	0.00
060 Legal expenses	0.00	0.00
061 EDP Hire and other charges	0.00	0.00
062 Printing and stationery	0.00	0.00
063 Miscellaneous expenses	0.00	0.00
064 Total (D)	0.00	0.00
065 Total (A+B+C+D)	0.00	0.00
066 E. Less: Other Income	0.00	0.00
067 Interest from	0.00	0.00
068 Indian banks	0.00	0.00
069 Foreign banks	0.00	0.00
070 Others	0.00	0.00
071 Contractors	0.00	0.00
072 Hire charges	0.00	0.00
073 Sale of scrap	0.00	0.00
074 Exchange Differences	0.00	0.00
075 Miscellaneous income	0.00	0.00
076 TOTAL (E)	0.00	0.00
077 F. Net actuarial gain/loss OCI	0.00	0.00
078	0.00	0.00
079 GRAND TOTAL (A+B+C+D-E+F)	0.00	0.00
080	0.00	0.00
081 * Balance carried to Capital Work-in-progress - (Note 3)	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 48A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2024	31.03.2023
001 Balance sheet	0.00	0.00
002 Freehold land for which conveyancing of the title is awaiting completion of legal formalities	0.00	0.00
003 (a) area (in acres)	1,272.13	1,272.13
004 (b) value (in rs)	116,742,467.99	116,742,467.99
005 Right-of-use land for which execution of lease deed is awaiting completion of legal formalities	0.00	0.00
006 (a) area (in acres)	227.63	227.63
007 (b) value (in rs)	208,310,187.38	208,310,187.38
008 Right-of-use land acquired on perpetual lease and accordingly not amortised	0.00	0.00
009 (a) area (in acres)	0.00	0.00
010 (b) value (in rs.)	0.00	0.00
011 Land in physical possession of the company which has not been shown in the books pending settlement of price (in acres)	0.00	0.00
012 Deposit with government authorities towards land in possession of the company included in cost of land which is subject to adjus	0.00	0.00
013 Land not in possession of the company	0.00	0.00
014 (a) area (in acres)	0.00	0.00
015 -Freehold	787.37	776.45
016 -Right of Use	72.33	72.33
017 (b) value (in rs)	0.00	0.00
018 -Freehold	72,256,386.55	71,250,885.34
019 -Right of Use	32,189,938.59	30,718,588.01
020 Right-of-use buildings pending completion of legal fomalities - value (in rs.)	0.00	0.00
021 Estimated amount of contracts remaining to be executed on capital account and not provided for	0.00	0.00
022 Property, plant & equipment	12,949,342,350.00	13,566,754,374.00
023 Intangible assets	0.00	0.00
024 Details of precommissioning expenditure	0.00	0.00
025 (a) precommissioning expenses	0.00	0.00
026 (b) precommissioning income	0.00	0.00
027 (c) net precommissioning expenditure	0.00	0.00
028	0.00	0.00
029	0.00	0.00
030	0.00	0.00
031 Exchange rate variation taken to revenue during the year (with -ve sign, if favourable)	-188,148,983.85	19,741,587.18
045 Exchange rate variation capitalised during the year (with -ve sign, if favourable)	-5,125,413.86	282,259,548.61
064 Short Term Leases	0.00	0.00
065 A) Rent	0.00	0.00
066 Company lease accomodation - executives	0.00	0.00
067 Company lease accomodation - directors	0.00	0.00
068 Others	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 48A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2024	31.03.2023
069 Total	0.00	0.00
101 Borrowing cost capitalised during the year	119,314,872.39	67,839,767.20
102 Revenue grants recognized during the year	0.00	0.00
103 Revenue expenditure on research and development	0.00	0.00
104 Capital expenditure on research and development.	0.00	0.00
105 Expenditure on sustainability development - capital	0.00	1,321,815.00
106 Expenditure on csr- capital	0.00	0.00
107 Opening balance - CSR Liability	5,746,540.00	5,794,153.00
108 Paid/Adjusted during the Year out of Opening above	-5,605,546.00	-1,456,484.00
109 Amount yet to be paid against Cr Year CSR Exp	9,271,344.00	1,408,871.00
110 Closing Balance CSR- Liability (110)	9,412,338.00	5,746,540.00
111	0.00	0.00
112	0.00	0.00
113 Disclosure under msmed act 2006.	0.00	0.00
114 Long-term	0.00	0.00
115 Short-term	-193,435,115.38	0.00
116 (i) (a) the principal amount remaining unpaid as at year end	-193,435,115.38	0.00
117 (i) (b) interest due there on remaining unpaid as at Year end	0.00	0.00
118 (ii) the amount of interest paid by the buyer in terms of section 16, along with the amounts of the payment made to the supplier	0.00	0.00
119 (iii) the amount of interest due and payable for the period of delay in making payment(which has been paid but beyond the appoin	0.00	0.00
120 (iv) the amount of interest accrued and remaining unpaid at the end of the year; and	0.00	0.00
121 (v) the amount of further interest remaining due and payable even in the succeeding years, until such date when the interest due	0.00	0.00
122 Amount of inventories recognized as an expense (including fuel)	37,170,395,683.42	36,118,519,159.86
123 Amount of inventories capitalised as overhauling assets out of 122 above	398,467,421.52	479,006,817.39
124 Amount capitalised as edc out of 122 above	0.00	0.00
133 Value of Imported Material Consumed during the Year	0.00	0.00
134	0.00	0.00
135 Contingent liabilities	0.00	0.00
136 A. Claims against the company not acknowledged as debts in respect of :	0.00	0.00
137 (i)Capital works	0.00	0.00
138 (ii)Land compensation cases	32,725,296.47	35,769,736.80
139 (iii)Others by state authorities towards:-	0.00	0.00
140 (a) Water royalty / water charges / nala tax	0.00	0.00
141 (b) Diversion of land / building permission fees	0.00	0.00

RIHAND SUPER THERMAL POWER STATION
NOTE NO. 48A TO THE FINANCIAL STATEMENTS
(Amount in ₹)

As at	31.03.2024	31.03.2023
142 (c) Other demands by state authorities	4,590,000.00	4,590,000.00
143 (iv) Others by fuel companies	0.00	0.00
144 (a) Disputes related to grade slippage-third party sampling	1,415,704,076.30	1,394,269,079.00
145 (b) Surface transportation charges on coal	911,712,917.66	911,712,917.69
146 (c) Take or pay claim - Gas stations	0.00	0.00
147 (d) Other claims by fuel companies not acknowledged as debt	686,853,915.00	686,853,915.00
149 B.Disputed tax demands	0.00	0.00
150 (i) Income tax	0.00	0.00
151 (ii) Excise duty	3,691,823.00	3,691,823.00
152 (iii) Sales tax	147,764,932.00	146,412,646.00
153 (iv) Service tax/GST	4,371,933.68	4,225,770.93
154 (v) Entry tax	0.00	0.00
155 C. Others	183,594,882.52	183,583,292.71
156 Total	3,391,009,776.63	3,371,109,181.13
157 D. Possible reimbursement on account of contingent liabilities	0.00	0.00
158 (i) Capital works	0.00	0.00
159 (ii) Land compensation cases	0.00	0.00
160 (iii) Others (by state authorities)	0.00	0.00
161	0.00	0.00
162 (iv) Others by fuel companies	3,017,962,731.96	2,992,835,911.66
163 (v) Disputed income tax demand	0.00	0.00
164 (vi) Disputed tax demands -others	147,764,932.00	150,104,469.00
165 (vii) Others	58,203.00	58,203.00
167 Total	3,165,785,866.96	3,142,998,583.66
168 E.AMOUNT PAID UNDER PROTEST/ADJUSTED BY AUTHORITIES - TAX CASES	812,756.00	812,756.00
169 F.CONTINGENT ASSETS	0.00	0.00
170 Intangible under development : less than 1 year	0.00	0.00
171 Intangible under development #: 1-2 year	0.00	0.00
227 Intangible under development #: 2-3 year	0.00	0.00
277 Intangible under development #: More than 3 years	0.00	0.00
278 Capital-Work-in Progress (CWIP)	0.00	0.00
279 Projects in progress	12,848,933,527.77	8,960,205,455.82
280 Projects temporarily suspended	0.00	0.00
281	0.00	0.00
282	0.00	0.00
283 Projects in progress	0.00	0.00
284 Less than 1 year	5,630,293,641.08	3,744,284,084.47
285 1-2 years	2,963,595,270.36	3,074,034,597.30
286 2-3 years	2,462,596,838.61	1,738,373,963.21
287 More than 3 years	1,792,447,777.72	403,512,810.84
288 Sub Total (I)	12,848,933,527.77	8,960,205,455.82
289	0.00	0.00



RIHAND SUPER THERMAL POWER STATION
NOTE NO. 48A TO THE FINANCIAL STATEMENTS

(Amount in ₹)

As at	31.03.2024	31.03.2023
290 Projects temporarily suspended	0.00	0.00
291 Less than 1 year	0.00	0.00
292 1-2 years	0.00	0.00
293 2-3 years	0.00	0.00
294 More than 3 years	0.00	0.00
295 Sub Total (II)	0.00	0.00
296	0.00	0.00
380 Previous year figures have been regrouped/rearranged wherever necessary.	0.00	0.00