

Petition No.....



A Maharatna Company

**RAMAGUNDAM SUPER THERMAL POWER STATION
STAGE-III**

(1X500 MW)

**TARIFF PETITION FOR THE PERIOD
01.04.2019 TO 31.03.2024**

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Ramagundam Super Thermal Power Station Stage- III (500 MW)** for the period from **01.04.2019 to 31.03.2024**.

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Signature

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF

: Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Ramagundam Super Thermal Power Station Stage- III (500 MW)** for the period from **01.04.2019 to 31.03.2024.**

AND

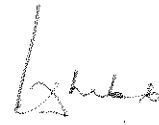
IN THE MATTER OF

Petitioner:

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

Respondents

1. AP Eastern Power Distribution Company Ltd. (APEPDCL)
Corporate Office
P&T Colony, Seethammadhara,
Visakhapatnam – 530 013 - (AP)
2. AP Southern Power Distribution Company Ltd. (APSPDCL)
Corporate Office
Back Side Srinivasa Kalyana Mandapam
Tiruchhanur Road, Kesavayana Gunta,
Tirupathi – 517 503 (AP)
3. Telangana State Northern Power Distribution Company Ltd. (TSNPDCL)
H.No. 2-5-31/2, Vidyut Bhavan
Nakkalagutta, Hanamkonda
Warangal – 506 001 (AP)



4. Telangana State Southern Power Distribution Company Ltd. (TSPDCL)
Mint Compound
Corporate Office
Hyderabad (AP) – 500 063.
5. Tamil Nadu Generation & Distribution Corporation Ltd. (TANGEDCO) (formerly TNEB)
144, Anna Salai
Chennai – 600 002
6. Bangalore Electricity Supply Company Ltd. (BESCOM)
Krishna Rajendra Circle
Bangalore - 560 009.
7. Mangalore Electricity Supply Company Ltd (MESCOM)
MESCOM bhavana,
Corporate Office,
Bejai, kavoor cross road, mangaluru,
575004, Karnataka
8. Chamundeshwari Electricity Supply Corp. Ltd. (CESC)
Corporate Office, No. 29,
Vijayanagar, 2nd stage, Hinkal,
Mysore – 570 017.
9. Gulbarga Electricity Supply Company Ltd. (GESCOM)
Main road, Gulbarga, Karnataka.
Gulbarga – 585 102.
10. Hubli Electricity Supply Company Ltd. (HESCOM)
Corporate office, P.B.Road, Navanagar
Hubli – 580 025.
11. Kerala State Electricity Board Ltd.(KSEBL)
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram – 695 004.
12. Electricity Department , Puducherry
137, NSC Bose salai
Puducherry- 605001

Signature

The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.
- 3) The Petitioner is having power stations/ projects at different regions and places in the country. Ramagundam Super Thermal Power Station Stage-III (1X500 MW), (hereinafter referred to as RSTPS-III) is one such station located in the State of Telangana .The power generated from RSTPS-III is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2019 to 31.03.2024.
- 5) Regulation 9(2) of Tariff Regulations 2019 provides as follows:
"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and

estimated additional capital expenditure for the respective years of the tariff period 2019-24 along with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014."

The date of filing of Tariff Petition for the period 2019-24 has subsequently been extended by Hon'ble Commission vide order dated 28.10.2019 in Petition No. 331/MP/2019.

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

- 6) The tariff of the RSTPS-III for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 08.11.2016 in Petition No. 268/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. The petitioner vide affidavit dated 17.01.2020 has filed a separate true up petition for the period 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations 2014.
- 7) The Hon'ble Commission vide order dated 08.11.2016 in Petition no 268/GT/2014 has allowed a capital cost of Rs 1592.06 Cr. as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 1579.71 Cr based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs. (-) 12.35 Cr from the admitted capital cost as on 31.03.2019 and therefore the opening capital cost as on 01.04.2019 has been considered as Rs 1579.71 Cr. in the instant petition. The Hon'ble Commission may be pleased to adopt this adjustment in the admitted capital cost as on 31.3.2019 and determine the tariff in the present petition for the period 2019-24.
- 8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and estimated additional capital expenditures

claimed for the period 2019-24 based on the Regulation 19 and Regulation 24, 25 and 26 of the Tariff Regulations, 2019.

- 9) As per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2019-24 have been furnished below. Accordingly, water charges may be allowed in tariff based on the same for the 2019-24. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	Remarks
Type of Plant	Coal Based
Type of cooling water system	IDCT
Consumption of Water	Water for the Station is drawn from Yellampally Project. Tentative consumption for RSTPS-III : 0.477 TMC / year In addition, Payment towards power charges are also paid for lifting water as per Notification dated 27.06.2015(copy enclosed at Annex-F)
Rate of Water charges	Rs 7.16 Cr/TMC (Govt. of Telangana has also accorded permission for enhancement of the rate @ 10 % once in two Financial year from the date of issue of Government order
Total Water Charges (including power charges)	Rs 443.72 lakhs for 2019-20 (Yearly details at Form 3A) on pro rata basis of installed capacity.

- 10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is

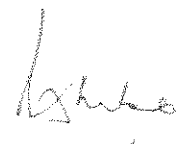
submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24

- 11) The present petition is filed on the basis of norms specified in the Tariff Regulations 2019. It is submitted that the petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEF vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will effect the station APC, Heat Rate , O&M expenses etc. In addition the availability of the unit/ station would be also effected due to shutdown of the units for installation of ECS. The petitioner would be filing the details of the same in a separate petition in terms of the Regulation 29 of Tariff Regulations 2019. The tariff of the instant petition would undergo changes consequent to the order of the Hon'ble Commission in the said ECS petition.
- 12) A notification dated 25.01.2016 has been issued by Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) under the statutory provisions of Environment (Protection) Act 1986. The said notification of MOEFCC prescribed for bearing the transportation cost of Fly Ash generated at power stations. In this regard, Petitioner filed a petition, being no. 172/MP/2016, before the Hon'ble Commission seeking reimbursement of the additional expenditure for Fly Ash Transportation directly from the beneficiaries as the same was in the nature of statutory expense. Hon'ble Commission vide order dated 05.11.2018 disposed of the said petition and directed as follows :

"31. Accordingly, we in exercise of the regulatory power hold that the actual additional expenditure incurred by the Petitioner towards transportation of ash in terms of the MOEFCC Notification is admissible under "Change in Law" as additional O&M expenses. However, the admissibility of the claims is subject to prudence check of the following conditions on case to case basis for each station:

a) Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash.

b) Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors.



c) Details of the Revenue generated from sale of fly ash/ fly ash products and the expenditure incurred towards Ash utilisation up to 25.1.2016 and from 25.1.2016 to till date, separately.

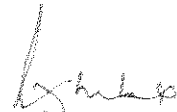
d) Revenue generated from fly Ash sales maintained in a separate account as per the MoEF notification.

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

Petitioner has claimed the additional expenditure towards ash transportation charges for the period 2017-18 and 2018-19 in the various true-up petitions filed for the period 2014-19.

The expenditure towards the ash transportation charges are recurring in nature. The Petitioner has been incurring ash transportation expenditure in some of its stations in the current tariff period also. In case the same is permitted to be recovered at the end of the tariff period 2019-24, there will be additional liability on the beneficiary on account of the interest payment for the period till the time the true-up petitions for the period 2019-24 is decided. To avoid the interest payment liability of the beneficiaries it is prayed that the petitioner may be allowed to recover/ pass on the ash transportation charges after adjusting the revenue earned from sale of ash at the end of each quarter of financial year subject to true-up at the end of the period.

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



- 14) The petitioner has calculated the tariff for 2019-24 period based on the above and the same is enclosed as **Appendix-I** to this petition.
- 15) The Petitioner has served a copy of the Petition to the Respondents mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in
- 16) The petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2019 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

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

- i) Approve tariff of Ramagundam Super Thermal Power Station Stage- III (500 MW) for the tariff period 01.04.2019 to 31.03.2024.
- ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.
- iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis.
- iv) Pass any other order as it may deem fit in the circumstances mentioned above.

New Delhi
Jan. 29, 2020


Petitioner

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of Ramagundam Super Thermal Power Station Stage-III (500 MW) for the period from 01.04.2019 to 31.03.2024

**AND
IN THE MATTER OF**

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

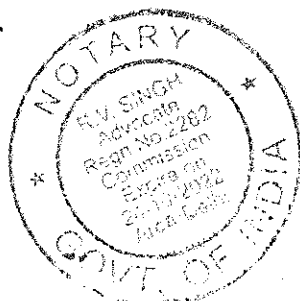
Respondents 1. AP Eastern Power Distribution Company Ltd.
(APEPDCL)
Corporate Office
P&T Colony, Seethammadhara,
Visakhapatnam – 530 013 - (AP)

AND OTHERS

Affidavit

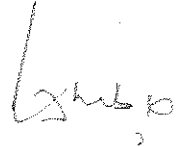
I, Rohit Chhabra, son of Sh. S M Chhabra, aged about 54 years, having office at NTPC Bhavan, SCOPE Complex, Lodhi Road, New Delhi do solemnly affirm and state as under:

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



2. That I have read the contents of the accompanying Petition being filed by NTPC and have understood the same.

3. That the contents of the accompanying Petition being filed by NTPC are based on information available with the Petitioner in the normal course of business and believed by the deponent to be true.



Deponent

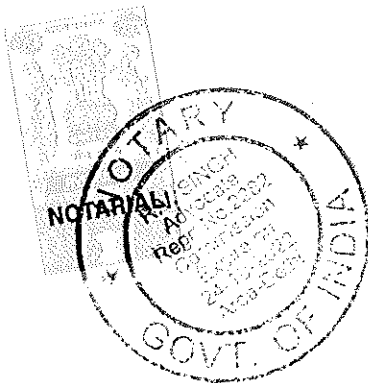
Verification

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

Verified at New Delhi on this day th 29th January 2020.



Deponent



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

Notary Public, DELHI

29 JAN 2020

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Ramagundam Super Thermal power Station Stage-III

(From 01.04.2019 to 31.03.2024)

PART-I

APPENDIX-I

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

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

Provided yearwise for the period 2019-24

** Additional Forms

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

PART-I

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

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-A	Abstract of Capital Cost Estimates	NA
FORM-B	Break-up of Capital Cost for Coal/Lignite based projects	NA
FORM-C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	NA
FORM-D	Break-up of Construction/Supply/Service packages	NA
FORM-E	Details of variables , parameters , optional package etc. for New Project	NA
FORM-F	Details of cost over run	NA
FORM-G	Details of time over run	NA
FORM -H	Statement of Additional Capitalisation during end of the useful life	NA
FORM -I	Details of Assets De-capitalised during the period	***
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	NA

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

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List of supporting documents for tariff filing for Thermal Stations

S. No.	Information / Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association (For New Station setup by a company making tariff application for the first time to CERC)	NA
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years. B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	*
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)	
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	*
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

* Shall be provided at the time of truing up.

Any

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Signature

Summary of Tariff

Name of the Petitioner:		NTPC Limited						
Name of the Generating Station:		Ramagundam Super Thermal power Station Stage-III						
Place (Region/District/State):		Southern Region/ Peddapalli/ Telangana						
		Amount in Rs. Lakhs						
S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	2,915.15	2,971.61	3,073.29	3,182.08	3,411.25	4,216.09
1.2	Interest on Loan	Rs Lakh	178.97	30.37	-	-	-	121.27
1.3	Return on Equity	Rs Lakh	9,369.20	8,937.57	9,001.10	9,062.26	9,176.76	9,528.47
1.4	Interest on Working Capital	Rs Lakh	4,584.82	3,667.92	3,699.18	3,721.72	3,753.80	3,796.91
1.5	O&M Expenses	Rs Lakh	12,343.17	12,405.84	12,970.98	13,372.71	13,913.44	14,418.63
1.6	Special Allowance (If applicable)	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh	100.00					
	Total	Rs Lakh	29491.31	28013.30	28744.54	29338.77	30255.25	32081.38
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid)	Rs/Ton			3651.31			
	(%) of Fuel Quantity	(%)			100			
2.2	Landed Fuel Cost Imported Coal							
	(%) of Fuel Quantity							
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.4	Landed Fuel Cost Imported Coal other than FSA.							
	(%) of Fuel Quantity							
2.5	Secondary fuel oil cost.	Rs/Unit			0.019			
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit			2.582			

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(Petitioner)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Ramagundam Super Thermal power Station Stage-III

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	1,57,971.40	1,59,267.40	1,60,226.40	1,61,438.40	1,64,290.40
2	Add: Addition during the year/period	1,296.00	959.00	1,212.00	2,852.00	9,632.00
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	1,59,267.40	1,60,226.40	1,61,438.40	1,64,290.40	1,73,922.40
7	Average Capital Cost	1,58,619.40	1,59,746.90	1,60,832.40	1,62,864.40	1,69,106.40

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	157971.40	159267.40	160226.40	161438.40	164290.40
2	Add: Addition during the year / period	1296.00	959.00	1212.00	2852.00	9632.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	159267.40	160226.40	161438.40	164290.40	173922.40
7	Average Capital Cost	158619.40	159746.90	160832.40	162864.40	169106.40

**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 / period	0.00	0.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	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)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Ramagundam Super Thermal power Station Stage-III

Statement showing Return on Equity at Normal Rate

		Amount in Rs. Lakhs				
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	47,391.42	47,780.22	48,067.92	48,431.52	49,287.12
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	47,391.42	47,780.22	48,067.92	48,431.52	49,287.12
5	Add: Increase in equity due to addition during the year / period	388.80	287.70	363.60	855.60	2889.60
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	47,780.22	48,067.92	48,431.52	49,287.12	52,176.72
11	Average Equity (Normal)	47,585.82	47,924.07	48,249.72	48,859.32	50,731.92
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	8,937.57	9,001.10	9,062.26	9,176.76	9,528.47

G. H. S. S.
(Petitioner)

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Ramagundam Super Thermal power Station Stage-III

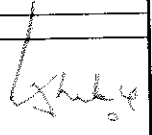
Statement showing Return on Equity at Wtd avg ROI

Amount in Rs. Lakhs

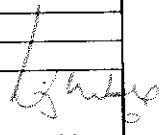
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)					
1	Gross Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	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 (%)	10.80%	10.90%	11.00%	11.30%	11.70%
13	Total ROE	0.00	0.00	0.00	0.00	0.00

[Signature]
(Petitioner)

Plant Characteristics

Name of the Petitioner	NTPC Ltd.
Name of the Generating Station	Ramagundam STPS Stage III
Unit(s)/Block(s)/Parameters	Unit-I
Installed Capacity (MW)	500
Schedule COD as per Investment Approval	
Actual COD /Date of Taken Over (as applicable)	25-03-2005
Pit Head or Non Pit Head	Non Pit Head
Name of the Boiler Manufacture	BHEL
Name of Turbine Generator Manufacture	BHEL
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	Not Applicable
% MCR	
% Makeup Water Consumption	
Design Capacity of Make up Water System	
Design Capacity of Inlet Cooling System	
Design Cooling Water Temperature (°C)	
Back Pressure	
Steam flow at super heater outlet under BMCR condition (tons/hr)	
Steam Pressure at super heater outlet under BMCR condition (kg/Cm ²)	
Steam Temperature at super heater outlet under BMCR condition (°C)	
Steam Temperature at Reheater outlet at BMCR condition (°C)	
Design / Guaranteed Boiler Efficiency (%) ⁴	
Design Fuel with and without Blending of domestic/imported coal	
Type of Cooling Tower	Induced Draft
Type of cooling system ⁵	Closed
Type of Boiler Feed Pump ⁶	2 Nos Turbine driven (TDBFP) and 1 No MDBFP
Fuel Details ⁷	
-Primary Fuel	Coal
-Secondary Fuel	HFO
-Alternate Fuels	
Special Features/Site Specific Features ⁸	Balancing Reservoir
Special Technological Features ⁹	
Environmental Regulation related features ¹⁰	ESP,AHP and Ash Water Re-circulation System
Any other special features	
1: At Turbine MCR condition.	
2: with 0% (Nil) make up and design Cooling water temperature	
3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.	
4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put	
5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.	
6: Motor driven, Steam turbine driven etc.	
7: Coal or natural gas or Naptha or lignite etc.	
8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features	
9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.	
10: Environmental Regulation related features like FGD, ESP etc.,	
	 Petitioner

Normative parameters considered for tariff computations

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Ramagundam Super Thermal power Station Stage-III					
		(Year Ending March)					
Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization* \$\$	%	-	8.857	8.983	9.064	9.276	9.600
Effective Tax Rate	%	21.5488	17.4720	17.4720	17.4720	17.4720	17.4720
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
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption	%	5.75	6.25	6.25	6.25	6.25	6.25
Gross Station Heat Rate	kCal/kWh	2375.00	2390.00	2390.00	2390.00	2390.00	2390.00
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC	in Days	60	50	50	50	50	50
Cost of Main Secondary Fuel Oil for WC	in Months	2	2	2	2	2	2
Fuel Cost for WC	in Months						
Liquid Fuel Stock for WC	in Months						
O&M Expenses	Rs lakh/MW	20.43	22.51	23.3	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	60	45	45	45	45	45
Storage capacity of Primary fuel **	MT	750000					
SBI 1 Year MCLR plus 350 basis point3	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							
* Rate of Return on Add - cap beyond original scope and excluding Change in Law							
\$\$ Additional RoE due to better ramp rate would be claimed at the time of true-up or as per guidelines to be issued							
** Storage Capacity for Ramagundam -I & II and III combined together							
							 Petitioner

Calculation of O&M Expenses

Name of the Company : **NTPC Limited**
 Name of the Power Station : **Ramagundam Super Thermal power Station Stage-III**

Amount in Rs. Lakhs

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	O&M expenses under Reg.35(1)					
1a	Normative	11255.00	11650.00	12060.00	12485.00	12920.00
2	O&M expenses under Reg.35(6)					
2a	Water Charges *	443.72	488.09	488.09	536.90	536.90
2b	Security expenses*	707.12	832.88	824.62	891.54	961.73
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
3	O&M expenses-Ash Transportation**	0.00	0.00	0.00	0.00	0.00
	Total O&M Expenses	12405.84	12970.98	13372.71	13913.44	14418.63

** Shall be provided at the time of truing up

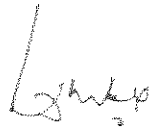
* Subject to true up

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Petitioner

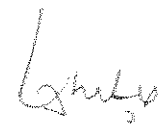
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Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :		NTPC Limited	
Name of the Power Station :		Ramagundam Super Thermal power Station Stage-III	
Last date of order of Commission for the project		Date (DD-MM-YYYY)	08-11-2016
Reference of petition no. in which the above order was passed		Petition no.	Pet No 268/GT/2014
Following details as admitted on 31.03.19 in the above order by the Commission:			
Capital cost	(Rs. in lakh)		159206
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)			0
Gross Normative Debt			111444.2
Cumulative Repayment			109865.41
Net Normative Debt			1578.79
Normative Equity			47761.8
Cumulative Depreciation			110011.68
Freehold land			0
			 (Petitioner)



Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Ramagundam Super Thermal power Station Stage-III	
Reference of Final True-up Tariff Petition	Affidavit dated	17.01.2020
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 08.11.2016	Rs. Lakhs	159206
Adjustment as per Para (7) of this petition		-1235.00
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.2019	(Rs. in lakh)	157971.41
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)		41.36
Gross Normative Debt		110580.00
Cumulative Repayment		109894.23
Net Normative Debt		685.77
Normative Equity		47391.42
Cumulative Depreciation		110129.20
Freehold land		0
		 (Petitioner)

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

Particulars	XXI 7.7125%	XXVII 11.25%
Source of Loan ¹	BONDS	BONDS
Currency ²	INR	INR
Amount of Loan sanctioned	100000	35000
Interest Type ⁶	Fixed	Fixed
Fixed Interest Rate, if applicable	7.7125%	11.250%
Base Rate, if Floating Interest ⁷	N/A	N/A
Margin, if Floating Interest ⁸	N/A	N/A
Are there any Caps/Floor ⁹	No	No
If above is yes, specify caps/floor		
Moratorium Period ¹⁰	4.5 yrs *	11 yrs
Moratorium effective from #	02.02.06	06.11.2008
Repayment Period ¹¹	9.5 yrs	5 yrs
Repayment effective from	02.08.10	06.11.19
Repayment Frequency ¹²	Half Yearly	Yearly
Repayment Instalment ^{13,14}	5000	7000
Base Exchange Rate ¹⁶		
Door to Door Maturity	14 yrs	15 yrs

Name of the Projects		
RAMAGUNDAM III	4,000	1,500

6/24/14

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO
T00001

DRAWAL NO.
D00001

BP NO 5050000241

Unsecured Loan From LIC-III		
Source of Loan :	LIC-III	
Currency :	INR	
Amount of Loan :	40,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawal	22.03.2004	
Interest Type :	Fixed	
Fixed Interest Rate :	6.571%	
Base Rate, If Floating Interest		
Margin, If Floating Interest :		
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Half Yearly	
If Above Is yes, specify Caps/ Floor :		
Moratorium Period :		
Moratorium effective from :		
Repayment Period (Inc Moratorium) :		
Repayment Frequency :		
Repayment Type :		
First Repayment Date :		
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	TALCHER-II	90,00,00,000.00
	RAMAGUNDAM-III	50,00,00,000.00
	KOLDAM	1,30,00,00,000.00
	VINDHYACHAL-III	80,00,00,000.00
	KAHALGAON-II	85,00,00,000.00
	SIPAT-II	35,00,00,000.00
	SIPAT-I	10,00,00,000.00
	UNCHAHAR-III	15,00,00,000.00
	RGCCPP	5,00,00,000.00
Total Allocated Amount		5,00,00,00,000.00

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited			
Name of the Generating Station	Ramagundam Super Thermal power Station Stage-III			
COD	25-03-2005			
For Financial Year	2019-24 (Summary)			

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)					Justification/ Regulation under which claimed	Amount in Rs Lakh Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8	9
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
1	Ash Water Recycling System (AWRS)	1,296.00	144.00					
2	Hydrobins				2,717.00	302.00		
3	Ash dyke buttressing/ raising and other related works					9,330.00		
4	Upgradation of DCS Controller and HMI		815					
5	CLO2 system			1,212.00		135		
	Total (A)	1,296.00	959.00	1,212.00	2,852.00	9,632.00		
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)	1,296.00	959.00	1,212.00	2,852.00	9,632.00		

Please refer Form -9 of respective year

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Ramagundam Super Thermal power Station Stage-III	
COD	25-03-2005	
For Financial Year	2019-20	

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)		Regulations under which claimed	Justification	Amount in Rs Lakh	
			Un-discharged Liability included in col. 3	Cash basis included in col. 3			5= (3-4)	6
A.	Works under Original scope. Change in Law etc. eligible for RoE at Normal Rate							
1	Ash Water Recycling System (AWRS)	1,296.00		1,296.00	26(1) (b)	Environment Clearance for Ramagundam Stage-IV (2X800, Telangana Phase-I) was accorded by MoEF vide letter dated 20.01.2016 (enclosed at Annexure-A). At Sl.No. A (viii) of the said Environment Clearance (EC) it was directed to immediately install, AWRS system for reuse of drain water. Accordingly, AWRS system is being installed/ augmented as per the direction contained in EC of Ramagundam Stage-IV. Hon'ble Commission may be pleased to allow the same under change in law.		
	Total (A)	1,296.00	-	1,296.00				
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)	1,296.00	-	1,296.00				

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited	
Name of the Generating Station		Ramagundam Super Thermal power Station Stage-III	
COD		25-03-2005	
For Financial Year		2020-21	

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)		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= (3-4)	6	7	8	9
A. Works under Original scope. Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Water Recycling System (AWRS)	144.00		144.00		26(1) (b)	Please refer Form 9 for FY 2019-20	
2	Upgradation of Max. DNA DCS Controllers & HMI	815.00		815.00		25(2) (c)	The existing controller/ instrumentation is being maintained through repairing. The spares of these systems are not available due to obsolescence. Vide letter dated 14/10/15 and 09/09/15, (Attached at Annexure-B) BHEL has advised to upgrade the existing controller/ instrumentation for continued support of spares/services. Accordingly, for sustained operation of the unit it is urgently required to upgrade the existing system due to obsolescence for reliable and sustainable operation of the unit. Hon'ble Commission may be pleased to allow the same.	
Total (A)		959.00	-	959.00	-			
B. Works beyond Original scope excluding add-on due to Change in Law, eligible for RoE at Wtd. Average rate of Interest								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		959.00	-	959.00	-			

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(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited		
Name of the Generating Station	Ramagundam Super Thermal power Station Stage-III		
COD	25-03-2005		
For Financial Year	2021-22		

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)		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 included in col. 3				
		3	4	5=(3-4)	6	7	8	9
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
1	CLO2 system	1,212.00		1,212.00	26(1) (b) & 26 (1) (d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dozing system is now being replaced by Chlorine Dioxide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has asked NTPC to replace highly hazardous gas chlorination system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Darlipalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at Annexure-C). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1)(b) & 26(1) (d).		
	Total (A)	1,212.00	-	1,212.00				
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)	1,212.00	-	1,212.00				

Signature

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited	
Name of the Generating Station		Ramagundam Super Thermal power Station Stage-III	
COD		25-03-2005	
For Financial Year		2022-23	

Sl. No.	Head of Work / Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Actual / Projected)		Regulations under which claimed	Justification	Amount in Rs. Lakh
				Cash basis	IDC included in col. 3			
		3	4	5= (3+4)	6	7	8	9
A. Works under Original scope. Change in Law etc. eligible for RoE at Normal Rate								
1	Hydrobins	2717		2717		26 (1) (b)	Hydrobins are envisaged for Ash handling system to achieve 100% ash utilisation as per the notification dated 25.01.2016 issued by MoEFCC. Achieving 100% Ash utilisation is statutory requirement from MoEF. Even mine void filling is contributing a considerable portion in ash utilisation. Hydrobins will provide the prescribed quality of bottom ash having 1% particles of less than 53 microns as prescribed by Directorate General of Mines Safety throughout the year on continuous basis. This will help in sustainable utilization of bottom ash from the station of prescribed quality for mine void filling and also achieve the utilization of ash up to the extent of 100%. This will also help in reducing environment problems posed from ash and also the ash pumping cost to ash pond will also get reduced. Hydro bins system will also comprise of three numbers of Hydro bins located near stage- III ETP. Ash slurry from existing bottom ash transfer (BAT) pump (3 numbers) discharge lines will be further boosted and will be collected in Hydro bins. Three numbers of booster ash slurry pumps will be installed in series with existing BAT pumps for this purpose. Cast basalt lined pipelines from Booster ash slurry pump to Hydro bins will be laid over trestle. Decanted water from Hydro bins will be recycled to Effluent treatment plant III. Open trucks can be placed directly below the Hydro bins for loading of bottom ash. This Ash will get transported by Rail or Road for mine void filling thus improving the Ash Utilization. Relevant supporting documents are attached at Annexure-D. Hon'ble Commission may please allow the same.	
2	CLO2 system Total (A)	2,717.00		2,717.00		26 (1) (b) & (1) (d)	Please refer Form 9 for FY 2021-22	
B. Works beyond Original scope excluding add-emp due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
2	Total (B)							
Total Add. Cap. Claimed (A+B)		2,717.00		2,717.00				

Signature

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited	
Name of the Generating Station		Ramagundam Super Thermal power Station Stage-III	
COD		25-03-2005	
For Financial Year		2023-24	

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)		Regulations under which claimed	Justification	Admitted Cost by the Commission, if any		
		Un-discharged Liability included in col. 3	4				Cash basis included in col. 3	6
1		3	4	5= (3-4)	6	7	8	9
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
	Ash dyke buttressing/ raising and other related works	9330	9330	25(1)(c) & 25(1)(g)	To enhance the capacity of existing lagoons and further disposal of ash in a safe manner, Dr. C. R. Parra, Professor NIT Rourkela and Dr. Umesh Dayal, Professor (Retired), IIT Kanpur were engaged. To raise the capacity for ash disposal, it has been advised by the experts for constructing a Peripheral Buttressing Dyke from the Downstream of the Starter Dyke where sufficient space is available for Downstream raising and where there is no space available the buttressing to start above the existing Starter Dyke. It has also been advised that after buttressing is done, the dyke shall be raised in multiple stages. The ash related works are of continuous in nature for disposal of ash. These claimed works are within the original scope of work. Since the works are necessarily required for sustainable generation. Hence it may please be allowed by the Hon'ble Commission under 25 (1)(c). Extract of committe report are also enclosed at Annexure-E			
1	Hydrobins	302	302	26(1)(b)	Please refer Form 9 for FY 2022-23			
2	Total (A)	9,632.00	9,632.00					
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)	9,632.00	9,632.00					

Shah

(Petitioner)

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Name of the Petitioner: NTPC Limited
 Name of the Generating Station: Ramagundam Super Thermal power Station Stage-III
 Date of Commercial Operation: 25-03-2005

Financial Year (Starting from COD)1	Actual					Admitted				
	2019-20	2020-21	2021-22	2022-23	2023-24	2019-20	2020-21	2021-22	2022-23	2023-24
1		3	4	5	6	7	8	9	10	11

Amount capitalised in Work/ Equipment

Financing Details	
Loan-1	
Loan-2	
Loan-3 and so on	
Total Loan2	
Equity	
Internal Resources	
Others (Pl. specify)	
Total	

Add cap is proposed to be finance in Debt:Equity ratio of 70:30

[Signature]
 (Petitioner)

Statement of Depreciation

Name of the Company :		NTPC Limited							
Name of the Power Station :		Ramagundam Super Thermal power Station Stage-III							
		(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
		3	4	5	6	7	8		
1	Opening Capital Cost	158160.36	1,57,971.40	1,59,267.40	1,60,226.40	1,61,438.40	1,64,290.40		
2	Closing Capital Cost	157971.40	1,59,267.40	1,60,226.40	1,61,438.40	1,64,290.40	1,73,922.40		
3	Average Capital Cost	158065.88	1,58,619.40	1,59,746.90	1,60,832.40	1,62,864.40	1,69,106.40		
1a	Cost of IT Equipments & Software included in (1) above*	-	-	-	-	-	-		
2a	Cost of IT Equipments & Software included in (2) above*	-	-	-	-	-	-		
3a	Average Cost of IT Equipments & Software	-	-	-	-	-	-		
4	Freehold land	0.00	0.00	0.00	0.00	0.00	0.00		
5	Rate of depreciation	5.0778%	5.076	5.076	5.076	5.076	5.076		
6	Depreciable value	1,42,259.29	1,42,757.46	1,43,772.21	1,44,749.16	1,46,577.96	1,52,195.76		
7.	Balance useful life at the beginning of the period	11.98	10.98	9.98	8.98	7.98	6.98		
8	Remaining depreciable value	34,923.51	32,628.27	30,671.41	28,575.07	27,221.79	29,428.34		
9	Depreciation (for the period)	0.00	2,971.61	3,073.29	3,182.08	3,411.25	4,216.09		
10	Depreciation (annualised)	2,915.15	2,971.61	3,073.29	3,182.08	3,411.25	4,216.09		
11	Cumulative depreciation at the end of the period		1,13,100.80	1,16,174.09	1,19,356.17	1,22,767.42	1,26,983.52		
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-		
13	Add: Cumulative depreciation adjustment on account of liability Discharge	0.00	-	-	-	-	-		
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	121.74	-	-	-	-	-		
15	Net Cumulative depreciation at the end of the period after adjustments	1,10,129.20	1,13,100.80	1,16,174.09	1,19,356.17	1,22,767.42	1,26,983.52		

* shall be provided at the time of truing up

(Petitioner)

12/20

	Name of the Company	NTPC Ltd.				Form-13
	Name of the station	Ramagundam STPS Stage-III				
S No	Loan	2019-20	2020-21	2021-22	2022-23	2023-24
2	Bonds XXI					
	Gross Loan	4000	4000	4000	4000	4000
	Cum Repayment upto py	3600	4000	4000	4000	4000
	Net Loan opening	400	0	0	0	0
	Additions					
	Repayment	400	0	0	0	0
	Net Loan Closing	0	0	0	0	0
	Avg Loan	200	0	0	0	0
	Rate of Interest	7.743%	0.000%	0.000%	0.000%	0.000%
	Interest	15.49	0.00	0.00	0.00	0.00
3	Bonds XXVII					
	Gross Loan	1500	1500	1500	1500	1500
	Cum Repayment upto py	0	300	600	900	1200
	Net Loan opening	1500	1200	900	600	300
	Additions					
	Repayment	300	300	300	300	300
	Net Loan Closing	1200	900	600	300	0
	Avg Loan	1350	1050	750	450	150
	Rate of Interest	11.280%	11.280%	11.280%	11.280%	11.280%
	Interest	152.28	118.44	84.60	50.76	16.92
	Total Loan					
	Gross Loan	10500.00	10500.00	10500.00	10500.00	10500.00
	Cum Repayment upto py	7100.00	8133.33	8766.67	9400.00	10033.33
	Net Loan opening	3400.00	2366.67	1733.33	1100.00	466.67
	Additions	0.00	0.00	0.00	0.00	0.00
	Repayment	1033.33	633.33	633.33	633.33	467.00
	Net Loan Closing	2366.67	1733.33	1100.00	466.67	-0.33
	Avg Loan	2883.33	2050.00	1416.67	783.33	233.17
	Rate of Interest	8.8571%	8.9829%	9.0640%	9.2762%	9.6004%
	Interest	255.38	184.15	128.41	72.66	22.38
Note:-						
1)	LIC III Rate of interest includes upfront fees of 0.0158% (i.e. 0.20%*1.103%/14years).					

10/8

[Handwritten signature]

	Name of the Company	NTPC Ltd.				Form-13
	Name of the station	Ramagundam STPS Stage-III				
S No	Loan	2019-20	2020-21	2021-22	2022-23	2023-24
1	LIC III					
	Gross Loan	5000	5000	5000	5000	5000
	Cum Repayment upto py	3500	3833	4167	4500	4833
	Net Loan opening	1500	1167	833	500	167
	Additions					
	Repayment	333	333	333	333	167
	Net Loan Closing	1167	833	500	167	0
	Avg Loan	1333	1000	667	333	83
	Rate of Interest	6.571%	6.571%	6.571%	6.571%	6.571%
	Interest	87.61	65.71	43.81	21.90	5.46

6/11/20

11/6

Computation of Energy Charges

Name of the Company	NTPC Limited	
Name of the Power Station	Ramagundam Super Thermal power Station Stage-III	

	2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	366	365	365	365	366
Days	366	365	365	365	366
Sp. Oil consumption ml/kwh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption %	6.25	6.25	6.25	6.25	6.25
Heat Rate Kcal/kwh	2,390.00	2,390.00	2,390.00	2,390.00	2390

Computation of Variable Charges

Variable Charge (Coal) p/kwh	256.206	256.206	256.206	256.206	256.206
Variable Charge (Oil) p/kwh	2.024	2.024	2.024	2.024	2.024
Total p/kwh	258.231	258.231	258.231	258.231	258.231

Price of fuel from Form-15/15A

Coal Cost (Rs./MT)	3651.31	3651.31	3651.31	3651.31	3651.31
Oil Cost (Rs./KL)	37955.05	37955.05	37955.05	37955.05	37955.05

Computation of Fuel Expenses for Calculation of IWC:

ESO in a year (MUs)	3499.88	3490.31	3490.31	3490.31	3499.875
ESO for 50 days (MUs)	478.125	478.125	478.13	478.13	478.125
Cost of coal for 45 Days (Rs. Lakh)	12249.86	12249.86	12249.86	12249.86	12249.86
Cost of oil for 2 months (Rs. Lakh)	118.08	117.76	117.76	117.76	118.08
Energy Expenses for 45 days (Rs. Lakh)	11111.98	11111.98	11111.98	11111.98	11111.98

1 Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) = $(Q_a)_n \times P_a$ 1.898

2 Heat Contribution from SFO / Alternate Fuel (H_b) = $(Q_s)_n \times (GCV)_s$ 4.935

3 Heat Contribution from coal $(H_p)_a$ = $GHR - H_b$ 2385.07

4 Specific Primary Fuel Consumption $(Q)_p$ = $H_p / (GCV)_p$ 0.658

5 Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$ = 240.193

6 Rate of Energy charge ex-bus (p/kWh) = $\frac{((REC)_a + (REC)_p)}{(1-(AUX))}$ 258.231

Coal	3rd month	2nd month	1st month	Wtd. Ave.
Wtd. Avg. Price of Coal Rs./MT	3546.49	3683.43	3705.80	3651.31
Wtd. Avg. GCV of Coal as received kCal/K-g	3805	3631	3696	3710.67
Wtd. Avg. GCV of Coal as received after adjustment of 85 kcal/kg 3625.67				
Sec. Oil				
Wtd. Avg. Price of Secondary Fuel Rs/KL	37955.05	37955.05	37955.05	37955.05
Wtd. Avg. GCV of Secondary Fuel kCal/L	9870.00	9870.00	9870.00	9870.00

PETITIONER

Annexure-B**FORM-15**

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:-
Name of Power Station:-
Month:-

NTPC Ltd.,
Ramagundam Super Thermal Power Station
OCT'18

Stage-3

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)	663461.55	349177.46	0.00	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)				
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)	663461.55	349177.46	0.00	0.00
4	Normalive transit & handling losses (for coal based projects)	(MT)	1326.92	2793.42		0.00
5	Net coal supplied inclusive of opening stock of coal (3-4)	(MT)	662134.63	346384.04	0.00	0.00
6	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)	2610522437	887637918	0.00	0.00
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)				
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)	2610522437	887637918	0.00	0.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		53531561		
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0		
11	Demurrage charges, if any	(Rs.)				
12	Cost of diesel in transporting coal through MGR system	(Rs.)	9109457			
13	Total Transportation Charges (9+10-11+12)	(Rs.)	9109457	53531561	0.00	0.00
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)	10419160	5483567		
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)	2630051054	946653046	0.00	0.00
15	Landed cost of coal	(Rs./MT)		3,546.49	-	-
16	Blending ratio			100.000	-	-
17	Weighted average cost of coal	(Rs./MT)		3546.49		
18	GCV of Domestic Coal as per bill of Coal Company, EM basis	(kCal/Kg)			4045	
19	GCV of Imported Coal as per bill of Coal Company, AD basis	(kCal/Kg)				0
20	Weighted average GCV of coal as Billed	(kCal/Kg)			4045	
21	GCV of Domestic Coal as received at Station, TM Basis	(kCal/Kg)		3805		
22	GCV of Imported Coal as received at Station, TM Basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)		3805		

Rama Rao
श्री. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / General Manager (Finance)
 इव एच बी (एच.बी), इन्फोसिस / SSC (SR) - Adms. Building
 सुनदीपती सिटी - विन्दि / NTPC Unred - Simhadri
 विशाखपट्टणम - VISAKHAPATNAM - 531 020



FORM-15

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

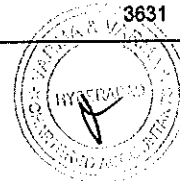
Name of the Company:-
Name of Power Station:-
Month:-

NTPC Ltd.,
Ramagundam Super Thermal Power Station
NOV'18

Stage-3

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)	851026.23	297647.78	0.00	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)				
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)	851026.23	297647.78	0.00	0.00
4	Normative transit & handling losses (for coal based projects)	(MT)	1509.50	2381.18		0.00
5	Net coal supplied inclusive of opening stock of coal (3-4)	(MT)	849516.73	295266.60	0.00	0.00
6	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)	3349092930	787842020	0.00	0.00
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)				
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)	3349092930	787842020	0.00	0.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		42792204		
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0		
11	Demurrage charges, if any	(Rs.)				
12	Cost of diesel in transporting coal through MGR system	(Rs.)	8729846		-	-
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	8729846	42792204	0.00	0.00
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)	20942718	7324749		
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)	3378765494	837958973	0.00	0.00
15	Landed cost of coal	(Rs./MT)		3,683.43	-	-
16	Blending ratio			100.000	-	-
17	Weighted average cost of coal	(Rs./MT)		3683.43		
18	GCV of Domestic Coal as per bill of Coal Company, EM basis	(kCal/Kg)			4122	
19	GCV of Imported Coal as per bill of Coal Company, AD basis	(kCal/Kg)				0
20	Weighted average GCV of coal as Billed	(kCal/Kg)		4122		
21	GCV of Domestic Coal as received at Station, TM Basis	(kCal/Kg)		3631		
22	GCV of Imported Coal as received at Station, TM Basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)		3631		

Rama Rao
श्री. रामा राव / B. RAMA RAO
असहायक (वित्त) / General Manager (Finance)
एन टी सी (रा.सं.) स्वयंसेवा / SSC (SR) - Adm. Bldg
एन टी सी लिमिटेड - सिमहद्री / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 631 020



FORM-15

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

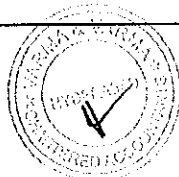
Details/Information to be submitted in respect of Fuel for Computation of Energy Charges


Name of the Company:-
Name of Power Station:-
Month:-

NTPC Ltd.,
Ramagundam Super Thermal Power Station
DEC'18

Stage-3

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)	984040.11	285314.66	0.00	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)	-320.95			
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)	983719.16	285314.66	0.00	0.00
4	Normative transit & handling losses (for coal based projects)	(MT)	1590.16	2282.52		0.00
5	Net coal supplied inclusive of opening stock of coal (3-4)	(MT)	982129.00	283032.14	0.00	0.00
6	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)	3863915110	760355944	0.00	0.00
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)				
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)	3863915110	760355944	0.00	0.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		29326515		
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0		
11	Demurrage charges, if any	(Rs.)				
12	Cost of diesel in transporting coal through MGR system	(Rs.)	8721092		-	-
13	Total Transportation Charges (9+10-11+12)	(Rs.)	8721092	29326515	0.00	0.00
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)	20250071	5871348		
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)	3892886273	795553807	0.00	0.00
15	Landed cost of coal	(Rs./MT)		3,705.81	-	-
16	Blending ratio			100.000	-	-
17	Weighted average cost of coal	(Rs./MT)		3705.81		
18	GCV of Domestic Coal as per bill of Coal Company, EM basis	(kCal/Kg)			4131	
19	GCV of Imported Coal as per bill of Coal Company, AD basis	(kCal/Kg)				0
20	Weighted average GCV of coal as Billed	(kCal/Kg)			4131	
21	GCV of Domestic Coal as received at Station, TM Basis	(kCal/Kg)		3696		
22	GCV of Imported Coal as received at Station, TM Basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)		3696		




 श्री. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / Sr. Manager (Finance)
 एन. टी. पी. सी. (एस. टी. पी. सी.) (SR) - Adan, Building
 एन. टी. पी. सी. लिमिटेड - विशाखपट्टणम / NTPC Limited - Simhadri
 विशाखपट्टणम - VISAKHAPATNAM - 631 020

Annexure-B**FORM-15**

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:-

NTPC Ltd.,

Name of Power Station:-

Ramagundam Super Thermal Power Station

Month:-

OCT'18

Stage-3

S.No.	Particulars	Unit	HFO	HSD
			(I)	(II)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	5014.292	-
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)		-
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	5014.292	-
4	Normative transit & handling losses (for oil based projects)	(MT)		-
5	Net oil supplied inclusive of opening stock of oil (3-4)	(MT)	5014.292	-
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	190317715	-
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)		-
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	190317715	-
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		-
11	Demurrage charges, if any	(Rs.)		-
12	Cost of diesel in transporting oil through MGR system	(Rs.)		-
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	0	-
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		-
14	Total amount charged for oil supplied including transportation (8+13+13A)	(Rs.)	190317715	-
15	Landed cost of oil	(Rs./MT)	37,955.05	
16	Blending ratio		100.00	-
17	Weighted average cost of oil	(Rs./MT)	37955.05	
18	GCV of HFO oil as per bill of oil Company	(kCal/Ltr)	9870	
19	GCV of HSD as per bill of oil Company	(kCal/Ltr)		-
20	Weighted average GCV of oil as Billed	(kCal/Ltr)	9870	
21	GCV of HFO oil as received at Station	(kCal/Ltr)	9870	
22	GCV of HSD as received at Station	(kCal/Ltr)		-
23	Weighted average GCV of oil as received at station श्री. रामा राव / B. RAMA RAO	(kCal/Ltr)	9870	

श्री. रामा राव (वित्त) / General Manager (Finance)
एन एच सी (एन एच सी), एन एच सी / SSC (SR) - Admn. Building
एन एच सी सी सिटी - विन्ध्य / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020



Annexure-B**FORM-15**

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:-

NTPC Ltd.,

Name of Power Station:-

Ramagundam Super Thermal Power Station

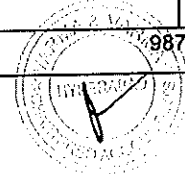
Month:-

NOV'18

Stage-3

S.No.	Particulars	Unit	HFO	HSD
			(I)	(II)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	4933.801	-
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)		-
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	4933.801	-
4	Normative transit & handling losses (for oil based projects)	(MT)		-
5	Net oil supplied inclusive of opening stock of oil (3-4)	(MT)	4933.801	-
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	187262675	-
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)		-
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	187262675	-
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		-
11	Demurrage charges, if any	(Rs.)		-
12	Cost of diesel in transporting oil through MGR system	(Rs.)		-
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	0	-
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		-
14	Total amount charged for oil supplied including transportation (8+13+13A)	(Rs.)	187262675	-
15	Landed cost of oil	(Rs./MT)	37,955.05	-
16	Blending ratio		100.00	-
17	Weighted average cost of oil	(Rs./MT)	37955.05	-
18	GCV of HFO oil as per bill of oil Company	(kCal/Ltr)	9870	-
19	GCV of HSD as per bill of oil Company	(kCal/Ltr)		-
20	Weighted average GCV of oil as Billed	(kCal/Ltr)	9870	-
21	GCV of HFO oil as received at Station	(kCal/Ltr)	9870	-
22	GCV of HSD as received at Station	(kCal/Ltr)		-
23	Weighted average GCV of oil as received at Station	(kCal/Ltr)	9870	-

बी. रामा राव / B. RAMA RAO
 महाप्रबंधक (वित्त) / General Manager (Finance)
 एन ए सी (एन सी), एन सी एस / SSC (SR) - Adm. Building
 एन टी पी सी लिमिटेड - सिमहद्री / NTPC Limited - Simhadri



Annexure-B**FORM-15**

Details/Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) Regulations, 2014

Details/Information to be submitted in respect of Fuel for Computation of Energy Charges

Name of the Company:-

NTPC Ltd.,

Name of Power Station:-

Ramagundam Super Thermal Power Station

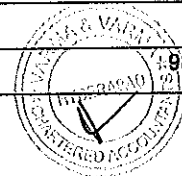
Month:-

DEC'18

Stage-3

S.No.	Particulars	Unit	HFO	HSD
			(i)	(ii)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	4374.712	-
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)		-
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	4374.712	-
4	Normative transit & handling losses (for oil based projects)	(MT)		-
5	Net oil supplied Inclusive of opening stock of oil (3-4)	(MT)	4374.712	-
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	166042422	-
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)		-
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	166042422	-
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		-
11	Demurrage charges, if any	(Rs.)		-
12	Cost of diesel in transporting oil through MGR system	(Rs.)		-
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	0	-
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		-
14	Total amount charged for oil supplied including transportation (8+13+13A)	(Rs.)	166042422	-
15	Landed cost of oil	(Rs./MT)	37,955.05	
16	Blending ratio		100.00	-
17	Weighted average cost of oil	(Rs./MT)	37955.05	
18	GCV of HFO oil as per bill of oil Company	(kCal/Ltr)	9870	
19	GCV of HSD as per bill of oil Company	(kCal/Ltr)		-
20	Weighted average GCV of oil as Billed	(kCal/Ltr)	9870	
21	GCV of HFO oil as received at Station	(kCal/Ltr)	9870	
22	GCV of HSD as received at Station	(kCal/Ltr)		-
23	Weighted average GCV-of oil as received at Station B. RAMA RAO	(kCal/Ltr)	9870	

सहायक (वित्त) / General Manager (Finance)
एच एच सी (राज), एच सी एस / SSC (SR) - Adna, Building
एन टी पी लिमिटेड - विसाखपट्टनम / NTPC Limited - Simhadri
विशाखपट्टनम - VISAKHAPATNAM - 531 020



Name of the Petitioner
Name of the Generating StationNTPC Ltd
Ramagundam Super Thermal power Station Stage-III**Statement of Capital cost**
(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	167152.33	2294.25	
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above	2204.72		
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in Gross Block Amount during the period (Direct purchases)			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			


(Petitioner)

Name of the Petitioner
Name of the Generating Station

NTPC Ltd
Ramagundam Super Thermal power Station Stage-III

Statement of Capital Woks in Progress

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on 01.04.2019		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	174.63		
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

[Signature]
(Petitioner)

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Ramagundam Super Thermal power Station Stage-III							
		(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8		
1	Gross Normative loan - Opening	1,10,712.25	1,10,579.98	1,11,487.18	1,12,158.48	1,13,006.88	1,15,003.28		
2	Cumulative repayment of Normative loan up to previous year	1,07,119.36	1,09,894.23	1,11,487.18	1,12,158.48	1,13,006.88	1,15,003.28		
3	Net Normative loan - Opening	3,592.90	685.75	-	-	-	-		
4	Add: Increase due to addition during the year / period	-132.27	907.20	671.30	848.40	1,996.40	6,742.40		
5	Less: Decrease due to de-capitalisation during the year / period	-140.28	0.00	0.00	0.00	0.00	0.00		
6	Less: Decrease due to reversal during the year / period								
7	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00		
8	Less: Repayment of Loan	2915.15	1,592.95	671.30	848.40	1,996.40	4,216.09		
9	Net Normative loan - Closing	685.76	-	-	-	-	2,526.31		
10	Average Normative loan	2,139.33	342.88	-	-	-	1,263.15		
11	Weighted average rate of interest	8.3656%	8.8571%	8.9829%	9.0640%	9.2762%	9.6004%		
12	Interest on Loan	178.97	30.37	0.00	0.00	0.00	121.27		

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(Petitioner)

Calculation of Interest on Working Capital

Name of the Company :		NTPC Limited							
Name of the Power Station :		Ramagundam Super Thermal power Station Stage-III							
		(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8		
1	Cost of Coal/Lignite	12,521.86	12249.86	12249.86	12249.86	12249.86	12249.86		
2	Cost of Main Secondary Fuel Oil	31.26	118.08	117.76	117.76	117.76	118.08		
3	Fuel Cost								
4	Liquid Fuel Stock								
5	O & M Expenses	1,012.77	1033.82	1080.91	1114.39	1159.45	1201.55		
6	Maintenance Spares	2,430.66	2481.17	2594.20	2674.54	2782.69	2883.73		
7	Receivables	18,352.92	14556.24	14655.83	14729.09	14842.08	15056.41		
8	Total Working Capital	34349.47	30439.17	30698.56	30885.64	31151.84	31509.64		
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500		
10	Interest on Working Capital	4637.18	3667.92	3699.18	3721.72	3753.80	3796.91		

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Petitioner

Sr. No	Name of the Party	PO	VC	Name of the work	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB 31.03.2018 column 3	Undischarged liabilities relating to GB 31.03.2019 column 3	Discharge during the year 2019-20	Total discharge	Undischarged liabilities relating to GB 31.03.2019
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	ERA CONSTRUCTIONS(INDIA)LIMIT	1001705		Main Plant super structure-Civil works	2007-08	94238	94238	1144456	1144456	0
2	HINDUSTAN STEEL WORKS CONSTN L	1002301		Offsite Area -Civil Works	2007-08	1144456	1144456	0	0	0
3	M/S MENALLY BHARAT ENGG. COMPA	1003516		CHP Turnkey Package(Mech)	2007-08	24889	24889	0	0	24889
4	BHARAT HEAVY ELECTRICALS LIMIT			Turnkey Package for supply of main plant unit VII	2007-08	0	0	0	0	0
5	BHARAT HEAVY ELECTRICALS LIMIT			Main Plant Turnkey erection.	2007-08	324486	324486	0	0	0
6	HINDUSTAN STEEL WORKS CONSTN L	1002301		Offsite Area -Civil Works	2007-08	324486	324486	0	0	0
7	BHARAT HEAVY ELECTRICALS LIMIT			Turnkey Package for supply of main plant unit VII	2007-08	0	0	0	0	0
8	BHARAT HEAVY ELECTRICALS LIMIT			Turnkey Package for supply of main plant unit VII	2008-09	0	0	0	0	0
9	CHAITANYA BHARATI	550000030		SEWERAGE SYSTEM STAGE II PO 35-30, 8.55-70	2010-11	0	0	0	0	0
10	BHARAT HEAVY ELECTRICALS LIMIT	CS-4098		Main Plant Turnkey Package(Mech)	2010-11	0	0	0	0	0
11	WADIA BODY BUILDERS	4600003062		FABRICATION OF WATER TENDER	2010-11	0	0	0	0	0
12	ETM TECHNOLOGIES PVT LTD	4600042015		INFRARED THERMAL IMAGE CAMERA AS PER SP.	2010-11	0	0	0	0	0
13	SMWELCT ENERGY SYSTEMS LTD.(1103972)	5500011757		SOLAR PV GRID TIED POWER PLANT -SPANDINA&DEEPTHI MA	2012-13	0	0	0	0	0
14	Sri Rajkumendra Constructions(1070100)	4000072831		CONSTN OF OPEN SHED FOR OIL DRUMS IN CENTRAL STO	2012-13	0	0	0	0	0
15	GODREJ & BOYCE MFG CO PVT LTD	4600020155		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
16	INSTRUMENTATION LTD	4000089627		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
17	Unify Enterprises Communications	4600024898		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
18	ENVIROTECH INSTRUMENTS PVT LTD	4001039228		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
19	ENVIROTECH INSTRUMENTS PVT LTD	4000099641		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
20	Sri Rajkumendra Constructions	5500011064		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2013-14	0	0	0	0	0
21	KONICA	4600020718		ACUSTIC LEAK DETECT SYSTEM (ST-3)	2013-14	1588068	1588068	1468941	1468941	1191127
22	SARITECH INTL	4000110960		ACUSTIC LEAK DETECT SYSTEM (ST-3)	2014-15	0	0	0	0	0
23	SRI LAXMI ENGINEERING COMPANY	5500011994		RAISING OF ASH DYKE IN N1 POND (R1, 198.50M TO 201.50M)	2014-15	0	0	0	0	0
24	4000090763 & 38	4002186710057		HARIKA AGENCIES/Bajaj Electricals	2014-15	0	0	0	0	0
25	MICRO GOODWIN SYSTEMS	4600026658		LASER/TECH/COLOUR/DOT MATRIX PRINTER	2014-15	0	0	0	0	0
26	GEMINI POWER HYDRAULICS PVT LTD	4600026632		GEMINI POWER HYDRAULICS PVT LTD	2014-15	0	0	0	0	0
27	DECCAN ELECTRICALS	4000121284		DECCAN ELECTRICALS	2014-15	0	0	0	0	0
28	S V NETWORK TECHNOLOGIES	4600027206 & 208		CCTV CAMERA(2 TS MAIN GATE, 1 BTYPE GATE, 1 T-JUNCT	2014-15	230918	230918	194918	194918	36000
29	SUNNET SOLUTIONS PVT. LTD.	4600030535		SWITCH: 22PORT/10/100/1000Mbps WITH 2FIB (13 NOS.)	2014-15	105000	105000	105000	105000	0
30	WIPRO GE HEALTHCARE PVT LTD	4600026694		CRITICAL CARE VENTILATOR	2014-15	90000	90000	90000	90000	0
31	ALPS INTERNATIONAL PVT LTD	4600026477		IMPEDANCE AUTOMETER	2014-15	37000	37000	37000	37000	0
32	BHARAT HEAVY ELECTRICALS LTD	4000134892		SERVER: HP PROLIANT-350-PA00 server for Sig-III	2015-16	2050986	2050986	1895859	1895859	155127
33	SIEMENS LTD	4000144093		AVR(DV/DVAR)R SYSTEM	2015-16	280000	280000	0	0	280000
34	USHA INTERNATIONAL LTD	4600026788		FAN-WALL MOUNTED-400-450MM SWEEP - PLANT EMD	2015-16	0	0	0	0	0
35	ADARSHA AUTOMOTIVES PVT LTD	4600032188		EQUIP/MARUTI GYPSY (SOFT TOP) FOR CISF	2015-16	0	0	0	0	0
36	CCS COMPUTERS PVT LTD	4600035812		LAPTOP: I-5, 2.1-3.0GHZ, 1TB-14", 15" 8.MOUSE	2015-16	0	0	0	0	0
37	GODREJ & BOYCE MFG CO PVT LTD	4600031447		BENCH/OTHERS/DUAL DESK & BENCH-STEEL-primary rudo	2015-16	5212	5212	0	0	5212
38	CCS COMPUTERS PVT LTD	4600035163		SERVER - SINGLE CPU, Dell Power Edge R620	2015-16	43725	43725	0	0	43725
	Total Liability- Cumulative as on 31st Mar' 16					2379923	2379923	1895859	1895859	484064
39	LANCO SOLAR ENERGY PVT LTD	4200039551		100KW GRID CONNECTED SOLAR PANELS-U-7 CAR PARKING	2016-17	790000	790000	0	0	790000
40	LANCO SOLAR ENERGY PVT LTD	5500016460		100KW GRID CONNECTED SOLAR PANELS-U-7 CAR PARKING	2016-17	0	0	0	0	0

Signature

Signature

41	ATLAS COPCO INDIA LTD	40001586146	1000571	2016-17	2R SERIES H.P. ELEMENT (O.F.S.K-21) FOR COMPRESSOR	0					0
42	GE INDIA INDUSTRIAL PVT LTD	4000158609	1026737	2016-17	COMPLETE EWS WITH LICENSED SOFTWARE	33750	33750			33750	0
43	AMCO SAFT INDIA PVT LTD	4000169142	1010564	2016-17	NI-CD BATT:990AH:220V:POCKET-P/D/SCH-H	486740	486740			486740	0
44	CHEMPROL INDUSTRIES D	4000159542	1006700	2016-17	COMPLETE SYSTEM OF OPACITY MONITOR	44600	44600			44600	0
45	PREMIUM TRANSMISSION LTD	4000164840	1004445	2016-17	CIN OUT CONVEYOR GB MOTOR U-7 C.FEDER	0					0
46	BHARAT HEAVY ELECTRICALS LTD	4000167715	1000828	2016-17	T BLADE TY-174-4S-55STIR:01051845000/40	0					0
47	ASSOCIATED ROAD CARRIERS LTD	4000167715	1000558	2016-17	T BLADE TY-174-4S-55STIR:01051845000/19	0					0
48	GANESH ENTERPRISES	4000158640	1001851	2016-17	JACKING OIL PUMP ASSEMBLY	126800					126800
49	ASSOCIATED ROAD CARRIERS LTD	4000168394	1000558	2016-17	MANDINA DI-20V DC - ED 6923013BDA	0					0
	Total Liability Upto 2016-17					3861874	0	2460949	0	565090	3296724
50	SCHNEIDER ELECTRIC INFRASTRUCTURE	4000144648	1098392	2017-18	REPLACEMENT OF GRP-7 WITH NUMERICAL PROTECTION RELAY PANELS.	1449178					1449178
51	INSTRUMENTATION LTD	4000163288	1006802	2017-18	SUPPLY OF PNEUMATIC ACTUATORS FOR STAGE-III	47300					47300
	Total Liability upto 2017-18					5352892	0	2460949	0	2460949	2897342
52	CG POWER AND INDUSTRIAL SOLUTIONS	4000176285	0001001274	2018-19	Three Phase A.C. Induction Motor SCQM 6.6KV/280KW						
	Total Liability upto 2018-19										
						1239000					
						5352892		2460949		2460949	438592

Exhibit

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Summary of issue involved in the petition

Name of the Company :		NTPC Limited
Name of the Power Station :		Ramagundam Super Thermal power Station Stage-III
1	Petitioner:	NTPC Limited
2	Subject	Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of Ramagundam Super Thermal Power Station Stage- III (500 MW) for the period from 01.04.2019 to 31.03.2024.
3	Prayer:	<p>i) Approve tariff of Ramagundam Super Thermal Power Station Stage- III (500 MW) for the tariff period 01.04.2019 to 31.03.2024.</p> <p>ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.</p> <p>iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis.</p> <p>iv) Pass any other order as it may deem fit in the circumstances mentioned above</p>
4	Respondents:	As per Petition
	Name of Respondents	
	a.	
	b.	
	c.	
5	Project Scope	
	Cost	
	Commissioning	
	Claim	
	AFC	
	Capital cost	
	Initial spare	
	NAPAF (Gen)	85%
	Any Specific	

Signature

Mo

Annexure - A.

J-13012/112/2010-IA.II (T)

Government of India

Ministry of Environment, Forest and Climate Change



Indira Paryavaran Bhawan, Jor Bagh Road,
Aliganj, New Delhi-110003,

Dated: 20.01.2016

To

M/s NTPC Ltd.
NTPC Bhawan, Scope Complex, 7,
Institutional Area, Lodhi Road,
New Delhi- 110003.

Sub: Expansion of Ramagundam STPP by addition of 2x800 MW (Stage-IV, Telangana STPP, Phase-I) at Village & Mandal Ramagundam, District Karimnagar, Telangana by M/s. NTPC Ltd. - reg. Environmental Clearance.

Sir,

This has reference to your online application dated 13.10.2015 and additional information/documents submitted vide letter dated 16.11.2015 w.r.t the aforesaid project. This Ministry has examined the proposal. It is inter-alia, noted that the ToR for preparation of EIA/EMP report was accorded by the Ministry on 16.09.2014 and an amendment of ToR for revision of capacity to 2x800 MW was accorded on 12.12.2014. Public Hearing for the project was conducted on 23.05.2015.

2. The land requirement for the proposed TPP would be about 635 acres and will be accommodated within the existing Ramagundam Thermal Power Station. No R&R issues are involved. There are no ecologically sensitive areas such as Biosphere Reserve, National Park and Wildlife Sanctuary within a radius of 10 km from the site. River Godavari flows at a distance of about 4 km from the project site. The nearest railway station, Ramagundam is about 5 km from the plant which lies on the main Kazipet - Ballarshah broad gauge railway line of South Central Railway. The cost of the expansion project is about Rs. 9,954.20 Crores, which includes about Rs. 834.81 crores for environmental protection measures.

3. The coal requirement will be 8 MTPA based on GCV of coal between 3,200-3,900 Kcal/kg. Ministry of Coal (MoC) vide letter dated 10.09.2015 has allotted Mandakini-B Coal Mine block in Odisha to the proposed TPP. Further, MoC vide its letter dated 21.09.2015 has accorded in-principle approval for grant of tapering linkage from Coal India Limited (CIL) for the proposed TPP as an exceptional case till the operation of Mandakini-B coal block. Accordingly, Coal India Limited (CIL) vide its letter dated 06.11.2015 has allotted tapering coal linkage for the proposed TPP from Western Coalfields Ltd. (WCL). The sulphur and ash content in the coal will be 0.5 % (max) and 34-43 % respectively. The transportation of coal will be by rail.

4. The water requirement of the proposed TPP is 5,825 cum/hr (about 58 Cusecs), which is proposed to be drawn from Sreepada Yellampally barrage on River Godavari at a distance of about 14 km from proposed site. Government of Telangana vide its letter dated 02.09.2015 has accorded and certified permission for drawl of 60 cusecs (2.00 TMC) water throughout the year from Sreepada Yellampally Barrage from the net available yield. COC of 5.0 shall be adopted. The plant would be designed on zero discharge concept in normal circumstances.

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5. The ash generation will be 3.44 MTPA. Ash utilization/management shall be done as per MOEF&CC Gazette Notification on utilization of ash dated 03.11.2009. Ash utilization plan will be implemented for 100% extraction and utilization of dry fly ash along with suitable collection, storage, segregation, loading, transportation and disposal etc. facilities. Dry form fly ash shall be pneumatically transported to fly ash silos. Loading this ash in tankers/ bulkers and also into rail wagons. Fly ash shall be taken by High Concentration Slurry Disposal system (HCSD) and bottom ash through Wet Slurry Disposal system for ultimate disposal to ash disposal area. Expressions of interests for using ash from the proposed TPP were received from Orient Cement, Kesoram Cement and Vasavadatta Cement plants.

6. Based on the information, clarification, documents submitted and presentations made by you and your consultant, viz. Vimta Labs Ltd., Hyderabad before the *Expert Appraisal Committee (Thermal Power)* in its 45th & 46th Meetings held during 29th-30th October, 2015 & 26th-27th November, 2015, respectively, the Ministry hereby accords environmental clearance to the above project under the provisions of EIA Notification dated September 14, 2006 and subsequent amendments therein subject to compliance of the following Specific and General conditions:

A. Specific Conditions:

- (i) *As the Satellite Imagery submitted was not clear, a clear satellite imagery shall be submitted to the Ministry and its R.O. Further, latest authenticated satellite imagery shall be submitted on an annual basis to the Ministry and its R.O. to monitor the alterations of the area.*
- (ii) *The PP shall ensure compliance to the Ministry's Notification dated 02.01.2014 regarding use of coal with ash content not exceeding thirty-four per cent, on quarterly average basis. This is to be ensured by incorporating a condition in the MoU/FSA with CL etc. Also, if required, coal washery shall be installed.*
- (iii) *The Sulphur and ash content of coal shall not exceed 0.5% and 34 % respectively. In case of variation of quality at any point of time, fresh reference shall be made to the Ministry and suitable amendments to the environmental clearance will have to be sought.*
- (iv) *FGD shall be installed as the emissions are found to be almost reaching threshold limit of 80 unit (for the worst case scenario) and also considering the cushion w.r.t NAAQS.*
- (v) *NTPC shall endeavor to enter into MoUs with NHAI, Associations of Cement Industries and Municipal Authorities for ensuring ash utilization in roads construction and cement manufacturing.*
- (vi) *The PP shall examine possibility of relocating the ash pond. In case, the relocation of ash pond is not possible, precautionary measures by providing maximum green belt between ash pond and reservoir etc. shall be undertaken.*
- (vii) *Study shall be conducted regarding the impact on agricultural fields in terms of heavy metal in food chain and ground water/soil for a period of one year and the report submitted to the Ministry.*
- (viii) *The Ash Water Re-circulation System (AWRS) shall be immediately installed for the existing TPP. Till that time, the ash pond effluent shall not be discharged into agricultural fields etc.*

- (ix) The PP shall enhance the green belt of the existing TPP in compliance to the earlier EC conditions etc.
- (x) Long term monitoring of temperature shall be undertaken on-site and off-site of the TPP, as data of decrease in temperature needs to be verified. Further, requisite corrective action shall be taken based on the findings of the monitoring.
- (xi) As the data for the health studies was more than five years old, a fresh Occupational Health and epidemic health disorders survey of the study area (10 km radius) shall be conducted and the report submitted to the Ministry and its R.O. within one year.
- (xii) As committed, a minimum amount of Rs. 20 Crores shall be earmarked as capital cost for CSR activities and the recurring cost per annum shall be as per the CSR policy of GOI till the operation of the plant commences.
- (xiii) Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within **six months**.
- (xiv) Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.
- (xv) A long term study of radio activity and heavy metals contents on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.
- (xvi) Online continuous emission monitoring system for stack emission and ambient air shall be installed.
- (xvii) High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm³ or as would be notified by the Ministry, whichever is lesser. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.
- (xviii) Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.
- (xix) COC of atleast 5.0 shall be adopted.
- (xx) Monitoring of surface water quantity and quality shall also be regularly conducted and records maintained. The monitored data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.

- (xxi) A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed record kept of the quantity of water harvested every year and its use.
- (xxii) No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant.
- (xxiii) Wastewater generated from the plant shall be treated before discharge to comply limits prescribed by the SPCB/CPCB.
- (xxiv) Online continuous effluent monitoring system shall also be installed.
- (xxv) Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- (xxvi) Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.
- (xxvii) Fugitive emission of fly ash (dry or wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided in consultation with the local Panchayat.
- (xxviii) Green Belt consisting of three tiers of plantations of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80 %.
- (xxix) CSR schemes identified based on need based assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.
- (xxx) For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable credible external agency shall be appointed. CSR activities shall also be evaluated by an independent external agency. This evaluation shall be both concurrent and final.
- (xxxi) An Environmental Cell comprising of at least one expert in environmental science/ engineering, ecology, occupational health and social science, shall be created preferably at the project site itself and shall be headed by an officer of appropriate superiority and qualification. It shall be ensured that the Head of the Cell shall directly report to the Head of the Plant who would be accountable for implementation of environmental regulations and social impact improvement/mitigation measures.

B) General Conditions:

- (i) The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.
- (ii) A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.
- (iii) Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.
- (iv) Storage facilities for auxiliary liquid fuel such as LDO/ HFO/LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.
- (v) First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- (vi) Noise levels emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas.
- (vii) Regular monitoring of ambient air ground level concentration of SO₂, NO_x, PM_{2.5} & PM₁₀ and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data shall also be put on the website of the company.
- (viii) Utilization of 100% Fly Ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.
- (ix) Provision shall be made for the housing of construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (x) The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the

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State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>.

(xi) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad // Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

(xii) The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM (PM_{2.5} & PM₁₀), SO₂, NO_x (ambient levels as well as stack emissions) shall be displayed at a convenient location near the main gate of the company in the public domain.

(xiii) The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.

(xiv) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.

(xv) Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.

(xvi) Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.

(xvii) The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.

(xviii) Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry / CPCB/ SPCB who would be monitoring the compliance of environmental status.

7. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

8. The environmental clearance accorded shall be valid for a period of 7 years from the date of issue of this letter to start operations by the power plant.

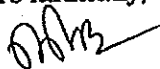
9. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

10. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

11. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2008 and its amendments, the Public Liability Insurance Act, 1991 and its amendments.


12. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,


(B. B. Barman)
Scientist 'F'

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Secretary (Environment), Forests and Environment Department, Government of Telangana.
3. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
4. The Chairman, Telangana State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanath Nagar, Hyderabad- 500 018.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
6. The Additional PCCF (Central), Regional Office, Ministry of Environment, Forests and Climate Change, 1st & 2nd Floors, HEPC Building, 34, Cathedral Garden Road, Nungambakkam, Chennai- 600034.
7. The District Collector, Karimnagar District, Govt. of Telangana.
8. Guard file/Monitoring file.
9. Website of MoEF&CC


(B. B. Barman)
Scientist 'F'



Annexure-B
1a.

भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Limited
(A GOVERNMENT OF INDIA UNDERTAKING)
ELECTRONICS DIVISION

र.के. तिवारी
प्रबन्धक निदेशक
K. TIWARI
EXECUTIVE DIRECTOR

PHONE : OFF : 080-26989000
FAX : 080-26742780
e-mail : rktiwari@bheledn.co.in
P. B. No. 2606, MYSORE ROAD
BANGALORE - 560 026

EDN/CE/SM/DPU/NTPC
9th September 2015

Dear Shri Venkateshwara Rao,

Sub: Processor upgrades (DPU4E to DPU4F) in BHEL's maxDNA C&I systems
at various NTPC Projects - reg.

I am pleased to inform that BHEL-EDN has very closely partnered with NTPC in meeting the C&I system requirements of various projects through our maxDNA based controls. As a part of our continuous product development, innovation and commitment to offer the latest controls, we have come out with superior processor DPU4F and the same is currently being supplied to NTPC projects with good response. As a consequence of this development and due to component obsolescence, we have phased out DPU4E processors and withdrawn spares and services support. However, we are presently supplying and supporting the latest processor DPU4F with compatible HMIs and associated software.


In view of this, I strongly suggest that the processor upgrades may please be implemented for all the units of NTPC projects using DPU4E, by which we can ensure continuous availability of your plants and thereby extend the life cycle of C&I systems. In this context I would like to inform you that we have already implemented processor upgrades at NTPC- Rihand (Unit-3).

I request you to examine the above and advice all the NTPC project sites to consider for procurement of processor upgrades (DPU4E to DPU4F) at the earliest with the help of EDN.

You may instruct the concerned officials to interact with our Mr.G A Saravanan, AGM (Ph:080-26989241 & 09972249827, email:saravananga@bheledn.co.in) on the above subject.

With warm regards.

Yours sincerely,


(R.K. TIWARI)

Shri Y Venkateshwara Rao,
Executive Director (Operation Services)
National Thermal Power Corporation Ltd.,
Engineering Office Complex (EOC),
Sector 24,
Noida - 201 301.





भारत हेवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Limited
(A GOVERNMENT OF INDIA UNDERTAKING)
ELECTRONICS DIVISION

र.के. तिवारी

मुख्य निदेशक

K. TIWARI

EXECUTIVE DIRECTOR

PHONE : OFF : 080-26989000

FAX : 080-26742780

e-mail : rktiwari@bheledn.co.in

P. B. No. 2606, MYSORE ROAD

BANGALORE - 560 026

Ref: EDN/CE/SM/DPU/NTPC

Dtd: 14th October 2015

Dear Sir,

Sub: DCS Controller upgrades in BHEL's maxDNA C&I systems

At the outset, I convey my sincere thanks to you for providing me an appointment on 21st Sep 15, during which meeting I brought few important issues to your kind notice regarding BHEL supplied systems, particularly for the PV projects.

I would like to bring to your kind attention the fact that BHEL-Electronics Division (EDN) at Bangalore has been regularly supplying C&I systems for majority of NTPC power plants for the last three decades with contemporary technologies. These systems have been commissioned and are working satisfactorily with continued joint support and working of BHEL and NTPC.


You are kindly aware that, in electronic industry, component obsolescence and associated risk mitigation are continuous processes. We have a strong and committed group to look at the component obsolescence and system development.

Presently DPU4E controller based DCS systems supplied to NTPC are only supported for repairs. All the recent DCS supplies including R&M and Upgrades are with DPU4F controller with its compatible HMI and software. As a continuous improvement, we have come out with a new controller DPU MR which is compatible with DPE 4F and contemplating to supply for all our future deliveries and upgrades with this.

I solicit your kind attention and advice to all NTPC project sites to consider the controller upgrades with DPU 4F/MR for BHEL supplied DCS (with DPU 4E) so that BHEL-EDN can ensure continued support to NTPC power plants through this cost effective solution for extension of life of DCS systems.

Thanking you and with warm regards,

Yours sincerely,


14/10/2015
(R.K. TIWARI)

Shri A.K. Jha,
CMD
NTPC Ltd.,
NTPC Bhawan,
SCOPE Complex, Institutional Area, Lodhi Road,
New Delhi - 110 003.



नि०(कारिज्य)/DIR (C)
नि०(प्रचलन)/DIR (O)
नि०(तकनीकी)/DIR (T)
नि०(मा०सं०)/DIR (HR)
नि०(परियोजना)/DIR (PRO)
नि०(वित्त)/DIR (F)
से०(अनुसंधान)/RED ()
का० नि० ()/ED ()

—EDC (S.A.)
EDC (O)



Registered Office : BHEL HOUSE, SIRI FORT, NEW DELHI - 110 049



BY REGD POST

STATE POLLUTION CONTROL BOARD, ODISHA

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

No. 2755 /

Ind-II-NOC-5592

Date 28-02-14

OFFICE MEMORANDUM

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

GENERAL CONDITIONS:

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

[1]

SPECIAL CONDITIONS :-

1. The proponent shall obtain environmental clearance for the proposal as per EIA notification, 2006 and the construction activity for the proposal shall commence after obtaining environmental clearance. ✓
2. The proponent shall carry out the construction activity as per the approved lay out map. Any deviation in approved layout map during construction activity shall be treated as violation of consent condition and appropriate action (including revocation of consent to establish) shall be taken as per law. If the proponent desires to change the approved plant layout map, they can submit a modified plant layout map surrendering the previous one before going for physical construction. ✓
3. The unit shall not use 390 acres land ear-marked for green belt development for other purpose. ✓
4. The industry shall set up its own fly ash brick manufacturing unit along with establishment of unit-I so that fly ash generated from the unit-I can be utilized for fly ash brick making and which will be used for civil construction of unit-II. ✓
5. The industry has proposed to use 30% imported high GCV coal. They shall keep adequate space for installation of flue gas de-sulphurization unit in case substantial increase in GLC concentration of SO₂ is observed. ✓
6. The industry shall construct ash pond over 400 acres of area as earmarked in the revised land use break-up. Under no circumstance land earmarked for ash pond shall be used for any other purpose. Consent to operate for power plant shall only be considered when ash pond will be ready for ash disposal. ✓
2. The unit shall suitably divert all the public roads passing through the proposed project. ✓
3. The unit shall develop thick green belt with high boundary wall along the boundary of the project as human habitations are close to the proposed site. ✓
4. The unit shall include rain water harvesting proposal during execution of the project. ✓
5. The unit shall submit year wise along with percentage wise fly ash utilisation plan to the Board in the end of the year. ✓
6. The unit shall be based on zero discharge concepts and in no case any effluents shall be discharge to any water body. ✓
7. The unit shall obtain necessary clearances such as forest clearance, wild life clearance, clearance from water resources department etc. from the appropriate authorities as applicable. ✓
8. The unit shall adopt adequate safety measures in construction of ash dyke and detail constructional feature shall be submitted to the Board within one month from the date of issue of consent to establish. ✓
9. The height of each stack of power plant boiler shall not be less than 275 meters from the ground. The power plant shall have two stacks for flue gas emission. ✓
10. The unit shall install ESP in the stack attached to power plant boiler such that particulate matter emission shall not exceed 50 mg/Nm³. They should make provision for one spare field during the design of ESP. If more than one field of ESP fails, the plant should trip automatically through an interlocking system. ✓

11. The unit shall provide port hole and platform at suitable location with safe approach to conduct emission monitoring at the stack.
12. The unit shall provide dust extraction system at crusher house, boiler bunker to control dust emission. CHP shall be installed in a shed and coal carrying conveyor belts shall be covered.
13. Separate energy meter shall be installed for all the pollution control equipments and the records shall be maintained for verification of the Board from time to time.
14. Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National Ambient Air Quality standards and standards for noise in industrial area as per Annexure-I. The unit shall install adequate dust extraction as well as dust suppression system at all potential dust generating points to control fugitive dust emission and the ambient air quality inside the factory premises shall conform to the standard with reference to National Ambient Air Quality Standard prescribed by MoEF, Govt. of India dtd 16.11.2009 enclosed as Annexure - II.
15. The construction material which has potential to be air borne, shall be transported in covered trucks.
16. The roads inside the plant premises shall be black topped. Permanent high pressure water sprinkling system shall be installed for regular spraying of water on roads to minimize fugitive dust emission.
17. The unit shall take adequate measures for controlling of fugitive dust emission during transportation of fly ash for utilisation. Good housekeeping practices shall be followed to improve the work environment. All roads and shop floors shall be cleaned regularly.
18. At least 6 continuous ambient air quality monitoring stations around the industry shall be set up to monitor PM-10, PM-2.5, SO₂, NO_x, CO and other important parameters as given in as per Annexure - II above within at least to the distance in down wind direction and where maximum ground level concentration is anticipated. The exact location of the monitoring stations shall be finalized in consultation with the State Pollution Control Board. The proponent shall install continuous online ambient air quality monitoring and stack monitoring system with display facility at the gate. A detail proposal to this effect shall be submitted.
19. Pneumatic conveyor system shall be provided as dust collection system for ESP dust. Silos shall be provided for collection of bottom ash and fly ash. Conveyor belt shall be closed and bag filter shall be provided at transfer points of conveyor system to control fugitive emission.
20. Air pollution Control devices shall be maintained properly. Fabric bags and cages in bag house shall be checked regularly and replaced whenever required. Adequate availability of spares shall be ensured for immediate replacement.
21. All the wastewater generated shall be discharged to a common monitoring basin before it is reused in the plant for various process.
22. The Blow down shall meet the following standards before it is discharged to the common basin.

Boiler Blow Down :

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

Cooling Tower Blow Down

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

23. The wastewater generated from leakages, blow downs and DM plant shall be treated individually to meet the prescribed standard of effluent discharge to inland surface water and stored in a common basin (i.e. guard pond) for utilization for plantation, dust suppression ash handling and green belt purpose inside the factory premises. Lining shall be provided in guard pond to prevent any seepage into ground to avoid ground water contamination. The proponent shall submit detail drawing with specification of ETP within 6 months.
24. The proponent shall provide garland drains around coal storage area followed by series of settling tanks to retain the solids, if any, in order to reduce the load on common monitoring basin.
25. The unit shall furnish details of the control measures at coal loading and unloading points.
26. The acidic water generated during boiler cleaning shall be properly neutralized so that the pH of cleaning water remains within the range of 6.0 - 9.0. After neutralization this water can be discharged to the common monitoring basin.
27. Oil catch pits shall be provided in oil handling area of power plant for collection of spillage.
28. The unit shall provide treatment system such as Reverse osmosis plant to treat the waste water generated from cooling tower blow down and reuse the same in the process.
29. The storm water drains shall be maintained separately without being mixed up with the industrial effluent or sewage effluent. The domestic effluent from the industry as well as the colony shall be treated in proper sewage treatment plant to meet the prescribed BIS standard (SS - 30mg/l, BOD - 20mg/l) before being discharged or utilized for green belt development.
30. The industry shall adopt High Concentration Slurry Disposal (HCSD) method for ash disposal. A detail design of the ash disposal area, the dykes, run off and seepage collection system etc shall be made and submitted within 3 months from the date of issue of this consent to establish.
31. A comprehensive ash utilization plan shall be prepared within the frame work of Fly Ash Notification, 2009 and its amendment thereof. The plan should explore all possible means of utilization with realistic timelines and utilization options. The ash utilization plan submitted by the proponent is not adequate. A detailed ash utilization plan is to be submitted keeping in view of less ash at the time of consent to operate application.
32. The proponent shall take precautionary measures to prevent surface run off from ash disposal area during torrential rain. A detailed proposal to this effect is to be submitted within 3 months.
33. Rain water harvesting structure shall be developed inside the plant premises as per concept and practices made by CPCB and maximum efforts shall be made to reuse harvested rain water, with a definite plan and programme to reduce the drawal of fresh water from water bodies.
34. The unit shall explore the possibility of disposal of fly ash in abandoned mine pit for complete utilization of fly ash.
35. The unit shall submit details of hazardous chemicals and storage facility and risk assessment to the Board.
36. The industry shall comply with all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in.

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

pH-8.5 to 8.6
SS-100mg/l
O&G-20mg/l and
Fluoride-2.0mg/l

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

38. Regular monitoring of runoff water from the disposal area and excess ash water shall be carried out with respect to pH, SS, O&G and fluoride content and monitoring report shall be submitted to the Board every quarter.
39. Ash pond shall be lined with HDPE or any other suitable impermeable lining such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
40. The Project Proponent shall carry out detail hydrogeological study of the ash pond site incorporating soil analysis, ground water quality (fluoride & heavy metals), surface water quality (fluoride & heavy metals) and drainage network of the area and the change in hydrological status shall be monitored annually.
41. Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (F, Cd, Hg, Cr, As, Pb) and records shall be maintained and submitted to the Board. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.
42. The entire upstream face of the dyke shall be provided with stone pitching or brick lining or precast tile lining to prevent erosion of the slope by wave action during heavy wind.
43. The entire area of the ash dyke shall be provided with fencing and unauthorized entry within this ash pond area shall be strictly prohibited. Security guards shall be posted for vigilance of the ash dyke area round the clock. This is very important as there are chances of sabotage. The entire dyke perimeter shall have accessible roads. The entire dyke area shall be provided with street lights or flood lights for inspection during night time. A site office shall be constructed with a full time engineer responsible for inspection and monitoring of the ash dyke.
44. The industry shall construct a Sewage Treatment Plant (STP) for treatment of wastewater to be generated from domestic source and the treated sewage shall be discharged to the common monitoring basin.
45. The unit shall explore the possibility to use chlorine di-oxide for treatment of water instead of chlorine gas.
46. Plantation activity shall be planned in such a way so that trees will have better growth by the time the unit starts operation.
47. The proponent shall deploy vehicles which conform to the latest BIS emission specification. The proponent shall also to give a detail proposal to control noise pollution during construction phase. The proponent shall prepare pollution prevention and environment management plan for construction phase and operation phase separately and should submit to the Board three months prior to commencement of construction and operation respectively.
48. The rising temperature during summer in the area is a major concern. The unit shall conduct a detailed study on contribution of thermal heat to atmosphere due to the proposed project and its impact on ambient temperature during different season. The study should also investigate the heat island effect due to the project.

49. The industry shall provide screen at the water intake system of Hirakud reservoir for protection of aquatic life.
50. The industry shall set up a full-fledged environment monitoring laboratory and an environment management cell with qualified personnel for monitoring of pollutants and effective remedial measures in case of necessity. Head of the environmental management cell shall report to the unit head.
51. The civil construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the civil construction may be carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board every year for record.
52. The land on which the unit is proposed to be established the power plant shall be converted to industrial use Kisan by the competent authority. The copy of said land conversion document shall be submitted to the Board along with consent to operate application.
53. A green belt of adequate width and density preferably with local species along the periphery of the power plant shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover. In such a manner that atleast plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years.
54. No production activity shall commence prior to installation of the pollution control devices. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and/or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.
55. The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

Encl: Approved layout Map & Annexures


MEMBER SECRETARY

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

Memo No. _____ /Dt. _____ /

Copy forwarded to:

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

SR. ENV. ENGINEER (N)

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

CSMC/TFC/CR-13/2013-14

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

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

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

Sir,

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

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

* * *

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

The site clearance is issued subject to the following conditions:

1. The replacing of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypo chlorite shall be considered.
2. The mobile hydrogen cylinder bank with manifold system shall be adopted in place of loose Hydrogen Cylinders
3. The safety check shall be prepared in storing, handling and usage of Hydrazine and its holding capacity shall be limited to a minimum required quantity
4. The exclusive safety, health and environment (SHE) department shall be formed under the direct control & supervision of the occupier. This department shall be supported by the senior level qualified and competent executives with adequate field staff.
5. The effective online monitoring system shall be adopted to ensure the safe and healthy work environment with special trust to fugitive emission, it radiation, noise level etc.
6. No building of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety and Health.
7. The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for up-dating the same and continuous basis.

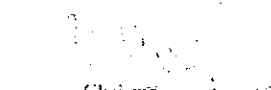
8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval.
9. The provisions of rule 50 to 251 of Building and Other Construction Workers (Regulation of Employment and condition of service) (Karnataka) Rules 2006 shall be complied to ensure occupational safety and health of the construction workers involved project. The compliance shall be furnished regularly to jurisdiction officers of our department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions:

1. The industry shall adopt the rain - harvesting system to harvest at least 50% of the rain water.
2. The industry shall adopt solar energy system at least catering to street lighting and in other suitable areas like water heating in the canteen, etc.

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

Your's Faithfully,


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

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

CSMS/TFC/CR—13/2013-14

Directorate of Factories, Boilers, Industrial Safety &
Health, Karmika Bhavana 2nd floor, Near Bengaluru
Dairy, ITI Compound Bannerghatta Road
Bengaluru -29 Date 23.09.2019

Phone No. 080-26531200

Fax No. 080-26531202

To
General Manager
M/s NTPC Limited
Kudgi Super Thermal Power Project

Sir,

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

Reference: 1. Your letter dtd. 03.05.2013
2. Proceedings of Task Force Committee Meeting held on 12.09.2013
3. Your reply mail dated 19.09.2013

We are pleased to inform that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation documents details of the safety systems adopted etc and has concurred in principle to issue the Site Clearance for the initial location for the establishment of super thermal power project for generating electricity of 3x500 MW at New Kudgi village, Basavana Bagewadi, Bijapur District

The Site clearance is issued subject to the following conditions:

1. The replacing of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypochlorite shall be considered.
2. The mobile hydrogen cylinder bank with manifold system shall be adopted in place of loose hydrogen cylinders.
3. The Safety check shall be prepared in storing, handling and usage of hydrazine and its handling capacity shall be limited to a minimum required quantity.
4. The exclusive safety health and environment (SHE) department shall be formed under the direct control and supervision of the occupy. This department shall be supported by he senior level qualified and competent executive with adequate field staff.
5. The effective online monitoring system shall be adopted to ensure the safe and healthy work environment with special trust to fugitive emission, its radiation noise level etc. No building

of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety & Health.

6. No building of structure shall be constructed with obtaining a prior approval of plans by Director, Dept of factories, boilers, industrial safety and health.
7. The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for updating the same and continuous basis.
8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on site emergency plan. The same shall be submitted for scrutiny and approval.
9. The provision of rule no. 251 of Building and Other Construction Workers (Regulation for employment and condition of service) (Karnataka) Rules 2006 shall be complied to ensure occupational safety and health of construction workers involved in the project. The compliance shall be regularly to jurisdiction officer of our department and to the director of factories, boilers, industrial safety and health.

SUGGESTIONS:

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

Yours faithfully

Chairman
Task Force Committee
And Director of Factories Boilers,
Industrial safety and Health, Bangalore

THE SINGARENI COLLIERIES COMPANY LIMITED
(A Govt. Company)
RAMAGUNDAM AREA - I

Ref No: RG1/SUR/SS 6/137

To:
AGM (EMG/AU),
NTPC-Ramagundam,
Jyothinagar - 505215
Dist: Peddapalli
State: Telangana

Dear Sir,

Sub : Use of Ash in underground mines stowing - Bottom Ash vis-à-vis ESP First Field Ash - Reg.

Ref : 1). Report of CIMFR - Advice of use of Pond Ash of NTPC Plant/Ramagundam,
2). 09/EMG/AU/2018, Dtd.26-05-2018.

We convey our sincere thanks to NTPC management in providing required Bottom Ash as stowing material in our underground mines of Ramagundam Area-I. We are using Bottom Ash from NTPC as stowing material in 3 underground mines i.e., GDK-1 &3, GDK -2 &2A and GDK-5 mines. While using Bottom Ash as stowing material in our underground mines as per the earlier study of Scientific Agency (CIMFR) and as per the permission conditions of DGMS, Bottom Ash having 1% of less than 53 microns is permitted to use.

After studying the draft report of CIMFR on use of mixed bottom ash and field ash for underground mine stowing, we have some apprehensions to appease. They are:

1. The DGMS authorities are insisting not to have more than 1% of -53 microns whereas in draft report, the percentage of particle - 53 microns is 8.4.
2. The nature of barricading material to retain fine stowing material in goaf and to percolate water from fine ash and barricade.
3. Ensuring correct proportion of mixture of ash while stowing (water: Bottom Ash0.
4. CIMFR shall take responsibility to get permission from DGMS by explaining them regarding the possibilities and also to participate meetings with DGMS authorities and SCCL management as and when required during the study period.

After getting clarification from CIMFR regarding the above apprehensions, a trial study shall be carried in any one of the mine by CIMFR with permission of DGMS.

Thanking you,

Yours faithfully,

(V.VIJAYAPAL REDDY)
General Manager,
Ramagundam Area - I

Cc : Agent/GDK-1 Group,
DY.GM(Survey)/RG-I,
Incharge, Strata control cell/RG-I

Annexure-D
Mr. K. S. Reddy
Let's write to CIMFR
COCC- SRP & RBT
J.S. - P.I.
Date: 20-06-2018
26/6/18



THE SINGARENI COLLIERIES COMPANY LIMITED
(A GOVT. COMPANY) SRIRAMPUR AREA.

Ref.No:SRP/ISO/2018/111

Date: 04.06.2018

To:
AGM (EMG/AU),
NTPC-Ramagundam,
Jyothinagar – 505215
Dist: Peddapalli
State: Telangana

Dear Sir,

Sub: Use of Ash in underground mines stowing – Bottom Ash vis-à-vis ESP First field ash-Reg.
Ref: 09/EMG/AU/2018, Dtd.26-05-2018.

We convey our sincere thanks to your NTPC management in providing required quantity bottom ash as stowing material in our underground mines. In Srirampur Area, we are using bottom ash from NTPC as well as STPP-Jaipur Plants, as stowing material, in 5 underground mines i.e., IK-1A, SRP-1, SRP-3, RK-7 & RK-8 mines. We have established Bottom Ash as stowing material in our underground mines with the help of Scientific Agency- CIMFR. While using bottom ash as stowing material, the following condition shall be ensured as per DGMS permission:

Bottom Ash shall not have particle size less than 53 microns.

After studying the draft report of CIMFR on use of mixed bottom ash and field ash for underground mine stowing, we have some apprehensions to appease. They are:

1. The DGMS authorities are insisting not to have particle size less than 53 microns. But in draft report, the percentage of particle size less than 53 microns is 8.4.
2. The nature of barricading material to retain fine stowing material in goaf and to percolate water from fine ash and barricade.
3. Ensuring correct proportion of mixture of ash while stowing.

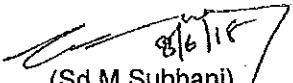
After getting clarification from CIMFR regarding the above apprehensions, a trial study shall be carried in any one of the mine with permission from DGMS under the guidance of CIMFR and it shall be the responsible of the CIMFR to get permission from DGMS and also to participate meetings with DGMS authorities as and when required during the study period.

Thanking you,

Yours faithfully,

Encl: permission copy

Cc : GM (HRD)


(Sd.M.Subhani)
General Manager,
Srirampur

(Enclosure to Lr. No. 31(16)/112(1)-2018)

Conditions governing use of bottom ash as stowing material in Panel Nos. 2H 14 of No.2 seam of Ravindrakhani No.7 Incline mine.

Use of Bottom Ash instead of sand as stowing material on experimental basis as suggested by the scientific agency/R&D wing of the company subject to the following conditions being complied with:-

- 1.0 The Bottom Ash proposed to be used for stowing shall not have particles less than 35 micron. Suitable monitoring shall be done to ensure this.
- 2.0 The scientific agency/R&D wing of the company shall be engaged for the following purpose:
 - a) Determination of the physical properties of ash such as specific gravity, bulk density, porosity and granulometric distribution of different fractions.
 - b) Water percolation and settlement characteristics.
 - c) Spontaneous heating characteristics.
 - d) Leaching study.
 - e) For ascertaining and establishing the shrinkage of stowed bottom ash.
 - f) Compressibility characteristics.
 - g) To examine the existing stowing arrangements in the above mine and to suggest any modifications, if required, for bottom ash stowing.
 - h) To suggest instrumentation and strata monitoring plan for the ash stowing panels.
 - i) Participate in the DGMS meetings and assist mine management in obtaining permissions.
- 3.0 After completion of stowing, a meeting shall be arranged with this Directorate involving scientific agency/R&D wing of the company to review the performance, shrinkage and to decide future course of action.
- 4.0 The stowing operation shall be supervised in shifts by an under manager to ascertain the effective filling and drainage of water out of the goaf.
- 5.0 The overall stowing related operations shall be supervised by a person holding First Class Certificate of competency under Coal Mine Regulations, 2017.
- 6.0 Each void after filling shall be checked for the effective filling with a suitable rod and the record of the checking shall be maintained in a bound paged book and countersigned by the manager daily.
- 7.0 The amount of water used for stowing and the amount of water drained out shall be cross checked with V-notch suitably placed in the district and the pumping hours in the seam.
- 8.0 The drainage pipes shall be provided at least two parallel sets at different horizon to drain out the water effectively.
- 9.0 A suitable arrangement for the inspection of the place/ premises from where the bottom ash is lifted and transported to the mine to ascertain the quality of the stowing material. This inspection shall be carried out at least on weekly basis. This sampling of bottom ash shall be carried out for grain size and proximate analysis of the bottom ash on weekly basis and record of analysis shall be maintained in a bound paged book and countersigned by the manager. The unburnt carbon percentage in bottom ash used for stowing should not be more than 17%.
- 10.0 A suitable code of practice shall be framed for the above purpose earmarking the duties and the responsibilities of each concerned taking into account all the activities involved and a copy shall be submitted to this Directorate.

REPORT**BUTTRESSING AND D/S RAISING OF DYKES OF LAGOONS OF
N1, S1, N2, S2 OF RSTPS, NTPC LTD. RAMAGUNDAM
TELENGANA****1.0 INTRODUCTION & SUMMARY****1.1 Background**

Ramagundam Super Thermal Power Station, NTPC Limited, Ramagundam, Telangana (RSTPS) awarded a consultancy project to Dr. C. R. Patra, Professor, Civil Engineering Department, National Institute of Technology Rourkela as the Principal Consultant in association with expert Consultant Dr. Umesh Dayal, Professor (Retired), Indian Institute of Technology Kanpur for buttressing and enhancing the ash storage capacity of the existing Lagoons N1, N2, and S1, S2 vide NTPC PO No. 5500020065-026-1033 dated 02.06.2015. Along with the buttressing, the adjoining land of 155 acres area shall be developed for the ash disposal system, integrating with existing N1, S1, N2 and S2 Lagoons.

RSTPS owns and operates a thermal power plant of 2600 MW which was originally commissioned in the year 1983. Presently it generates about 5 million tons of ash per year by burning of coal out of which about 3 million tons per year are dumped in to the ash pond and the remaining ash is being utilized. The ash is deposited in the form of land fill in the ash ponds by pumping ash slurry in wet form (ash water ratio 1:10 appx.). The total area of the ash disposal pond is approximately 1500 acres which is divided in to four Lagoons namely N₁, S₁, N₂, and S₂ as shown in Figure 1. Natural ground levels (NGL) of lagoons N₂ and S₂ are lower than N₁ and S₁. The Lagoons N₂, S₂ are surrounded by hills on its two sides (North and South sides). The Lagoons N₁, S₁ lie on the west side of N₂, S₂. On the east side of N₂, S₂ a high embankment of starter dyke was constructed and then it has been raised in several stages by upstream method of construction. The natural terrain is sloping in the direction of N₁, S₁ to N₂, S₂.

This report deals with strengthening, buttressing and raisings of dykes of Lagoons N1, N2, S1, and S2. About 155 acres of vacant land exists adjoining western boundary of Lagoons N1 and S1 which shall also be integrated in the ash disposal plan of Lagoons N1, N2, S1, and S2. It is proposed to build a new dyke to develop a lagoon on the adjoining area of 155 acres which would finally be integrated with Lagoons N1, N2, S1, and S2.

It is proposed to raise the existing Dyke by constructing a Peripheral Buttressing Dyke from the D/S of the toe of the Starter Dyke where sufficient space is available for D/S raising and where there is no space available the buttressing will start above the existing Starter Dyke. The Down-Stream Method of construction, in addition to creating additional capacity for ash disposal strengthens the existing dyke if it is judiciously designed and constructed. The D/S buttressing is to be provided up to existing elevation of 201.5m for dykes of Lagoons N1 & S1 and up to existing elevation 197m for dykes of Lagoons N2 & S2. Simultaneously, the proposed dyke of 155 acres will be integrated into the existing Lagoons.. After buttressing is done, the dyke shall be raised by Down Stream Method (D/S) of construction up to El. 208m in multiple stages. The proposed scheme will enhance the life of the existing Lagoons to several years. This report provides design and necessary construction guidelines for strengthening, buttressing and then D/S peripheral dyke raisings of Lagoons N1, N2, S1, S2 and the adjoining area of 155 acres.

This report consists of three parts of design namely part 1 (Design and planning of a new lagoon called SW1 over the adjoining area of 155 acres land), part 2 (Strengthening, Buttressing and D/S raising of existing Lagoons N1, S1, N2, S2, and adjoining 155 acres land).



GOVERNMENT OF TELANGANA
ABSTRACT

Irrigation & CAD Department – Fixation of water rate for supply of water to Industries and Power generating units from Irrigation Sources in the State – Accorded - Orders – Issued.

IRRIGATION AND CAD (REFORMS) DEPARTMENT

G.O.MS.No. 116

Dated: 27-06-2016
Read the following:

1. G.O.Ms.No.39, I&CAD(PW:QC&IWS/COD)Deptt., dt:02.04.2002
2. From the Engineer-in-Chief (Irrigation), I&CAD Dept., Hyderabad, Lr.No. ENC (I)/ DCE IV/OT- 5/AEE-18/Water Rates / 2014, dated 30.09.2014.

ORDER

In the reference 1st read above, Government have issued orders regarding fixation of water rate for supply of water to Industries and Power generating units from Irrigation Sources in the State and further ordered that the enhancement of rates are to be levied as "Water Rate" to bring in imposition of the same within the competence of the State Government.

2. In the circumstances reported by the Engineer-in-Chief (Irrigation), I&CAD Department, Hyderabad in the reference 2nd read above, Government after careful examination here by re-fix the water rate for supply of water to Industries and Power generating units from Irrigation Sources in the State as follows:

Proposed Revised Rates are:

S I. N o.	Description	Existing Rates		Proposed Rates		Proposed Rates	
		Water rate for Non Consumptive use of water per 1000 gallons (paise)	Water rate for Consumptive use of water per 1000 gallons (paise)	Water rate for Non Consumptive use of water per 1000 gallons (paise)	Water rate for Consumptive use of water per 1000 gallons (paise)	Water rate for Non Consumptive use of water per Cum (paise)	Water rate for Consumptive use of water per Cum (paise)
1	For all categories of Industries as defined under Industrial Development and Regulation Act and all Power generation Units, Hydel, Gas, Thermal and Naptha generation						
	a. Water drawn from Natural Sources	1.5	150	3.5	350	0.77	77
	b. Water drawn from reservoirs	3.0	300	6.5	650	1.43	143
	c. Water drawn from canals	4.5	450	9.5	950	2.09	209
2	For Hydel generation						
	A. Major Hydro Electric Schemes	1.5		3.5	350	0.77	
	B. Mini/Small Hydel Schemes						
	a. For Unit Capacity up to 500 KW	Exempted		Exempted			
	b For Unit Capacity above 500KW and rated head upto 5 mts.						

1.Upto 5 years from the date of Commissioning	Exempt ed		Exempt ed			
2.After 5 years from the date of Commissioning	1.0		2.5		0.55	
3.After 10 years from the date of Commissioning	1.5		3.5		0.77	
c. For Unit Capacity above 500KW and rated head above 5 mts.						
1.Upto 5 years from the date of Commissioning	1.5		3.5	350	0.77	
2. After 5 years from the date of Commissioning	3.0		6.5	650	1.43	
3. After 10 years from the date of Commissioning	4.5		9.5	950	2.09	

3. Government also here by order that, if the water is drawn from reservoirs and gravity canals of lift Irrigation Schemes, the HTCC charges for lifting the water and the maintenance charges of the Schemes would also have to be levied in addition to the above royalty charges based on actual expenditures incurred for the concerned Lift Irrigation Schemes.

4. Government further hereby accord permission for enhancement of the above rate @ 10% once in two financial years (i.e. every alternative year) from the date of issue of Government Orders.

5. The Engineer-in-Chief (Irrigation), Hyderabad shall take further necessary action accordingly.

6. This order issues with the concurrence of Finance (WP) Department vide their U.O.No7444/33/WP/A2/15, dt: 22-06-2015

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

Dr. SHAILENDRA KUMAR JOSHI
PRINCIPAL SECRETARY TO GOVERNMENT

TO
The Engineers-in-Chief (Irrigation), Hyderabad
The Engineer-in-Chief (IW/AW), I & CAD, Hyderabad,
The Managing Director, Telangana, Industrial Infrastructure Corporation,
The Managing Director, GENCO, Hyderabad
All Chief Engineers of I & CAD Department, Hyderabad
All District Collectors in the Telangana State
Copy to:
Revenue/Energy/MA&UD/PR&RD/Housing/Industries/Finance/Law Departments
Accountant General, Telangana, Hyderabad
All Sections in I&CAD Department
The P.S. to Hon'ble Chief Minister
The P.S. to Hon'ble Minister, Irrigation

//FORWARDED::BY ORDER//

SECTION OFFICER