

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Vindhyachal Super Thermal power Station Stage-I

(From 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 **Vindhyachal Super Thermal Power Station Stage-I (1260 MW) for the period from 01.04.2019 to 31.03.2024.**

INDEX

Sl. No.	Description	Page No.
1	Petition for Approval of Tariff of VSTPS Stage-I for the period from 01.04.2019 to 31.03.2024	1-7
2	Affidavit	8-9
3	Appendix-I	10-57
4	Annexure-A	58-61
5	Annexure-B	62-65
6	Annexure-C	66-69

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
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IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of ***Vindhyachal Super Thermal Power Station Stage-I (1260 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. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur 482 008
2. Maharashtra State Electricity Distribution Co Ltd.
Prakashgad, Bandra (East),
Mumbai 400 051
3. Gujarat UrjaVikas Nigam Ltd.(GUVNL)
VidyutBhavan, Race Course
Vadodara – 390 007
4. Chattisgarh State Power Distribution Co. Ltd.,
(Successor of Chattisgarh State Electricity Board)
P.O. Sundar Nagar,
Danganiya, Raipur – 492013
5. Government of Goa,
Through its Chief Engineer (Electricals)
Electricity Department, VidyutBhawan,
Panaji, Goa

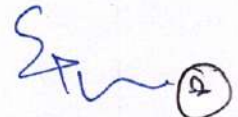


6 Electricity Department,
Administration of Daman & Diu
Daman-396 210

7 Electricity Department,
Administration of Dadra & Nagar Haveli,
Silvasa.

The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, being a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.
- 3) The Petitioner is having power stations/ projects at different regions and places in the country. Vindhychal Super Thermal Power Station Stage – I (6X 210 MW) (hereinafter referred to as VSTPS-I) is one such station located in the State of Madhya Pradesh. The power generated from VSTPS-I is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 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 VSTPS-I for the period from 01.04.2019 to 31.03.2024 as per the Tariff Regulations 2019.

- 6) The tariff of the VSTPS-I for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 24.02.2017 in Petition No. 338/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. Further, The Petitioner thereafter had filed an Appeal (being No. 139 of 2017) in Appellate Tribunal of Electricity on certain aspects of the order dated 24.02.2017. The appeal is under consideration of the Hon'ble Appellate Tribunal of Electricity. The petitioner vide affidavit dated 30.10.2019 had filed a separate true up petition for the period from 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations 2014.
- 7) It is submitted that Hon'ble Commission vide order dated 24.02.2017 in Petition no 338/GT/2014 has allowed a capital cost of Rs 1481.5863 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 aforesaid true-up petition

 (3)

as Rs. 1475.9721 Crs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs. (-) 5.6142 Cr to the admitted capital cost as on 31.03.2019 and accordingly the opening capital cost as on 01.04.2019 has been considered as Rs 1475.9721 Cr. in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2019 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 projected estimated capital expenditures for the period 2019-24 under the Regulation 19 and Regulation 25 and 26 of the Tariff Regulations, 2019.
- 9) The Petitioner further respectfully submits that as per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2018-19 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 Thermal Power Plant
Type of cooling water system	Closed Circuit Cooling System
Yearly allocation of Water for VSTPS*	149 MCM
Rate of Water charges*	Rs 5.50/Cubic Meter
Total Water Charges**	2044.66 Lakh

*As per truing up petition filed for the instant station for FY 2018-19, ** For VSTPS-I (FY 2018-19)

Water Charges for 2019-24 period has been claimed on the basis of water charges for FY 2018-19 with annual escalation@3.5%

- 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 trueing 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 the order of the Hon'ble Commission in the said ECS petition.

12) It is submitted that 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 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."

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) It is submitted that 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 accordingly calculated the tariff for 2019-24 period based on the above and the same is enclosed as **Appendix-I** to this petition.



- 15) It is submitted the Petitioner has served the copy of the Petition on to the Respondents mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in
- 16) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2014 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

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

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


Petitioner

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

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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. Madhya Pradesh Power Management
Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur 482 008 and Others

AFFIDAVIT

I, E. Prabhakara Rao, son of Late Shri E. K. Rama Sharma aged about 52 years, resident of D-311, Parsvnath Prestige, Sector - 93 A, Noida (U.P.), -201304 do solemnly affirm and state as under:

1. That I am the Additional General Manager (Commercial) in 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 filed by NTPC and have understood the contents of the same.



Signature

(8)

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, E. Prabhakara Rao 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 of January 2020.

24 JAN 2020


(Deponent)



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

Notary Public. DELHI

24 JAN 2020

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	NA
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Special Allowance	NA
FORM- 4	Details of Foreign loans	NA
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	NA
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	NA
FORM- 12	Statement of Depreciation	✓
FORM-12A**	Statement of Unrecovered Depreciation	NA
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A	Details of Secondary Fuel for Computation of Energy Charges	✓
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***

Provided yearwise for the period 2019-24

PART-I

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

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

** Additional Forms

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

11

List of supporting documents for tariff filing for Thermal Stations

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

Summary of Tariff

Name of the Petitioner:		NTPC Limited								
Name of the Generating Station:		Vindhyachal Super Thermal power Station Stage-I								
Place (Region/District/State):		Western Region/Singrauli/ Madhya Pradesh								
S. No.	Particulars	Unit	Amount in Rs. Lakhs						2023-24	
			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	8.66	-	1,299.17	2,886.30	1,792.80	173.25		
1.2	Interest on Loan	Rs Lakh	107.76	113.94	146.94	159.59	81.14	10.75		
1.3	Return on Equity	Rs Lakh	14,522.94	8,321.50	8,405.79	8,577.83	8,681.40	8,692.24		
1.4	Interest on Working Capital	Rs Lakh	8,308.35	6,444.30	6,549.63	6,660.53	6,733.07	6,796.42		
1.5	O&M Expenses	Rs Lakh	46,197.55	44704.64	46346.20	48038.73	49821.18	51657.03		
1.6	Special Allowance (if applicable)	Rs Lakh	12,088.76	11970.00	11970.00	11970.00	11970.00	11970.00		
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh	0.00							
	Total	Rs Lakh	81234.02	71554.38	74717.74	78292.98	79079.60	79299.68		
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid) as per FSA approved by beneficiaries (%) of Fuel Quantity	Rs/Ton (%)				2231.09				
2.2	Landed Fuel Cost Imported Coal as per FSA approved by beneficiaries (%) of Fuel Quantity									
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA (%) of Fuel Quantity	Rs/Ton (%)								
2.4	Landed Fuel Cost Imported Coal other than FSA. (%) of Fuel Quantity									
2.5	Secondary fuel oil cost	Rs/Unit			0.025					
	Energy Charge Rate ex-bus (Paise/kWh) 2A, 2B, 2C, 2D	Rs/Unit			1.677					

(5)

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Vindhychal Super Thermal power Station Stage-I

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	1,47,597.21	1,47,774.21	1,50,589.21	1,54,188.21	1,54,573.21
2	Add: Addition during the year/period	177.00	2,815.00	3,599.00	385.00	-
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	1,47,774.21	1,50,589.21	1,54,188.21	1,54,573.21	1,54,573.21
7	Average Capital Cost	1,47,685.71	1,49,181.71	1,52,388.71	1,54,380.71	1,54,573.21

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	147597.21	147774.21	150589.21	153526.21	153911.21
2	Add: Addition during the year / period	177.00	2815.00	2937.00	385.00	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	147774.21	150589.21	153526.21	153911.21	153911.21
7	Average Capital Cost	147685.71	149181.71	152057.71	153718.71	153911.21

**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	662.00	662.00
2	Add: Addition during the year / period	0.00	0.00	662.00	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	662.00	662.00	662.00
7	Average Capital Cost	0.00	0.00	331.00	662.00	662.00


(Petitioner)

PART-I
FORM- 1(IIA)

Name of the Petitioner: NTPC Limited
Name of the Generating Station: Vindhyachal Super Thermal power Station Stage-I

Statement showing Return on Equity at Normal Rate

S. No.	Particulars	Amount in Rs. Lakhs				
		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)	73,461.69	73,514.79	74,359.29	75,240.39	75,355.89
2	Less: Adjustment in Opening Equity	29,182.53				
3	Adjustment during the year		29182.53	29182.53	29182.53	29182.53
4	Net Opening Equity (Normal)	44,279.16	44,332.26	45,176.76	46,057.86	46,173.36
5	Add: Increase in equity due to addition during the year / period	53.10	844.50	881.10	115.50	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)	44,332.26	45,176.76	46,057.86	46,173.36	46,173.36
11	Average Equity (Normal)	44,305.71	44,754.51	45,617.31	46,115.61	46,173.36
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	8,321.50	8,405.79	8,567.84	8,661.43	8,672.28

S. H. (Petitioner)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Vindhyachal Super Thermal power Station Stage-I

Statement showing Return on Equity at Normal Rate

S. No.	Particulars	Amount in Rs. Lakhs				
		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	198.60	198.60
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	198.60	198.60
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	198.60	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversals 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	198.60	198.60	198.60
11	Average Equity (Normal)	0.00	0.00	99.30	198.60	198.60
12	Rate of ROE (%)	10.054	10.055	10.056	10.055	10.048
13	Total ROE	0.00	0.00	9.99	19.97	19.96

(Petitioner)

Normative parameters considered for tariff computations

Name of the Petitioner:	NTPC Limited							
	Vindhyachal Super Thermal power Station Stage-I							
Name of the Generating Station:	(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	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	8.297	8.298	8.299	8.298	8.298	8.292
Effective Tax Rate	%	21.5490	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00					
In High Demand Season	%	-	-	85.00	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption	%	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Gross Station Heat Rate	kCal/kWh	2450.00	2430.00	2430.00	2430.00	2430.00	2430.00	2430.00
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC1	in Days	45	40	40	40	40	40	40
Cost of Main Secondary Fuel Oil for WC1	in Months	2	2	2	2	2	2	2
Fuel Cost for WC2	in Months							
Liquid Fuel Stock for WC2	in Months							
O&M Expenses	Rs lakh/MW	0	32.96	34.12	35.31	36.56	37.84	
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	60	45	45	45	45	45	45
Storage capacity of Primary fuel#	MT	1220000	1220000	1220000	1220000	1220000	1220000	1220000
SBI 1 Year MCLR plus 350 basis point ³	%	13.50	12.05	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal								

*** Rate of Return on Add - cap beyond original scope and excluding Change in Law

\$\$ Additional RoE due to better ramp rate would be claimed at the time of true-up or as per guidelines to be issued

The Storage capacity indicated pertains to VSTPS Station(4760 MW)

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

Name of the Company :		NTPC Limited					
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I					
		Amount in Rs. Lakhs					
S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24	
1	2	3	4	5	7	8	
1	O&M expenses under Reg.35(1)						
1a	Normative	41529.60	42991.20	44490.60	46065.60	47678.40	
2	O&M expenses under Reg.35(6)						
2a	Water Charges	2116.22	2190.29	2266.95	2346.29	2428.41	
2b	Security expenses	1058.82	1164.71	1281.18	1409.29	1550.22	
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	44704.64	46346.20	48038.73	49821.18	51657.03	

** Shall be provided at the time of truing up

SA
Petitioner

**PART-I
FORM-3B
Additional Form**

Computation of Special Allowance

Name of the Company :	NTPC Limited
Name of the Power Station :	Vindhyachal Super Thermal power Station Stage-I
Rate of Special allowance @lakh/MW/year	9.5

Unit No.	Capacity (MW)	Date of COD	Year of completion of useful life of 25 yrs.	Existing 2018-19	Special Allowance as per Clause 28					
					2019-20	2020-21	2021-22	2022-23	2023-24	
1	210	1-Sep-88	2013-14	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
2	210	1-Jan-89	2013-14	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
3	210	1-Feb-90	2014-15	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
4	210	1-Sep-90	2015-16	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
5	210	1-Apr-91	2016-17	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
6	210	1-Feb-92	2016-17	2014.79	1995.00	1995.00	1995.00	1995.00	1995.00	1995.00
Year wise Total for the Station					12088.74	11970.00	11970.00	11970.00	11970.00	11970.00

Petitioner

**PART 1
FORM- 5**

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company : NTPC Limited		Date (DD-MM-YYYY)	24.02.2017
Name of the Power Station : Vindhyachal Super Thermal power Station Stage-I		Petition no.	338/GT/2014
Last date of order of Commission for the project			
Reference of petition no. in which the above order was passed			
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:			
Capital cost (as on 31.03.2019)			148158.63
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)			0.00
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis) as on 1.4.2014			539.39
Gross Normative Debt			74528.51
Cumulative Repayment			74528.51
Net Normative Debt			0
Normative Equity			73630.11
Cumulative Depreciation			1,31,092.01
Freehold land			2500.84

(Rs. in lakh)

20

(Petitioner)

**PART I
FORM- 5A**

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :		NTPC Limited	
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I	
Reference of Final True-up Tariff Petition	Affidavit dated	30.10.2019	
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 24.02.2017 In Pet. No.338/GT/2014	Rs. Lakhs	1,48,158.63	
Adjustment as per Para (7) of this petition		-561.42	
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		147597.21	
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost) as on 31.03.2019		0	
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)	(Rs. in lakh)*	281.67	
Gross Normative Debt		74,135.52	
Cumulative Repayment		72,824.22	
Net Normative Debt		1,311.31	
Normative Equity		73,461.69	
Cumulative Depreciation		1,30,713.61	
Freehold land		2,500.84	
(Petitioner)			

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000261

T00001

D00012

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,50,00,00,000	
Date of Drawl	0	
Interest Type :	Floating	
Rate of Interest as on 01.04.2019	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-II	67,00,00,000
	FARAKKA-III	35,00,00,000
	SIMHADRI-II	20,00,00,000
	RAMAGUNDAM SOLAR	10,00,00,000
	FGUTPS-I	8,40,09,477
	FGUTPS-II	5,59,90,523
	VSTPS R&M	28,00,00,000
	RAMAGUNDAM-R&M	18,00,00,000
	KORBA-R&M	17,00,00,000
	KAWAS-R&M	17,00,00,000
	BADARPUR-R&M	14,00,00,000
	TSTPP-R&M	10,00,00,000
Total Allocated Amount		2,50,00,00,000.00

Signature

(22)

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000571

T00001

D00003

Unsecured Loan From Punjab National Bank-III		
Source of Loan :	Punjab National Bank-III	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	13.08.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Rate of Interest as on 01.04.2019	8.30%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	13.08.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	01.02.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	30,00,00,000.00
	SOLAPUR	20,00,00,000.00
	TANDA-II	20,00,00,000.00
	TALLAIPALLI	50,00,00,000.00
	SINGRAULI R&M	80,00,00,000.00
	FARAKKA R&M	80,00,00,000.00
	RIHAND R&M	50,00,00,000.00
	DADRI GAS R&M	40,00,00,000.00
	KORBA R&M	40,00,00,000.00
	RAMAGUNDAM R&M	40,00,00,000.00
	VINDHAYACHAL R&M	30,00,00,000.00
	UNCHAHAHAR R&M	20,00,00,000.00
Total Allocated Amount		5,00,00,00,000.00

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23

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000571

T00001

D00004

Unsecured Loan From Punjab National Bank-III		
Source of Loan :	Punjab National Bank-III	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	21.08.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Rate of Interest as on 01.04.2019	8.30%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	21.08.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	01.02.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SINGRAULI R&M	1,00,00,00,000.00
	KORBA R&M	1,00,00,00,000.00
	RAMAGUNDAM R&M	1,00,00,00,000.00
	VINDHYACHAL R&M	1,00,00,00,000.00
	TANDA R&M	1,00,00,00,000.00
Total Allocated Amount		5,00,00,00,000.00

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24

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000531

T00001

D0010

Unsecured Loan From SBI-IX		
Source of Loan :	SBI-IX	
Currency :	INR	
Amount of Loan :	30,00,00,00,000	
Total Drawn amount :	6,85,00,00,000	
Date of Drawal:	29.06.2018	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Rate of Interest as on 01.04.2019	8.25%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	29.06.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.03.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	40,00,00,000
	TAPOVAN VISHNUGARH	15,00,00,000
	BONGAIGAON	15,00,00,000
	SOLAPUR	20,00,00,000
	LARA-I	55,00,00,000
	GADARWARA	1,00,00,00,000
	NORTH KARANPURA	60,00,00,000
	DARLIPALLI	45,00,00,000
	TANDA II	60,00,00,000
	RAMMAM	10,00,00,000
	KHARGONE	75,00,00,000
	TELANGANA	75,00,00,000
	TTPS R&M	10,00,00,000
	VINDHYACHAL R&M	10,00,00,000

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23

	FARAKKA R&M	50,00,00,000
	DADRI GAS R&M	45,00,00,000
Total Allocated Amount		6,85,00,00,000.00

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24

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000661

T00001

D00004

Unsecured Loan From SBI-XI		
Source of Loan :	SBI-XI	
Currency :	INR	
Amount of Loan :	50,00,00,00,000	
Total Drawn amount :	8,00,00,00,000	
Date of Drawal:	22.11.2018	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Rate of Interest as on 01.04.2019	8.35%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	22.11.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	01.10.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	40,00,00,000
	TAPOVAN VISHNUGARH	11,00,00,000
	BONGAIGAON	11,00,00,000
	SOLAPUR	20,00,00,000
	LARA-I	50,00,00,000
	GADARWARA	55,00,00,000
	NORTH KARANPURA	36,00,00,000
	DARLIPALLI	40,00,00,000
	TANDA-II	10,00,00,000
	KHARGONE	75,00,00,000
	TELANGANA	75,00,00,000
	TALAI PALI COAL MINE	7,00,00,000
	RAMAGUNDAM I & II R&M	36,00,00,000
	VINDHYACHAL R&M	14,00,00,000
	FARAKKA R&M	10,00,00,000
	KAHALGAON R&M	10,00,00,000

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27

	KHARGONE	2,00,00,00,000
	TELANGANA	1,00,00,00,000
Total Allocated Amount		8,00,00,00,000.00

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Form 8- Domestic Bonds

Particulars	<u>54</u>	<u>57</u>	<u>60</u>
Source of Loan ¹	BONDS	BONDS	BONDS
Currency ²	INR	INR	INR
Amount of Loan sanctioned	1030683	50000	100000
Interest Type ⁶	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	8.49%	8.19%	8.05%
Annual surveillance fees	0.03%	0.03%	0.03%
Total interest rate incl.sur. Fees	8.52%	8.22%	8.08%
Base Rate, if Floating Interest ⁷	N/A	N/A	N/A
Margin, if Floating Interest ⁸	N/A	N/A	N/A
Are there any Caps/Floor ⁹	No	No	No
If above is yes,specify caps/floor	N/A	N/A	N/A
Moratorium Period ¹⁰	8	10	10
Moratorium effective from #	25-03-2015	15-12-2015	05-05-2016
Repayment Period ¹¹	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment
Repayment effective from	25-03-2023	15-12-2025	05-05-2026
Repayment Frequency ¹²	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment
Repayment Instalment ^{13,14}	Installments 1st - 206,136.61 2nd - 412,273.22 3rd - 412,273.22	50000	100000
Base Exchange Rate ¹⁶	N/A	N/A	N/A
Door to Door Maturity	10	10	10

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Form 8- Domestic Bonds

Particulars	54	57	60
Name of the Projects			
Anantpur Solar	5,600	-	15,100
ANTA	-	-	-
AURAIYA	-	-	-
Auraiya R & M	-	1,400	-
Badarpur R&M	2,300	-	-
BARH I	74,883	8,900	14,800
BARH II	63,500	-	1,700
Bhadla Solar	-	-	11,200
BONGAIGAON	54,000	500	5,200
Chatti Bariatu CMB	8,100	-	1,500
Dadri Gas R & M	600	-	-
DADRI GAS	-	-	-
DARLIPALLI	49,200	-	-
Dulanga CMB	-	-	-
FARAKKA II	-	-	-
FARAKKA III	10,900	-	-
Farakka R & M	2,000	-	-
FARIDABAD	-	-	-
GADARWARA	81,000	2,000	6,500
GANDHAR	-	-	-
Gandhar R & M	4,300	800	-
Kahalgaon II Phase I	-	-	-
Kahalgaon II Phase II	1,800	-	-
Khstpp R & M	2,000	500	-
KAWAS	-	-	-
Kawas R & M	1,400	-	-
Khargone	45,000	3,000	500
KOLDAM	25,100	3,700	-
KORBA III	9,200	500	-
Korba R & M	4,400	-	-
Kudgi	1,23,300	-	3,800
LARA I	53,300	13,700	3,100
Lata Tapovan	1,600	-	-
LOHARINAGPALA	-	-	-
Mauda	21,900	-	-
Mauda II	45,800	-	-
Mandsaur Solar	-	-	3,400
NCTPP	-	-	-
NCTPP II	11,000	500	-
NCTPP R & M	3,700	-	-
NORTH KARANPURA	12,400	-	7,500
Pakri Barwadih CMB	26,600	800	3,300
Ramagundam I & II R & M	2,400	-	-
RAMAGUNDAM III	-	-	-
Rammam	3,100	-	-
RIHAND II	-	-	-
RIHAND III	28,300	800	-
Rihand R & M	2,500	-	-
SIMHADRI	-	-	-
Simhadari II	26,800	1,000	2,000
Simhadari R & M	900	-	-
Vidhyachal Hydro**	1,900	-	-

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30

Form 8- Domestic Bonds

Singrauli R & M	1,600	-	-
Vindhyachal Solar**	4,800	-	-
SIPAT I	20,500	1,400	-
SIPAT II	-	-	-
SOLAPUR	70,300	-	2,400
TALCHER I	-	-	-
TALCHER II	12,000	700	-
Tanda II	9,000	400	8,000
Tanda R & M	-	-	-
Tapovan Vishnugad	26,400	-	4,600
Telangana	-	-	-
TSTPP R & M	1,600	1,000	-
TTPS R & M	1,000	-	-
Unchahar R & M	3,400	-	-
Unchahar IV	17,400	4,800	1,800
UNCHAHAR II	-	-	-
Unchahar III	-	-	-
VINDHYACHAL II	-	-	-
Vindhyachal III	-	-	-
Vindhyachal IV	17,200	500	-
Vindhyachal V	33,500	2,200	2,600
Vindhyachal R & M	1,200	900	1,000
DADRI SOLAR	-	-	-
A&N SOLAR	-	-	-
RAMAGUNDAM SOLAR	-	-	-
TALCHER SOLAR	-	-	-
UNCHAHAR SOLAR	-	-	-
FARIDABAD SOLAR	-	-	-
RAJGARH SOLAR	-	-	-
Talaipali Coal Mine	-	-	-
CC			
TOTAL	10,30,683	50,000	1,00,000

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited							Amount in Rs Lakh	
Name of the Generating Station		Vindhyachal Super Thermal power Station Stage-I								
COD		01-02-1992								
For Financial Year		2019-24 (Summary)								
Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)							Regulation under which claimed/Justification	Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26		
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 Dyke Works	177.00	2815	1700						
2	Cycle of Concentration			1160						
3	ClO2 package			77.00	385					
	Total (A)	177.00	2,815.00	2,937.00	385.00					
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest										
4	Integrated Security System	-	-	662.00						
	Total (B)	-	-	662.00	-					
Total Add. Cap. Claimed (A+B)		177.00	2,815.00	3,599.00	385.00					

(Petitioner)

32

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited				
Name of the Generating Station	Vindhyachal Super Thermal power Station Stage-I				
COD	01-02-1992				
For Financial Year	2019-20				

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Dyke Works	177		177		25(1)(c) & (g)	This is part of ongoing raising work of existing ash dyke and is within the original scope. As the existing capacity of ash dyke is envisaged to get exhausted accordingly, the raising of the ash dyke is necessarily required for increasing its capacity for further disposal of ash generated from the instant station for sustained operation of the plant.	
Total (A)		177.00	-	177.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
6								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		177.00	-	177.00	-			

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(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited							Amount in Rs Lakh
Name of the Generating Station		Vindhyachal Super Thermal power Station Stage-I							
COD		01-02-1992							
For Financial Year		2020-21							
Sl. No.	Head of Work/Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any	
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 Dyke Works	2815	-	2815	-	25(1)(c) & (g)	As per the justification made in for 9 for 2019-20		
Total (A)		2,815.00	-	2,815.00	-				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest									
6									
Total (B)		-	-	-	-				
Total Add. Cap. Claimed (A+B)		2,815.00	-	2,815.00	-				

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited		ACE Claimed (Protected)		Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
Name of the Generating Station		Vinuthyachal Super Thermal power Station Stage-I		Un-discharged Liability included in col. 3	IDC included in col. 3			
COD		01-02-1992		Cash basis				
For Financial Year		2021-22		5-(3-4)				
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
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	1700	0	1700	0	Clause 25 (g)	As per the justification made in for 9 for 2019-20	
1	Ash Dyke Works							
2	Cycle of Concentration	1,160.00		1160		26(1)(b)	The present work has been taken up by the Petitioner in view of conservation of water in line with the guidelines issued by Central electricity Authority (CEA) in its report on minimisation of water requirement in coal based thermal generating stations by increasing operating level of COC for Cooling/Circulating water. Presently the Cycle of Concentration(COC) being maintained in the instant station is in the range of 2.5 to 3.5. However, as per the guidelines of water conservation from CEA, the COC may be maintained at a level of 5 for the normal sources of raw water. However, the sustained operation of unit at higher COC may cause scaling in condenser tubes, and therefore, it needs comprehensive chemical treatment on sustained basis. The requirement of suitable improvement in chemical regime of the circulating water has also been suggested by CEA (except of CEA paper is attached at Annex-A). Therefore, Hon'ble Commission may be pleased to allow the same under 'Change in Law'.	
	ClO2 package	77.00		77.00		26(1)(b) read with 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 consider replacement of highly hazardous gas chlorination system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Dantipalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at Annexure-B). 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)(d) & 26(1)(b)	
3	Total (A)	2,937.00	-	2,937.00	-			
B.	Works beyond Original scope extending add-cap due to Change in Law eligible for RoE at Wid. Average rate of Interest							

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner		NTPC Limited		Vindhyachal Super Thermal power Station Stage-I		2021-22		Amount in Rs Lakhs	
Name of the Generating Station		Vindhyachal Super Thermal power Station Stage-I		2021-22		2021-22		Amount in Rs Lakhs	
COD		01-02-1992		2021-22		2021-22		Amount in Rs Lakhs	
For Financial Year		2021-22		2021-22		2021-22		Amount in Rs Lakhs	
Sl. No.	Head of Work / Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Projected)	Cash basis	IDC included in col. 3	Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
1	2	3	4	5-(3-4)	6	7	8	9	
6	Integrated Security System	662.00		662.00	662.00		26(1)(d)	The Petitioner is in receipt of letter dated 23.10.2019 from MoP, Govt for enhancement & automation of security at power station, in view of consistent threat to various vital installations and infrastructure including power stations as per reports from external agencies. In view of similar information received earlier, the Petitioner, in collaboration with Central Industrial Security Force(CISF), has prepared a comprehensive multi-layer e-security system, to be installed in various power stations across the country. This integrated security system (ISS) is proposed to be installed in the instant station during the tariff period 2019-24. This ISS shall not only enhance the reliability of the security system, but it will also help rationalise the security manpower at the station. Hon'ble Commission may be pleased to allow this work under Regulation-26(1)(b). The communication in this regard with DG, CISF is attached at Annexure-C (The letter dated 23.10.2019 from MoP, Govt is based on the report of intelligence agency reports the same is not being shared with the instant petitioner.)	
Total (B)		662.00	-	662.00	662.00	-			
Total Add. Cap. Claimed (A+B)		3,599.00	-	3,599.00	3,599.00	-			

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Vindhyachal Super Thermal power Station Stage-I	
COD	01-02-1992	
For Financial Year	2022-23	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
2	Cl02 package	385.00	-	385.00		26(1)(d) & 26(1)(b)	As per the justification made in for 9 for 2021-22	
	Total (A)	385.00	-	385.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
6								
	Total (B)	-	-	-	-			
	Total Add. Cap. Claimed (A+B)	385.00	-	385.00	-			

(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited		
Name of the Generating Station	Vindhyachal Super Thermal power Station Stage-I		
COD	01-02-1992		
For Financial Year	2023-24		

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh	
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis				IDC included in col. 3
1	2	3	4	5 = (3-4)	6	7	8	9
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							

1								
2								
3								
4								
5								
Total (A)	-	-	-	-	-	-	-	-

No Add-Cap

However, works, if any, shall be claimed during tuning-up.

B.	Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest							
6								
7								
8								
Total (B)	-	-	-	-	-	-	-	-
Total Add. Cap. Claimed (A+B)	-	-	-	-	-	-	-	-

No Add-Cap. (However, work, if any, shall be claimed during tuning-up)

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(Petitioner)

Name of the Petitioner	NTPC Limited										
Name of the Generating Station	Vindhyachal Super Thermal power Station Stage-I										
Date of Commercial Operation	01-02-1992										

Financial Year (Starting from COD)1	Actual						Amount in Rs Lakh				
	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

Note:

1. Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.
2. Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

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(Petitioner)

Statement of Depreciation

Name of the Company :		NTPC Limited							
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I							
S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	(Amount in Rs Lakh)	
			4	5	6	7	8		
1	Opening Capital Cost	147879.96	1,47,597.21	1,47,774.21	1,50,589.21	1,54,188.21	1,54,573.21		
2	Closing Capital Cost	147597.21	1,47,774.21	1,50,589.21	1,54,188.21	1,54,573.21	1,54,573.21		
3	Average Capital Cost	147738.59	1,47,685.71	1,49,181.71	1,52,388.71	1,54,380.71	1,54,573.21		
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	2,500.84	2,500.84	2,500.84	2,500.84	2,500.84	2,500.84		2,500.84
5	Rate of depreciation	0.000	0.000	0.000	0.000	0.000	0.000		0.000
6	Depreciable value	1,30,713.97	1,30,666.38	1,32,012.78	1,34,899.08	1,36,691.88	1,36,865.13		
7.	Balance useful life at the beginning of the period	0.00	-	-	-	-	-		-
8	Remaining depreciable value	8.66	-	1,299.17	2,886.30	1,792.80	173.25		173.25
9	Depreciation (for the period)	0.00	-	1,299.17	2,886.30	1,792.80	173.25		173.25
10	Depreciation (annualised)	8.66	-	1,299.17	2,886.30	1,792.80	173.25		173.25
11	Cumulative depreciation at the end of the period		1,30,713.61	1,32,012.78	1,34,899.08	1,36,691.88	1,36,865.13		
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-		-
13	Less: Cumulative depreciation adjustment on account of de-capitalisation	262.48	-	-	-	-	-		-
14	Net Cumulative depreciation at the end of the period after adjustments	1,30,713.61	1,30,713.61	1,32,012.78	1,34,899.08	1,36,691.88	1,36,865.13		

* Shall be provided at the time of truing-up

S. W. S.
(Petitioner)

					PART-I	
					FORM-13	
Calculation of Interest on Actual Loans						
Name of the Company			NTPC Limited			
Name of the Power Station			Vindhyachal - I			
(Amount in lacs)						
Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	SBI- VII- D12					
	Net loan - Opening	1400.00	1050.00	700.00	350.00	0.00
	Addition					
	Repayments of Loans during the year	350.00	350.00	350.00	350.00	0.00
	Net loan - Closing	1050.00	700.00	350.00	0.00	0.00
	Average Net Loan	1225.00	875.00	525.00	175.00	0.00
	Rate of Interest on Loan with monthly rests	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	101.15	72.25	43.35	14.45	0.00
2	Punjab National Bank-III- D3					
	Net loan - Opening	3000.00	3000.00	3000.00	2666.67	2333.33
	Addition					
	Repayments of Loans during the year	0.00	0.00	333.33	333.33	333.33
	Net loan - Closing	3000.00	3000.00	2666.67	2333.33	2000.00
	Average Net Loan	3000.00	3000.00	2833.33	2500.00	2166.67
	Rate of Interest on Loan with monthly rests	8.3000%	8.3000%	8.3000%	8.3000%	8.3000%
	Interest on loan	249.00	249.00	235.17	207.50	179.83
3	Punjab National Bank-III- D4					
	Net loan - Opening	10000.00	10000.00	10000.00	8888.89	7777.78
	Addition					
	Repayments of Loans during the year	0.00	0.00	1111.11	1111.11	1111.11
	Net loan - Closing	10000.00	10000.00	8888.89	7777.78	6666.67
	Average Net Loan	10000.00	10000.00	9444.44	8333.33	7222.22
	Rate of Interest on Loan	8.3000%	8.3000%	8.3000%	8.3000%	8.3000%
	Interest on loan	830.00	830.00	783.89	691.67	599.44
4	SBI- IX- D10					
	Net loan - Opening	1000.00	1000.00	888.89	777.78	666.67
	Addition					
	Repayments of Loans during the year	0.00	111.11	111.11	111.11	111.11
	Net loan - Closing	1000.00	888.89	777.78	666.67	555.56
	Average Net Loan	1000.00	944.44	833.33	722.22	611.11
	Rate of Interest on Loan	8.2500%	8.2500%	8.2500%	8.2500%	8.2500%
	Interest on loan	82.50	77.92	68.75	59.58	50.42
5	SBI- XI- D4					
	Net loan - Opening	1400.00	1400.00	1400.00	1400.00	1244.44
	Addition					
	Repayments of Loans during the year	0.00	0.00	0.00	155.56	155.56
	Net loan - Closing	1400.00	1400.00	1400.00	1244.44	1088.89
	Average Net Loan	1400.00	1400.00	1400.00	1322.22	1166.67
	Rate of Interest on Loan	8.3500%	8.3500%	8.3500%	8.3500%	8.3500%
	Interest on loan	116.90	116.90	116.90	110.41	97.42
6	Bonds-54- repayment on 25.03.2023/2024/2025					
	Net loan - Opening	1200.00	1200.00	1200.00	1200.00	960.00

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					PART-I	
					FORM-13	
Calculation of Interest on Actual Loans						
Name of the Company			NTPC Limited			
Name of the Power Station			Vindhyachal - I			
					(Amount in lacs)	
Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Addition					
	Repayments of Loans during the year	0.00	0.00	0.00	240.00	480.00
	Net loan - Closing	1200.00	1200.00	1200.00	960.00	480.00
	Average Net Loan	1200.00	1200.00	1200.00	1080.00	720.00
	Rate of Interest on Loan	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on loan	102.24	102.24	102.24	92.02	61.34
7	Bonds-57- Bullet repayment on 15.12.2025					
	Net loan - Opening	900.00	900.00	900.00	900.00	900.00
	Addition					
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	900.00	900.00	900.00	900.00	900.00
	Average Net Loan	900.00	900.00	900.00	900.00	900.00
	Rate of Interest on Loan	8.2200%	8.2200%	8.2200%	8.2200%	8.2200%
	Interest on loan	73.98	73.98	73.98	73.98	73.98
8	Bonds-60- Bullet repayment on 05.05.2026					
	Net loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Addition					
	Repayments of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	1000.00	1000.00	1000.00	1000.00	1000.00
	Average Net Loan	1000.00	1000.00	1000.00	1000.00	1000.00
	Rate of Interest on Loan	8.0800%	8.0800%	8.0800%	8.0800%	8.0800%
	Interest on loan	80.80	80.80	80.80	80.80	80.80
	TOTAL LOAN					
	Net loan - Opening	19900.00	19550.00	19088.89	17183.33	14882.22
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	350.00	461.11	1905.56	2301.11	2191.11
	Net loan - Closing	19550.00	19088.89	17183.33	14882.22	12691.11
	Average Net Loan	19725.00	19319.44	18136.11	16032.78	13786.67
	Rate of Interest on Loan	8.2970%	8.2978%	8.2988%	8.2980%	8.2923%
	Interest on loan	1636.57	1603.09	1505.08	1330.40	1143.24
Note:-						
1)	SBI VII Rate of interest includes upfront fees of 0.0075% (i.e. 0.08%*1.1236%/12years).					

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42

Details of Source wise Fuel for Computation of Energy Charges													
NTPC Limited													
VSTPS-1 (1260 MW)													
Unit													
Name of the Company :													
Name of the Power Station :													
S. No.	Month	Quantity of Coal/Lignite supplied by Coal/Lignite Company	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	Coal supplied by Coal/Lignite Company (3+4)	Normative Transit & Handling Losses (For coal/ Lignite based projects)	Net coal / Lignite Supplied (3+4)	Amount charged by the Coal /Lignite Company.	Adjustment (+/-) in amount charged made by Coal/Lignite Company	Total amount Charged (6+7)	Transportation charges by rail/ship/road transport	Adjustment (+/-) in amount charged made by Railways/Transport Company	Demurrage Charges, if any	
		(MMT)	(MMT)	(MMT)	(MMT)	(MMT)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	
		Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported
		Oct-18	Nov-18	Dec-18									
1		3.6357											
2			3.5211										3.6942
3		3.6357											3.6942
4		0.0086											0.0092
5		3.6271											3.6849
6		7352838368											7859601209
7		435552917											126483855
8		7788391285											7986085063
9		149680783											169048155
10													
11													
12		17051505											17343677
13		166732288											186391832
13A		34788629											80527942
14		7989912202											8253004837
15		2202.86											2239.67
16		100.00											100.00
17													2231.13
18													
19		4629											4689
20		4629											4689
21		3593											3796
22		3593											3796
23		3593											3796

Petitioner

Name of the Company :		NTPC Limited											
Name of the Power Station :		Vindhyachal STPP, Stage 1,2,3,4 & 5											
S. No.	Month	Unit	Stage 1		Stage 2		Stage 3		Stage 4		Stage 5		
			Oct-18	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	
1	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	3.6357		3.6357		3.6357		3.6357		3.6357		
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)											
3	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	3.6357		3.6357		3.6357		3.6357		3.6357		
4	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0086		0.0086		0.0086		0.0086		0.0086		
5	Net coal / Lignite Supplied (3-4)	(MMT)	3.6271		3.6271		3.6271		3.6271		3.6271		
6	Amount charged by the Coal/Lignite Company	(Rs.)	7352838368		7352838368		7352838368		7352838368		7352838368		
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	435552917		435552917		435552917		435552917		435552917		
8	Total amount Charged (6+7)	(Rs.)	7788391285		7788391285		7788391285		7788391285		7788391285		
9	Transportation charges by rail/ship/road transport	(Rs.)	149680783		149680783		149680783		149680783		149680783		
10	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)											
11	Demurrage Charges, if any	(Rs.)											
12	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	17051505		17051505		17051505		17051505		17051505		
13	Total Transportation Charges (9+10+11+12)	(Rs.)	166732288		166732288		166732288		166732288		166732288		
13A	Handling, Sampling and such other similar charges	(Rs.)	34788629		34788629		34788629		34788629		34788629		
14	Total amount Charged for coal/Lignite supplied including Transportation (8+13+13A)	(Rs.)	7989912202		7989912202		7989912202		7989912202		7989912202		
15	Landed cost of coal/Lignite (14/5)	Rs./MT	2202.86		2202.86		2202.86		2202.86		2202.86		
16	Blending Ratio (Domestic/Imported)		100.00		100.00		100.00		100.00		100.00		
17	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT					2231.13						
18	GCV of Domestic Coal as per bill of Coal Company (Eq Basis)	(kCal/Kg)	4629		4629		4629		4629		4629		
19	GCV of Imported Coal as per bill Coal Company	(kCal/Kg)											
20	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4629		4629		4629		4629		4629		
21	GCV of Domestic Coal as received at Station (TM basis)	(kCal/Kg)	3593		3574		3592		3593		3609		
22	GCV of Imported Coal as received at Station	(kCal/Kg)											
23	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	3593		3574		3592		3593		3609		

Note: Qty and Value at Sl. No. 1 and 6 respectively also includes the Qty and Value of Opening stock.

Petitioner

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21/11/2020



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21/11/2020

MPN - 425104
FRN - 00014752

44

Details of Source wise Fuel for Computation of Energy Charges

S. No.	Month	Unit	Vindhyachal STPP, Stage 1, 2, 3, 4 & 5											
			Stage 1		Stage 2		Stage 3		Stage 4		Stage 5			
			Nov-18	Domestic	Nov-18	Domestic	Nov-18	Domestic	Nov-18	Domestic	Nov-18	Domestic		
Name of the Company :			NTPC Limited											
Name of the Power Station :			Vindhyachal STPP, Stage 1, 2, 3, 4 & 5											
1		(MMT)	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211
2	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)												
3	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)												
4	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211	3,5211
5	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083
6	Net coal / Lignite Supplied (3-4)	(MMT)	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128	3,5128
7	Amount charged by the Coal /Lignite Company	(Rs.)	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937	7558647937
8	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	150000000	150000000	150000000	150000000	150000000	150000000	150000000	150000000	150000000	150000000	150000000	150000000
9	Total amount Charged (6+7)	(Rs.)	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937	7708647937
10	Transportation charges by rail/ship/road transport	(Rs.)	147885090	147885090	147885090	147885090	147885090	147885090	147885090	147885090	147885090	147885090	147885090	147885090
11	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)												
12	Demurrage Charges, if any	(Rs.)												
13	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	19129401	19129401	19129401	19129401	19129401	19129401	19129401	19129401	19129401	19129401	19129401	19129401
13A	Total Transportation Charges (9+10-11+12)	(Rs.)	167014491	167014491	167014491	167014491	167014491	167014491	167014491	167014491	167014491	167014491	167014491	167014491
14	Handing, Sampling and such other similar charges	(Rs.)	32948789	32948789	32948789	32948789	32948789	32948789	32948789	32948789	32948789	32948789	32948789	32948789
14	Total amount Charged for coal/lignite supplied including Transportation (8+13+13A)	(Rs.)	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218	7908611218
15	Landed cost of coal/ Lignite (14/5)	Rs./MT	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35	2251.35
16	Blending Ratio (Domestic/Imported)		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
17	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT					2231.13							
18	GCV of Domestic Coal as per bill of Coal Company (Eq Basis)	(kCal/Kg)	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694
19	GCV of Imported Coal as per bill Coal Company	(kCal/Kg)												
20	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694	4694
21	GCV of Domestic Coal as received at Station (TM basis)	(kCal/Kg)	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701
22	GCV of Imported Coal of opening stock as received at Station	(kCal/Kg)												
23	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701	3701

Note: Qty and Value at Sl. No. 1 and 6 respectively also includes the Qty and Value of Opening stock.

Petitioner

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21/11/2020



Gyotam Kumar Bagosiya
MRN - 425204
FRN - 0001475C

[Handwritten Signature]
21/11/2020

45

Name of the Company : Name of the Power Station :		NTPC Limited Vindhyachal STPP, Stage 1,2,3,4 & 5											
		Stage 1 Dec-18		Stage 2 Dec-18		Stage 3 Dec-18		Stage 4 Dec-18		Stage 5 Dec-18			
		Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported		
S. No.	Month	Unit	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	
1	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	3.6942		3.6942		3.6942		3.6942		3.6942		
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)											
3	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	3.6942		3.6942		3.6942		3.6942		3.6942		
4	Normative Transit & Handling Losses (For coal/Lignite based projects)	(MMT)	0.0092		0.0092		0.0092		0.0092		0.0092		
5	Net coal / Lignite Supplied (3+4)	(MMT)	3.6849		3.6849		3.6849		3.6849		3.6849		
6	Amount charged by the Coal/Lignite Company	(Rs.)	7859601209		7859601209		7859601209		7859601209		7859601209		
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	126483855		126483855		126483855		126483855		126483855		
8	Total amount Charged (6+7)	(Rs.)	7986085063		7986085063		7986085063		7986085063		7986085063		
9	Transportation charges by rail/ship/road transport	(Rs.)	169048155		169048155		169048155		169048155		169048155		
10	Adjustment (+/-) in amount charged made by Railway/Transport Company	(Rs.)											
11	Demurrage Charges, if any	(Rs.)											
12	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	17343677		17343677		17343677		17343677		17343677		
13	Total Transportation Charges (9+10-11-12)	(Rs.)	186391832		186391832		186391832		186391832		186391832		
13A	Handling, Sampling and such other similar charges	(Rs.)	80527942		80527942		80527942		80527942		80527942		
14	Total amount Charged for coal/lignite supplied including Transportation (8+13+13A)	(Rs.)	8253004837		8253004837		8253004837		8253004837		8253004837		
15	Limited cost of coal/ Lignite (14/5)	Rs./MT	2239.67		2239.67		2239.67		2239.67		2239.67		
16	Blending Ratio (Domestic/Imported)		100.00		100.00		100.00		100.00		100.00		
17	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT			2231.13								
18	GCV of Domestic Coal as per bill of Coal Company (Eq Basis)	(kCal/Kg)	4689		4689		4689		4689		4689		
19	GCV of Imported Coal as per bill of Coal Company	(kCal/Kg)											
20	Weighted average GCV of coal/ Lignite as Billed	(kCal/Kg)	4689		4689		4689		4689		4689		
21	GCV of Domestic Coal as received at Station (TM basis)	(kCal/Kg)	3796		3794		3793		3793		3794		
22	GCV of Imported Coal as received at Station	(kCal/Kg)											
23	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	3796		3794		3829		3793		3794		

Note: Qty and Value at Sl. No. 1 and 6 respectively also includes the Qty and Value of Opening stock.

Petitioner

20/11/2020



Grotam Kumar Bagaria
MAN - 425104
FAN - 000/475C

46

Details of Secondary Fuel for Computation of Energy Charges

Name of the Company :		NTPC Limited			
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I			
Sl.No.	Month	Unit	Oct-18 LDO	Nov-18 LDO	Dec-18 LDO
1	Quantity of oil supplied by Oil Company*	KL	2822.92	2607.92	2467.92
2	Value of Oil *	(Rs)	142365540	131522658	124462176
3	Adjustment (+/-) in quantity supplied made by Oil Company	KL	0	0	0
4	Oil supplied by Oil Company	KL	0	0	0
5	Normative transit & Handling losses	KL	0	0	0
6	Net Oil supplied (4-5)	KL	0	0	0
7	Amount charged by the Oil Company	(Rs)	0	0	0
8	Adjustment (+ / -) in amount charged by Oil Company	(Rs)	0	0	0
9	Total Amount charged (7+8)	(Rs)	0	0	0
10	Transportation charges by Rail / Ship / Road Transport	(Rs)			
11	Adjustment (+/-) in amount charged by railways / transport company	(Rs)			
12	Demurrage charges, if any	(Rs)			
13	Cost of diesel in transporting Oil through MGR system, if applicable	(Rs)			
14	Total transportation charges (10+/- 11 - 12 + 13)	(Rs)			
15	Others- Entry Tax on oil	(Rs)			
16	Total amount charged for Oil supplied including transportation (14 + 15)	(Rs)			
17	Landed Cost of Oil (HFO/LDO) (2+16) / (1+6)	Rs/KL	50432.01	50432.01	50432.01
18	Weighted average GCV of Oil as fired	(kCal/L)	9822	9844	9824
19	Weighted average rate of Secondary Fuel	Rs/KL	50432.01	50432.01	50432.01

* Including opening stock



Petitioner

Computation of Energy Charges

Form-15B

ADDITIONAL FORM

Name of the Company	NTPC Limited
Name of the Power Station	Vindhyachal Super Thermal power Station Stage-I

Computation of Energy Charges

- Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $= (Q_o)_h \times P_s$ 2.522
- Heat Contribution from SFO / Alternate Fuel (H_o) $= (Q_s)_h \times (GCV)_s$ 4.915
- Heat Contribution from coal $(H_p)_s$ $= GHR - H_s$ 2425.09
- Specific Primary Fuel Consumption $(Qp)_h$ $= H_p / (GCV)_p$ 0.673
- Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$ 150.127
- Rate of Energy charge ex-bus (p/kWh) $= ((REC)_s + (REC)_p) / (1 - (AUX))$ 167.746

	2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	366	365	365	365	366
Sp. Oil consumption ml/kwh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption %	9.00	9.00	9.00	9.00	9.00
Heat Rate Kcal/Kwh	2,430.00	2,430.00	2,430.00	2,430.00	2,430.00

Computation of Variable Charges

Variable Charge (Coal) p/kwh	164.975	164.975	164.975	164.975	164.975
Variable Charge (Oil) p/kwh	2.771	2.771	2.771	2.771	2.771
Total p/kwh	167.746	167.746	167.746	167.746	167.746

Price of fuel from Form-15/15A

Coal Cost (Rs./MT)	2231.09	2231.09	2231.09	2231.09	2231.09
Oil Cost (Rs./KL)	50432.01	50432.01	50432.01	50432.01	50432.01

Computation of Fuel Expenses for Calculation of IWC:

ESO in a year (MUs)	8560.97	8537.58	8537.58	8537.58	8560.974
ESO for 40 days (MUs)	935.626	935.626	935.63	935.63	935.626
Cost of coal for 45 Days (Rs. Lakh)	15435.46	15435.46	15435.46	15435.46	15435.46
Cost of oil for 2 months (Rs. Lakh)	395.37	394.29	394.29	394.29	395.37
Energy Expenses for 45 days (Rs. Lakh)	17656.56	17656.56	17656.56	17656.56	17656.56

Coal	3rd month	2nd month	1st month	Wtd. Avg.
Wtd. Avg. Price of Coal Rs./MT	2202.84	2251.31	2239.62	2231.09
Wtd. Avg. GCV of Coal as received kCal/Kg	3593	3680	3794	3689.00
Wtd. Avg. GCV of Coal as received after adjustment of 85 kcal/kg				
Sec. Oil				3604.00
Wtd. Avg. Price of Secondary Fuel Rs/KL	41441.73	41441.73	41441.73	50432.01
Wtd. Avg. GCV of Secondary Fuel kCal/L	9822.00	9844.00	9824.00	9830.00

48

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PETITIONER

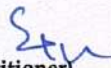
Name of the Petitioner
Name of the Generating StationNTPC Ltd
Vindhaychal STPS Stage-I(1260 MW)**Statement of Capital Woks in Progress**

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	01.04.2019		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	12981.32	1005.8	11975.52
	b) Amount of IDC in A(a) above	568	0	568
	c) Amount of FC in A(a) above	0	0	0
	d) Amount of FERV in A(a) above	0	0	0
	e) Amount of Hedging Cost in A(a) above	0	0	0
	f) Amount of IEDC in A(a) above	0	0	0
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			

To be provided at the time of truing-up


(Petitioner)

Name of the Petitioner
Name of the Generating StationNTPC Ltd
Vindhaychal STPS Stage-I(1260 MW)**Statement of Capital cost**
(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on 01.04.2019		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	179333.71	1982.62	177351.09
	b) Amount of IDC in A(a) above	1207.16	0	1207.16
	c) Amount of FC in A(a) above	0	0	0
	d) Amount of FERV in A(a) above	547.72	0	547.72
	e) Amount of Hedging Cost in A(a) above	0	0	0
	f) Amount of IEDC in A(a) above	0	0	0
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			

To be provided at the time of truing-up


 (Petitioner)

50

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I							
S. No.	Particulars	(Amount in Rs Lakh)							
		Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2023-24	2023-24
1	2	3	4	5	6	7	8	8	8
1	Gross Normative loan – Opening	74,333.45	74,135.52	74,259.42	76,229.92	78,749.22	79,018.72	79,018.72	79,018.72
2	Cumulative repayment of Normative loan up to previous year	73,019.71	72,824.22	72,824.22	74,123.39	77,009.69	78,802.49	78,802.49	78,802.49
3	Adj. in repayment due to liability discharge*	0.00							
4	Adj. in repayment due to decap*	204.15							
5	Net Normative loan – Opening	1,313.74	1,311.30	1,435.20	2,106.53	1,739.53	216.23	216.23	216.23
6	Add: Increase due to addition during the year / period	6.22	123.90	1,970.50	2,519.30	269.50	-	-	-
7	Less: Decrease due to de-capitalisation during the year / period	-204.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period								
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Less: Repayment of Loan	8.66	-	1,299.17	2,886.30	1,792.80	173.25	173.25	173.25
11	Net Normative loan - Closing	1,311.31	1,435.20	2,106.53	1,739.53	216.23	42.98	42.98	42.98
12	Average Normative loan	1,312.52	1,373.25	1,770.86	1,923.03	977.88	129.60	129.60	129.60
13	Weighted average rate of interest	8.2100	8.2970	8.2978	8.2988	8.2980	8.2923	8.2923	8.2923
14	Interest on Loan	107.76	113.94	146.94	159.59	81.14	10.75	10.75	10.75
15	Cumulative repayment of Normative loan at the end of the period after adjustments	72,824.22	72,824.22	74,123.39	77,009.69	78,802.49	78,802.49	78,802.49	78,802.49
*Additional data									

(Petitioner)

5

Calculation of Interest on Working Capital

Name of the Company :		NTPC Limited							
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I							
		(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	15,352.91	15435.46	15435.46	15435.46	15435.46	15435.46		
2	Cost of Main Secondary Fuel Oil	411.23	395.37	394.29	394.29	394.29	395.37		
3	Fuel Cost								
4	Liquid Fuel Stock								
5	O & M Expenses	3,849.80	3725.39	3862.18	4003.23	4151.77	4304.75		
6	Maintenance Spares	9,239.51	8940.93	9269.24	9607.75	9964.24	10331.41		
7	Receivables	32,690.30	24982.51	25392.58	25833.37	25930.35	25934.80		
8	Total Working Capital	61543.74	53479.66	54353.76	55274.09	55876.10	56401.80		
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500		
10	Interest on Working Capital	8308.40	6444.30	6549.63	6660.53	6733.07	6796.42		

Petitioner

Capital Liabilities as on 01.04.2019		Form-S	
		Amount in Rs	
Name of company	NTPC Limited		
Name of the Station:	VSTPS Stage-1 (1260 MW)		
Name of the Party	Name of the work	Year of creation of liability capitalised in Gross Block	
Sl. No.		Undischarged liabilities relating to GB 01.04.2019	
Liability flow for admitted items upto 2008-09			
1	ASHOKA CONSTRUCTION	2003-04	416301
2	BHEL	2003-04	17211
3	BHEL	2003-04	54687
4	BHEL	2003-04	1471629
5	C S ANAND	2003-04	0
6	GENIELEC LIMITED	2003-04	0
7	Land Authority	2003-04	0
8	PUNJAB CHEMICAL PLANTS LTD.	2003-04	426692
9	INSTRUMENTATION LIMITED	2005-06	102061
10	A.K.AGENCIES	2006-07	0
11	ASEA BROWN BOVERI LIMITED.	2006-07	0
12	BHARAT HEAVY ELECTRICALS LIMITED	2006-07	9654098
13	C S ANAND	2006-07	0
14	GEA ENERGY SYSTEM (INDIA) LIMITED.	2006-07	0
15	ASEA BROWN BOVERI LIMITED.	2008-09	622377.29
16	GENUS OVERSEAS ELECTRONICS LTD	2008-09	0
TOTAL UPTO 31.03.2009			1276606.29
Liabilities pertaining to exclusions for the period 01.04.2009-31.3.2010			0
1	SARTECH / INSTRATECH	2009-10	0
Liabilities pertaining to Add cap			0
1	CHEMTROLS INDUSTRIES	2009-10	0
2	KISTLER MORSE AUTOMATION LTD	2009-10	0
3	GEA ENERGY SYSTEM INDIA LTD	2009-10	0
4	GENUS OVERSEAS	2009-10	0
5	C S ANAND	2009-10	121
6	ESP system	2009-10	0
TOTAL 2009-10			121
Liabilities pertaining to exclusions for the period 01.04.2010-31.03.2011			0
Liabilities pertaining to Add cap			0
1	GEA ENERGY SYSTEM (I) LTD	2010-11	0
2	BHEL	2010-11	6620800
3	SCHNEIDER ELECTRIC CONZERV	2010-11	459171
4	ESP system	2010-11	0
TOTAL 2010-11			7378971
Liabilities pertaining to exclusions for the period 01.04.2011-31.03.2012			0
Liabilities pertaining to Add cap			0
1	TIRUPATI INDUSTRIAL AGENCIES	2011-12	0
2	SCHNEIDER ELECTRIC CONZERV	2011-12	52308
3	ESP system	2011-12	0

52

STW

Sl. No	Name of the Station:	VSTPS Stage-1 (1260 MW)	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB 01.04.2019
	Name of the Party	Name of the work		
	TOTAL 2011-12			52308
	Liabilities pertaining to exclusions for the period 1.4.2012-31.3.2013			0
	NIL			0
	Liabilities pertaining to Add cap			0
1	ESP system	Works ERV	2012-13	0
2	NPCC	3RD RAISING OF ASH DYKE LAGOON V-1	2012-13	0
3	Shakti Construction Works	GARLANDING OF V1 DYKE WITH 400NB PIPE	2012-13	0
	Total 2012-13			0
	Grand total			0
	Liabilities pertaining to allowed Add-Cap & Reimbursement of asset in 2013-14			0
1	NESCL	5 KM Radius Rural Electrification	2013-14	0
2	NATIONAL PRESTIGE CONSTRUCTION CO	As Dyke Raising	2013-14	0
	Total (allowed items in 2013-14)			0
	Liabilities pertaining to Exclusion/Non-admitted assets in 2013-14			0
1	BHARAT HEAVY ELECTRICALS LIMITED	SUPPLY & Commissioning OF GENERATOR TRANSFORMER 250MVA FOR STAGE # 1	2013-14	10764160
2	ERV Reinstatement	Works ERV	2013-14	0
3	MIRZAPUR ELECTRICAL IND. LTD	Supply of Transformers.	2013-14	0
4	PARAMOUNT COMMUNICATIONS LTD	Supply of Cables for the installation of 2X500KVA 6.6/0.415 KV Transformers at CHP-1, TH MCC (Part 1 Supply of Cables)	2013-14	0
5	V/R ENTERPRISES	Installation of 2x500KVA, 6.6 / 0.415 KV Transformer at CHP-1, TH MCC.	2013-14	0
7	TELAVNE POWER EQUIPMENTS PVT LTD1065747	XYMR-1 6MVA 6.6/0.433KV ONAN-DYN11	2013-14	0
8	Electro Zaved India Pvt Ltd1001595	PCRD WITH GEAR BOX & DRIVE UNIT	2013-14	0
9	Electro Zaved India Pvt Ltd1001595	PCRD WITH GEAR BOX & DRIVE UNIT	2013-14	0
10	BHARAT HEAVY ELECTRICALS LTD1006668	GLOBE VALVE 65MM/2500/GR IIB/WHO	2013-14	0
11	BHARAT HEAVY ELECTRICALS LTD1006668	GLOBE VALVE 65MM/2500/GR IIB/WHO	2013-14	0
12	ALCOM CONTROLGEAR1028035	ELECTRICAL DRAW 3 POLE 630AMPS 126-315A3W	2013-14	0
13	BHARAT HEAVY ELECTRICALS LTD1006665	MILD JNT BLAD LPT STG2L	2013-14	508070
14	BHARAT HEAVY ELECTRICALS LTD1006668	PA FAN MAIN SHAFT	2013-14	0
15	GUPTA RADIO SERVICE & ELECTRONICS1028694	MICRO PROCESSOR BASED 3-POLE	2013-14	0
16	BHARAT HEAVY ELECTRICALS LIMITED1030575	CAPCITAVE VOL TRANSFORMER 420 KV 4400 PF	2013-14	0
17	TIRUPATI INDUSTRIAL AGENCIES	SUPPLY OF VACUUM CONTACTOR(6.6 KV) COMPLETE WITH ALL COMPONENTS AND ACCESSORIES	2013-14	0
18	Land	Rihand Submergence Land	2013-14	19460687.81
	Total (exclusion/Non-admitted items) in 2013-14			30732917.81
	Total (2013-14)			0
	Liabilities pertaining to Add-Cap/ Reimbursement claimed (2014-15)			0
2	NESCL	5 KM Radius Rural Electrification	2004-15	6311735.52
3	NATIONAL PRESTIGE CONSTRUCTION CO	3rd raising of ash dyke lagoon V-1	2014-15	0
	Total(Add-Cap claimed/Reimbursement Claimed in 2014-15)			6311735.52
	Liability pertaining to exclusion in 2014-15			0
1	IMALNAD EXTRACTION / ENERSOL. BIOPOWER/Pawan Construction	Bio-Diesel Plant		0

54

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Sr. No	Name of the Station:	VSTPS Stage-I (1260 MW)	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB 01.04.2019
	Name of the Party	Name of the work		
2	MBOA			487000
3	Spare			6686084.6
	Total(exclusion) in 2014-15			7175084.6
	Total (2014-15)			41563811.12
	Liabilities pertaining to Add-Cap 2015-16			
	Claimed /allowed Items		2015-16	0
	BAJAJ ELECTRICALS LTD/KN INTERNATIONAL LTD/JYOTI ENGINEERING WORKS	Ash Dyke raising and associated works	2015-16	0
1				
2	ESP system	ERV updation	2015-16	304812.57
	Total/Add-Cap claimed/Reimbursement Claimed in 2015-16)			304812.57
	Works under Exclusion		2015-16	0
3	SCHNEIDER ELECTRIC C	ABT System Upgrade	2015-16	192326
4	Transformers and Electricals Kerala	GT and mandatory spares	2015-16	161520
5	FUJI ELECTRIC CO., LTD / ANALYSER INSTRUMENTS	Continuous Emission Monitoring System	2015-16	63553.87
6	THERMAX LTD	Acid Storage Tank	2015-16	0
7	FUJI ELECTRIC CO., LTD ERV	Continuous Emission Monitoring System	2015-16	0
8	SIEMENS LTD	Conversion of Unit 6 Excitation system to static excitation system	2015-16	1919747
9	ELECON EPC PROJECTS LTD	1600-PULLEY DXL 400X1800 SHAFT DIA 100	2015-16	0
10	BARCO ELECTRONICS SYSTEM	LVS	2015-16	0
11	RAJAT ASSOCIATES	ELECTRICAL DRAW 3 POLE 6	2015-16	0
	Total(exclusion Claimed in 2015-16)			2337146.87
	Total(2015-16)			0
	Liability pertaining to Add-Cap fr. 2016-17			0
12	K N INTERNATIONAL LTD	Construction of 4th raising of ash dyke lagoon V-1	2016-17	1317683
13	National Preiteilige Constm Corpm	3rd raising of ash dyke lagoon V-1	2016-17	0
14	ESP system	Works ERV	2016-17	74748
	Total(Claim) 2016-17			1392431
	Works(Exclusion)			0
1	BHARAT HEAVY ELECTRICALS LTD		2016-17	0
2	SAPS POWER EQUIPMENTS PVT LTD		2016-17	0
3	SARTECH INTL		2016-17	324000

55

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Sr. No.	Name of the Station:	VSTPS Stage-I (1260 MW)	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB 01.04.2019
	Name of the Party	Name of the work		
4	ABB India Limited	UP-GRADATION OF EXISTING RELAY BASED CONTROL SYSTEM OF STAGE-I COMPRESSORS, CT FANS	2016-17	4764895
	Total exclusion-2016-17			5088895
	Total -2016-17			8976105
	2017-18			0
1	ERV reinstatement	ERV updation	2017-18	-37723.25
	Total Claim(2017-18)			-37723.25
	Works claimed under exclusion (2018-19)			0
	ERV reinstatement	ERV updation	2018-19	7541.6
	SIEMENS LTD	Supply for 6.6KV switchgear Stage-I	2018-19	2807550
	ALIKRAFT ENGINEERS PVT LTD	Elevator Crusher House	2018-19	2559420
	EMEN ENGINEERING PVT LTD	SUPPLY OF ROTATING ASSY.	2018-19	5684
	ANAND TECHNOMARKETING PRIVATE	Proc. of FA Fan Mill Motor 420kw	2018-19	342320
	SARTECH INTL	SUPPLY OF COMPLETE OPACITY MONITOR	2018-19	1095000
	Total exclusion (2018-19)			6817515.6
	ESP retrofit (under exclusion)*			117942620.2
	Total(allowed/claimed items)... (A)			28167212.13
	Grand Total			199261392.2

Stu.

56

Summary of issue involved in the petition

Name of the Company :		NTPC Limited				
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-I				
1	Petitioner:	NTPC Limited				
2	Subject	Approval of tariff of Vindhyachal STPS Stage-I (6x210 MW) for the period from 01.04.2019 to 31.03.2024				
3		<p>i) Approve tariff of VSTPS-I 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	Seven(7) no. respondents				
5	Name of Respondents	<p>1.MSEDCL, Maharashtra</p> <p>2.GUVNL, Gujarat</p> <p>3.MPPMCL, Madhya Pradesh</p> <p>4. CSPDCL, Chhattisgarh</p> <p>5.Electricity Deptt, Goa</p> <p>6.Electricity Deptt, DD</p> <p>7. DNH Power Distribution Corporation Ltd-DNH</p>				
Cost (Approved cost) (In Rs Crore)		2019-20	2020-21	2021-22	2022-23	2023-24
Claim						
AFC (Rs Lakh)		71554.38	74717.74	78292.98	79079.60	79299.68
Capital cost(Rs Lakh)		1,47,685.71	1,49,181.71	1,52,388.71	1,54,380.71	1,54,573.21
Initial spare		N.A.				
NAPAF (Gen)		85%				
Any Specific						
						Petitioner

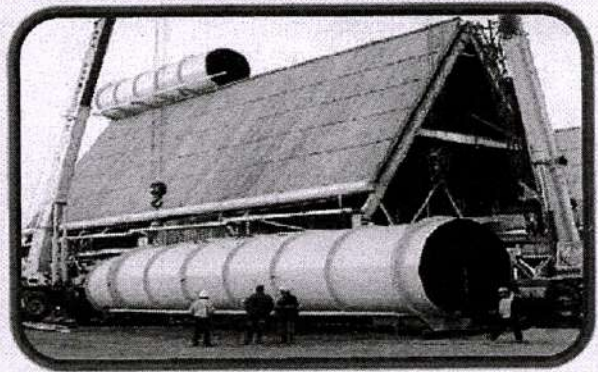
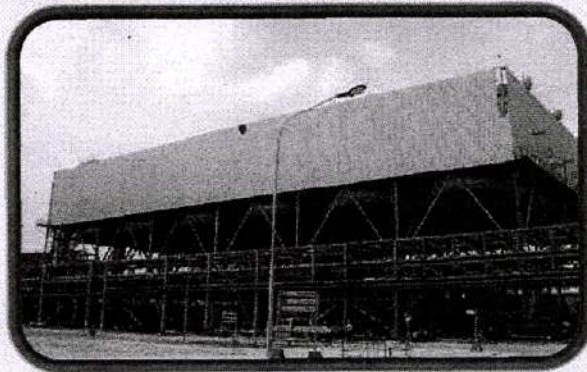
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Ann-A

REPORT ON MINIMISATION OF WATER REQUIREMENT IN COAL BASED THERMAL POWER STATIONS



CENTRAL ELECTRICITY AUTHORITY
New Delhi – 110066

January' 2012

Signature (58)



के. पी. सिंह, सदस्य (तापीय)
केन्द्रीय विद्युत प्राधिकरण
भारत सरकार



संदेश

ओं शं नो देवीरभिष्टय ऽ आपो भवंतु पीतये । शं योरभि स्रवंतु नः ॥

इस मंत्र का भाव है कि दिव्य गुणवाले जल हमारे लिए कल्याणकारक हों, इष्ट सुख शांति की प्राप्ति के लिए, और पीने के लिए हों। उनके सदुपयोग से हम पर कल्याणकारक, सर्वदुःख निवारक सुख की वर्षा होवे। इससे पृथ्वी पर जल की समस्त प्राणियों के लिये उपयोगिता सिद्ध होती है। जल के यथार्थ प्रयोग से हम विविध सुखों व ऐश्वर्यों को प्राप्त हों। अतः यह ताप विद्युत संयंत्रों सहित अन्य उद्योग-धंधों के लिए भी बहुत अनिवार्य है। पिछले कुछ वर्षों में जल की उपलब्धता वर्तमान तथा भविष्य में स्थापित होने वाले ताप विद्युत परियोजनाओं के लिए एक विकट समस्या बन गई है। जल के उपयोग की सबसे अनिवार्य प्राथमिकता पेय जल तथा सिंचाई है। वर्षा में जहां जल की अधिक उपलब्धता होती है, वहीं ग्रीष्मकाल में जल की सीमित मात्रा अनेक समस्याएं प्रस्तुत कर देती है। यद्यपि वर्षा जल को संग्रह करने के लिए बांध/जलाशय आदि बनाये जा सकते हैं किन्तु इस काम की अपनी अलग सीमाएँ/समस्याएं हैं। अतः ताप विद्युत परियोजनाओं के उपयोग में आने वाले जल की यदि हम कुछ बचत कर सकें तो यह मानवता के लिए एक पुनीत कार्य होगा व बचा हुआ जल अन्य परियोजनाओं के लिए उपलब्ध हो सकेगा।

विद्युत अधिनियम-2003 की धारा 73 के अनुसार, केन्द्रीय विद्युत प्राधिकरण को जो कार्य सौंपे गये हैं, उनके तहत अनेक प्रलेख (डाक्यूमेंट) बनाये जाने हैं।

उपरोक्त तथ्यों को ध्यान में रखते हुए केन्द्रीय विद्युत प्राधिकरण में एक समिति का मई 2009 में गठन किया गया था जिसका मुख्य कार्य ताप विद्युत संयंत्रों में उपयोग में आने वाले जल की यथासंभव बचत के लिए सुझाव देना भी शामिल था। इस समिति में एन.टी.पी.सी., बी.एच.ई.एल., राजस्थान राज्य विद्युत उत्पादन निगम, महाजेनको, सी.ई.एस.सी. तथा टी.सी.ई. के सदस्य थे। समिति ने अनेक बैठकों की तथा अपनी संस्तुति "Report on minimisation of water requirement in coal based Thermal Power Stations" नामक रिपोर्ट के रूप में दी है। मैं समिति के सभी सदस्यों को साधुवाद देना चाहूंगा कि उन्होंने अपने अथक प्रयास से यह पुनीत कार्य संपन्न कर दिया है।

मुझे यह पूर्ण विश्वास है कि उपरोक्त रिपोर्ट में दर्शाए गए जल उपयोग संबंधित मानक, ताप विद्युत परियोजनाओं के परिचालन व योजना से संबंधित सभी लोगों का मार्गदर्शन करेंगे और जल की बचत करने में सहायक सिद्ध होंगे। इसमें दिये गये विवरणों को और अधिक उपयोगी बनाने व भविष्य में जल की खपत को कम करने हेतु आप सभी के बहुमूल्य सुझाव भी आमंत्रित हैं।

नई दिल्ली
जनवरी, 2012

(कुंवर पाल सिंह)

59



cooling tower with typical COC of about 3 requiring make up water of about 2.5% of CW flow.

In the present study, CW system is considered to be operated at COC of 5.0 with requirement of make up water typically about 2.1 % of CW flow (comprising of 1.7% evaporation loss, 0.05% drift loss and 0.35 % as blow down). The blow down water is considered to be used for disposal of bottom ash, and unutilized blow down, if any, is led to central monitoring basin (CMB) of the plant for further utilization/ treatment/ disposal outside the plant boundary. The quantum of blow down water can be further reduced by increasing the COC of CW system which can be achieved by suitably improving the chemical regime of circulating water, if feasible.

In case of dry condenser cooling system, wet cooling tower is required only for ACW flow and requirement of plant make- up water is considerably reduced. The aspect of dry cooling system for thermal power plants is covered at para 5.0 and 7.0 of this report.

4.2 Ash Handling System

Combustion of coal in a thermal power plant results in generation of ash which needs to be disposed off. The amount of ash generated depends upon the quality of coal particularly its calorific value and its ash content. For a 500 MW unit burning typical Indian coal (of 40% ash), the amount of ash generated is about 140 ton/h with distribution of fly ash and bottom ash as 80:20.

Fly ash and bottom ash generated in the plant has traditionally been disposed to ash pond in the form of wet slurry. Over a period of time, environmental concerns associated with ash generation in thermal plants have resulted in various measures to be adopted viz. reducing water requirement for wet ash disposal, dry disposal of fly ash and utilization of ash in various applications. The measures for reducing consumptive water requirement include reducing water to ash ratio for slurry disposal, recirculation of ash pond water and use of high concentration slurry disposal (HCSD) system for fly ash. In recent plants, wet disposal of ash has been adopted with slurry concentration of 30% for fly ash and 25% for bottom ash. In the plants using ash water recirculation, typically 70% of ash pond water can be recovered and reused in ash handling plant. Thus, net water to be supplied for ash disposal gets reduced to about 30% of requirement of ash handling plant. As regards HCSD system for fly ash, the process involves pumping of high solids concentration slurry with more than 60% solids by weight employing positive displacement pumps as compared to lean slurry transportation at about 25- 30% concentration.

As per MOE&F's notification dated 3.11.2009, all new coal based power stations are required to progressively achieve 100% utilization of fly ash by fourth year from date of commissioning of the project. Thus, fly ash may be disposed off in wet mode (lean slurry or HCSD mode) only during initial period of plant operation as above. Bottom ash shall, however, have to be disposed in wet/ semi-wet form since proven technology for dry evacuation of bottom ash is



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Ann - 'B'
Copy to G.M.P. / G.M.T.S. / W.S.

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

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

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

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

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

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

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

1. To modify the use of hazardous chlorine chemical to minimum hazardous chlorine chemical and to strictly comply with all the conditions laid down in the letter as per the condition of this office letter no. CSMC/TFC/CR-13/2013-14 Date 23.09.2013.
2. To get those buildings and machinery layout maps approved which are not approved earlier or the maps involving modifications. Such maps should be submitted for approval.
3. Before starting use of all the buildings and structures of the factory, authentication certification should be separately obtained as per Form 1A from authorized Civil Engineers and submitted to the Field Officer. Then only these should be used.

Ninety nine maps as approved are sent enclosed herewith. Kindly acknowledge.

Director of Factories &
Boilers,
Bengaluru

To,
The Occupier,
M/s. Kudgi Super Thermal Power Project
NTPC Limited
Kudgi, Taluka: Basavana Bagewadi, Dist.: Vijayapura

62

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಕಾರ್ಖಾನೆಗಳು, ಬಾಯ್ಲರುಗಳು, ಕೈಗಾರಿಕಾ ಸುರಕ್ಷತೆ ಮತ್ತು ಸ್ವಾಸ್ಥ್ಯ ಇಲಾಖೆ

ಸಂಖ್ಯೆ: ಕಾಬಾನಿ/ಎಫ್‌ಫಿಎಲ್/ಎಫ್‌ಪಿಎನ್/ಸಿಆರ್-167/2015-16

ನಿರ್ದೇಶಕರ ಕಾರ್ಯಾಲಯ,

ಕಾರ್ಮಿಕ ಭವನ, 2ನೇ ಮಹಡಿ, ಬನ್ನೇರುಘಟ್ಟ ರಸ್ತೆ,

ಬೆಂಗಳೂರು-29, ದಿನಾಂಕ: 13.04.2016

ನಿರ್ದೇಶಕರು, ಕಾರ್ಖಾನೆಗಳು, ಬಾಯ್ಲರುಗಳು, ಕೈಗಾರಿಕಾ ಸುರಕ್ಷತೆ ಮತ್ತು ಸ್ವಾಸ್ಥ್ಯ ಇಲಾಖೆ, ಬೆಂಗಳೂರು ಇವರ ನಡವಳಿಗಳು

ಓದಿದೆ: ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಸೆಕ್ಷನ್ 6(1) ಹಾಗೂ ಕರ್ನಾಟಕ ಕಾರ್ಖಾನೆಗಳ ನಿಯಮಾವಳಿಗಳು, 1969ರ 3ನೇ ನಿಯಮ.

ವಿಷಯ: ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಮೇರೆಗೆ ಮೆ|| ಕೂಡಗಿ ಸೂಪರ್ ಥರ್ಮಲ್ ಪವರ್ ಪ್ರಾಜೆಕ್ಟ್ (ಎನ್.ಟಿ.ಪಿ.ಸಿ.ಲಿಮಿಟೆಡ್), ವಿಜಯಪುರ ಈ ಕಾರ್ಖಾನೆಯ ನಕ್ಷೆಗಳನ್ನು ಅನುಮೋದಿಸುವ ಕುರಿತು.

- ಉಲ್ಲೇಖ : 1) ಅರ್ಜಿ ನಮೂನೆ-1ರ ದಿನಾಂಕ : 27.01.2016.
2) ಸ್ಥಳ ಪರಿವೀಕ್ಷಣೆಯ ದಿನಾಂಕ : 05.02.2016.
3) ಅಂತಿಮ ಪರಿಶೋಧನೆಯ ದಿನಾಂಕ : 07.04.2016.

ಮೆ|| ಕೂಡಗಿ ಸೂಪರ್ ಥರ್ಮಲ್ ಪವರ್ ಪ್ರಾಜೆಕ್ಟ್ (ಎನ್.ಟಿ.ಪಿ.ಸಿ.ಲಿಮಿಟೆಡ್), ವಿಜಯಪುರ ಈ ಕಾರ್ಖಾನೆಯ ನಕ್ಷೆಗಳು ಕಾರ್ಖಾನೆಗಳ ಕಾಯ್ದೆ 1948ರ ಹಾಗೂ ಅದರಿಂದ ರೂಪಿತವಾದ ನಿಯಮಗಳಲ್ಲಿ ಕಲ್ಪಿಸಿರುವ ಅವಕಾಶಗಳಿಗನುಸಾರವಾಗಿ ಪರಿಶೋಧಿಸಿದ ಮೇಲೆ ಸದರಿ ಕಾರ್ಖಾನೆಗೆ ಸಂಬಂಧಪಟ್ಟ ಕಟ್ಟಡ ಹಾಗೂ ಯಂತ್ರ ವಿದ್ಯುತ್ ಇವುಗಳ ನೀಲಿ ನಕ್ಷೆಗಳು ಅಗತ್ಯವಿರುವ ಕಾರ್ಖಾನೆಗಳು ಕಾಯ್ದೆ 1948ರ ಹಾಗೂ ಕರ್ನಾಟಕ ಕಾರ್ಖಾನೆಗಳ ನಿಯಮಾವಳಿಗಳು 1969ರ 3(4) ನೇ ನಿಯಮಕ್ಕನುಸಾರವಾಗಿ ಕಲ್ಪಿಸಿರುವ ಎಲ್ಲಾ ಅವಕಾಶಗಳು ಮತ್ತು ಈ ಕೆಳಕಂಡ ಷರತ್ತುಗಳ ಅನುವರ್ತನೆಗೊಳಪಟ್ಟು ಅನುಮೋದಿತವಾಗಿವೆ.

1. ಇದೇ ಕಛೇರಿಯ ಪತ್ರ ಸಂಖ್ಯೆ: ಸಿಎಸ್‌ಎಂಸಿ/ಟಿಎಫ್‌ಸಿ/ಸಿಆರ್-13/2013-14, ದಿ: 23.09.2013 ರಂತೆ ವಿಧಿಸಿರುವ ಷರತ್ತಿನಂತೆ ಅಪಾಯಕಾರಿ ಕ್ಷೀರಣಿ ರಾಸಾಯನಿಕದ ಉಪಯೋಗವನ್ನು ಕನಿಷ್ಠ ಅಪಾಯಕಾರಿ ರಾಸಾಯನಿಕಕ್ಕೆ ಬದಲಾಯಿಸುವುದು ಮತ್ತು ಇತರೆ ಸದರಿ ಪತ್ರದಲ್ಲಿ ಸೂಚಿಸಿರುವ ಎಲ್ಲಾ ಷರತ್ತುಗಳನ್ನು ಕಟ್ಟುನಿಟ್ಟಾಗಿ ಪಾಲಿಸುವುದು.
2. ಹಾಲಿ ಇಲಾಖೆಯಿಂದ ಅನುಮೋದನೆಗೊಂಡಿರುವ ಎಲ್ಲಾ ಕಟ್ಟಡ ಮತ್ತು ಯಂತ್ರ ವಿದ್ಯುತ್ ನಕ್ಷೆಗಳನ್ನು ಕ್ರೋಡೀಕರಿಸಿ ಯಾವುದೇ ಕಟ್ಟಡ ಮತ್ತು ಯಂತ್ರ ವಿದ್ಯುತ್ ಅನುಮೋದನೆಗೊಳ್ಳದಿದ್ದಲ್ಲಿ ಅಥವಾ ಬದಲಾವಣೆಗಳಿದ್ದಲ್ಲಿ ಅವುಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ನಕ್ಷೆಗಳನ್ನು ಸಲ್ಲಿಸಿ ಅನುಮೋದನೆ ಪಡೆಯುವುದು.
3. ಕಾರ್ಖಾನೆಯಲ್ಲಿನ ಎಲ್ಲಾ ಕಟ್ಟಡ ಮತ್ತು ಸ್ತಂಭಗಳನ್ನು ಉಪಯೋಗಕ್ಕೆ ತೆಗೆದುಕೊಳ್ಳುವ ಪೂರ್ವದಲ್ಲಿ ದೃಢೀಕೃತ ಸಿವಿಲ್ ಇಂಜಿನಿಯರ್‌ಗಳಿಂದ ದೃಢೀಕರಣ ಪ್ರಮಾಣ ಪತ್ರಗಳನ್ನು ನಮೂನೆ-1ಎ ನಂತೆ ಪ್ರತ್ಯೇಕವಾಗಿ ಪಡೆದು ಕ್ಷೇತ್ರಾಧಿಕಾರಿಗಳಿಗೆ ಸಲ್ಲಿಸಿ, ನಂತರವೇ ಉಪಯೋಗಕ್ಕೆ ತೆಗೆದುಕೊಳ್ಳುವುದು.

ಇವುಗಳಿಗೆ ಅನುಮೋದನೆ ನೀಡುವುದಾಗಿ
ಇಂ.ಓ. ಕೆ.ಎ.ಆರ್

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BY REGD POST

STATE POLLUTION CONTROL BOARD, ODISHA

(Department of Forest & Environment, Govt. of Odisha)
Paribesh 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 **Derlipali 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-Derlipali** (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. ✓

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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-6.5 to 8.5
SS-100mg/l
O&G-20mg/l and
Flouride-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.

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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, "Karnika 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,
Kudugi Super Thermal Power Project,
Plot No. 9, Mallikarjun Nagar,
Munagali Road, Bijapur-586 109

Sir,

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

- 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 initial clearance 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 create the safe and healthy work environment with special trust to fugitive emission of 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.

Handwritten signature and date:
AUM (PKS)
19/10/2013

Handwritten signature and number:
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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 70 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:

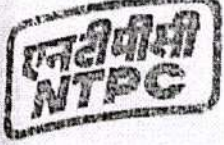
1. The industry shall adopt the rain-harvesting system to harvest atleast 30% of the rain water.
2. The industry shall adopt solar energy system at least catering to street lighting and in other suitable areas like water heating in the canteen, etc.

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





एनटीपीसी लिमिटेड

(भारत सरकार का उद्योग)

NTPC Limited

(A Govt. of India Enterprise)

Ref. No. 01: HR: S&C: 001

To

The Inspector General

NCR Sector

Central Industrial Security Force

Ministry of Home Affairs (MHA)

5th floor, Block No. (11), CGO Complex.

New Delhi - 110003.

केन्द्रीय कार्यालय / Corporate Centre

Dated: 26.11.2018

Amm-C

Sub. : **Integrated Security System in NTPC Stations / Projects.**
Ref. : **Our meeting in your office on dt. 26.11.2018 reg.**

Dear Sir,

As you are aware, we are going for an "Integrated Security System" in NTPC to augment security preparedness by adoption of state of the art technology based security systems in NTPC. In this connection in addition to NTPC, Dadri, we are also contemplating pilot implementation of the system at few other projects of NTPC as well, as indicated by our Director (HR) in his communication dtd. 08.11.2018 to DG (CISF). The projects are as follows.

- 1) NTPC, Singrauli (a big thermal power station in Uttar Pradesh)
- 2) NTPC, Vindhyachal (a big thermal power station in Madhya Pradesh)
- 3) NTPC, Kudgi (a green field project in Karnataka)
- 4) NTPC, Kawas (a gas based project in Gujarat)
- 5) NTPC, Koldam (a hydro project in Himachal Pradesh)

In the above context, you are requested to kindly issue necessary instructions to the CISF unit heads at the referred sites to associate and facilitate in the process, as we will be seeking their support during visits to these sites, as and when required, in the near future.

As suggested by ED (HR), you may also kindly let us know your availability to join us for a joint visit to our Singrauli and Vindhyachal/Rihand project sites for a study reg. integrated security system and possibility of developing a unified command, technological upgradation and consequential rationalisation of CISF deployment.

Thanking you in anticipation of a prompt response please.

Yours Sincerely,

S.N. Patnigrahi
Addl. GM (HR-S&C).

- for kind information and n. a. please.

S.N. Patnigrahi

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SPATCHER
THE INSIDERS HUBS
11, 11, 11 FLOOR
CGO COMPLEX
NEW DELHI-110003

J.S. Negi, DIG (I&P)
CISF Head Quarter,

Ref.No.01/HR-S&C/ISS/2018

केन्द्रीय कार्यालय / Corporate Centre

05.12.2018

✓ The Inspector General
NCR Sector
Central Industrial Security Force
Ministry of Home Affairs
5th Floor, Block No.11, CGO Complex
New Delhi-110 003

Sub.: Our visit to NTPC,Vindhyachal and NTPC, Singrauli Projects for joint study reg..
Ref : Our letter dt. 26.11.2018

Dear Sir,

As discussed with you during our meeting dated 26.11.2018, in addition to NTPC Dadri, we are also going to explore the possibilities of implementation of Integrated Security System in five (5) other projects / sites of NTPC, namely i.e. Singrauli, Vindhyachal, Kudgi, Kawas, Koldam in the 1st phase.

As you are aware, NTPC, Singrauli(UP) and NTPC,Rihand(UP) are situated in close proximity of NTPC,Vindhyachal(MP) which is the biggest power plant of the country as on date. There has been a talk of merging these two establishments of CISF into a single unified command as a part of rationalization.

In the above context, in order to have a first hand study on the possibility of rationalization through integrated security system, may we request you to kindly associate for a visit to NTPC Vindhyachal and Singrauli on 14-15 December, 2018 as I would like to personally visit these project sites on the said dates to have a threadbare discussion on the subject.

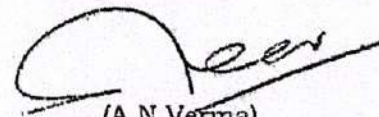
However, in case you are not available in view of your other pressing official preoccupation, you may kindly depute a senior officer from CISF to associate in the process

Hope to have a prompt and positive response from you in this regard.

With warm regards.

Yours Sincerely,


07/12/18



(A.N.Verma)

Executive Director (HR)

DISPATCHER
OFFICE OF THE DIRECTOR Hqs
BLOCK No.11, 5th FLOOR
LODHI ROAD, CGO COMPLEX
NEW DELHI-110003

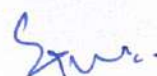
पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7, इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003

कार्पोरेट पहचान नम्बर: L40101DL1975GO1007966 टेलीफोन नं.: 011-24387333 फैक्स नं.: 011-24361018 ईमेल : ntpccc@ntpc.co.in वेबसाइट : www.ntpc.co.in

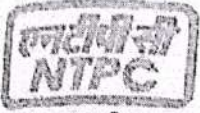
Registered Office : NTPC Bhawan, Scope Complex, 7, Institutional Area, Lodhi Road, New Delhi-110003

Corporate Identification Number : L40101DL1975GO1007966 Tel. : 011-24387333 Fax : 011-24361018 E-mail ; ntpccc@ntpc.co.in

Website : www.ntpc.co.in



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A Maharatna Company

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)

NTPC Limited
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

Ref. No. 01: HR: S&C: 001

12.09.2018

Inspector General (NCR Sector)
Central Industrial Security Force
Ministry of Home Affairs (MHA)
5TH Floor, Block No (11), CGO Complex,
New Delhi- 110003.

Sub : Integrated Security System for NTPC Stations/Projects
Ref : Our meeting today in your office

Dear Sir,

Kindly refer to the meeting we had today in your office and the presentation made on Integrated Security System for NTPC Project/Units, on the basis of Pilot study carried out at NTPC, Dadri jointly by NTPC and CISF.

As desired, we are enclosing the copy of the said presentation for your kind reference and further deliberation at your end.

I am sure this initiative would be carried forward under your guidance and active cooperation. We hope to hear from you soon in this regard for further course of action in this regard.

Thanking you

Sincerely yours

AN Verma

Executive Director (HR)

Ref
Master
12/09/18

Encl : As above

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7, इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003

पहचान नम्बर: L40101DL1975GO1007966 टेलीफोन नं.: 011-24387333 फैक्स नं.: 011-24361018 ईमेल : ntpccc@ntpc.co.in वेबसाइट : www.ntpc.co.in

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

68



सप्तर्षि राय
निदेशक (मानव संसाधन)

SAPTARSHI ROY
Director (Human Resources)

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)

NTPC Limited
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

Dated: 08.11.2018

Subject: Integrated Security System in NTPC Stations /Projects.

Dear *Shri Rajesh Ranjan,*

At the outset, let me thank you for your positive response to our proposal for creating an integrated security system in NTPC project sites.

We are consciously aware that security is a very critical and sensitive aspect of creating huge national assets of critical sectors, like that of ours. CISF, being the exclusive Govt. of India instrumentality, dedicated for Industrial Security, has been deployed at our project / operational sites for protection of our men and material.

In this regard, we are actively considering to take advantage of the latest technological advancement in the area of Security, which will not only enhance the security preparedness of our vital installations of national interest but also can create a possibility of rationalizing the deployment of CISF, thus making the system less susceptible to human error. We are initiating induction of latest technology to strengthen integrated security system in our power stations. CISF has always being our partner in progress. We strongly believe that rationalization of the deployed strength can take place as a consequence of Integrated Security System, as this initiative can yield results only with active support and involvement of CISF.

We are very thankful for the recent responses from CISF to our team who has been closely interacting for the last 3-4 months to realize the subject objective.

We would also like to bring to your kind knowledge that we are working out the blue prints for installation of Integrated Security system for one big operational thermal sites, one operational hydro site and one green field site to start with. Other sites will be taken up in phases subsequently. We will be seeking your active cooperation and guidance for further progress in this direction so that the existing strength in the concerned project sites are rationalised without compromising on the quality of security service and essential manpower with specialised training only are deployed to meet the requirement.

To take this initiative forward for its successful implementation through participative approach, we are contemplating a discussion on the issue with the top team of NTPC and CISF officials to seek valuable guidance at the earliest as per mutual convenience.

We shall be soliciting your kind response in this direction.

Warm regards,

Yours Sincerely,

S
Saptarshi Roy

Sh. Rajesh Ranjan, IPS
Director General (CISF)
CISF Head Quarter,
CGO Complex, Lodhi Road.
New Delhi-110003

S

o/c

69