

Petition No :



Vindhyachal STPS Stage-II

2x500 MW

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

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Vindhyachal STPS Stage-II (2x500 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-II for the period from 01.04.2019 to 31.03.2024	1-7
2	Affidavit	8-9
3	Appendix-I	10-43
4	Annexure-A	44-46
5	Annexure-B	47-49j
6	Annexure-C	50-53
7	Annexure-D	54



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 STPS Stage-II (2x500 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 Ltd.,
Shakti Bhawan, Vidyut Nagar,
Jabalpur 482 008
2. Maharashtra State Electricity Distribution Co Ltd.
Prakashgad, Bandra (East),
Mumbai 400 051
3. Gujarat Urja Vikas Nigam Ltd.
VidyutBhavan, Race Course
Vadodara – 390 007
4. Chattisgarh State Power Distribution Co. Ltd
P.O. Sundar Nagar,
Danganiya, Raipur – 492013
5. Electricity Department of Goa
VidyutBhawan,
Panaji, Goa

S.P.W.

①

6. DNH Power Distribution Corporation Ltd.
UT of DNH,
Silvassa-396230

7. Electricity Department,
Administration of Daman & Diu,
Daman-396210

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. Vindhyachal STPS Stage-II (2X500 MW) (hereinafter referred to as VSTPS Stage-II) is one such station located in the State of Madhya Pradesh. The power generated from VSTPS Stage-II is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 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.

②



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 Stage-II for the period from 01.04.2019 to 31.03.2024 as per the Tariff Regulations 2019.

- 6) The tariff of the VSTPS Stage-II for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 06.02.2017 in Petition No. 327/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. Further, The Petitioner thereafter had filed an Appeal (being No. 93/2017) in Appellate Tribunal of Electricity on certain aspects of the order dated 06.02.2017. 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 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 06.02.2017 in Petition No. 327/GT/2014 has allowed a capital cost of Rs 2556.4229 Cr. on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs.

③

Saw...

2583.8405 Crs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs.(+) 27.4176 Cr from 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 2583.8405 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 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. The water charges as paid in 2018-19 has been escalated @3.5% every year. 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
Type of cooling water system	Closed Circuit cooling system
Yearly allocation of Water for VSTPS	149 MCM
Rate of Water charges	5.50 Rs/Cu m
Total Water Charges paid for VSTPS-II-(2018-19)	Rs. 1622.74 Lakh.

(9)

S.P.W.

- 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 true-up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24
- 11) The present petition is filed on the basis of norms specified in the Tariff Regulations 2019. It is submitted that the petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEF vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will effect the station APC, Heat Rate , O&M expenses etc. In addition the availability of the unit/ station would be also effected due to shutdown of the units for installation of ECS. The petitioner would be filing the details of the same in a separate petition in terms of the Regulation 29 of Tariff Regulations 2019. The tariff of the instant petition would undergo changes consequent to the Order of the Hon'ble Commission in the said ECS petition.
- 12) 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:*

(5)

S. Anand

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.

6

S. P. S.

- 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 Stage-II 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

New Delhi
24.01.2020

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 STPS Stage-II (2x500 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

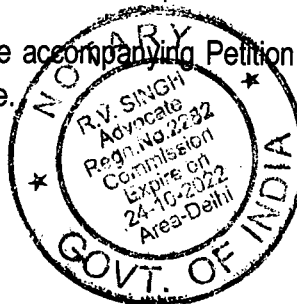
Respondents: 1. Madhya Pradesh Power Management
Company Limited,
Shakti Bhawan, Vidyut Nagar,
Jabalpur 482 008 and Others

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.

8



Saw.

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.

[Signature]
(Deponent)

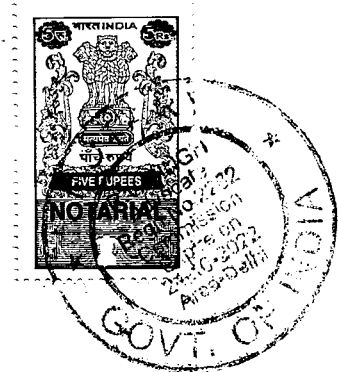
Verification:

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.

124 JAN 2020

[Signature]
(Deponent)



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

[Signature]
Notary Public. DELHI

124 JAN 2020

9

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Vindhyachal Super Thermal power Station Stage-II

(From 01.04.2019 to 31.03.2024)

PART-I

ANNEXURE-I

10

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

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Special Allowance	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	NA
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	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	NA
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.	NA
	B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	**
3	Copies of relevant loan Agreements	NA
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	NA
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable.	NA
	List of supporting documents to be submitted:	
	a. Detailed Project Report	
	b. CPM Analysis	
	c. PERT Chart and Bar Chart	
d. Justification for cost and time Overrun		
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	NA
9	Any other relevant information, (Please specify)	NA
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	NA
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

** shall be submitted at the time of trueing up

(12)

S. No.

Summary of Tariff

Name of the Petitioner:		NTPC Limited								
Name of the Generating Station:		Vindhyachal Super Thermal power Station Stage-II								
Place (Region/District/State):		Western Region/Singrauli/ Madhya Pradesh								
S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Amount in Rs. Lakhs	
									3	4
1	2									
1.1	Depreciation	Rs Lakh	6,319.83	6,319.69	6,421.73	6,823.96	7,623.17	8,113.64		
1.2	Interest on Loan	Rs Lakh	0.00	-	-	-	-	-		
1.3	Return on Equity	Rs Lakh	15,336.68	14,579.02	14,613.40	14,711.14	14,867.70	14,940.78		
1.4	Interest on Working Capital	Rs Lakh	5,946.95	4,755.41	4,805.84	4,861.79	4,926.67	4,985.00		
1.5	O&M Expenses	Rs Lakh	24,566.89	25029.88	25962.69	26935.97	27950.62	28997.65		
1.6	Special Allowance (If applicable)	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00		
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh	500.00							
	Total	Rs Lakh	52670.36	50683.99	51803.66	53332.85	55368.16	57037.06		
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid) as per FSA approved by beneficiaries	Rs/Ton								
	(%) of Fuel Quantity	(%)								2231.13
2.2	Landed Fuel Cost Imported Coal as per FSA approved by beneficiaries									
	(%) of Fuel Quantity									NA
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton								
	(%) of Fuel Quantity	(%)								NA
2.4	Landed Fuel Cost Imported Coal other than FSA.									
	(%) of Fuel Quantity									NA
2.5	Secondary fuel oil cost	Rs/Unit								0.025
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit								1.615

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

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	2,58,384.05	2,59,098.05	2,59,604.05	2,63,013.05	2,65,607.05
2	Add: Addition during the year/period	714.00	506.00	3,409.00	2,594.00	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	2,59,098.05	2,59,604.05	2,63,013.05	2,65,607.05	2,65,607.05
7	Average Capital Cost	2,58,741.05	2,59,351.05	2,61,308.55	2,64,310.05	2,65,607.05

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	258384.05	259098.05	259604.05	262488.05	265082.05
2	Add: Addition during the year / period	714.00	506.00	2884.00	2594.00	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	259098.05	259604.05	262488.05	265082.05	265082.05
7	Average Capital Cost	258741.05	259351.05	261046.05	263785.05	265082.05

**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	525.00	525.00
2	Add: Addition during the year / period	0.00	0.00	525.00	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	525.00	525.00	525.00
7	Average Capital Cost	0.00	0.00	262.50	525.00	525.00

S. M. V.
(Petitioner)

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

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	77,515.22	77,729.42	77,881.22	78,746.42	79,524.62
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	77,515.22	77,729.42	77,881.22	78,746.42	79,524.62
5	Add: Increase in equity due to addition during the year / period	214.20	151.80	865.20	778.20	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)	77,729.42	77,881.22	78,746.42	79,524.62	79,524.62
11	Average Equity (Normal)	77,622.32	77,805.32	78,313.82	79,135.52	79,524.62
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	14,579.02	14,613.40	14,708.90	14,863.23	14,936.31

S. M.
(Petitioner)

(15)

Name of the Petitioner:

NTPC Limited

Name of the Generating Station:

Vindhyachal Super Thermal power Station Stage-II

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity (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	157.50	157.50
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	157.50	157.50
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	157.50	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	0.00	0.00	157.50	157.50	157.50
11	Average Equity (Normal)	0.00	0.00	78.75	157.50	157.50
12	Rate of ROE (%)	2.836	2.836	2.836	2.836	2.836
13	Total ROE	0.00	0.00	2.23	4.47	4.47

(Petitioner)

16

Plant Characteristics

Name of the Petitioner		NTPC Limited	
Name of the Generating Station		Vindhyachal Super Thermal power Station Stage-II	
Unit(s)/Block(s)/Parameters		Unit-I	Unit-II
Installed Capacity (MW)		500	500
Schedule COD as per Investment Approval			
Actual COD /Date of Taken Over (as applicable)		1-Jul-00	1-Oct-00
Pit Head or Non Pit Head		Pit Head	Pit Head
Name of the Boiler Manufacture		BHEL	BHEL
Name of Turbine Generator Manufacture		BHEL	BHEL
Main Steams Pressure at Turbine inlet (kg/Cm ²) abs ¹ .			
Main Steam Temperature at Turbine inlet (°C) ¹			
Reheat Steam Pressure at Turbine inlet (kg/Cm ²) ¹			
Reheat Steam Temperature at Turbine inlet (°C) ¹			
Main Steam flow at Turbine inlet under MCR condition (tons /hr) ²			
Main Steam flow at Turbine inlet under VVO condition (tons /hr) ²			
Unit Gross electrical output under MCR /Rated condition (MW) ²			
Unit Gross electrical output under VVO condition (MW) ²			
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) ³			
Conditions on which design turbine cycle heat rate guaranteed(kcal/kwhr)			
% MCR			
% Makeup Water Consumption			NA
Design Capacity of Make up Water System(% of throttle steam flow)			
Design Capacity of Inlet Cooling System			
Design Cooling Water Temperature (°C)			
Back Pressure(Average condenser pressure in mmHg(A))			
Steam flow at super heater outlet under BMCR condition (tons/hr)			
Steam Pressure at super heater outlet under BMCR condition) (kg/Cm ²)			
Steam Temperature at suner heater outlet under BMCR condition (°C)			
Steam Temperature at Reheater outlet at BMCR condition (°C)			
Design / Guaranteed Boiler Efficiency (%) ⁴			
Design Fuel with and without Blending of domestic/imported coal			
(GCV) Domestic Design coal			
Blended Coal (Domestic Design 70%+ Imported 30%)			
Type of Cooling Tower		Induced draught type Cooling tower	
Type of cooling system ⁵		Open Recirculating type Cooling water system	
Type of Boiler Feed Pump ⁶		2X50%TDBFP & 1X50% MDBFP	2X50%TDBFP & 1X50% MDBFP
Fuel Details ⁷			
-Primary Fuel		Coal	
-Secondary Fuel		LDO	
-Alternate Fuels			
Special Features/Site Specific Features ⁸			
Special Technological Features ⁹			
Environmental Regulation related features ¹⁰		1.ESP is provided 2.FGD under implementation	1.ESP is provided 2.FGD under implementation
Any other special features			

(PETITIONER)

17

Normative parameters considered for tariff computations

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Vindhyachal Super Thermal power Station Stage-II					
(Year Ending March)							
Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	2.340	2.340	2.340	2.340	2.340
Effective Tax Rate	%	21.5490	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
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption##	%	5.75	7.05	7.05	7.05	7.05	7.05
Gross Station Heat Rate	kCal/kWh	2375.00	2390.00	2390.00	2390.00	2390.00	2390.00
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC1	in Days	45	40	40	40	40	40
Cost of Main Secondary Fuel Oil for WC1	in Months	2	2	2	2	2	2
Fuel Cost for WC2	in Months						
Liquid Fuel Stock for WC2	in Months						
O&M Expenses	Rs lakh/MW	0	22.51	23.3	24.12	24.97	25.84
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	60	45	45	45	45	45
Storage capacity of Primary fuel#	MT	1220000	1220000	1220000	1220000	1220000	1220000
SBI 1 Year MCLR plus 350 basis point3	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							

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

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

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

Additional 0.8% due to Ball mill

S. S.
Petitioner

Calculation of O&M Expenses

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

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	22510.00	23300.00	24120.00	24970.00	25840.00
2	O&M expenses under Reg.35(6)					
2a	Water Charges	1679.54	1738.32	1799.16	1862.13	1927.31
2b	Secutiry expenses	840.34	924.37	1016.81	1118.49	1230.34
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	25029.88	25962.69	26935.97	27950.62	28997.65

** Shall be provided at the time of truing up


 Petitioner

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Vindhyachal Super Thermal power Station Stage-II	
Last date of order of Commission for the project	Date (DD-MM-YYYY)	06.02.2017
Reference of petition no. in which the above order was passed	Petition no.	327/GT/2014
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	(Rs. in lakh)	255642.29
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)		1971.34
Gross Normative Debt		178949.61
Cumulative Repayment		178949.61
Net Normative Debt		0
Normative Equity		76692.69
Cumulative Depreciation		1,90,717.18
Freehold land		2167.38


(Petitioner)

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-II	
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 06.02.2017 In Pet. No.342/GT/2014	Rs. Lakhs	2,55,642.29
Adjustment as per Para (7) of this petition		2,741.76
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 01.04.02019	(Rs. in lakh)*	258384.05
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		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)		446.66
Gross Normative Debt		1,80,868.83
Cumulative Repayment		1,80,868.83
Net Normative Debt		0.00
Normative Equity		77,515.22
Cumulative Depreciation		1,90,596.69
Freehold land		2,167.38


 (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-II			
COD	01-10-2000			
For Financial Year	2019-24 (Summary)			

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)					Regulation under which claimed	Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Dyke Works	714.00	506	1700	1275		25(1)(C)& 25(1)(g)	
2	Cycle of Concentration			920			26(1)(b)	
3	ClO2 package			264.00	1319		26(1)(b)&26(1)(d)	
	Total (A)	714.00	506.00	2,884.00	2,594.00			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
7	Integrated Security System	-	-	525.00			26(1)(d)	
	Total (B)	-	-	525.00	-			
	Total Add. Cap. Claimed (A+B)	714.00	506.00	3,409.00	2,594.00			

Sh...
(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-II	
COD	01-10-2000	
For Financial Year	2019-20	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Dyke Works	714.00	0	714	0	25(1)(C)& 25(1)(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.	
Total (A)		714.00	-	714.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		714.00	-	714.00	-			

23

(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-II				
COD		01-10-2000				
For Financial Year		2020-21				

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Dyke Works	506.00		506		25(1)(C)& 25(1)(g)	As per the justification made in for 9 for 2019-20	
	Total (A)	506.00	-	506.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		506.00	-	506.00	-			

S. K. S. (Petitioner)

(29)

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-II				
COD	01-10-2000				
For Financial Year	2021-22				

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Protected)		Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
				Cash basis	IDC included in col. 3			
		3	4	5=(3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Ash Dyke Works	1,700.00		1700		25(1)(C)& 25(1)(G)	As per the justification made in for 9 for 2019-20	
2	Cycle of Concentration	920.00		920		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 the 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). In addition to above Ministry of Environment, Forest and Climate Change, Government of India ("MoEFCC") has notified the Environment (Protection) Amendment Rules, 2015 ("MoEFCC Notification") vide notification dated 07.12.2015 has Specified revised emission norms for thermal generating stations. As per above norms II existing CT-based plants reduce specific water consumption upto maximum of 3.5m3/MW/hr . In order to further minimize the water consumption in the project and for complying the norms of MOEF , the petitioner has envisaged to implement this scheme. Therefore, Hon'ble Commission may be pleased to allow the same under 'Change in Law'	

25

SAW.

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-II	
COD		01-10-2000	
For Financial Year		2021-22	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis			
		3	4	5=(3-4)	6	7	9
3	ClO2 package	264.00		264	26(1)(b)&26(1)(d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage, handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dozing system is now being replaced by Chlorine Dioxide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has directed NTPC to replace highly hazardous gas chlorination system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Daripalli 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 pleased to allow the same under Reg.26(1)(b)&26(1)(d)	
Total (A)		2,884.00		2,884.00			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wid. Average rate of Interest							
1	Integrated Security System	525.00		525.00	26(1)(d)	For enhancement & automation of security at power station, in view of consistent threat as per reports from external agencies, 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 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. It is also submitted that the e-security 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 Regaulstion- 26(1)(d). The communication in this regard with DG, CISF is attached at Annexure-C . Further MOP also directed CPSU including NTPC for stentening of security of vital installations(attached at Annexure-D)	
Total (B)		525.00		525.00			
Total Add. Cap. Claimed (A+B)		3,409.00		3,409.00			

(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-II	
COD		01-10-2000	
For Financial Year		2022-23	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis			
1	2	3	4	5= (3-4)	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
1	Ash Dyke Works	1,275.00		1275	'25(1)(C)& 25(1)(g)	As per the justification made in for 9 for 2019-20	
2	ClO2 package	1,319.00		1,319.00	26(1)(d) & 26(1)(b)	As per the justification made in for 9 for 2021-22	
	Total (A)	2,594.00	-	2,594.00			
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)	2,594.00	-	2,594.00			

S. Kumar
(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-II				
COD	01-10-2000				
For Financial Year	2023-24				

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP in col. 3	Un-discharged Liability included in col. 3	Cash basis included in col. 3			
1	2	3	4	5=(3-4)	7	8	9

A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate

1	NIL (Shall claim at the time of truing up, if any)						
2							
3							
4							
5							
Total (A)	-	-	-	-	-	-	-

B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest

6	NIL (Shall claim at the time of truing up, if any)						
7							
8							
9							
10							
11							
Total (B)	-	-	-	-	-	-	-
Total Add. Cap. Claimed (A+B)	-	-	-	-	-	-	-

(28)

SAM
(Petitioner)

**PART-I
FORM-10**

Name of the Petitioner	NTPC Limited										
Name of the Generating Station	Vindhyachal Super Thermal power Station Stage-II										
Date of Commercial Operation	01-10-2000										

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

Amount capitalised in Work/ Equipment

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

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

(29)

SANJAY
(Petitioner)

Statement of Depreciation

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

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	(Amount in Rs Lakh)
1	2	3	4	5	6	7	8	
1	Opening Capital Cost	259100.12	2,58,384.05	2,59,098.05	2,59,604.05	2,63,013.05	2,65,607.05	
2	Closing Capital Cost	258384.05	2,59,098.05	2,59,604.05	2,63,013.05	2,65,607.05	2,65,607.05	
3	Average Capital Cost	258742.09	2,58,741.05	2,59,351.05	2,61,308.55	2,64,310.05	2,65,607.05	
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	2,167.38	2,167.38	2,167.38	2,167.38	2,167.38	2,167.38	
5	Rate of depreciation	0.000	0.000	0.000	0.000	0.000	0.000	
6	Depreciable value	2,30,917.23	2,30,916.30	2,31,465.30	2,33,227.05	2,35,928.40	2,37,095.70	
7.	Balance useful life at the beginning of the period	7.38	6.38	5.38	4.38	3.38	2.38	
8	Remaining depreciable value	46,640.37	40,319.61	34,548.92	29,888.94	25,766.33	19,310.46	
9	Depreciation (for the period)	0.00	6,319.69	6,421.73	6,823.96	7,623.17	8,113.64	
10	Depreciation (annualised)	6,319.83	6,319.69	6,421.73	6,823.96	7,623.17	8,113.64	
11	Cumulative depreciation at the end of the period		1,96,916.38	2,03,338.11	2,10,162.07	2,17,785.25	2,25,898.88	
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	534.10	-	-	-	-	-	
14	Net Cumulative depreciation at the end of the period after adjustments	1,90,596.69	1,96,916.38	2,03,338.11	2,10,162.07	2,17,785.25	2,25,898.88	

30

Stu
(Petitioner)

Form 12A

Vindhyachal Super Thermal Power Power Station Stage-II

Depreciation Recovery in Tariff

Rs.Lacs

Year	Depreciation in Fixed Charges	AAD in Fixed Charges	Availability	Depreciation including AAD as per Availability
2001-2002	8688	0	70.79%	7688
2002-03	8688	228	80.00%	8916
2003-04	9350	5266	80.00%	14616
Total	26726	5494		31220
Less: Dep. On Decap. Assets as per CERC Order dated 21.08.2006				-6
Depreciation recovered till 31.03.2004 after adjustment due to availability				31214
Depreciation recovered till 31.03.2004 as per CERC order dated 21.08.2006				32214

S. L. W.

Details of Source wise Fuel for Computation of Energy Charges

Name of the Company :		NTPC						
Name of the Power Station :		Vindhyachal-II						
S. No.	Month	Unit	Stage 2 Oct-18		Stage 2 Nov-18		Stage 2 Dec-18	
			Domestic	Imported	Domestic	Imported	Domestic	Imported
1	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	3.6357		3.5211			3.6942
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)						
3	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	3.6357		3.5211			3.6942
4	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0086		0.0083			0.0092
5	Net coal / Lignite Supplied (3-4)	(MMT)	3.6271		3.5128			3.6849
6	Amount charged by the Coal/Lignite Company	(Rs.)	7352838368		7558647937			7859601209
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	435552917		150000000			126483855
8	Total amount Charged (6+7)	(Rs.)	7788391285		7708647937			7986085063
9	Transportation charges by rail/ship/road transport	(Rs.)	149680783		147885090			169048155
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		19129401			17343677
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	166732288		167014491			186391832
13A	Handling, Sampling and such other similar charges	(Rs.)	34788629		32948789			80527942
14	Total amount Charged for coal/lignite supplied including Transportation (8+13+13A)	(Rs.)	7989912202		7908611218			8253004837
15	Landed cost of coal/ Lignite (14/5)	Rs./MT	2202.86		2251.35			2239.67
16	Blending Ratio (Domestic/Imported)		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)						
19	GCV of Imported Coal as per bill Coal Company	(kCal/Kg)	4629		4694			4689
20	Weighted average GCV of coal/ Lignite as billed	(kCal/Kg)						
21	GCV of Domestic Coal as received at Station (TM basis)	(kCal/Kg)	3574		3701			3794
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)	3574		3701			3794

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

Peitoner

32

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-II			
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

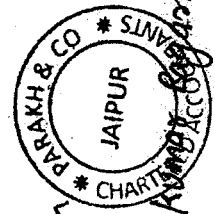
*including opening stock


(Petitioner)

Name of the Company :		MPLC Limited											
Name of the Power Station :		Vinayachal STPP, Stage 1,2,3,4 & 5											
S. No.	Month	Unit	Stage 1 Oct-18		Stage 2 Oct-18		Stage 3 Oct-18		Stage 4 Oct-18		Stage 5 Oct-18		
			Domestic	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	Bleeding 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



Handwritten signature
21/10/2020

Handwritten signature
21/10/2020

Handwritten signature
Giotum Arora

MPN - 425104
FRN - 0001475c

34

Handwritten signature

Details of Source wise Fuel for Computation of Energy Charges

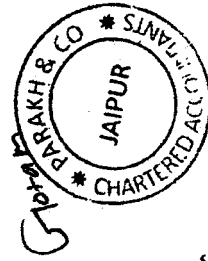
S. No.	Month	Unit	Stage 1 Nov-18		Stage 2 Nov-18		Stage 3 Nov-18		Stage 4 Nov-18		Stage 5 Nov-18	
			Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported	Domestic	Imported
Name of the Company : NTPC Limited Name of the Power Station : Vindhyachal STPP, Stage 1,2,3,4 & 5												
1	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	3.5211		3.5211		3.5211		3.5211		3.5211	
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	(MMT)										
3	Coal supplied by Coal/Lignite Company (3+4)	(MMT)	3.5211		3.5211		3.5211		3.5211		3.5211	
4	Normative Transit & Handling Losses (For coal/ Lignite based projects)	(MMT)	0.0083		0.0083		0.0083		0.0083		0.0083	
5	Net coal / Lignite Supplied (3-4)	(MMT)	3.5128		3.5128		3.5128		3.5128		3.5128	
6	Amount charged by the Coal/Lignite Company	(Rs.)	7558647937		7558647937		7558647937		7558647937		7558647937	
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	150000000		150000000		150000000		150000000		150000000	
8	Total amount Charged (6+7)	(Rs.)	7708647937		7708647937		7708647937		7708647937		7708647937	
9	Transportation charges by rail/ship/road transport	(Rs.)	147885090		147885090		147885090		147885090		147885090	
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.)	19129401		19129401		19129401		19129401		19129401	
13	Total Transportation Charges (9+10-11+12)	(Rs.)	167014491		167014491		167014491		167014491		167014491	
13A	Handling, Stacking and such other similar charges	(Rs.)	32948789		32948789		32948789		32948789		32948789	
14	Total amount Charged for coal/lignite supplied including Transportation (8+13+13A)	(Rs.)	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	
16	Blending Ratio (Domestic/Imported)	Rs./MT	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	
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	
21	GCV of Domestic Coal as received at Station (TM basis)	(kCal/Kg)	3701		3701		3680		3700		3699	
22	GCV of Imported Coal as received at Station	(kCal/Kg)										
23	Weighted average GCV of coal/ Lignite as Received (TM basis)	(kCal/Kg)	3701		3701		3680		3700		3699	

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

Petitioner

[Handwritten Signature]

21/11/2020



Gotam Kumar Bagasriya
MRN - 425104
FRN - 0001475C

35

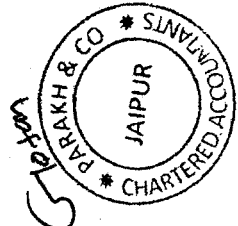
21/11/2020

[Handwritten Signature]

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 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	
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 Railways/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	Landed cost of coal/ Lignite (14/5)	Rs./MT	2239.67		2239.67		2239.67		2239.67		2239.67		
16	Bleeding 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 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		3829		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.

Handwritten signature
2/11/2020



Grohan Kumar Bagaria
MAN - 425104
FAN - 0001475C

36

Handwritten signature
2/11/2020

Handwritten initials

Petitioner

Computation of Energy Charges

Form-15B

ADDITIONAL FORM

Name of the Company	NTFC Limited	
Name of the Power Station	Vindhyachal Super Thermal power Station Stage-II	

Computation of Energy Charges.

- 1 Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $= (Q_s)_n \times P_s$ 2.522
- 2 Heat Contribution from SFO / Alternate Fuel (H_s) $= (Q_s)_n \times (GCV)_s$ 4.915
- 3 Heat Contribution from coal (H_p)_s $= GHR - H_s$ 2385.09
- 4 Specific Primary Fuel Consumption (O_p)_n $= H_p / (GCV)_p$ 0.662
- 5 Rate of Energy charge from Primary Fuel (p/kwh) (REC)_p 147.608
- 6 Rate of Energy charge ex-bus (p/kWh) (REC) $= ((REC)_s + (REC)_p) / (1 - (AUX))$ 161.517

	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 %	7.05	7.05	7.05	7.05	7.05
Heat Rate Kcal/Kwh	2,390.00	2,390.00	2,390.00	2,390.00	2390
Computation of Variable Charges					
Variable Charge (Coal) p/kwh	158.804	158.804	158.804	158.804	158.804
Variable Charge (Oil) p/kwh	2.713	2.713	2.713	2.713	2.713
Total p/kwh	161.517	161.517	161.517	161.517	161.517

Price of fuel from Form-15/15A

Coal Cost (Rs./MT)	2231.13	2231.13	2231.13	2231.13	2231.13
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)	6940.02	6921.06	6921.06	6921.06	6940.019
ESO for 40 days (MUs)	758.472	758.472	758.47	758.47	758.472
Cost of coal for 45 Days (Rs. Lakh)	12044.82	12044.82	12044.82	12044.82	12044.82
Cost of oil for 2 months (Rs. Lakh)	313.79	312.93	312.93	312.93	313.79
Energy Expenses for 45 days (Rs. Lakh)	13781.91	13781.91	13781.91	13781.91	13781.91

Coal	3rd month	2nd month	1st month	Wtd. Avg.
Wtd. Avg. Price of Coal Rs./MT	2202.86	2251.35	2239.67	2231.13
Wtd. Avg. GCV of Coal as received kCal/Kg	3574	3701	3794	3690.11
Wtd. Avg. GCV of Coal as received after adjustment of 85 kcal/kg Sec. Oil				3605.11
Wtd. Avg. Price of Secondary Fuel Rs/KL	50432.01	50432.01	50432.01	50432.01
Wtd. Avg. GCV of Secondary Fuel kCal/L	9822.00	9844.00	9824.00	9829.89

37

S
PETITIONER

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-II							
S. No.	Particulars	(Amount in Rs Lakh)							
		Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8		
1	Gross Normative loan - Opening	1,81,370.08	1,80,868.83	1,81,368.63	1,81,722.83	1,84,109.13	1,85,924.93		
2	Cumulative repayment of Normative loan up to previous year	1,81,370.08	1,80,868.83	1,81,368.63	1,81,722.83	1,84,109.13	1,85,924.93		
3	Adj. in repayment due to liability discharge*	0.00							
4	Adj. in repayment due to decap*	523.97							
5	Net Normative loan - Opening	-	-	-	-	-	-	-	-
6	Add: Increase due to addition during the year / period	0.00	499.80	354.20	2,386.30	1,815.80	-	-	-
7	Less: Decrease due to de-capitalisation during the year / period	-523.97	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	22.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Less: Repayment of Loan	22.72	499.80	354.20	2,386.30	1,815.80	-	-	-
11	Net Normative loan - Closing	0.00	-	-	-	-	-	-	-
12	Average Normative loan	0.00	-	-	-	-	-	-	-
13	Weighted average rate of interest	2.3400	2.3400	2.3400	2.3400	2.3400	2.3400	2.3400	2.3400
14	Interest on Loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Cumulative repayment of Normative loan at the end of the period after adjustments	1,80,868.83	1,81,368.63	1,81,722.83	1,84,109.13	1,85,924.93	1,85,924.93	1,85,924.93	1,85,924.93

*Additional data

(38)

(Petitioner)

Name of the Petitioner
Name of the Generating StationNTPC Ltd
Vindhychal STPS-II(2X500 MW)**Statement of Capital cost**

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	270144.87	461.14	269683.73
	b) Amount of IDC in A(a) above	1730.28		1730.28
	c) Amount of FC in A(a) above			0
	d) Amount of FERV in A(a) above	-619.32		-619.32
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in Gross Block Amount during the period (Direct purchases)			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

Note:

1. Relevant date/s means date of COD of unit/s/station and financial year start date and end date

S. D. J.
(Petitioner)

Name of the Petitioner
Name of the Generating StationNTPC Ltd
Vindhychal STPS-II(2X500 MW)**Statement of Capital Woks in Progress**

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	623.76	170.01	453.75
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

Note:

1. Relevant date/s means date of COD of unit/s/station and financial year start date and end date


 (Petitioner)

Calculation of Interest on Working Capital

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

(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	11,796.47	12044.82	12044.82	12044.82	12044.82	12044.82
2	Cost of Main Secondary Fuel Oil	326.33	313.79	312.93	312.93	312.93	313.79
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	2,047.24	2085.82	2163.56	2244.66	2329.22	2416.47
6	Maintenance Spares	4,913.38	5005.98	5192.54	5387.19	5590.12	5799.53
7	Receivables	24,968.47	20013.55	20168.66	20357.19	20608.12	20794.66
8	Total Working Capital	44051.88	39463.95	39882.51	40346.80	40885.22	41369.27
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500
10	Interest on Working Capital	5947.00	4755.41	4805.84	4861.79	4926.67	4985.00


Petitioner

Liability Flow Statement for Vindhyachal Stage-II


Form-S

Sr. No.	Name of the Party	Name of the work	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB 31.03.2014	Undischarged liabilities relating to GB 31.03.2019	Admitted/Non Admitted
1	Bharat Heavy Electricals Limited	Main Plant Package Stage II	Prior to 01.04.2004	15,66,81,219	1,25,76,552	Y
2	ION EXCHANGE INDIA L	SUPPLY and erection OF CONDENSATE POLISHING PLANT PACKAGE	Prior to 01.04.2004	1,41,78,783	1,07,21,484	Y
3	J B SINGH & CO	PROTECTION OF EMBANKMENT & CONSTRUCTION OF CULVERT FOR ROAD	Prior to 01.04.2004	5,40,573	-	Y
4	Land Authority		Prior to 01.04.2004	10,11,061	10,11,061	Y
5	POWER GRID CORPORATI	CONSTRUCTION OF 400 KV BAGS AT S.YARD	Prior to 01.04.2004	3,41,837	3,41,837	Y
6	U C JAISWAL	CONSTRUCTION OF ONE ROOM EXTENTION IN GREEN HUT QTRS IN NTPC	Prior to 01.04.2004	5,88,692	75,884	Y
7	THE INDURE PVT LTD	Augmentation of Dry Fly Ash Transportation System (Supply & Erection)	2008-10	58,20,200	58,20,200	Y
8	C.S.ANAND	1st Raising of V-2 Ash Dyke	2011-12	32,08,068	(0)	Y
9	Vijaya construction company	1st Raising of V-2 Ash Dyke	2011-12	1,00,000	-	Y
10	NATIONAL PRESTIGE CONSTRUCTION CO	1st Raising of V-2 Ash Dyke	2011-12	2,22,983	-	Y
11	PERFECT ENGINEERING CORPORATION	CHLORINE LEAK ABSORPTION SYSTEM SUPPLY/ERECTION	2011-12	3,28,124	35,770	Y
12	ALLUSION CONTROLS PVT LTD	Job contract for Up-gradation of PLC System of CHP Stage - II.	2013-14	9,28,489	-	N
13	ABB Ltd	Supply/Instl/ Mandatory spare DVR in unit 7 & 8	2013-14	3,88,500	-	N
14	ALIKRAFT ENGINEERS PVT LTD	Elevators at TP-13 and TP-15 of CHP Stage - II	2013-14	12,56,784	-	N
15	Electro Zaved India Pvt Ltd	Power Cable Reeling Drum (PCRD) System of Stage-II	2013-14	2,88,750	-	N
16	VJAY CONSTRUCTION	Construction of rock toe in ash dyke lagoon V-2	2013-14	1,31,970	-	Y
17	K N International	2ND Raising of ash dyke lagoon V-2 at NTPC-Vindhyachal	2013-14	1,04,25,500	-	Y
18	NPPC	1st raising of V-2 Ash Dyke (Pkg-1)	2013-14	20,000	-	Y
19	MASIBUS AUTOMATION & CAPITAL SPARES	Supply, Installation, Testing & Commissioning of Energy Management System in Stage - II	2013-14	37,78,879	-	Y
20	Capital Spares	Capital Spares	2013-14	4,92,354	-	N
21	K N International		2014-15	-	-	Y
22	NATIONAL PRESTIGE CONSTRUCTION CO	Raising of ash dyke lagoon V-2 at NTPC-Vindhyachal	2014-15	-	-	Y
23	PUSHPA ENGINEERING WORKS		2014-15	-	-	Y
24	MINIMAX GMBH & CO KG	SUPPLY & INSTALLATION OF INERT GAS FIRE EXTINGUISHING SYSTEM FOR NTPC/ VINDHYACHAL STAGE-II	2014-15	-	27,80,087	Y
25	Capital Spares	Capital Spares	2014-15	-	-	N
26	TOTAL SOLUTIONS/ ABB LTD	Upgradation & Retrofitting of Pro-Control P-13 Diagnostic Station, SG /TG, BOP MMI for U # 7 & 8	2015-16	-	-	Y
27	ABB LIMITED	Supply DVR Unit 7 & 8 Stage II	2015-16	-	-	N
28	SBEM PVT LTD	Job contract for Design, Supply, Installation and Commissioning of Flow Meter System	2015-16	-	-	Y
29	Capital Spares	Capital Spares	2015-16	-	1,31,210	N
30	K N International	Raising of ash dyke lagoon V-2 at NTPC-Vindhyachal	2015-16	-	56,65,406	Y
30	PUSHPA ENGINEERING WORKS	contract for Gardening of Dykes with 400 NB Pipe	2016-17	-	-	Y
31	BACHEL INFRASTRUCTURES	CONSTRUCTION OF 3rd RAISING OF ASH DYKE LAGOON V-2 AT NTPC-VSTPP.	2016-17	-	-	Y
32	OTIS ELEVATOR CO INDIA LTD	Job contract for Modernisation of lift of Service Building (Stage - I)	2016-17	-	2,84,050	N
33	MBOA	MBOA	2016-17	-	-	N
34	Capital Spares	Capital Spares	2016-17	-	94,787	N
35	Capital Spares	Capital Spares	2017-18	-	6,43,843	N
36	AQUA CHILL SYSTEMS INDIA PVT LTD	Job Contract for Design, Supply, Erection & Commissioning of Eco AC System at NTPC Vindhyachal Stage-2	2018-19	-	58,58,758	Y
37	Capital Spares	Capital Spares	2018-19	-	2,92,692	N
Total				20,04,89,894	4,81,13,810	
Admitted liability 2001-09				17,33,00,245	2,47,26,728	
Admitted liability				18,71,34,037	4,48,88,849	
Non admitted liability				33,38,887	14,44,642	

Signature

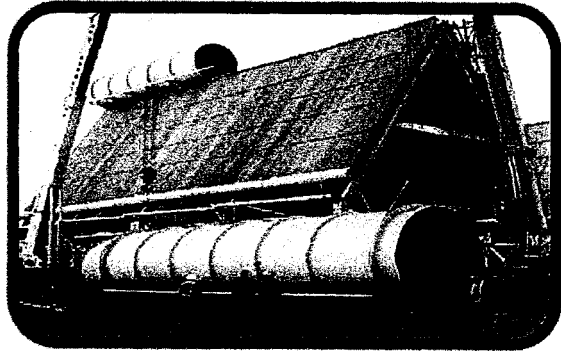
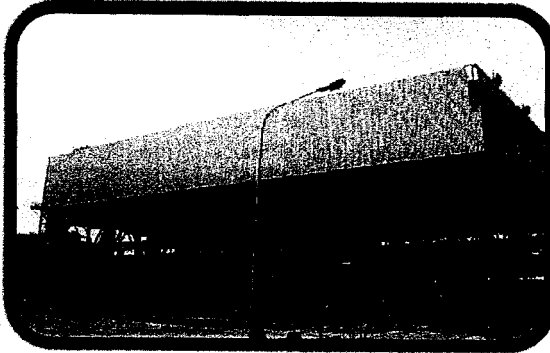
42

Summary of issue involved in the petition

Name of the Company :		NTPC Limited				
Name of the Power Station :		Vindhyachal Super Thermal power Station Stage-II				
1	Petitioner:	NTPC Limited				
2	Subject	Approval of tariff of Vindhyachal STPS Stage-II (2x500 MW) for the period from 01.04.2019 to 31.03.2024				
3	Prayer:	i) Approve tariff of VSTPS Stage-II 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.				
4	Respondents	Seven(7) no. respondents				
5	Name of Respondents	1.MSEDCL, Maharashtra 2.GUVNL, Gujarat 3.MPPMCL, Madhya Pradesh 4. CSPDCL, Chhattisgarh 5.Electricity Deptt, Goa 6.Electricity Deptt, DD 7. DNH Power Distribution Corporation Ltd-DNH				
Cost (Approved cost) (In Rs Crore)						
	Claim	2019-20	2020-21	2021-22	2022-23	2023-24
	AFC (Rs Lakh)	50684.33	51803.99	53333.19	55368.50	57037.39
	Capital cost(Rs Lakh)	2,58,741.05	2,59,351.05	2,61,308.55	2,64,310.05	2,65,607.05
	Initial spare	N.A.				
	NAPAF (Gen)	85%				
	Any Specific					
		 Petitioner				



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



CENTRAL ELECTRICITY AUTHORITY
New Delhi - 110066

January' 2012

S...



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



* 70 m³/h to be met from CT blow down and 20 m³/h available as seal water for AHP pumps.

** to be met as 28m³/h from CT blow down, 20 m³/h as seal water for AHP pumps, 20m³/h as boiler blow down and 22 m³/h from CMB.

for reservoir surface area corresponding to 10 days plant requirement with water depth as 8 m.

Note: The above assessment of water requirement involves following salient considerations:

- i) For in-land plant with wet cooling tower, it is assessed that raw water requirement shall be maximum upto 3600 m³/h if fly ash is disposed in wet slurry form without recovery of ash pond water. After recovery of ash pond water commences, raw water drawal of 3000 m³/h shall be adequate for plant operation with ash disposal in wet mode. It is expected that ash water recirculation system of the plant shall become functional within one year of plant operation. As such, plant consumptive water requirement shall be maximum upto 3600 m³/h during first year of plant operation and 3000 m³/h during subsequent period. However, if HCSD system is used for disposal of fly ash instead of wet slurry system, available blow down water shall be adequate for disposal of fly ash and bottom ash, and plant consumptive water shall be 3000 m³/h right from beginning of plant operation.
- ii) The plant raw water requirement worked out above is for normal sources of raw water with COC of CW system as 5.0. In case, treated sewage water or high TDS water is used as source raw water for the plant, the plant water requirement could be higher on account of different treatment scheme involved and/ or permissible COC being lower than 5.0. The raw water requirement could also be higher in case power plant is required to be provided with FGD plant. The assessment for requirement of raw water for above situations need to be worked out on case to case basis.

In some cases, it may be possible to increase COC of CW system above 5.0 based on quality of raw water and feasibility of cooling water treatment. In such case, plant consumptive water would reduce as per reduction in CT blow down water.

- iii) In case of inland plant with dry cooling system, it is presumed that plant would be designed for fly ash disposal in dry mode right from initial period of plant operation, and water would be required for disposal of bottom ash only in wet slurry mode. Additional water to the tune of 200 m³/h would be required for disposal of bottom ash without recovery of ash pond water. Assuming that ash water recirculation system would become functional within one year of plant operation, plant water requirement shall be maximum upto 750 m³/h during first year of plant operation and 550 m³/h during subsequent period. In case, HCSD system is used for fly ash disposal, additional raw water to the tune of 150 m³/h would be required.

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

Ann-B

CSMC/TEG/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. Compound, Bannerghatta road
Bengaluru-29 Dated 23.09.2013

Annexure - B

To,
General Manager,
M/s. NTPC Limited,
Kudge Super Thermal Power Project
Plot No. 9, Malikarjun Nagar,
M. Narach Road, Bijapur-750108

A GM (PKS)
Date 17/10/2013

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

- 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 same, site plan adopted, etc and has concurred in principle to issue the Site Clearance for the establishment of super thermal power project for generating electrical power of 1 X 810 MW at Near Kudage village, Basavana bayewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions;

- ~~The replacement of highly hazardous chlorine with available less hazardous alternative chemicals like chlorine dioxide, sodium hypo chlorite shall be considered.~~
- Use of mobile hydrogen cylinder bank with manifold system shall be adopted in place of fixed hydrogen cylinders.
- 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.
- 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.
- The effective online monitoring system shall be adopted to monitor the health and work environment with special trust to fugitive emission of radiation in any level of.
- No building of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety and Health.
- The pre and periodical medical examination shall be carried out to all the 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.

47

Signature

- The mitigation measures as submitted by the proponent and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval.
- The provisions of rule 200-251 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 prosecution officers of the department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions

- 1. The proponent should adopt the rain harvesting system to collect the rain water.
- 2. The proponent should adopt solar energy system at least covering 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 to the department. 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

*True - copy
also to be attached*

S...

copy no

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

for further information please.

49

S. M. S.



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/Pol-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. ✓

[1]

(499)

Signature

SPECIAL CONDITIONS :-

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

[2]

(495)

[Handwritten signature]

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

Boiler Blow Down :

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

[3]

(490)

S. H. W.

Cooling Tower Blow Down

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

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

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

[5]
(49c)

S. W. ...

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

Encl: Approved layout Map & Annexures

[Signature]
MEMBER SECRETARY

To

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

Memo No. _____ /Dt. _____ /

Copy forwarded to:

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

[Signature]
SR. ENV. ENGINEER (N)

[6]

(998)

[Signature]

SCHEDULE
(see rule 3(i) and 4(i))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area/Zone	Limits in dB(A) Leq *	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is defined as an area comprising not less than 100 metres around hospitals, educational institutions and courts. The silence zones are zones which are declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is referable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq : It is an energy mean of the noise level, over a specified period.

[F. No. Q-14012/96-CPA]
VIJAI SHARMA, R. Secy

(498)

S. Sharma

SCHEDULE
(see rule 3(i) and 4(i))

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area/Zone	Limits in dB(A) Leq *	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

(99h)

S...

दिपण : मूल नियम, भारत के राजपत्र में अध्यादेश सं. का.अ. 644 (अ), तारीख 19 नवम्बर 1986 द्वारा प्रकाशित किये गये थे और पश्चात्तर्फी संशोधन सं. का.अ. 433 (अ), तारीख 18 अप्रैल 1987, सा.का.नि. 176 (अ), तारीख 2 अप्रैल 1996 और हाल में ही सा.का.नि. 97 (अ), तारीख 16 फरवरी 2009; सा.का.नि. 149 (अ), तारीख 4 मार्च, 2009; सा.का.नि. 512 (अ), तारीख 9 जुलाई, 2009; सा.का.नि. 543 (अ), तारीख 22 जुलाई, 2009; सा.का.नि. 595 (अ), तारीख 21 अगस्त, 2009; और सा.का.नि. 674 (अ) तारीख 01 नवम्बर 2009 द्वारा प्रकाशित किये गए।

[सा. सं. सं. 15017-43/2007-सो.सो.डब्ल्यू.]
 राजनगर दुबे, संयुक्त सचिव

दिपण : मूल नियम, भारत के राजपत्र में अध्यादेश सं. का.अ. 644 (अ), तारीख 19 नवम्बर 1986 द्वारा प्रकाशित किये गये थे और पश्चात्तर्फी संशोधन सं. का.अ. 433 (अ), तारीख 18 अप्रैल 1987, सा.का.नि. 176 (अ), तारीख 2 अप्रैल 1996 और हाल में ही सा.का.नि. 97 (अ), तारीख 16 फरवरी 2009; सा.का.नि. 149 (अ), तारीख 4 मार्च, 2009; सा.का.नि. 512 (अ), तारीख 9 जुलाई, 2009; सा.का.नि. 543 (अ), तारीख 22 जुलाई, 2009; सा.का.नि. 595 (अ), तारीख 21 अगस्त, 2009; और सा.का.नि. 674 (अ) तारीख 01 नवम्बर 2009 द्वारा प्रकाशित किये गए।

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 16th November, 2009

G.S.R. 826(E).-- In exercise of the powers conferred by section 6 and section 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. (1) These rules may be called the Environment (Protection) Seventh Amendment Rules, 2009.
- (2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986 hereinafter referred to as the said rules, in rule 3, in sub-rule (3B), for the words in brackets, figures and letters, "in columns (3) to (5) of Schedule VII", the words, brackets, figure, and letters "in columns (4) and (5) of Schedule VII" shall be substituted.
3. For Schedule VII to the said rules and entries relating thereto, the following Schedule and entries shall be substituted, namely:—

[SCHEDULE VII]

[See rule 3(3B)]

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time-Weighted Average	Concentration in Ambient Air			Methods of Measurement
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (Notified by Central Government)		
(1)	(2)	(3)	(4)	(5)	(6)	
1	Sulphur Dioxide (SO ₂), µg/m ³	Annual* 24 hours**	50 80	20 30	- Improved West and Gaeke - Ultraviolet fluorescence	
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual* 24 hours**	40 80	30 80	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence	
3	Particulate Matter (size less than 10µm) or PM ₁₀ , µg/m ³	Annual* 24 hours**	40 100	30 100	- Gravimetric - TOEM - Beta attenuation	
4	Particulate Matter (size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual* 24 hours**	40 60	30 60	- Gravimetric - TOEM - Beta attenuation	

(494)

[Handwritten signature]

(1)	(2)	(3)	(4)	(5)	(6)
5	Ozone (O ₃) µg/m ³	8 hours** 1 hour**	100 180	100 180	UV photometric Chemiluminescence Chemical Method
6	Lead (Pb) µg/m ³	Annual* 24 hours**	0.50 1.0	0.50 1.0	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper or equivalent filter paper
7	Carbon Monoxide (CO) mg/m ³	8 hours** 1 hour**	02 04	02 04	Non Dispersive Infra Red (NDIR) spectroscopy
8	Amonia (NH ₃) mg/m ³	Annual* 24 hours**	100 400	100 400	Chemiluminescence Indophenol blue method
9	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	Gas chromatography based continuous analyzer Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only; ng/m ³	Annual*	01	01	Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As) ng/m ³	Annual*	06	06	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni); ng/m ³	Annual*	20	20	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note.— Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

[F. No. Q-15017/43/2007-CPW]

RAJNEESH DUBE, Jt. Secy.

Note.— The principal rules were published in the Gazette of India, Extraordinary vide number S.O. 344(E), dated the 19th November, 1986; and subsequently amended vide numbers S.O. 433(E), dated the 18th April, 1987; G.S.R. 176 (E), dated the 2nd April 1996; and were recently amended vide numbers G.S.R. 97(E), dated the 13th February, 2009; G.S.R. 149(E), dated the 4th March, 2009; G.S.R. 523, dated the 9th July, 2009; G.S.R. 543(E), dated the 22nd July, 2009; G.S.R. 757, dated the 21st August, 2009; and G.S.R. 794(E), dated the 4th November, 2009.

(498)

[Handwritten signature]

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

केन्द्रीय कार्यालय / Corporate Centre

05.12.2018

Annexure - C

✓ 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,

Ans
09/12/18

A.N.Verma

(A.N.Verma)
Executive Director (HR)

DISPATCHER
OFFICE OF THE INSPECTOR GENERAL
BLOCK NO-11, 5TH FLOOR
CGO COMPLEX
NEW DELHI-110003

पंजीकृत कार्यालय : एनटीपीसी भवन, स्कोप कॉम्प्लेक्स, 7, इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110003
कारपोरेट पहचान नम्बर: L40101DL1975GO1007966 टेलीफोन नं.: 011-24387333 फेक्स नं.: 011-24381018 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 : 011-24381018 E-mail ; ntpccc@ntpc.co.in
Website : www.ntpc.co.in



एनटीपीसी लिमिटेड

(भारत सरकार की उद्योग)

NTPC Limited

(A Govt. of India Enterprise)

कंपनी कार्यालय / Corporate Centre

Dated: 26.11.2018

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.

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. Panigrahi
Addl. GM (HR-S&C).

- for kind information and n. a. please.

RECEIVED
PATCHER
THE IGNORS HUBS
5th FLOOR
CGO COMPLEX
DELHI-110003

J.S. Negi, DIG (I&P)
CISF Head Quarter,
CGO Complex, New Delhi

(51)



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,

Saptarshi Roy
Saptarshi Roy

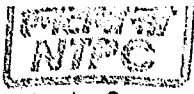
Sh. Rajesh Ranjan, IPS
Director General (CISF)
CISF Head Quarter,
CGO Complex, Lodhi Road.
New Delhi-110003

o/c

पता: लोधी रोड, नई दिल्ली-110003. टेल/Tel.: 24360950, फैक्स/Fax: 011-24360912

(52)

S...



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
Muster
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

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

Tel. : 011-24387333 Fax : 011-24361018 E-mail : ntpccc@ntpc.co.in

(53)

Signature

SECRET

F.No.1/6/2011/IT (E-22-Part-1) (246867)
Government of India
Ministry of Power

Shram Shakti Bhavan, Rafi Marg,
New Delhi, Dated: 23rd October, 2019

To

1. Chairperson-CEA
2. CMD-NTPC/NHPC/POWERGRID/PFC/REC/NEEPCO/THDC/POSOCO/SJVNL
3. Chairman-DVC/BBMB
4. DG-BEE/NPTI/CPRI
5. Secretary-CERC/ATE
6. MD-EESL
7. CISO-MoP [Kind.Attn. Shri MAKP Singh, CE(IT), CEA]
8. CERT-Thermal/Hydro/Transmission/Distribution
9. Sr.Tech.Dir. (NIC)-MoP

All directors

Sir,

I am directed to inform that reliable inputs indicate that Pak based anti-India agencies have prepared a blue print to hack/exploit computer/cyber systems in India and are exploring capabilities towards implementing the same immediately.

2. This new strategy aims to concentrate efforts towards disrupting important Indian economic hubs and vital installations, through cyber attacks and disrupting the computer systems as an alternative to trans-border terrorism. Such attacks, especially on our power, transport, financial and energy related systems, can potentially damage economic activities in the country and cause large scale disruption in affected areas/sectors.

3. Keeping in view of the prevailing security scenario in the country, it is requested to urgently review and strengthen the cyber/computer and physical security of vital installations and critical infrastructure.

4. The matter may be accorded top priority.

Yours Faithfully,

(Praveen Kumar)

Under Secretary to the Govt. of India

Tel.No.23715507 ext. 281

mop@nic.in