

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE : 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 Anta Gas Power Station (419.33 MW) for the period from 01.04.2019 to 31.03.2024.

MATTER OF

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S. W.

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

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**IN THE MATTER
OF**

: Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Anta Gas Power Station (419.33 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. Uttar Pradesh Power Corp. Ltd. (UPPCL)
Shakti Bhawan
14, Ashok Marg
Lucknow – 226 001
2. Rajasthan Urja Vikas Nigam Ltd (RUVNL)
(on behalf of Discoms of Rajasthan)
Vidyut Bhawan, Janpath,
Jaipur 302 005
3. Tata Power Delhi Distribution Ltd. (TPDDL)
Grid Substation, Hudson Road
Kingsway Camp, Delhi-110009

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4. BSES Rajdhani Power Ltd. (BRPL)
BSES Bhawan, Nehru Place
New Delhi – 110019
5. BSES Yamuna Power Ltd. (BYPL)
Shakti Kiran Building
Karkardooma
Delhi- 110092
6. Haryana Power Purchase Centre. (HPPC)
Shakti Bhawan
Sector – VI,
Panchkula
Haryana – 134 109
7. Punjab State Power Corporation Ltd.
(PSPCL)
The Mall
Patiala – 147 001
8. Himachal Pradesh State Electricity Board
Ltd. (HPSEB Ltd)
Kumar Housing Complex Building-II
Vidyut Bhawan
Shimla – 171 004
9. J&K State Power Trading Company Ltd
(on behalf of Power Development
Department(PDD), J&K)
Civil Secretariat
Srinagar
10. Electricity Department (Chandigarh)
Union Territory of Chandigarh
Addl. Office Building
Sector-9 D
Chandigarh
11. Uttarakhand Power Corporation Ltd. (UPCL)
Urja Bhavan
Kanwali Road
Dehradun – 248 001

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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. **Anta Gas power Station, 419.33 MW (3 GTs x 88.71 MW + 1 ST x 153.20 MW)** (hereinafter referred to as **Anta GPS**) is one such station located in the State of Uttar Pradesh. The power generated from **Anta GPS** is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2019 to 31.03.2024.
- 5) Regulation 9(2) of Tariff Regulations 2019 provides as follows:
"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019,

based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2019-24 along with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014.”

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

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

- 6) The tariff of the **Anta GPS** for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order 19.09.2016 in Pet. No. 287/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. The petitioner vide affidavit dated 23.12.2019 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 19.09.2016 in Pet. No. 287/GT/2014 has allowed a capital cost of Rs 835.5199 Cr as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs 824.1855 Cr based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs (-) 11.3344 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 824.1855 Cr. in the instant petition. The

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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.

Description	Remarks
Type of Plant	Gas
Type of cooling water system	Closed Cycle
Consumption of Water	336.40 Lakh kilolitre
Rate of Water charges	Rs 20 per cusec
Water watch & ward charge	Rs 42.27 lakh
Total Water Charges	Rs 56.05 Lakh

Based on the same, the petitioner has submitted projections of water charges for the period 2019-24. Hon'ble Commission may be pleased to allow the same in tariff for the period 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.

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- 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 affect the station APC, Heat Rate, O&M expenses etc. In addition the availability of the unit/ station would be also affected due to shutdown of the units for installation of ECS. The petitioner would be filing the details of the same in 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 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 dated 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.

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- 13) 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.
- 14) 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
- 15) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.03.2019 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

16) **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 Anta GPS 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) Pass any other order as it may deem fit in the circumstances mentioned above.


Petitioner

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO:

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

AND

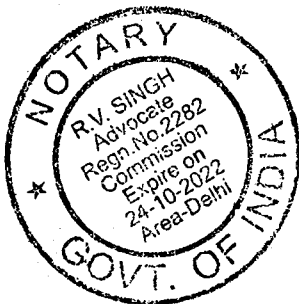
IN THE MATTER OF

Petitioner

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

Respondent:

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



.....
and Others

[Handwritten signature]

AFFIDAVIT

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

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

2. The statement made in the accompanying Petition for approval of tariff of **Anta Gas Power Station (419.33 MW)** for the period from 01.04.2019 to 31.03.2024 are based on the official records maintained during the ordinary course of business and believed by the deponent to be true.

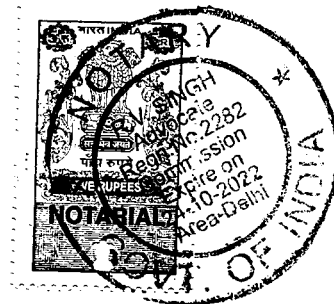

Deponent

Verification

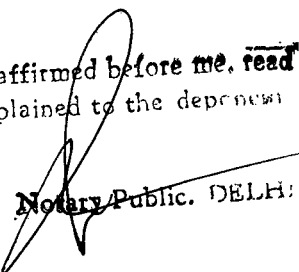
I, the deponent above named, do hereby verify that the contents of the above affidavit are true to the best of my knowledge, no part of it is false and nothing material has been concealed there from.

Verified at New Delhi on this 24th January, 2020


Deponent



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


Notary Public, DELHI

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24 JAN 2020

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Anta Gas power Station

(From 01.04.2019 to 31.03.2024)

PART-I

ANNEXURE-I

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

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

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

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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

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List of supporting documents for tariff filing for Thermal Stations

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

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

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Summary of Tariff

Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Anta Gas power Station
Place (Region/District/State):	Northern Region/ Rajasthan/ Baran

Amount in Rs. Lakh

S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	3,286.22	3,325.03	3,749.83	915.30	1,674.90	1,125.00
1.2	Interest on Loan	Rs Lakh	265.26	142.12	9.88	-	3.17	3.17
1.3	Return on Equity	Rs Lakh	6,708.16	6,381.66	6,408.25	4,731.57	4,836.43	4,906.87
1.4	Interest on Working Capital	Rs Lakh	3,944.83	4,827.40	4,857.76	4,815.56	4,856.07	4,877.19
1.5	O&M Expenses	Rs Lakh	9,360.51	8,874.37	9,271.00	9,690.16	10,132.78	10,604.57
	Total	Rs Lakh	23,564.98	23,550.58	24,296.72	20,152.59	21,503.36	21,516.80
2.1	Landed Fuel Cost (Domestic gas)	Rs/1000SCM				13840.874		
	(%) of Fuel Quantity	(%)				66.45		
2.2	Landed Fuel Cost (RLNG)	Rs/1000SCM				40298.238		
	(%) of Fuel Quantity	(%)				30.94		
2.3	Landed Fuel Cost (Naptha)	Rs/Kl				67996.833		
	(%) of Fuel Quantity	(%)				2.61		
2.4	Secondary fuel oil cost (ex-bus)	Rs/Kwh				NA		
2.5	Energy Charge Rate (Domestic Gas) ex-bus-CC	Rs/Kwh				3.214		
2.6	Energy Charge Rate (LNG) ex-bus-CC	Rs/Kwh				9.297		
2.7	Energy Charge Rate(Naptha ex-bus-CC	Rs/Kwh				12.749		
2.8	Weighted Average Energy Charge Rate ex-bus-CC	Rs/Kwh				5.345		

S. K.
(Petitioner)

PART-I
FORM- 1(I)

Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Anta Gas power Station

Amount in Rs. Lakh

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	82,418.55	82,550.55	83,362.55	84,584.55	87,084.55
2	Add: Addition during the year/period	132.00	812.00	1,222.00	2,500.00	-
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	82,550.55	83,362.55	84,584.55	87,084.55	87,084.55
7	Average Capital Cost	82,484.55	82,956.55	83,973.55	85,834.55	87,084.55

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	82418.55	82550.55	83362.55	84584.55	87084.55
2	Add: Addition during the year / period	132.00	812.00	1,222.00	2,500.00	-
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	82550.55	83362.55	84584.55	87084.55	87084.55
7	Average Capital Cost	82484.55	82956.55	83973.55	85834.55	87084.55

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**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	-	-	-	-	-
2	Add: Addition during the year / period	-	-	-	-	-
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	-	-	-	-	-
7	Average Capital Cost	-	-	-	-	-

S. P. ...
(Petitioner)

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PART-I
FORM- 1(IIA)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Anta Gas power Station

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakh

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)	33,957.71	33,997.31	34,240.91	34,607.51	35,357.51
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	9232.15	9232.15	9232.15
4	Net Opening Equity (Normal)	33,957.71	33,997.31	25,008.77	25,375.37	26,125.37
5	Add: Increase in equity due to addition during the year / period	39.60	243.60	366.60	750.00	-
7	Less: Decrease due to De-capitalisation during the year / period	-	-	-	-	-
8	Less: Decrease due to reversal during the year / period	-	-	-	-	-
9	Add: Increase due to discharges during the year / period	-	-	-	-	-
10	Net closing Equity (Normal)	33,997.31	34,240.91	25,375.37	26,125.37	26,125.37
11	Average Equity (Normal)	33,977.51	34,119.11	25,192.07	25,750.37	26,125.37
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	6,381.66	6,408.25	4,731.57	4,836.43	4,906.87


 (Petitioner)

(5)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Anta Gas power Station

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakh

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)	-	-	-	-	-
2	Less: Adjustment in Opening Equity	-	-	-	-	-
3	Adjustment during the year	-	-	-	-	-
4	Net Opening Equity (Normal)	-	-	-	-	-
5	Add: Increase in equity due to addition during the year / period	-	-	-	-	-
7	Less: Decrease due to De-capitalisation during the year / period	-	-	-	-	-
8	Less: Decrease due to reversal during the year / period	-	-	-	-	-
9	Add: Increase due to discharges during the year / period	-	-	-	-	-
10	Net closing Equity (Normal)	-	-	-	-	-
11	Average Equity (Normal)	-	-	-	-	-
12	Rate of ROE (%)	9.308	10.239	10.239	10.239	10.239
13	Total ROE	0.00	0.00	0.00	0.00	0.00


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(Petitioner)

Plant Characteristics

Name of the Petitioner	NTPC Ltd.			
Name of the Generating Station	Anta Gas Power Station			
Unit(s)/Block(s)/Parameters	GT-1	GT-2	GT-3	ST
Installed Capacity (MW)	88.71	88.71	88.71	153.20
Schedule COD as per Investment Approval				
Actual COD /Date of Taken Over (as applicable)	01.08.1990			
Pit Head or Non Pit Head				
Name of the Boiler Manufacture	ABB			
Name of Turbine Generator Manufacture				
Main Steams Pressure at Turbine inlet (kg/Cm²) abs¹.	Not Applicable			
Main Steam Temperature at Turbine inlet (°C)¹				
Reheat Steam Pressure at Turbine inlet (kg/Cm²)¹				
Reheat Steam Temperature at Turbine inlet (°C)¹				
Main Steam flow at Turbine inlet under MCR condition (tons /hr)²				
Main Steam flow at Turbine inlet under VWO condition (tons /hr)²				
Unit Gross electrical output under MCR /Rated condition (MW)²				
Unit Gross electrical output under VWO condition (MW)²				
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)³				
Conditions on which design turbine cycle heat rate guaranteed				
% MCR				
% Makeup Water Consumption				
Design Capacity of Make up Water System				
Design Capacity of Inlet Cooling System				
Design Cooling Water Temperature (°C)				
Back Pressure				
Steam flow at super heater outlet under BMCR condition (tons/hr)				
Steam Pressure at super heater outlet under BMCR condition) (kg/Cm ²)				
Steam Temperature at super heater outlet under BMCR condition (°C)				
Steam Temperature at Reheater outlet at BMCR condition (°C)				
Design / Guaranteed Boiler Efficiency (%) ⁴				
Design Fuel with and without Blending of domestic/imported coal				

Plant Characteristics

Name of the Petitioner		NTPC Ltd.			
Name of the Generating Station		Anta Gas Power Station			
Unit(s)/Block(s)/Parameters		GT-1	GT-2	GT-3	ST
Type of Cooling Tower		IDCT			
Type of cooling system ⁵		Closed circuit			
Type of Boiler Feed Pump ⁶		Motor Driven			
Fuel Details ⁷					
-Primary Fuel		Natural Gas			
-Secondary Fuel					
-Alternate Fuels		Naphtha			
Special Features/Site Specific Features ⁸					
Special Technological Features ⁹					
Environmental Regulation related features ¹⁰					
Any other special features					
1: At Turbine MCR condition.					
2: with 0% (Nil) make up and design Cooling water temperature					
3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.					
4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put					
5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.					
6: Motor driven, Steam turbine driven etc.					
7: Coal or natural gas or Naptha or lignite etc.					
8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc.					
9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.					
10: Environmental Regulation related features like FGD, ESP etc.,					
 Petitioner					

Normative parameters considered for tariff computations

Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Anta Gas power Station

(Year Ending March)

Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	7.682	8.450	8.450	8.450	8.450
Effective Tax Rate	%	21.549	17.472	17.472	17.472	17.472	17.472
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	%	2.50	2.75	2.75	2.75	2.75	2.75
Gross Station Heat Rate	kCal/kWh	2075	2075	2075	2075	2075	2075
Specific Fuel Oil Consumption	ml/kWh	NA	NA	NA	NA	NA	NA
Cost of Coal/Lignite for WC	in Days	NA	NA	NA	NA	NA	NA
Cost of Main Secondary Fuel Oil for WC	in Months	NA	NA	NA	NA	NA	NA
Fuel Cost for WC	in Days	30	30	30	30	30	30
Liquid Fuel Stock for WC	in Days	15	15	15	15	15	15
O&M Expenses	Rs lakh/MW	18.72	17.58	18.20	18.84	19.50	20.19
Maintenance Spares for WC	% of O&M	30.00	30.00	30.00	30.00	30.00	30.00
Receivables for WC	in Days	60	45	45	45	45	45
Storage capacity of Primary fuel	MT	NA					
SBI 1 Year MCLR plus 350 basis point	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal		NA					

** 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 truc-up or as per guidelines to be issued

S. J. M.
Petitioner

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

Name of the Company : NTPC Limited

Name of the Power Station : Anta Gas power Station

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	7371.82	7631.81	7900.18	8176.94	8466.27
2	O&M expenses under Reg.35(6)					
2a	Water Charges	56.75	56.75	56.75	56.75	56.75
2b	Secutiry expenses	1445.81	1582.45	1733.24	1899.10	2081.55
2c	Capital Spares**	-	-	-	-	-
3	O&M expenses-Ash Transportation	NA	NA	NA	NA	NA
	Total O&M Expenses	8874.37	9271.00	9690.16	10132.78	10604.57

** Shall be provided at the time of truing up


 Petitioner

3

Form-4

DETAILS OF FOREIGN LOANS

(Details only in respect of loans applicable to the project under petition)

Name of the company

NTPC LIMITED

Name of the Power Station

Anta

Exchange Rate as on

31-03-2019

USD = Rs.

69.77

EUR = Rs.

78.84

JPY

0.6343

34.52%

(Amount in Lacs)

Financial Year (Starting from COD)	2019-20 (01.04.2019 to 31.03.2020)			
1	1	2	3	4
NIB	Date	Amount (FC)	Ex. Rate	Amount (INR)
Currency 1 EURO	20-01-2019			
At the date of drawl	01-04-2019	236.69	78.84	18,660.77
Loan repayment upto previous period		210.39	78.84	16,587.35
Net loan at the Beginning of the period	01-04-2019	26.30	78.84	2,073.42
Schedule repayment date of principal	20-07-2019	13.15	78.84	1,036.71
Scheduled payment date of interest	20-07-2019	0.05	78.84	4.32
Withholding tax including surcharge on interest	20-07-2019		78.84	-
Schedule repayment date of principal	20-01-2020	13.15	78.84	1,036.71
Scheduled payment date of interest	20-01-2020	0.03	78.84	2.19
Withholding tax including surcharge on interest	20-01-2020		78.84	-
At the end of Financial year	31-03-2020	-	0.00	-

Sgn.

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	NTPC Limited
Name of the Power Station :	Anta Gas power Station

Last date of order of Commission for the project	Date (DD-MM-YYYY)	19-09-2016
Reference of petition no. in which the above order was passed	Petition no.	287/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:		2018-19
Capital cost as on 31.03.2019	(Rs. in lakh)	83,551.99
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		141.12
Gross Normative Debt as on 31.03.2019		49,254.26
Cumulative Repayment as on 31.03.2019		45,825.83
Net Normative Debt as on 31.03.2019		3,428.42
Normative Equity as on 31.03.2019		34,297.73
Cumulative Depreciation as on 31.03.2019		68,475.81
Freehold land		113.17

(2/3)

Saw
(Petitioner)

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	NTPC Limited
Name of the Power Station :	Anta Gas power Station

Reference of Final True-up Tariff Petition	Affidavit dated	23-12-2019
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 19.09.2016 in Pet. No. 287/GT/2014	Rs. Lakhs	83,551.99
Adjustment as per Para 7 of this petition		-1,133.44

Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:

Capital cost as on 31.03.2019	(Rs. in lakh)*	82,418.55
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		-
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		141.12
Gross Normative Debt as on 31.03.2019		48,460.84
Cumulative Repayment as on 31.03.2019		44,994.44
Net Normative Debt as on 31.03.2019		3,466.40
Normative Equity as on 31.03.2019		33,957.71
Cumulative Depreciation as on 31.03.2019		67,484.19
Freehold land		113.17

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SAW...
(Petitioner)

Name of the Company
Name of the Power Station

NTPC Limited
Various

Form-8

Particulars								
Source of Loan	NIB							
Drawal	I	II	III	IV	V	VI	VII	TOTAL
Currency	EURO							
Amount of loan sanctioned	6,85,63,000							
Amount of Gross Loan drawn upto 31.12.2010 / COD	1,00,00,000	1,00,00,000	1,00,00,000	1,00,00,000	1,00,00,000	1,00,00,000	85,63,000	6,85,63,000
Interest Type	Floating							
Interest rate applicable as on 20.01.2014	1.0550%							
Fixed Interest Rate, if applicable	-							
Base Rate, if floating interest	6 M EURIBOR							
Margin, if floating interest rate	0.650%							
Are there any Caps / Floor	NO							
If above is Yes, specify Caps / Floor	-							
Moratorium Period	3.5 Years							
Moratorium effective from	15-Feb-2008							
Repayment period	8.5 Year							
Repayment effective from	20-Jul-2011							
Repayment frequency	Semi Annual							
Repayment installment	18 Semi Annual Equal Instalments							
Base Exchange Rate (30.09.2010)	61.91							
Are foreign currency loan hedged	NO							
If above is Yes, specify details	-							
Name of the Projects								
Kahalgaon-II								
Koldam								
Sipat II								
VSTPP III								
FGUTPP III								
Sipat I								
Barh								
Korba-III								
Anta - R&M	81.88%	32.53%	59.08%	1.20%	19.10%	42.90%		34.52%
Sipat I	17.18%	64.42%	40.92%	98.80%	21.98%	18.61%		38.20%
Dadri - II	0.94%	3.05%			58.93%	38.48%	100.00%	27.28%

Notes:-

- Base exchange rate are the SBI Bill selling rate as on 30.09.2010
- Distribution of loan package to various projects is based on utilisation of loan as on 31.12.2010
- Interest on NIB Loan are exempt from Withholding Tax.

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Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000521

T00001

D00004

Unsecured Loan From HDFC Bank Ltd.-IV		
Source of Loan :	HDFC Bank Ltd.-IV	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	12,45,00,00,000	
Date of drawl	29.06.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Rate of Interest as on 01.04.2019	8.45%	
Margin, If Floating Interest :	NIL	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	29.06.2018	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	17.04.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KORBA R&M	90,00,00,000
	RAMAGUNDAM R&M	2,20,00,00,000
	UNCHAHAR R&M	70,00,00,000
	RIHAND R&M	90,00,00,000
	KAWAS R&M	1,80,00,00,000
	AURAIYA R&M	1,80,00,00,000
	TSTPP R&M	90,00,00,000
	GANDHAR R&M	1,85,00,00,000
	NCTPP R&M	30,00,00,000
	KAHALGAON R&M	30,00,00,000
	ANPA R&M	80,00,00,000
Total Allocated Amount		12,45,00,00,000

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2019-24 (Summary)

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)					Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	R & M of Excitation System for All Units (04 Units)			310.00			As per sl no 1 of Form 9A for 2021-22	
2	Installation and Commissioning of CLO2 System		320.00				As per sl no 1 of Form 9A for 2020-21	
3	DDCMIS Upgradation of STG/WHRB				2,500.00		As per sl no 1 of Form 9A for 2022-23	
4	HMI Upgradation Work		350.00				As per sl no 2 of Form 9A for 2020-21	
5	High COC operation (Additional make up water system for reservoir filling)			400.00			As per sl no 2 of Form 9A for 2021-22	
6	R&M of CCR/SCR AC System			512.00			As per sl no 3 of Form 9A for 2021-22	
7	AAQMS System	132.00					As per sl no 1 of Form 9A for 2019-20	
8	CCTV System for Peripheral Security		132.00				As per sl no 3 of Form 9A for 2020-21	
9	CCTV for Online Effluent Monitoring by CPCB		10.00				As per sl no 4 of Form 9A for 2020-21	
	Total (A)	132.00	812.00	1,222.00	2,500.00	-		
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)		132.00	812.00	1,222.00	2,500.00	-		

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S.P.W.
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2019-20

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	AAQMS System	132.00		132.00		25(2)(c)	Existing Ambient Air Quality Monitoring System (AAQMS) was installed at Anta GPS in FY 2004-05. However, Rajasthan State Pollution Control Board vide letter dated 14.05.2019 has directed the petitioner to transmit real-time data of Ambient Air Quality system to RSPCB & CPCB portals. Copy of letter placed at Annexure-A . Existing AAQMS lacks the feature of online data transmission as directed under RSPCB letter. The current capitalization pertains to the AAQMS with the feature of online data transmission to RSPCB. Hon'ble Commission may be pleased to allow the same.	
Total (A)		132.00	-	132.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
2								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		132.00	-	132.00	-			

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S. M.
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2020-21

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	Installation and Commissioning of CLO2 System	320.00		320.00		26(1)(b) & 26(1)(d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dosing 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 Darlipalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents are attached at Annexure-B). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same.	
2	HMI Upgradation Work	350.00		350.00		25(2)(c)	Existing Controls systems' softwares are running on Microsoft Windows XP/Server 2003 operating systems. M/s Microsoft has ended its support for Microsoft Windows XP/ Server 2003 operating systems in 2014. In the absence of support from Microsoft, these systems have been deprived from the Windows updates which are critical for its security from harmful viruses, spyware and other malicious softwares. After assessment of the systems, OEM vide its letter dated 02.11.2017 has recommended the petitioner to upgrade Control System software along with the underlying IT infrastructure. Copy of the letter is enclosed as Annexure-C . Hon'ble Commission may be pleased to allow the same.	
3	CCTV System for Peripheral Security	132.00		132.00		26(1)(b) and 26(1)(d)	Ministry of Power (MoP), GoI vide letters dated 27.02.2019 & 23.10.2019 had instructed the petitioner to maintain high level of alertness and strengthen security arrangements at vital installations. The projected capitalization pertains to installation of CCTV camera in line with the said MoP letters (copy of the letters attached at Annexure-D). Hon'ble Commission may be pleased to allow the same.	
4	CCTV for Online Effluent Monitoring by CPCB	10.00		10.00		26(1)(b)	RSPCB vide its letter dated 02.05.2018 has directed the instant station to install PTZ camera(s) to enable remote monitoring of emission and effluent discharge (copy of the letter attached at Annexure-E). The projected capitalization pertains to installation of PTZ camera(s) in line with the RSPCB directions dated 02.05.2018. Hon'ble Commission may be pleased to allow the same.	
Total (A)		812.00	-	812.00	-			
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)		812.00	-	812.00	-			

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S. ...
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2021-22

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh	Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	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	R & M of Excitation System for All Units (04 Units)	310.00		310.00		25(2)(c)	Existing Excitation system in the units of Anta GPS were installed way back in year 1995. With passage of time, the AVR converter and the associated power components have become obsolete. After the assessment of the system, OEM has expressed that the life cycle services, support and availability of spares may not be guaranteed as the existing system has become obsolete. Copy of the letter dt 24.09.2019 from OEM is attached as Annexure-F . Hon'ble Commission may be pleased to allow the replacement of power components in all FOUR (04) units of Anta GPS.		
2	High COC operation (Additional make up water system for reservoir filling)	400.00		400.00		26(1)(b)	MoEF vide notification dated 07.12.2015 has directed the petitioner to reduce the water consumption in its thermal power plants including the instant station. Copy of the notification dated 07.12.2015 is attached as Annexure-G . Accordingly, the petitioner has decided to increase Cycle of Concentration (COC) at Anta GPS through dosing of various chemicals such as Sodium Molybdate, HEDP, PBTC & polymeric dispersant in condenser cooling water system. These chemicals shall adversely affect the potability of water, so filling of reservoir from CW pump discharge line needs to be discontinued. The projected capitalization pertains to implementation of additional make up water system for reservoir filling. Since, the capitalization is aimed at water conservation. Hon'ble Commission may be pleased to allow the same.		
3	Replacment of CCR/SCR AC System	512.00		512.00		25(2)(c)	Existing Air Conditioning Systems in Central Control room of Anta GPS is based on AC-70 series compressors by M/s Kirloskar. OEM vide its letter dated 14.07.2017 has informed that it has discontinued the manufacturing of AC-70 series compressors and can avail the technical support and supply of spares for the AC system till 31.12.2018. Copy of the letter attached as Annexure-H . In view of completion of its useful life and the unavailability of spares, the petitioner is replacing the existing system. The projected capitalization pertains to the same. Hon'ble Commission may be pleased to allow the same.		
Total (A)		1,222.00	-	1,222.00	-				

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2021-22

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			Admitted Cost by the Commission, if any
1	2	3	4	5= (3-4)	6	7	8	9
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
1								
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		1,222.00	-	1,222.00	-			

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S...
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2022-23

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / 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	DDCMIS Upgradation of STG/WHRB	2,500.00	-	2,500.00	-	25(2)(c)	In the instant station, presently ABB's control system Procontrol P14 is installed as DDCMIS since its inception. Major controls/systems covered by the Procontrol P14 are Drum Level Control, HP/LP Bypass control, Hydraulic Oil system, Vacuum system, Boiler Feed Pumps, Condensate Extraction Pumps, Equipment Cooling Water system, Cooling Water system, Raw water system, makeup water system, Switchyard breakers/ isolators, bus couplers, etc. However, many control modules such as 81AA01, 81AA02, 81EA02, 81EB02, 83SR03, 87TS01, 88FN01, 88FT01, 88TK01, 88TU01, 88TV01, 88UB01, 88UM01, 88VA01, 88VK01, 88VP02, 88VT01, 88VU01 etc in the existing control system have become obsolete as per the Lifecycle statement issued by OEM in May'19 (Copy of the letter dated 15.01.2020 is attached as Annexure-I). Hon'ble Commission may be pleased to allow the upgradation of DDCMIS system in Anta GPS.	
Total (A)		2,500.00	-	2,500.00	-			
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)		2,500.00	-	2,500.00	-			

S. S. S.
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
COD	01-08-1990
For Financial Year	2023-24

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
NA (Shall be claimed at the time of truing-up as per actuals, if any)								
	Total (A)	-	-	-	-			
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)		-	-	-	-			

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S. P. M.
(Petitioner)

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Anta Gas power Station
Date of Commercial Operation	01-08-1990

Financial Year (Starting from COD)1	Amount in Rs Lakh									
	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	<p>Add cap is proposed to be finance in Debt:Equity ratio of 70:30</p>
Loan-1	
Loan-2	
Loan-3 and so on	
Total Loan2	
Equity	
Internal Resources	
Others (Pl. specify)	
Total	

Note:

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


(Petitioner)

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Statement of Depreciation

Name of the Company : NTPC Limited
Name of the Power Station : Anta Gas power Station

(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	Opening Capital Cost	82378.05	82,418.55	82,550.55	83,362.55	84,584.55	87,084.55
2	Closing Capital Cost	82418.55	82,550.55	83,362.55	84,584.55	87,084.55	87,084.55
3	Average Capital Cost	82398.30	82,484.55	82,956.55	83,973.55	85,834.55	87,084.55
1a	Cost of IT Equipments & Software included in (1) above		Shall be filed at the time of true-up				
2a	Cost of IT Equipments & Software included in (2) above						
3a	Average Cost of IT Equipments & Software						
4	Freehold land	113.17	113.17	113.17	113.17	113.17	113.17
5	Rate of depreciation	NA	NA				
6	Depreciable value	74,056.62	74,134.24	74,559.04	75,474.34	77,149.24	78,274.24
7	Balance useful life at the beginning of the period	3.00	2	1	-	-	-
8	Remaining depreciable value	9,858.65	6,650.06	3,749.83	915.30	1,674.90	1,125.00
9	Depreciation (for the period)	0.00	3,325.03	3,749.83	915.30	1,674.90	1,125.00
10	Depreciation (annualised)	3,286.22	3,325.03	3,749.83	915.30	1,674.90	1,125.00
11	Cumulative depreciation at the end of the period		70,809.21	74,559.04	75,474.34	77,149.24	78,274.24
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-
13	Add: Cumulative depreciation adjustment on account of liability Discharge	0.00	-	-	-	-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	10.51	-	-	-	-	-
15	Net Cumulative depreciation at the end of the period after adjustments	67,484.19	70,809.21	74,559.04	75,474.34	77,149.24	78,274.24

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(Petitioner)

Calculation of Interest on Actual Loans

Name of the Company **NTPC Limited**
Name of the Power Station **ANTA**

(Amount in lacs)

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	NIB Drawal 1					
	Gross loan - Opening	5255.88	5255.88	5255.88	5255.88	5255.88
	Cumulative repayments of Loans	4671.89	5255.88	5255.88	5255.88	5255.88
	Net loan - Opening	583.99	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	583.99	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	292.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	1.21	0.00	0.00	0.00	0.00
2	NIB Drawal 2					
	Gross loan - Opening	2076.72	2076.72	2076.72	2076.72	2076.72
	Cumulative repayments of Loans	1845.97	2076.72	2076.72	2076.72	2076.72
	Net loan - Opening	230.75	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	230.75	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	115.38	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	0.48	0.00	0.00	0.00	0.00
3	NIB Drawal 3					
	Gross loan - Opening	3876.24	3876.24	3876.24	3876.24	3876.24
	Cumulative repayments of Loans	3445.55	3876.24	3876.24	3876.24	3876.24
	Net loan - Opening	430.69	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	430.69	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	215.35	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	0.89	0.00	0.00	0.00	0.00
4	NIB Drawal 4					
	Gross loan - Opening	80.40	80.40	80.40	80.40	80.40
	Cumulative repayments of Loans	71.47	80.40	80.40	80.40	80.40
	Net loan - Opening	8.93	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	8.93	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	4.47	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	0.02	0.00	0.00	0.00	0.00
5	NIB Drawal 5					
	Gross loan - Opening	1199.10	1199.10	1199.10	1199.10	1199.10

					PART-I FORM-13	
Calculation of Interest on Actual Loans						
Name of the Company			NTPC Limited			
Name of the Power Station			ANTA			
(Amount in lacs)						
Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Cumulative repayments of Loans	1065.86	1199.10	1199.10	1199.10	1199.10
	Net loan - Opening	133.24	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	133.23	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	66.62	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	0.28	0.00	0.00	0.00	0.00
6	NIB Drawal 6					
	Gross loan - Opening	2736.16	2736.16	2736.16	2736.16	2736.16
	Cumulative repayments of Loans	2432.14	2736.16	2736.16	2736.16	2736.16
	Net loan - Opening	304.02	0.00	0.00	0.00	0.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	304.02	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	152.01	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	0.4140%	0.4140%	0.4140%	0.4140%	0.4140%
	Interest on loan	0.63	0.00	0.00	0.00	0.00
7	HDFC Bank Ltd.-IV					
	Gross loan - Opening	8000.00	8000.00	8000.00	8000.00	8000.00
	Cumulative repayments of Loans	0.00	0.00	0.00	888.89	1777.78
	Net loan - Opening	8000.00	8000.00	8000.00	7111.11	6222.22
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	0.00	0.00	888.89	888.89	888.89
	Net loan - Closing	8000.00	8000.00	7111.11	6222.22	5333.33
	Average Net Loan	8000.00	8000.00	7555.56	6666.67	5777.78
	Rate of Interest on Loan	8.4500%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	676.00	676.00	638.44	563.33	488.22
Note:-	TOTAL LOAN					
1)	Gross loan - Opening	23,224.50	23,224.50	23,224.50	23,224.50	23,224.50
	Cumulative repayments of Loans	13,532.88	15,224.49	15,224.49	16,113.38	17,002.27
	Net loan - Opening	9,691.62	8,000.01	8,000.01	7,111.12	6,222.23
	Addition	-	-	-	-	-
	Repayments of Loans during the year	1,691.61	-	888.89	888.89	888.89
	Net loan - Closing	8,000.01	8,000.01	7,111.12	6,222.23	5,333.34
	Average Net Loan	8845.81	8000.01	7555.56	6666.68	5777.79
	Rate of Interest on Loan	7.6816%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	679.50	676.00	638.44	563.33	488.22

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FORM-15

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Anta Gas Power Project

Month:-

S.No.	Particulars	Unit	Oct-18	Nov-18	Dec-18
			Natural Gas		
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	2400.82	21191.78	8.63
2	Adjustment (+/-) in quantity supplied/made by oil/gas company/supplier	(1000 SCM)	0.00	0.00	0.00
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(1000 SCM)	2400.82	21191.78	8.63
4	Normative transit & handling losses	(1000 SCM)	NA	NA	NA
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(1000 SCM)	2400.82	21191.78	8.63
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	28241628.00	244710693.00	93728.00
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	-99257.00	543148.00	27670.00
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	28142371.00	245253839.00	121398.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	6475390.00	46668717.00	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0.00	0.00	0.00
11	Demurrage charges, if any	(Rs.)	0.00	0.00	0.00
12	Cost of Diesel in trans Coal MGR Sys	(Rs.)	0.00	0.00	0.00
13	Total Transportation Charges and other charges (9+10-11+12)	(Rs.)	6475390.00	46668717.00	0.00
13A	Others				
15	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13)	(Rs.)	34617761.00	291922556.00	121398.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9239.56	9114.27	9209.80
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	14419.12	13775.27	14005.30

(Signature)

गणेश सी.एस. / Ganesh C. S.

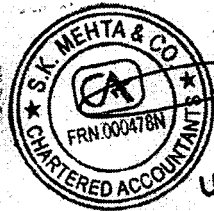
अपर महा प्रबंधक (वित्त) / AGM (Finance)

एनटीपीसी लिमिटेड / NTPC Limited

साइला सेवा ब्लॉक प.अं.-1 कवास / S.S.C. WR-1, Kawas

कवास गैस पावर परियोजना / Kawas Gas Power Project

आदित्यनगर, सुरत-३९२५१८ / Adityanagar, Surat-394516.



(GAJ BAGGA)
M.N. 27002
PARTNER
22/01/2020
UBIN 20087002AAAAAC9486

(39)

(Signature)

FORM-15

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Anta Gas Power Project

Month:-

S.No.	Particulars	Unit	Oct-18	Nov-18	Dec-18
			RLNG		
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	36694.66	6447.69	1328.96
2	Adjustment (+/-) in quantity supplied/made by oil/gas company/supplier	(1000 SCM)	0.00	0.00	0.00
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(1000 SCM)	36694.66	6447.69	1328.96
4	Normative transit & handling losses	(1000 SCM)	NA	NA	NA
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(1000 SCM)	36694.66	6447.69	1328.96
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	1150782432.00	85522752.00	5306949.00
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	-3944596.00	-1102499.00	-93777.00
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	1146837836.00	84420253.00	5213172.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	338755493.00	170890309.00	45917275.00
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0.00	0.00	0.00
11	Demurrage charges, if any	(Rs.)	0.00	0.00	0.00
12	Cost of Diesel in trans Coal MGR Sys	(Rs.)	0.00	0.00	0.00
13	Total Transportation Charges and other charges (9+10-11+12)	(Rs.)	338755493.00	170890309.00	45917275.00
13A	Others				
15	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13)	(Rs.)	1485593329.00	255310562.00	51130447.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9236.99	9233.48	9275.51
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	40485.28	39597.24	38532.13



(CA J. BAGGA)
M.No. 87002
PARTNER 22/01/2020

UDIN 20087002AAAAAC9486

(40)

गणेश सी.एस. / Ganesh C. S.
 अपर महा प्रबंधक (वित्त) / AGM (Finance)
 एनटीपीसी लिमिटेड / NTPC Limited
 साझा सेवा केंद्र प.क्षे.-1 कवास / S.S.C. WR-1, Kawas
 कवास गैस पावर परियोजना / Kawas Gas Power Project
 अदित्यनगर, सुरत-३९४५१६ / Adityanagar, Surat-394516.

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FORM-15

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

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

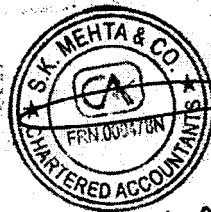
Name of the Company:- NTPC Ltd.

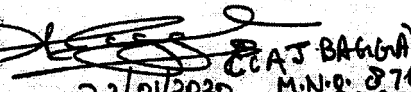
Name of Power Station:- Anta Gas Power Project

Month:-

S.No.	Particulars	Unit	Oct-18	Nov-18	Dec-18
			Naptha		
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(MT)	2080.77	2080.77	2080.77
2	Adjustment (+/-) in quantity supplied/made by oil/gas company/supplier	(MT)	0.00	0.00	0.00
3	Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (1 + 2)	(MT)	2080.77	2080.77	2080.77
4	Normative transit & handling losses	(MT)	NA	NA	NA
5	Net Gas/RLNG/Liquid fuel supplied by oil/gas company/supplier inclusive of opening stock (for liquid fuel) (3 - 4)	(MT)	2080.77	2080.77	2080.77
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	141485430.00	141485430.00	141485430.00
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	0.00	0.00	0.00
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	141485430.00	141485430.00	141485430.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	-	-	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0.00	0.00	0.00
11	Demurrage charges, if any	(Rs.)	0.00	0.00	0.00
12	Cost of Diesel in trans Coal MGR Sys	(Rs.)	0.00	0.00	0.00
13	Total Transportation Charges and other charges (9+-10-11+12)	(Rs.)	0.00	0.00	0.00
13A	Others				
15	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13)	(Rs.)	141485430.00	141485430.00	141485430.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	kCal/(Kg)	11380.16	11380.16	11380.16
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/MT	67996.83	67996.83	67996.83

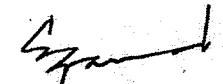
* Inclusive of opening stock

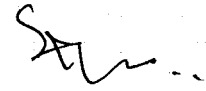



 RAJ BAHGA
 M.N. No. 87002
 PARTNER
 22/01/2020

UDIN 20027002AAAAAC9486

(41)


 गणेश सी.एस. / Ganesh C. S.
 अपर महा प्रबंधक (वित्त) / AGM (Finance)
 एनटीपीसी लिमिटेड / NTPC Limited
 साझा सेवा केंद्र प.के.-1 कवास / S.S.C. WR-1, Kawas
 कवास गैस पावर परियोजना / Kawas Gas Power Project
 आदित्यनगर, सुरत-394516 / Adityanagar, Surat-394516.



Computation of Energy Charges

Name of the Company :	NTPC Limited
Name of the Power Station :	Anta Gas power Station

SI	Description	Unit		Domestic Gas	RLNG	Naptha
		Gas/RLNG	Naptha			
1	Normative Heat Rate (For CC Operation)	(Kcal/kwh)	(Kcal/kwh)		2075	
2	Normative Heat Rate (For OC Operation)	(Kcal/kwh)	(Kcal/kwh)		3010	
3	Capacity	MW	MW		419.33	
4	Normative Availability Factor	%	%		85.00%	
5	APC for CC operation	%	%		2.75%	
6	APC for OC operation	%	%		1.00%	
7	Weighted Average Rate of Fuel	Rs/1000SCM	Rs/Kg	13,840.87	40,298.24	67,996.83
8	Weighted Average GCV of Fuel	Kcal/SCM	Kcal/Kg	9,187.88	9,248.66	11,380.16
9	Rate of Energy- Ex Bus-CC	(Paise/kwh)	(Paise/kwh)	321.400	929.700	1274.900
10	Rate of Energy- Ex Bus-OC	(Paise/kwh)	(Paise/kwh)	458.015	1324.764	1816.651
11	Mode of Operation on Fuel during 2014-19 (% of Schedule Generation)	%	%	66.45%	30.94%	2.61%
12	Weighted Average Energy Charge Rate as per above in 2014-19- Ex Bus CC	(Paise/kwh)	(Paise/kwh)	534.494		

WC Calculation at CC Operation

						Rs. Lakh
13	Year	2019-20	2020-21	2021-22	2022-23	2023-24
14	No. Of days	366	365	365	365	366
15	ESO in a year (in MUs)	3044.79	3036.47	3036.47	3036.47	3044.79
16	Fuel cost for 30 days	13339.52	13339.52	13339.52	13339.52	13339.52
17	Cost of Liquid stock for 15 days	415.23	415.23	415.23	415.23	415.23

S. V.
PETITIONER

(F)

Statement of Capital cost

Name of the Petitioner

NTPC Ltd

Name of the Generating Station

Anta Gas power Station

(Amount in Rs. Lakh)

S. No.	Particulars	2019-20		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	1,09,652.63	195.86	1,09,456.77
	b) Amount of IDC in A(a) above			474.79
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			4,425.05
	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			

Shall be filed at the time of truing-up.


 (Petitioner)

Statement of Capital Woks in Progress

Name of the Petitioner

NTPC Ltd

Name of the Generating Station

Anta Gas power Station

(Amount in Rs. Lakh)

S. No.	Particulars	2019-20		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	186.43	100.34	86.10
	b) Amount of IDC in A(a) above			1.13
	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			

Shall be filed at the time of truing-up.

(Petitioner)

Calculation of Interest on Normative Loan

Name of the Company :	NTPC Limited
Name of the Power Station :	Anta Gas power Station

(Amount in Rs Lakh)

S. No.	Particulars	Existing	2019-20	2020-21	2021-22	2022-23	2023-24
		2018-19					
1	2	3	4	5	6	7	8
1	Gross Normative loan – Opening	48,432.50	48,460.84	48,553.24	49,121.64	49,977.04	51,727.04
2	Cumulative repayment of Normative loan up to previous year	41,716.40	44,994.44	48,319.47	49,121.64	49,977.04	51,651.94
3	Net Normative loan – Opening	6,716.10	3,466.40	233.77	-	-	75.10
4	Add: Increase due to addition during the year / period	8.13	92.40	568.40	855.40	1,750.00	-
5	Less: Decrease due to de-capitalisation during the year / period	-8.18	0.00	0.00	0.00	0.00	0.00
6	Less: Decrease due to reversal during the year / period						
7	Add: Increase due to discharges during the year / period	28.39	0.00	0.00	0.00	0.00	0.00
8	Less: Repayment of Loan	3286.21	3,325.03	802.17	855.40	1,674.90	75.10
9	Net Normative loan - Closing	3,438.02	233.77	-	-	75.10	-
10	Average Normative loan	5,077.06	1,850.09	116.89	-	37.55	37.55
11	Weighted average rate of interest	5.2102	7.6816	8.4500	8.4500	8.4500	8.4500
12	Interest on Loan	264.53	142.12	9.88	0.00	3.17	3.17
13	Adjustment in repayment due to decap	8.17					
14	Cumulative repayment of Normative loan at the end of the period	44,994.44	48,319.47	49,121.64	49,977.04	51,651.94	51,727.04

(Petitioner)

Calculation of Interest on Working Capital

Name of the Company : NTPC Limited
Name of the Power Station : Anta Gas power Station

(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						
2	Cost of Main Secondary Fuel Oil						
3	Fuel Cost	18368.48	13339.52	13339.52	13339.52	13339.52	13339.52
4	Liquid Fuel Stock	1.88	415.23	415.23	415.23	415.23	415.23
5	O & M Expenses	780.04	739.53	772.58	807.51	844.40	883.71
6	Maintenance Spares	2,808.15	2662.31	2781.30	2907.05	3039.83	3181.37
7	Receivables	18,464.05	22904.84	23004.76	22493.84	22660.37	22654.78
8	Total Working Capital	22052.25	40061.42	40313.39	39963.14	40299.35	40474.61
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500
10	Interest on Working Capital	2977.05	4827.40	4857.76	4815.56	4856.07	4877.19

S. P. ...
Petitioner

Statement of Liability Flow

**PART-I
FORM-S**

Name of the Company : NTPC Limited
Name of the Power Station : Anta Gas power Station

Amount in Rs

Sr. No.	Name of the Party	Name of the work	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB as on 31.03.2019
(1)	(2)	(3)	(4)	(6)
A	Allowed Items			
1	Subhash Chander	Additional Reservoir at NTPC Anta	2009-10	32,87,001
2	Subhash chandra & Shubham costrcution	Additional Reservoir balance work	2011-12	10,88,147
3	Various Parties	Additional Reservoir - Dyke Embankment fitting & Slope protection with turfing	2012-13	8,19,637
4	Ladha Construction	Balance Work of Dyke Embankment on the road at Reservoir	2014-15	3,59,284
5	Subhash Chander	Additional Reservoir at NTPC AntaVC-1033389	2016-17	79,43,557
	Sub-total A: Allowed Items			1,34,97,627
B	New Claims			
6	LOGICLADDER TECHNOLOGIES PVT LTD	Effluent Quality Monitoring System (EQMS)	2017-18	24,990
7	Effwa Infra & Research P Ltd	Separation of Effulents from Storm Water Drain & discharge	2017-18	5,89,762
	Sub-total B: New Claims			6,14,752
	Sub-total of Allowed Items / New Claims (A+B)			1,41,12,379
C	Disallowed/ Not claimed items			
8	ABB India Ltd	Cap spares 220KV : Circuit Breaker	2016-17	3,40,752
9	Bhatia Agency	Air Conditioners 1.5 T split Videoon	2017-18	4,170
10	Khandelwal electricals	Wall Mounted Fan - Usha 16"	2017-18	576
11	Chhabi Electricals	Battery Charger: 3PH, 24V, 100AMP	2017-18	12,74,680
12	Hitachi systems Micro Clinic	Server Intel Xeon Dual CPU with OS	2017-18	58,950
13	DHR Holding India Pvt Ltd	K1100 Luminescent DO sensor	2017-18	50,220
14	ABB India Ltd	Suply cum Errection & Installation CB SF6-4000163348-GR IR	2017-18	1,71,621

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S. P. ...

Statement of Liability Flow**PART-I
FORM-S**

Name of the Company : NTPC Limited
Name of the Power Station : Anta Gas power Station

Amount in Rs

Sr. No.	Name of the Party	Name of the work	Year of creation of liability capitalised in Gross Block	Undischarged liabilities relating to GB as on 31.03.2019
(1)	(2)	(3)	(4)	(6)
15	ASHBOND ENGINEERS PVT LTD	Industrial Video Image Scope System	2018-19	2,28,150
16	GE GLOBAL PARTS & PRODUCTS GMBH,	Cap spares ST	2018-19	4,64,611
17	SCOPE T&M PVT LTD	Cap spares: Secondary Injection Testing Relay Kit	2018-19	90,000
18	TECHNOWARE SYSTEMS INDIA (P) L	WI-FI INTERNET ACCESS SOLUTION AT NTPC ANTA.	2018-19	1,00,000
19	ABB India Ltd	Cap Spares: Circuit Breaker 220KV	2018-19	25,35,021
20	SUMER & CO	LADDER:FRP:WALL SUPPORTED:20FT	2018-19	1,10,474
21	SKOTECH IT HUB PRIVATE LIMITED	Procurement of Portable Projector through GEM	2018-19	44,000
	Sub-total C: Disallowed/ Not claimed items			54,73,225
	Grand Total (A + B + C)			1,95,85,604


(Petitioner)

Summary of issue involved in the petition

Name of the Company :		NTPC Limited				
Name of the Power Station :		Anta Gas power Station				
1	Petitioner:	NTPC Limited				
2	Subject: Determination of tariff of Anta Gas power station (419.33 MW) for the period from 01.04.2019 to 31.03.2024					
Prayer:						
3	i) Approve tariff of Anta GPS 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) Pass any other order as it may deem fit in the circumstances mentioned above.					
Name of Respondents						
1. Uttar Pradesh Power Corp. Ltd (UPPCL)						
2. Uttarakhand Power Corporation Ltd (UPCL)						
3. Rajasthan Urja Vikas Nigam Limited (RUVNL)						
4. Tata Power Delhi Distribution Ltd (TPDDL)						
4	5. BSES Rajdhani Power Ltd (BRPL)					
	6. BSES Yamuna Power Ltd (BYPL)					
	7. Punjab State Power Corporation Ltd (PSPCL)					
	8. Himachal Pradesh State Electricity Board Ltd (HPSEBL)					
	9. Power Development Department (PDD), J&K					
	10. Haryana Power Purchase Centre (HPPC)					
	11. Electricity Department (Chandigarh)					
Project Scope		Anta Gas power Station				
Capital Cost as on 01.04.2019		82418.55				
Station CoD		01-08-1990				
Claim		2019-20	2020-21	2021-22	2022-23	2023-24
5	AFC (in Rs Lakh)	23,550.58	24,296.72	20,152.59	21,503.36	21,516.80
	Capital cost (in Rs Lakh)	82,484.55	82,956.55	83,973.55	85,834.55	87,084.55
	Initial spare (in Rs Lakh)	N/A				
	NAPAF (Gen) (in %)	85				
	Any Specific					



Rajasthan State Pollution Control Board

Headquarter, 4, Institutional Area, Jhalana Doongri, Jaipur-302004
Phone : 0141-5159699, 5159600 e-mail : member-secretary@rpcb.nic.in

Annexure - A

F.11.(530/36)/RPCB/Lab/258

Date: 14/05/2019

The Unit Head/ President,
Industry as per list Annexed.

Subject:- Configuration of CAAQM stations established by industries within industry premises/ townships/ residential areas with CPCB & RSPCB.

Reference:- CPCB letter no. C-12016/01/2019/CAAQMS-township/17013 dated 06.03.2019.

Sir,

With reference to above, it has been observed by CPCB/ RSPCB that some of the industries that have established CAAQM stations within the plant premises/ townships/ residential areas are not configured with CPCB/RSPCB. These stations are similar to the stations operated by CPCB/SPCBs for monitoring ambient air quality and publishing AQI. You are therefore directed to configure the CAAQM stations established by your industry within the plant premises/ townships/ residential areas, if any, with RSPCB & CPCB portal for all parameters being monitored by the industry in these CAAQM stations including meteorological parameters.

The CPCB central portal for CAAQM is <http://app.cpcbcr.com/ccr-industry/#/ccr-industrial/caaqm-landing>. A copy of the CPCB protocol for linking CAAQM stations to CPCB portal is available at http://cpcb.nic.in/upload/caaqm/protocol_CAAQM.pdf.

Encl. As above

Yours Sincerely,


(Shailaja Deval)
Member Secretary

Copy to following for information and necessary action:

1. The Regional Officer, Regional Office, Alwar/ Bharatpur/ Bhiwadi/ Balotra/ Bikaner/ Bhilwara/ Chittorgarh/ Jaipur South/ Jaipur North/ Jodhpur/ Pali/ Sikar/ Udaipur/ Kota/ Kishangarh, to review industries in your jurisdiction other than the enclosed list of industries and ensure compliance of these directions in those industries.

Chief Scientific Officer





Annexure

S. No.	Name of Industries
1	M/s Chanderia Cement Works Unit II, Madhavnagar, Chanderia Tehsil:Chittorgarh District:Chittorgarh
2	M/s J.K Cement Work, Gotan , Tehsil:Merta District:Nagaur-342902
3	M/s Mangalam Cement Ltd., P.O.,Aditya Nagar , Morak Tehsil:Ramganj Mandi, District:Kota
4	M/s Shriram Cement Works, DCM Shriram Ltd, Shri Ram Nagar , Kota Tehsil:Ladpura, District:Kota-324004
5	M/s Udaipur Cement Works Ltd.(J.K. Udaipur Udyog Ltd.), Shripati nagar P.o CFA 313021 , Udaipur Tehsil:Mavli, District:Udaipur
6	M/s Birla Cement Works, (Prop- Birla Corporation Limited), Madhav Nagar, Chanderia, Chittorgarh- 312 021, District:Chittorgarh
7	M/s Chanderia Cement Works (A Unit of Birla cement Works) Madhavnagar , Chanderia Tehsil:Chittorgarh District:Chittorgarh
8	M/s Lafarge India Pvt. Ltd. UDB Tower, A-1 4th Floor, JLN Marg, , Jaipur Tehsil:Jaipur District:Jaipur
9	M/s Ultratech Cement Ltd., (Unit Aditya Cement Works), Adityapuram, Sawa, Shambhupura, Tehsil & District - Chittorgarh.
10	M/s Ambuja Cements Limited Unit-Rabriyawas , Rabriyawas Tehsil:Jaitaran District:Pali
11	M/s Binani Cement Ltd. BinaniGram Tehsil:Pindwara District:Sirohi
12	M/s J.K Cement Works, Mangrol C/O J.K. Cement Works, Kailash Nagar, Nimbahera , Tehsil:Nimbahera District:Chittorgarh
13	M/s J.K.Cement Works Kailash Nagar , Nimbahera Tehsil:Nimbahera District:Chittorgarh
14	M/s J.K. White Cement Works P.O- Gotan, Tehsil- Merta, District-Nagaur ,
15	M/s J.K. Lakshmi Cement Ltd. P.O- Jaykaypuram, , Tehsil:Pindwara District:Sirohi
16	M/s ACC Limited Lakheri Cement Works, P.O. , Lakheri Tehsil:Lakheri District:Bundi
17	M/s Shree Cement Ltd. Bangur Nagar, Post Box No. 33, , Beawar District:Ajmer
18	M/s Shree Cement Ltd. Village-Ras , Tehsil:Jaitaran District:Pali
19	M/s Nirma Limited(Old Name Siddhi Vinayak Cement Pvt. Ltd.) Village Digrana, Dungarnagar, Kharadi & Nimol , Nimbol Tehsil:jaitaran District:Pali
20	M/s Trinetra Cement Limited (Mahi Cement Works) (Division of Indo Zinc Ltd.)Near Village- Wajvana , Tehsil:Garhi District:Banswara
21	M/s Ultra Tech Cement Ltd (Unit Kotputli Cement Works) , Mohanpura Tehsil:Kotputli District:Jaipur
22	M/s Ultratech Cement Ltd (Unit Birla White) D-7,Shastri Nagar , , Jodhpur
23	M/s Wonder Cement Limited 17, Old Fatehpura, Near Sewa Mandir , Tehsil:Nimbahera District:Chittorgarh
24	M/s Binani Cement Ltd., Village Sirohi, Tehsil Neem Ka Thana, District Sikar
25	M/s Shree Cement Ltd. Near Village-Dehra-Asalpur , Tehsil:Phulera District:Jaipur
26	M/s Shree Cement Ltd. Plot no. SP- 3/A-11, RIICO Industrial Area Khushkhara , Tehsil:Tijara District:Alwar
27	M/s Shree Cement Ltd., (Suratgarh) Udepur, Teh-Suratgarh, Dist-Sriganganagar
28	M/s Chambal Fertilizers & Chemicals Ltd. Phase-I P.O Gadepan , Kota Tehsil:Digod District:Kota-325208
29	M/s Chambal Fertilizers & Chemicals Ltd. Phase-II P.O Gadepan , Kota Tehsil:Digod District:Kota-325208
30	M/s Shri Ram Fertilizers & Chemicals, DCM Shriram Ltd, Shri Ram Nagar , Kota Tehsil:Ladpura District:Kota-324004
31	M/s Adani Power Rajasthan Ltd., village- Kawai , Tehsil:Atru District:Baran
32	M/s N.T.P.C. Ltd. Anta Gas Power Plant , Anta Tehsil:Anta District:Baran
33	M/s Chambal Fertilizers & Chemicals Ltd. Power Plant, P.O Gadepan , Kota Tehsil:Digod District:Kota-325208
34	M/s Chhabra Thermal Power Station Shakti Parisar, Administrative building, CTPP Site, , Chowki Motipura Tehsil:Chhabra District:Baran
35	M/s Chhabra Thermal Power Plant, Stage-I, (Ph-I) Unit 1 & 2, Chowki Motipura, Distt Baran-325220
36	M/s Chhabra Thermal Power Plant, Stage-I, (Ph-II) Unit 3 & 4, Chowki Motipura, Distt Baran-325220
37	M/s Chhabra Thermal Power Plant, Stage-II, Unit 5 & 6, Chowki Motipura, chhabra, Distt Baran-325220

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

CSMC/TFC/CR-13/2013-14

Phone No. 080-26531200
Fax No. 080-26531202

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

To,
General Manager,
M/s NIPC Limited,
Kudgi Super Thermal Power Project,
Plot No. 9, Mallikarjun Nagar,
Managuli Road, Bijapur-586 100.

Sir,

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

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

* * *

We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted, etc and has concurred in principle to issue the Site Clearance for the initial location for the establishment of super thermal power project for generating electrical power of 5 X 800 MW at Near Kudugji village, Basavana bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions:

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

(51)

[Handwritten Signature]

[Handwritten Signature]
A GM (PES)
17/10/2013

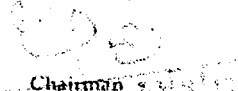
8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval.
9. The provisions of rule 50 to 251 of Building and Other Construction Workers (Regulation of Employment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

Suggestions:

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

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

Your's Faithfully,


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

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 kind information please.

GK
29/4/16

29/4/2016

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29/4/16

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STATE POLLUTION CONTROL BOARD, ODISHA

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

BY REGD POST

No. 2755 /

Ind-II-NOC-5592

Date 28-02-14

OFFICE MEMORANDUM

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

GENERAL CONDITIONS.

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

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Spl.

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. } ← 3
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. ✓

Stu...

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]



Signature

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.

Signature

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

pH-6.5 to 8.5
SS-100mg/l
O&G-20mg/l and
Flouride-2.0mg/l

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

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

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 Kisam by the competent authority. The copy of said land conversion document shall be submitted to the Board along with consent to operate application.
53. A green belt of adequate width and density preferably with local species along the periphery of the power plant shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover, in such a manner that, atleast plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years.
54. No production activity shall commence prior to installation of the pollution control devices. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and /or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.
55. The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

Encl: Approved layout Map & Annexures


MEMBER SECRETARY

To

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

Memo No. _____ /Dt. _____ /

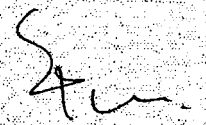
Copy forwarded to:

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

SR. ENV. ENGINEER (N)

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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 relative 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-14012/196-CPA]
VIJAY SHARMA, R. Secy.

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

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

S. M.

भाग II - खण्ड 3(1)

भारत का संवैधानिक अनुसूची - प्रथम

विषय: 1. 44 वर्षों और उससे अधिक उम्र के लोगों को पेंशन प्रदान करने पर अधिकार, और विदेशी लोगों से अधिकृत होने से निवृत्ति या निवृत्ति प्रयोग के संबंध में अन्य बातों के अतिरिक्त, भारत सरकार द्वारा जारी की गई है।
[सं. सं. सं. 15017-43/2007-10 (पे. सं. सं. सं.)]
स्वतंत्र रूप से, संयुक्त संविधान

विषय: मूल नियम, भारत के संविधान में संशोधन सं. सं. सं. 644 (अ), तारीख 19 नवंबर 1986 द्वारा प्रकाशित किये गये थे और संसदीय संशोधन सं. सं. सं. 433 (अ), तारीख 18 अक्टूबर 1987, सं. सं. सं. 176 (अ), तारीख 2 अप्रैल 1996 और हाल में ही सं. सं. सं. 97 (अ), तारीख 16 फरवरी 2009; सं. सं. सं. 149 (अ), तारीख 4 मार्च, 2009; सं. सं. सं. 512 (अ), तारीख 9 जुलाई, 2009; सं. सं. सं. 543 (अ), तारीख 22 जुलाई, 2009; सं. सं. सं. 595 (अ), तारीख 21 अगस्त, 2009; और सं. सं. सं. 674 (अ) तारीख 04 नवंबर 2009 द्वारा प्रकाशित किये गए हैं।

MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 16th November, 2009

G.S.R. 8261(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 (3)(i), for the words, 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 Areas	Ecologically Sensitive Area (Notified by Central Government)	
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO ₂), µg/in ³	Annual* 24 hours**	50 30	20 30	Improved West and Gaeke Bispyrrole fluorescence
2	Nitrogen Dioxide (NO ₂), µg/m ³	Annual* 24 hours**	40 30	20 30	Modified Jacob & Hoehneiser (Na-Arsenite) Chemiluminescence
3	Particulate Matter (size less than 10µm) or PM ₁₀ , µg/m ³	Annual* 24 hours**	40 100	20 100	Gravimetric TCEM Beta attenuation
4	Particulate Matter (size less than 2.5µm) or PM _{2.5} , µg/m ³	Annual* 24 hours**	40 60	20 60	Gravimetric TCEM Beta attenuation

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(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 EPA 2000 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	Ammonia (NH ₃) µg/m ³	Annual* 24 hours**	100 400	100 400	Chemiluminescence Nadophthal 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	Benz(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 EPA 2000 or equivalent filter paper
12	Nickel (Ni), ng/m ³	Annual*	20	20	AAS/ICP method after sampling on EPA 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. O-13017412007.CPW]

RAJNEESH DUBEJ, 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. 333(E), dated the 9th July, 2009; G.S.R. 343(E), dated the 22nd July, 2009; G.S.R. 754(E), dated the 21st August, 2009; and G.S.R. 794(E), dated the 4th November, 2009.

Letter Reference No :- IAPG/RAJ/NTPC/ANTA/XP/1
Contact Person : Vivek Vashista
Mob : +91 8800737788
Phone: +91 1412744023
E-Mail : Vivek.vashista@in.abb.com

To,
Mr. Satyendra Asthana (Sr. Manager)
NTPC, Anta
Distt-Baran
Rajasthan

Date
02nd Nov, 2017

Sub • XP Obsolesce & ABB support Letter

Dear Sir,

This is to inform that Microsoft has already ended its support for Windows XP/Server 2003 operating system in 2014, this means very limited support is available for infected and potential systems running Windows XP. Without critical Windows XP security updates, your HMI/EWS PC may become vulnerable to harmful viruses, spyware, and other malicious software which can steal or damage your business data and information. Anti-virus software will also not be able to fully protect you as Windows XP itself is unsupported.

For our customers to effectively curb this menace, it is recommended to keep their control assets eg. HMI up-to-date with latest software whose security architectures are far superior to those running on Windows XP. In this regard it is notable to mention, that Microsoft has reported that system running latest versions of Windows have not been targeted by the ransomware

ABB control system operating on Windows XP/Server 2003 platform is no exception to these critical risks regarding. It is therefore very important for our customers to be aware of the following:

- Workstations and servers running Windows XP/Server 2003 operating systems could become targets for malicious software taking advantage of newly discovered vulnerabilities in Windows XP/Server 2003 in near future. This could put entire control systems and personnel at risk since no Microsoft security patches are available to protect against such threats.
- Antivirus-software companies still supporting Windows platform will not be able to fully protect computers running unsupported operating systems like the Windows XP/Server 2003.
- No new Workstation Server Hardware will have guaranteed support for compatibility with Windows XP/2003. For our customers, this means that spare parts will be extremely difficult to source and driver support for existing hardware will be difficult to maintain.

ABB strongly recommends that customers running Windows XP/Server 2003 operating systems evaluate their immediate asset management to ensure that the control system is made up-to-date and properly protected against any potential vulnerabilities or operational upsets. ABB, in turn, is responding to this critical issue by having solutions that can solve or mitigate the risk and help

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customers protect their plant and personnel and therefore ensure safe operation and continuous production.

This is the right time to update from 'Control systems software versions' which are based on the obsolete Windows XP/Server 2003 operating system to versions which run on latest Windows operating systems. Control system software upgrade and evolution to the latest available software and hardware platforms offer the most up-to-date technology and ensure the best possible support services. Additional value from new system software features and solutions can increase effectiveness and efficiency as well as IT security compliance.

Choosing an upgrade/update path for your 'Control system software' and the underlying IT infrastructure is recommended not only to avoid software risks but also to take care of possible hardware risks as well. Component manufacturers will no longer make support/driver software that is backward compatible with Windows XP/Server 2003.

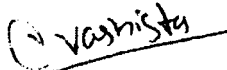
ABB is committed to support all its XP/2003 users with life cycle management and support program. ABB's PG Care offering is the most cost effective way to maintain, upgrade, evolve, enhance and fortify the installed base of power generation automation systems to ensure higher availability, reduced risk and longer life time.

Our nodal point of contact for cyber issues is
Mr. Rahul Mann,
Contact No:- +91-8826849700,
Email id :- rahul.Mann@in.abb.com

He is available to discuss this matter with your team and to see how ABB can help ensure that your control system is up-to-date and prepared to deal with any eventuality.

Thanking you for your continued patronage & assuring you of our best services & attention at all times! We remain,

Yours Sincerely
For **ABB** India Limited



Vivek Vashista
IAPG Services



RAJ PAL

आर्थिक सलाहकार
Economic Adviser
Tel. No.: 011-23715595
E-mail : raj.pal@nic.m



Annexure - D
SECRET/IMMEDIATE

भारत सरकार
GOVERNMENT OF INDIA
विद्युत मंत्रालय
MINISTRY OF POWER
श्रम शक्ति भवन, राफी मार्ग

SHRAM SHAKTI BHAWAN, RAFI MARG

नई दिल्ली - 110001
NEW DELHI - 110001

D.O.No. 28/14/2018-Coord

the February 27th 2019

Dear Shri *Singh*

Enclosed please find communication number VI-23014/208/2015-VS dated 26th February, 2019 from Ministry of Home Affairs, VIP Security Unit regarding maintaining high level of alertness and strengthening security arrangements at vital installations, given the current context.

I request you to kindly take appropriate action for complying with the instructions strictly.

With regards,

Yours sincerely,

Raj Pal
(Raj Pal)

Shri Gurdeep Singh
Chairman & Managing Director
NTPC Limited
NTPC Bhawan,
SCOPE Complex, Institutional Area,
Lodhi Road, New Delhi- 110003



66

1206
3/1/19

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,

[Signature]
23/10/19

(Praveen Kumar)

Under Secretary to the Govt. of India

Tel.No.23715507 ext. 281

mop@nic.in

(67)

[Handwritten signature]



राजस्थान राज्य प्रदूषण नियंत्रण मंडल

RAJASTHAN STATE POLLUTION CONTROL BOARD

04, झालाना संस्थानिक क्षेत्र झालाना डूंगरी जयपुर - 302004
 फोन: 5101871, 5101872, ईपीबीएक्स: 5159600, 5159699 फैक्स: 5159694-97

F: 11 (495) RPCB/Lab./24)

Date: 02/05/18.

All Industries (List Enclosed)

Subject: Installation of Pan-Tilt-Zoom camera (PTZ)-reg.

Sir,

With reference to above, the State Board has decided in its Regional Officer's meeting held on dated 02.02.2018 that all the industries which are covered under Continuous Emission Monitoring System (CEMS) and Continuous Effluent Quality Monitoring System (CEQMS) have to install and connect PTZ camera/s with State Board's portal to visualize the emission and effluent discharge point of the Industry.

Therefore, you are requested to install & connect PTZ camera/s at location ensuring visibility of all emission & effluent discharge points of industry within one month.

Besides above, you are also requested to maintain the recording at least one month with remote access to the State Board.

Yours Sincerely,

(K.C.A. Arun Prasad)
 Member Secretary

Copy to following for information and necessary action please:

1. P. S. to Chairperson, RPCB, Jaipur.
2. Chief Environmental Engineer, RSPCB, Jaipur
3. Group In-charge, CPM/HOP/BMW/Textile/Mines/HWC/SCMG-CD/PDF/MUID, RSPCB, Jaipur.
4. Regional Officer, RSPCB, Alwar/Bhiwadi/Balotara/Bharatpur/Bhilwara/Bikaner/Chittorgarh/Jaipur (North)/ Jaipur (South)/ Jodhpur/Kishangarh/Kota/Pali/Sikar/Udaipur with direction to select location for installation of PTZ camera in the industries.

Chief Scientific Officer



To,

Date: 24.09.2019

The GM
NTPC GAS STATION,
Anta, Rajasthan.

Sub.: Power section upgradation of existing Excitation systems at NTPC Anta Power plant to latest Unitrol 6000 based components.

Dear Sir,

We would like to inform you that UNITROL- 9372b-f AVR converter and associated Power components have been obsolete in late 90's. Hence, ABB cannot guarantee life cycle services, spares and support due to the scarcity of key components. ABB strongly recommends migration planning to the latest technology Unitrol-6000 based power components before degradation affects performance.

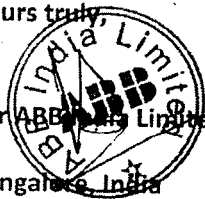
The extremely flexible and powerful UNITROL 6000 is the optimal product for large applications and technically more demanding solutions. By considering a replacement, you will be able to capitalize on the features of a product still in its active phase, thereby eliminating any risks associated with equipment entering the obsolete stage.

Thanking you and assuring you of our best services,

Yours truly,

For ABB India Limited

Bangalore, India



S. M.



भारत का राजपत्र

The Gazette of India

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2620] नई दिल्ली, मंगलवार, दिसम्बर 8, 2015/अग्रहायण 17, 1937
No. 2620] NEW DELHI, TUESDAY, DECEMBER 8, 2015/AGRAHAYANA 17, 1937

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 7 दिसम्बर, 2015

का.आ. 3305(ब).—केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 6 और धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए पर्यावरण (संरक्षण) नियम, 1986 का और संशोधन करने के लिए निम्नलिखित नियम बनाती है, अर्थात्:—

1.(1) इन नियमों का संक्षिप्त नाम पर्यावरण (संरक्षण) संशोधन नियम, 2015 है।

(2) ये उनके राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. पर्यावरण (संरक्षण) नियम, 1986 की अनुसूची 1 में,—

(क) क्रम सं. 5 और उससे संबंधित प्रविष्टियों के स्थान पर निम्नलिखित क्रम सं. और प्रविष्टियां अंतःस्थापित की जाएंगी, अर्थात्:—

क्रम सं.	उद्योग	मापदंड	मानक
1	2	3	4
5क	ताप विद्युत संयंत्र (जल उपभोग सीमा)	जल उपभोग	I. एक बार शीतलन (ओटीसी) के माध्यम से सभी संयंत्र शीतलन टावरों (सीटी) को प्रतिष्ठापित करेंगे और अधिसूचना की तारीख से दो वर्ष की अवधि के भीतर अधिकतम 3.5m ³ /MWh के विनिर्दिष्ट जल उपभोग को हासिल करेंगे।

Stu.

			<p>II. सभी विद्यमान सीटी-आधारित संयंत्र 3.5m³/MWh इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर अधिकतम 3.5m³/MWh तक के विनिर्दिष्ट जल उपभोग को कम करेंगे।</p> <p>III. जनवरी, 2017 के पश्चात् प्रतिष्ठापित किए जाने वाले नए संयंत्र अधिकतम 2.5 m³/MWh तक के विनिर्दिष्ट जल उपभोग को पूरा करेंगे और शून्य जल दुरुव्य को हासिल करेंगे।</p>
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(ख) क्रम सं. 25 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम सं. और प्रविष्टियां रखी जाएंगी, अर्थात् :—

क्रम सं.	उद्योग	मापदंड	मानक
1	2	3	4
		विवक्त पदार्थ	100 mg/Nm ³
		सल्फर डायोक्साइड (SO ₂)	600 mg/Nm ³ (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां) 200 mg/Nm ³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		नाइट्रोजन के आक्साइड (NO _x)	300 mg/Nm ³
		पारा (Hg)	0.03 mg/Nm ³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		1 जनवरी, 2003 के पश्चात् 31 दिसंबर, 2016* तक प्रतिष्ठापित टीपीपी (इकाईयां)	
		विवक्त पदार्थ	50 mg/Nm ³
		सल्फर डायोक्साइड (SO ₂)	600 mg/Nm ³ (500 मेगावाट से कम क्षमता की इकाईयों से लघु इकाईयां) 200 mg/Nm ³ (500 मेगावाट और उससे अधिक क्षमता की इकाईयां)
		नाइट्रोजन के आक्साइड (NO _x)	300 mg/Nm ³
		पारा (Hg)	0.03 mg/Nm ³
		1 जनवरी, 2017* से प्रतिष्ठापित टीपीपी (इकाईयां)	
		विवक्त पदार्थ	30 mg/Nm ³
		सल्फर डायोक्साइड (SO ₂)	100 mg/Nm ³
		नाइट्रोजन के आक्साइड	100 mg/Nm ³

	(NOx)	
	पारा (Hg)	0.03 mg/Nm ³

- * टीपीपी (इकाईयां) इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष के भीतर परिसीमाओं को पूरा करेंगी।
- ** इसके अंतर्गत सभी टीपीपी (इकाईयां) हैं, जिन्हें पर्यावरणीय निकासी प्रदान की गई है और संनिर्माण के अधीन है।
- [फा. सं. क्यू-15017/40/2007-सीपीडब्ल्यू]

डा. राशिद हसन, सलाहकार

टिप्पण :- मूल नियम भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (ii) में सं. का.आ. 844(अ) 19 नवंबर, 1986 द्वारा प्रकाशित किए गए थे और उनका पश्चातवर्ती का.आ. 433(अ) तारीख 18 अप्रैल, 1987 ; सा.का.नि. 176(अ) तारीख 2 अप्रैल, 1996; सा.का.नि. 97 (अ), तारीख 18 फरवरी, 2009 ; सा.का.नि. 149(अ) तारीख 4 मार्च, 2009 ; सा.का.नि. 543(अ) तारीख 22 जुलाई, 2009 ; सा.का.नि. 739(अ) तारीख 9 सितम्बर, 2010 ; सा.का.नि. 809(अ) तारीख 4 अक्टूबर, 2010, सा.का.नि. 215(अ) तारीख 15 मार्च, 2011 ; सा.का.नि. 221(अ) तारीख 18 मार्च, 2011 ; सा.का.नि. 354(अ) तारीख 2 मई, 2011 ; सा.का.नि. 424(अ) तारीख 1 जून, 2011 ; सा.का.नि. 446(अ) तारीख 13 जून, 2011 ; सा.का.नि. 152(अ) तारीख 16 मार्च, 2012 ; सा.का.नि. 266(अ) तारीख 30 मार्च, 2012 ; सा.का.नि. 277(अ) तारीख 31 मार्च, 2012; सा.का.नि. 820(अ) तारीख 9 नवम्बर, 2012 ; सा.का.नि. 176(अ) तारीख 18 मार्च, 2013 ; सा.का.नि. 535(अ) तारीख 7 अगस्त, 2013 ; सा.का.नि. 771(अ) तारीख 11 दिसम्बर, 2013 ; सा.का.नि. 2(अ) तारीख 2 जनवरी, 2014 ; सा.का.नि. 229(अ) तारीख 28 मार्च, 2014 ; सा.का.नि. 232(अ) तारीख 31 मार्च, 2014 ; सा.का.नि. 325(अ) तारीख 7 मई, 2014, सा.का.नि. 612(अ) तारीख 25 अगस्त, 2014 और अन्तिम संशोधन सा.का.नि. 789(अ) तारीख 11 नवम्बर, 2014 किया गया था।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 7th December, 2015

S.O. 3305(E).— In exercise of the powers conferred by sections 6 and 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) Amendment Rules, 2015.
- (2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986, in Schedule – I, -
 - (a) after serial number 5 and entries relating thereto, the following serial number and entries shall be inserted, namely:—

Sr. No.	Industry	Parameter	Standards
1	2	3	4
"5A.	Thermal Power Plant (Water consumption limit)	Water consumption	I. All plants with Once Through Cooling (OTC) shall install Cooling Tower (CT) and achieve specific water consumption upto maximum of 3.5m ³ /MWh within a period

			<p>of two years from the date of publication of this notification.</p> <p>II. All existing CT-based plants reduce specific water consumption upto maximum of 3.5m³/MWh within a period of two years from the date of publication of this notification.</p> <p>III. New plants to be installed after 1st January, 2017 shall have to meet specific water consumption upto maximum of 2.5 m³/MWh and achieve zero waste water discharged”;</p>
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(b) for serial number 25, and the entries related thereto, the following serial number and entries shall be substituted, namely:-

Sr. No.	Industry	Parameter	Standards
1	2	3	4
25.	Thermal Power Plant	TPPs (units) installed before 31 st December, 2003*	
		Particulate Matter	100 mg/Nm ³
		Sulphur Dioxide (SO ₂)	600 mg/Nm ³ (Units Smaller than 500MW capacity units) 200 mg/Nm ³ (for units having capacity of 500MW and above)
		Oxides of Nitrogen (NOx)	600 mg/Nm ³
		Mercury (Hg)	0.03 mg/Nm ³ (for units having capacity of 500MW and above)
		TPPs (units) installed after 1 st January,2003, upto 31 st December, 2016*	
		Particulate Matter	50 mg/Nm ³
		Sulphur Dioxide (SO ₂)	600 mg/Nm ³ (Units Smaller than 500MW capacity units) 200 mg/Nm ³ (for units having capacity of 500MW and above)
		Oxides of Nitrogen (NOx)	300 mg/Nm ³
		Mercury (Hg)	0.03 mg/Nm ³
		TPPs (units) to be installed from 1 st January, 2017**	
		Particulate Matter	30 mg/Nm ³
		Sulphur Dioxide (SO ₂)	100 mg/Nm ³
		Oxides of Nitrogen (NOx)	100 mg/Nm ³
Mercury (Hg)	0.03 mg/Nm ³		

*TPPs (units) shall meet the limits within two years from date of publication of this notification.

**Includes all the TPPs (units) which have been accorded environmental clearance and are under construction”.

[F. No. Q-15017/40/2007-CPW]

Dr. RASHID HASAN, Advisor

Note: - The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i) *vide* number S.O. 844(E), dated the 19th November, 1986 and subsequently amended *vide* the following notifications:—

S.O. 433(E), dated 18th April 1987; G.S.R. 176(E) dated 2nd April, 1996; G.S.R. 97(E), dated the 18th February, 2009; G.S.R. 149(E), dated the 4th March, 2009; G.S.R. 543(E), dated 22nd July, 2009; G.S.R. 739(E), dated the 9th September, 2010; G.S.R. 809(E), dated, the 4th October, 2010; G.S.R. 215(E), dated the 15th March, 2011; G.S.R. 221(E), dated the 18th March, 2011; G.S.R. 354(E), dated the 2nd May, 2011; G.S.R. 424(E), dated the 1st June, 2011; G.S.R. 446(E), dated the 13th June, 2011; G.S.R. 152(E), dated the 16th March, 2012; G.S.R. 266(E), dated the 30th March, 2012; and G.S.R. 277(E), dated the 31st March, 2012; and G.S.R. 820(E), dated the 9th November, 2012; G.S.R. 176(E), dated the 18th March, 2013; G.S.R. 535(E), dated the 7th August, 2013; G.S.R. 771(E), dated the 11th December, 2013; G.S.R. 2(E), dated the 2nd January, 2014; G.S.R. 229(E), dated the 28th March, 2014; G.S.R. 232(E), dated the 31st March, 2014; G.S.R. 325(E), dated the 07th May, 2014, G.S.R. 612(E), dated the 25th August, 2014 and lastly amended *vide* notification G.S.R. 789(E), dated 11th November, 2014.

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सत्यमेव जयते

भारत का राजपत्र

The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 590]

नई दिल्ली, सोमवार, मार्च 7, 2016/फाल्गुन 17, 1937

No. 590]

NEW DELHI, MONDAY, MARCH 7, 2016/ PHALGUNA 17, 1937

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

शुद्धिपत्र

नई दिल्ली, 7 मार्च, 2016

का.आ. 682(अ).—भारत के राजपत्र में प्रकाशित पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना सा.का.नि. 3305(अ) तारीख 7 दिसंबर, 2015 द्वारा अधिसूचित पर्यावरण (संरक्षण) संशोधन नियम, 2015 के अंतर्गत आने वाली नीचे उल्लिखित प्रविष्टियों को निम्न पढ़ें:

1. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 2 के नीचे सारणी में स्तम्भ 3 और 4 में "31 दिसंबर, 2003 से पहले संस्थापित टीपीपी (इकाईयां)"
2. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 6 की सारणी के स्तम्भ 4 में "300 mg/Nm³" के स्थान पर "600 mg/Nm³" पढ़ें
3. पृष्ठ सं. 2, क्रम सं. 25, पंक्ति सं. 8 की सारणी के स्तम्भ 3 और 4 में "1 जनवरी, 2003" के स्थान पर "1 जनवरी, 2004" पढ़ें

[फा.सं. क्यू.15017/40/2007-सीपीडब्ल्यू]

डा. राशिद हसन, सलाहकार



MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**CORRIGENDUM**

New Delhi, the 7th March, 2016

S.O. 682(E).—In the notification of the Government of India in the Ministry of Environment, Forest and Climate Change vide number S.O. 3305(E), dated the 7th December, 2015, published in the Gazette of India, Part II, Section 3, Sub-section (ii), in page 4, in the Table, against serial number 25, for “1st January, 2003” substitute “1st January, 2004”.

[F.No. Q-15017/40/2007-CPW]

Dr. RASHID HASAN, Advisor





KIRLOSKAR PNEUMATIC COMPANY LIMITED
A Kirloskar Group Company

Enriching Lives

To,
The Additional General Manager (Mech. Maint.),
NTPC Ltd.
Anta Gas Power Plant,
Anta, Dist. Baran

Ref.:- KPCL : NZ:ACR

Date :- 14/07/2017

Subject :- Kirloskar make AC-70 series compressors

Dear Sir,

We are thankful to you for using our Kirloskar make AC-70 Series compressors in your Air Conditioning System since decades. We always tried our best to give you Service & Spares support to make machines available for optimum use

Change and Improvement is an inevitable process and we have stopped manufacturing AC-70 Series compressors since last 8 years. In order to make machine operational we always supported you and we have decided to support with supply of spares of AC-70 Series till 31/12/2018.

We hereby request you to make necessary inventories at your end to operate the above machines.

We are equipped with Vapor Absorption Machines as a New Technology to replace the existing system. Please feel free to call us for queries if any.

With Warm Regards.

For Kirloskar Pneumatic Co. Ltd.

Amit Srivastava

Regional Head (Northern Region)
Mobile : +91 9818322230

KIRLOSKAR PNEUMATIC COMPANY LIMITED

A Kirloskar Group Company

208, Meghdoot ,94, Nehru Place, New Delhi - 110019 (INDIA)

Phone : +91-(0)11 - 46561664,65,66 , 46561667 (D)

Fax : +91-(0)11 - 46561653

Email : srivastavaamit@kpcl.net

Web : www.kirloskarkpcl.com

Signature

An IMS Certified Company
Manufacturer of Air, AC, Refrigeration, Gas compressors & systems and Transmission Equipments
Area Office : 208, Meghdoot 94, Nehru Place, New Delhi - 110 019 (India)
Phone : (Off.) 011-46561664/5/6, 28432585 Fax : 011-46561653 E-mail : bhatter@kpcl.net
Regd. Office : Hadapsar Industrial Estate, Pune-411 013 INDIA Tel. : +91 (20) 2672 7000
Fax : +91 (20)2687 0297 Email : info@kpcl.net Website : www.kirloskarkpcl.com
CIN : L26120PN1974PLC110307



(77)

Annexure - I

ABB

ABB AG, Postfach 10 03 51, 68128 Mannheim

NTPC Limited
Anta Power Station

PERSON IN CHARGE	Alexander Schröder
DIVISION	IAEN-S11
PHONE	+49 621 381-6461
MOBILE	+49 151 72510481
E-MAIL	alexander.schroeder@de.abb.com
OUR REFERENCE	IAEN-S11/Anta evolution
PAGE	1/1
DATE	January 15, 2020

Reference: Recommended Procontrol P14 upgrades

Dear Customer,

Your P14 system was delivered in 1988/1990 by ABB Mannheim, Germany. Since then ABB has developed P14 and it has now four generations of modules in place. Anta Power Station has installed modules from the first generation as you can see in the attachment. These modules are today in Lifecycle status "obsolete" according to ABB Lifecycle policy.


With our philosophy "evolution without obsolescence" we are offering stepwise upgrades for all Lifecycle stages in order to ensure that ABB systems are in reliable and safe operation. These upgrades will be realized during scheduled shutdowns with minimal impact on plant operation and for a reasonable price.


We will prepare for you a so-called "Evolution Plan", tailored for Anta Power Station. This customized document will show upgrade and evolution measures recommended by ABB. In order to minimize the impact on the plant these measures are designed to keep the existing design principles, logics, wiring, mimics, interfaces etc. of Procontrol P14. This is also a major advantage for the operators and technical engineers who are familiar with P14 system since years.

We are looking forward to strengthening our collaboration and assuring you our best services.

Sincerely yours

ABB AG
Local Business Line Energy Industries


i.V. Peter Beer


i.A. Alexander Schröder

Attachment: P14 Life Cycle and Evolution Statement



ABB AG
Industrial Automation
Postal address:
Postfach 10 03 51
68128 Mannheim

Kallstadter Straße 1
68309 Mannheim
Phone +49 621 381-0
Telefax +49 621 381-7574

www.abb.de

Head Office:
Mannheim
Registry Court:
Mannheim
Commercial Register:
HRB 4664

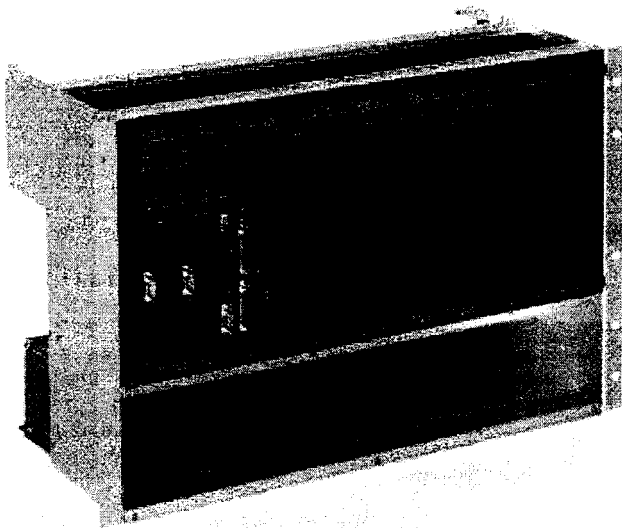
Chairman of the Supervisory Board:
Dipl.-Ing. Bernhard Jucker
Managing Board:
Dipl.-Volksw. Hans-Georg Krabbe
(Chairman),
Dr.-Ing. Martin Schumacher,
Dipl.-Kfm. Markus Ochsner

(78)

LIFE CYCLE STATEMENT MAY 2019

PROCONTROL P14

Continuous evolution for power plant control



By introducing the 4th generation of modules ABB is committing on-going system support for Procontrol P14.

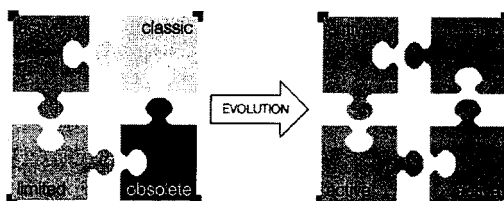
“Evolution without obsolescence “. With Procontrol P14 ABB offers scalable evolution paths to the latest component versions to protect customer investments.

ABB life cycle policy

ABB's systems are designed for continuous evolution. It is ABB's goal to protect your investment beyond the life cycles of the underlying platform products (i.e. hardware and software).

ABB will not "remove from active sale" any product or "family" of products until an equivalent replacement for those products is available.

It is our intention to provide support for as long as there are significant customer needs after the "manufacturing end" through field service and repair and by making replacement spares (new or refurbished modules) available. ABB distinguishes between four different life cycle phases: active, classic, limited and obsolete.



According to the life cycle model, upgrading of "classic", "limited" or even "obsolete" components to "active" ones is always possible.

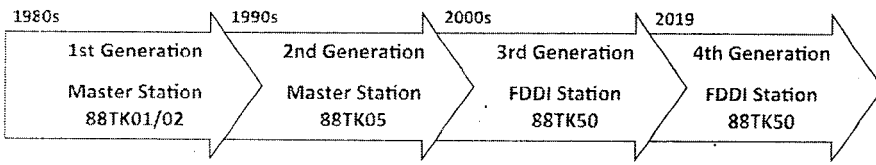
Since the beginning of the 1980s the ABB control system Procontrol P14 has been installed in nearly 500 power stations in about 50 countries all over the world.

To obtain the high availability and reliability the Procontrol P14 control system is constantly being improved. Our aim is to keep the system up-to-date and to fulfill customer requirements for first installations in new power plants as well as a solution for the installed base.

Starting in 2015 ABB has introduced the 4th generation of P14 modules. This release was driven by new electronic components and functions. ABB developed a fleet of improved and actively supported module types that fully cover all major functions of former module generations. By now it is possible to cover all automation tasks by using only ten different Procontrol P14 module types.

Sgw...

Obsolete **O** Limited **L** Classic **C** Active **A**



88TK01/02	O	88TK05	L	88TK50	A	88TK50	A
89IL01	O	89IL06	C	89IL50	A	89IL50	A
88FA01	O	88FT05	C				
88FN01/02	O	88FK05	C				
88FT01	O	88UB01	O				
88FK02	O	88UM01	O				
88TV01	O	88VA01	O				
88TU01	O	88VK01	O				
88UB01	O	88VP02	O				
88UM01	O	88VT01	O				
88VA01	O	88VU01	O				
88VK01	O						
88VP02	O						
88VT01	O						
88VU01	O						

Control module level

As designed on the principles of ABBs Decontic system Procontrol P14 is the succeeding control system and ideal for evolution projects preserving a maximum degree of Decontic basic design, logics and components.

During approximately 35 years lifetime ABB has developed four generations of control modules for Procontrol P14. Each generation was mainly determined by the technology of the remote bus and the relevant bus coupling modules 88TKxx.

Additionally modules for in- and output of signals 81Exxx, 81Axxx and modules for close and open loop control 83SRxx were added.

81AA01	O	81AA03	A	81AA03	A	81AA03	A
81AA02	O	81AB03	A	81AB03	A	81AB03	A
81AB01	O	81EA03	C	81EA03	C	81EU50	A
81EA01	O	81EA04	C	81EA04	C		
81EA02	O	81EB03	C	81EB03	C		
81EB01	O	81ET03	C	81ET03	C		
81EB02	O	81EU01	C	81EU01	C		
81ET01	O						
81ET02	O						
81EW01	O						

By using coupling devices e.g. 87TSxx, 87TPxx or 88QTxx Procontrol P14 has provided interfaces to various systems that are not limited to the P14 system itself.

Since the early beginning highest standardization and simplification was ABB's prior strategy for Procontrol P14. The ongoing streamlining realized within the 4th Generation of P14 modules was a driver for innovation as well as the compatibility between modules and the related successor types.

83SR01	O	83SR04	L	83SR50	A	83SR50	A
83SR02	O	83SR06	O	83SR51	A	83SR51	A
83SR03	O	83SR07	L	83SR52	A	83SR52	A
83SR05	O						
83SR09	O						

A clear benefit are various evolution paths from each Procontrol P14 generation to the current module types to ensure our promise "Evolution without obsolescence".

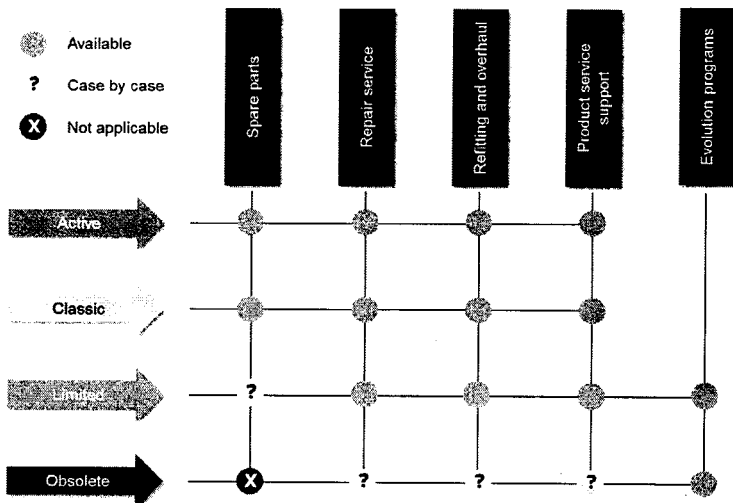
87TS01	O	87TS01	C	87TS01	C	87TS51	A
87WF01	O	89PT03	C	87TS50	C	87TP50	A
88QT02	O			87TP01	C		
88QT03	O						
88TV01	O						
89PT01	O						

IO Bus Modules	O						
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01 Procontrol P14 Generations overview

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Signature



02 Procontrol P14 Service support

Service support for Procontrol P14

ABBs' service goal is to keep customer's systems operational with a maximum availability.

Various activities for maintenance, troubleshooting and evolution are available and can be realized during operation or in short scheduled plant outages.

ABB provides scalable evolution measures for Procontrol P14 products in each life cycle phase to grant a high availability and reliability of the control system.

Human System Interface Level (HSI)

Life cycle phases for HSI components and systems are driven by the hardware platforms and new features e.g. interfaces to related external documentation. By retaining the system "look & feel" ABB evolution programs will reduce training efforts for operator and maintenance.

System Diagnosis and Engineering

The upgraded versions of this systems will support the latest generation of P14 modules. Platform related support for the operating system Windows 10 will be provided.

Cyber security

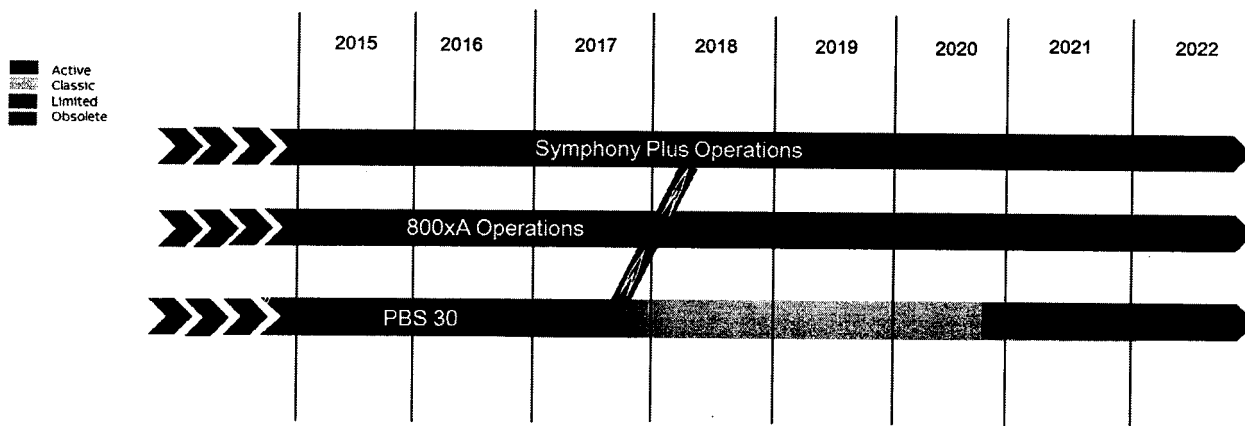
New software versions for all IT systems with advanced cyber security features and approvals will provide an integral contribution to customers cyber security programs.

ABBs portfolio comprises the complete range of system hardening, patch management and cyber security concepts that can be customized to the installed systems and customers formal obligations.

HSI Components		
	Version	Status
POS 30	V 8.0	A
POS 20	-	C
Symphony Plus Operations	V 6.0	A
800xA Operations	V 2.0	A

System Diagnosis and Engineering		
	Version	Status
PDDS (Programming and Documentation)	V 6.5	A
EDS (Engineering and Documentation)	V 7.2	A
KISS (Engineering and Documentation)	V 11.0	A
CDS (System Diagnosis)	V 6.2	A

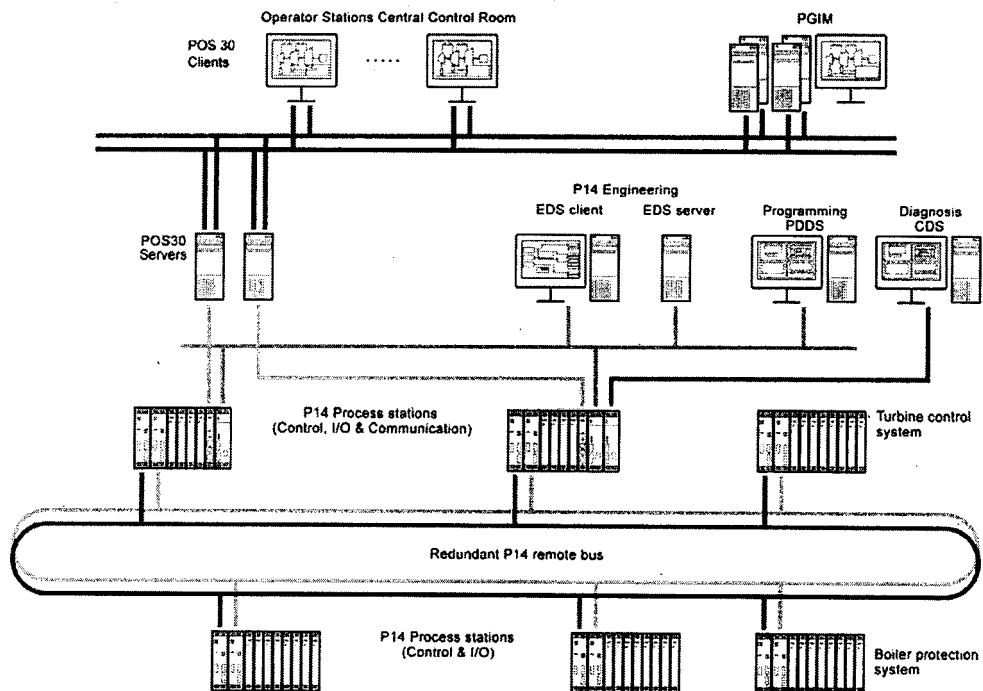
03 HSI Evolution paths



04 HSI Evolution paths overview

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05 Procontrol P14 System Overview

Evolution matrix

Evolution is not a standard program and depends on various factors like life cycle planning of the plant, spare part availability or technical condition of the running systems. This "evolution matrix" shall provide an initial guidance to start a collaborative process in order to define the right evolution path for your installation.

		Power plant switched off < 5 years	Power plant switched off > 5 years
Procontrol P14 1st Generation	Master Station TK01/02	Spare parts, Repairs and minor Evolution measurements	Stepwise Evolution to Procontrol P14 4th Generation
Procontrol P14 2nd Generation	Master Station TK05	Spare parts, Repairs and minor Evolution measurements	Stepwise Evolution to Procontrol P14 4th Generation
HSI Systems	POS20	Upgrade to POS Version 8.0	Upgrade to S Plus Operation Version 2.0
HSI Systems	POS30	Upgrade to POS Version 8.0	Upgrade to S Plus Operation Version 2.0
HSI Systems	800xA	Upgrade to 800xA Version 6.0	Upgrade to 800xA Version 6.0
Engineering	EDS	Upgrade to EDS Version 7.2	Upgrade to KISS Version 11.0
Engineering	KISS	Upgrade to KISS Version 11.0	Upgrade to KISS Version 11.0
Engineering	PDDS	Upgrade to PDDS Version 6.5	Upgrade to PDDS Version 6.5
System Diagnosis	CDS	Upgrade to CDS Version 6.2	Upgrade to CDS Version 6.2

06 Evolution Matrix

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