

Petition No :



KAWAS GAS POWER STATION

(656.20 MW)

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

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Kawas GPS(656.20 MW)** for the period from **01.04.2019 to 31.03.2024.**

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BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Kawas GPS(656.20 MW)for the period from 01.04.2019 to 31.03.2024.**

AND
IN THE MATTER OF

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

Respondents

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



(1)

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

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

The Petitioner humbly states that:

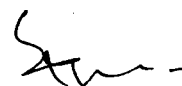
- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, being a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.
- 3) The Petitioner is having power stations/ projects at different regions and places in the country. Kawas GPS(656.20 MW) (hereinafter referred to as Kawas GPS) is one such station located in the State of Gujarat. The power generated from Kawas 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 Kawas GPS for the period from 01.04.2019 to 31.03.2024 as per the Tariff Regulations 2019.

- 6) The tariff for Kawas GPS for the period 01.04.2014 to 31.3.2019 was determined by the Hon'ble Commission vide order dated 24.03.2017 in Petition No 341/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014.
- 7) It is submitted that Hon'ble Commission vide order dated 24.03.2017 in Petition No 341/GT/2014 has allowed a capital cost of Rs 1869.4060 Cr. on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 1884.0394 Crs based on the actual expenditure after trueing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs.(+) 14.6334 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 1884.0394 Cr. in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2019 and determine the tariff in the present petition for the period 2019-24.



- 8) The capital expenditure claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and capital expenditures for the period 2019-24 have been projected based on the Regulation 19 and Regulation 25 and 26 of the Tariff Regulations, 2019.
- 9) The Petitioner further respectfully submits that as per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2019-20 have been furnished below. Accordingly, water charges may be allowed in tariff based on the same for the 2019-24. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	Remarks
Type of Plant	Gas
Type of cooling water system	Closed Circuit cooling system
Consumption/Allocation of Water	3.99 MCM
Rate of Water charges	25.91Rs/m ³ (Industrial Water) / 3.14Rs/m ³ (Drinking water)
Total Water Charges paid for 2018-19	Rs. 2873 Lakh.

- 10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24.
- 11) It is submitted that the Petitioner has already paid the requisite filing fee vide UTR No. CMS1106438370 on 22.04.2019 for the year 2019-20 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dtd. 25.04.2019. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees)

(9)

Signature..

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.

- 12) 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.
- 13) 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
- 14) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2014 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

Prayers

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

- i) Approve tariff of Kawas 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

New Delhi
24.01.2020

BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Kawas GPS (656.20 MW) for the period from 01.04.2019 to 31.03.2024.**

AND

IN THE MATTER OF

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

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

AFFIDAVIT

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

1. That I am the Additional General Manager (Commercial) in NTPC Ltd. and am well conversant with the facts of the case and am competent to swear the present affidavit.
2. That I have read the contents of the accompanying Petition filed by NTPC and have understood the contents of the same.



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


(Deponent)

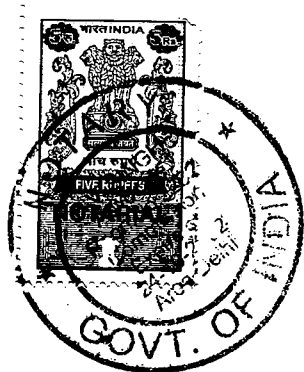
Verification:

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

Verified at New Delhi on this..... day of January 2020.

24 JAN 2020


(Deponent)



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


Notary Public, DELHI

24 JAN 2020

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Kawas 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	NA
FORM- 4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM- 6	Financial Package upto COD	NA
FORM- 7	Details of Project Specific Loans	NA
FORM- 8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM- 10	Financing of Additional Capitalisation	✓
FORM- 11	Calculation of Depreciation on original project cost	NA
FORM- 12	Statement of Depreciation	✓
FORM-12A**	Statement of Unrecovered Depreciation	✓
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 / information to be submitted in respect of Fuel for computation of Energy Charges I : Non APM Gas	✓
FORM-15A1	Details / information to be submitted in respect of Fuel for computation of Energy Charges I : Gas	✓
FORM-15A2	Details / information to be submitted in respect of Fuel for computation of Energy Charges I : LNG	✓
FORM-15A3	Details / information to be submitted in respect of Fuel for computation of Energy Charges I : Naphtha	✓
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***

Provided yearwise for the period 2019-24

PART-I

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

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

** Additional Forms

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

⑨

Saw...

List of supporting documents for tariff filing for Thermal Stations

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

**To be provided at the time of truing up

S.P.W.

Summary of Tariff

Name of the Petitioner:		NTPC Limited						
Name of the Generating Station:		Kawas Gas Power Station						
Place (Region/District/State):		Western Region/Surat/ Gujarat						
								Amount in Rs. Lakhs
S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	5,174.24	5,167.51	5,272.62	5,394.25	6,514.20	8,544.69
1.2	Interest on Loan	Rs Lakh	1,147.35	874.76	532.37	177.18	-	-
1.3	Return on Equity	Rs Lakh	17,263.88	16,407.54	16,430.46	16,451.33	16,608.08	16,765.26
1.4	Interest on Working Capital	Rs Lakh	6,038.20	5,391.69	5,441.30	5,492.56	5,567.24	5,660.64
1.5	O&M Expenses	Rs Lakh	15,202.64	15703.25	16527.04	17405.96	18343.54	19351.85
1.6	Special Allowance (If applicable)	Rs Lakh	0.00	0.00	0.00	0.00	0.00	0.00
1.7	Compensation Allowance (If applicable – relevant for column 4 only)	Rs. Lakh	0.00					
	Total	Rs Lakh	44826.31	43544.75	44203.79	44921.27	47033.07	50322.44
2.1	Landed Fuel Cost (Gas-APM)	Rs/1000SC M				11919.82		
	(%) of Fuel Quantity	(%)				78.71%		
2.2	Landed Fuel Cost (Gas-Non APM)	Rs/1000SC M				13126.68		
	(%) of Fuel Quantity	(%)				9.24%		
2.3	Landed Fuel Cost (RLNG)	Rs/1000SC M				36858.51		
	(%) of Fuel Quantity	(%)				11.27%		
2.4	Landed Fuel Cost (Naphtha)	Rs./KL				72009.75		
	(%) of Fuel Quantity	(%)				0.79%		
2.5	Energy Charge Rate (APM Gas-CC) ex-bus (Paise/kWh)	P/Kwh				263.92		
2.6	Energy Charge Rate (Gas-Non APM-CC) ex-bus (Paise/kWh)	P/Kwh				290.51		
2.7	Energy Charge Rate (RLNG-CC) ex-bus (Paise/kWh)	P/Kwh				829.75		
2.8	Energy Charge Rate (Naphtha-CC) ex-bus (Paise/kWh)	P/Kwh				1352.93		
2.9	Energy Charge Rate (APM Gas-OC) ex-bus (Paise/kWh)	P/Kwh				380.67		
3	Energy Charge Rate (Gas-NonAPM-OC) ex-bus (Paise/kWh)	P/Kwh				419.01		
3.1	Energy Charge Rate (RLNG-OC) ex-bus (Paise/kWh)	P/Kwh				1196.78		
3.2	Energy Charge Rate (Naphtha-OC) ex-bus (Paise/kWh)	P/Kwh				1951.38		



(Petitioner)



Name of the Petitioner: NTPC Limited
Name of the Generating Station: Kawas Gas Power Station

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	1,88,403.94	1,88,518.95	1,89,391.95	1,89,391.95	1,94,941.95
2	Add: Addition during the year/period	115.01	873.00	-	5,550.00	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	1,88,518.95	1,89,391.95	1,89,391.95	1,94,941.95	1,94,941.95
7	Average Capital Cost	1,88,461.45	1,88,955.45	1,89,391.95	1,92,166.95	1,94,941.95

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	188403.94	188428.95	189051.95	189051.95	194601.95
2	Add: Addition during the year / period	25.01	623.00	0.00	5550.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	188428.95	189051.95	189051.95	194601.95	194601.95
7	Average Capital Cost	188416.45	188740.45	189051.95	191826.95	194601.95

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

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	0.00	90.00	340.00	340.00	340.00
2	Add: Addition during the year / period	90.00	250.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	90.00	340.00	340.00	340.00	340.00
7	Average Capital Cost	45.00	215.00	340.00	340.00	340.00

S.P.
(Petitioner)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Kawas Gas Power Station

Statement showing Return on Equity at Normal Rate

S. No.	Particulars	Amount in Rs. Lakhs				
		2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	87,347.66	87,355.16	87,542.06	87,542.06	89207.063
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	87,347.66	87,355.16	87,542.06	87,542.06	89,207.06
5	Add: Increase in equity due to addition during the year / period	7.50	186.90	0.00	1665.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	87,355.16	87,542.06	87,542.06	89,207.06	89,207.06
11	Average Equity (Normal)	87,351.41	87,448.61	87,542.06	88,374.56	89,207.06
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	16,406.34	16,424.60	16,442.15	16,598.51	16,754.87


 (Petitioner)

PART-I
FORM- 1(IIB)

Name of the Petitioner: NTPC Limited

Name of the Generating Station: Kawas Gas Power Station

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)					
1	Gross Opening Equity (Normal)	0.00	27.00	102.00	102.00	102.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	27.00	102.00	102.00	102.00
5	Add: Increase in equity due to addition during the year / period	27.00	75.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	27.00	102.00	102.00	102.00	102.00
11	Average Equity (Normal)	13.50	64.50	102.00	102.00	102.00
12	Rate of ROE (%)	8.851	9.083	8.999	9.383	10.188
13	Total ROE	1.19	5.86	9.18	9.57	10.39

S. J.
(Petitioner)

(14)

Plant Characteristics

Name of the Petitioner	NTPC Ltd.					
Name of the Generating Station	Kawas GPS					
Unit(s)/Block(s)/Parameters	GT-1A	GT-1B	GT-2A	GT-2B	ST-1	St-2
Installed Capacity (MW)	106	106	106	106	116.1	116.1
Schedule COD as per Investment Approval	01.06.1992	01.08.1992	01.09.1992	01.11.1992	01.11.1993	01.09.1993
Actual COD /Date of Taken Over (as applicable)						
Pit Head or Non Pit Head						
Name of the Boiler Manufacture						
Name of Turbine Generator Manufacture	GE	GE	GE	GE	GE	GE
Main Steams Pressure at Turbine inlet (kg/Cm ²) abs ¹ .	NA					
Main Steam Temperature at Turbine inlet (°C) ¹						
Reheat Steam Pressure at Turbine inlet (kg/Cm ²) ¹						
Reheat Steam Temperature at Turbine inlet (°C) ¹						
Main Steam flow at Turbine inlet under MCR condition (tons /hr) ²						
Main Steam flow at Turbine inlet under VWO condition (tons /hr) ²						
Unit Gross electrical output under MCR /Rated condition (MW) ²						
Unit Gross electrical output under VWO condition (MW) ²						
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) ³						
Conditions on which design turbine cycle heat rate guaranteed						
% MCR						
% Makeup Water Consumption						
Design Capacity of Make up Water System						
Design Capacity of Inlet Cooling System						
Design Cooling Water Temperature (°C)						
Back Pressure						
Steam flow at super heater outlet under BMCR condition (tons/hr)						
Steam Pressure at super heater outlet under BMCR condition) (kg/Cm ²)						
Steam Temperature at super heater outlet under BMCR condition (°C)						
Steam Temperature at Reheater outlet at BMCR condition (°C)						
Design / Guaranteed Boiler Efficiency (%) ⁴						
Design Fuel with and without Blending of domestic/imported coal						
Type of Cooling Tower	NDCT					
Type of cooling system ⁵	Closed curcuit Cooling					
Type of Boiler Feed Pump ⁶	Motar Driven					
Fuel Details ⁷						
-Primary Fuel	Natural Gas					
-Secondary Fuel						
-Alternate Fuels						
Special Features/Site Specific Features ⁸						
Special Technological Features ⁹						
Environmental Regulation related features ¹⁰						
Any other special features						

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Saw
Petitioner

Normative parameters considered for tariff computations

Name of the Petitioner:		NTPC Limited					
Name of the Generating Station:		Kawas 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** \$\$	%	-	7.304	7.496	7.427	7.744	8.408
Effective Tax Rate	%	21.5490	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00				
In High Demand Season	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption##	%	2.50	2.75	2.75	2.75	2.75	2.75
Gross Station Heat Rate	kCal/kWh	2050.00	2050.00	2050.00	2050.00	2050.00	2050.00
Specific Fuel Oil Consumption	ml/kWh						
Cost of Coal/Lignite for WC1	in Days						
Cost of Main Secondary Fuel Oil for WC1	in Months						
Fuel Cost for WC2	in days	30	30	30	30	30	30
Liquid Fuel Stock for WC2	in days	15	15	15	15	15	15
O&M Expenses	Rs lakh/MW	18.72	17.58	18.2	18.84	19.5	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						
SBI 1 Year MCLR plus 350 basis point3	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							

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

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


 Petitioner

Calculation of O&M Expenses

Name of the Company :	NTPC Limited
Name of the Power Station :	Kawas 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	11536.00	11942.84	12362.81	12795.90	13248.68
2	O&M expenses under Reg.35(6)					
2a	Water Charges	2873.14	3160.68	3477.27	3825.17	4208.45
2b	Secutiry expenses	1294.11	1423.52	1565.88	1722.47	1894.72
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
	Total O&M Expenses	15703.25	16527.04	17405.96	18343.54	19351.85

** Shall be provided at the time of truing up

Saw
Petitioner

(17)

Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Kawas Gas Power Station	
Last date of order of Commission for the project	Date (DD-MM-YYYY)	24.03.2017
Reference of petition no. in which the above order was passed	Petition no.	341/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:(31.03.2019)		
Capital cost	(Rs. in lakh)	186940.6
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		0.00
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		1305.38
Gross Normative Debt		100031.95
Cumulative Repayment		80082.08
Net Normative Debt		19949.87
Normative Equity		86908.66
Cumulative Depreciation		1,47,792.49
Freehold land		734.63

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(Petitioner)

Abstract of Claimed Capital Cost for the existing Projects

Name of the Company : NTPC Limited
Name of the Power Station : Kawas Gas Power Station

Reference of Final True-up Tariff Petition	Affidavit dated	
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 24.03.2017 In Pet. No.341/GT/2014		11.11.2019
Adjustment as per Para (7) of this petition	Rs. Lakhs	1,86,940.60
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		1,463.34
Capital cost as on 01.04.02019	(Rs. in lakh)*	188403.94
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		0
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		256.13
Gross Normative Debt		1,01,056.28
Cumulative Repayment		86,536.33
Net Normative Debt		14,519.96
Normative Equity		87,347.66
Cumulative Depreciation		1,41,928.03
Freehold land		734.63


(Petitioner)

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 :		
Base Rate, If Floating Interest	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
	ANTA R&M	80,00,00,000
Total Allocated Amount		12,45,00,00,000

Signature

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TRANCHE NO

BP NO 5050000641

T00001

D00002

Unsecured Loan From HDFC Bank Ltd. VI		
Source of Loan :	HDFC Bank Ltd. VI	
Currency :	INR	
Amount of Loan :	15,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of drawl	11.10.2018	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	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 :	6 Years	
Moratorium effective from :	11.10.2018	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	26.09.2025	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	55,00,00,000
	TAPOVAN VISHNUGARH	10,00,00,000
	BONGAIGAON	10,00,00,000
	SOLAPUR	14,00,00,000
	LARA-I	33,00,00,000
	GADARWARA	68,00,00,000
	NORTH KARANPURA	42,00,00,000
	DARLIPALLI	34,00,00,000
	TANDA II	31,00,00,000
	RAMMAM	3,00,00,000
	KHARGONE	48,00,00,000
	TELANGANA	42,00,00,000
	AURAIYA R&M	50,00,00,000
	NCTPP R&M	10,00,00,000
	KAWAS R&M	15,00,00,000
	GANDHAR R&M	35,00,00,000
Total Allocated Amount		5,00,00,00,000

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(21)

TRANCHE NO

BP NO 5050000442

T00001

D0001

Unsecured Loan From SBI-VIII		
Source of Loan :	SBI-VIII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	D0001-3-8.45	
Margin, If Floating Interest :	0.15%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	6 Years	
Moratorium effective from :	21.01.2015	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.01.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	1,00,00,00,000
	FARAKKA R&M	25,00,00,000
	TSTPP R&M	40,00,00,000
	SINGRAULI R&M	40,00,00,000
	RAMAGUNDAM R&M	50,00,00,000
	KAWAS R&M	60,00,00,000
	KORBA R&M	60,00,00,000
	GANDHAR R&M	1,25,00,00,000
Total Allocated Amount		5,00,00,00,000.00

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Form 8
TRANCHE NO
T00001

BP NO 5050000261

D00005

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	31.08.2012	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	TAPOVAN	65,00,00,000.00
	BARH-I	1,00,00,00,000.00
	MOUDA-I	85,00,00,000.00
	RIHAND-III	85,00,00,000.00
	SOLAPUR	90,00,00,000.00
	GANDHAR-R&M	35,00,00,000.00
	KAWAS-R&M	40,00,00,000.00
Total Allocated Amount		5,00,00,00,000.00

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Form 8
TRANCHE NO

BP NO 5050000261

T00001

D00007

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	12.11.2012	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	35,00,00,000
	SOLAPUR	25,00,00,000
	VINDHYACHAL-IV	20,00,00,000
	TAPOVAN	20,00,00,000
	BARH-I	80,00,00,000
	MOUDA-I	15,00,00,000
	RIHAND-III	45,00,00,000
	KUDGI-I	20,00,00,000
	DADRI SOLAR PV	5,00,00,000
	A&N SOLAR PV	5,00,00,000
	SINGARULI 8 MW	5,00,00,000
	BONGAIGAON	40,00,00,000
	BARH-II	80,00,00,000
	SINGRAULI-R&M	25,00,00,000
	TANDA - R&M	15,00,00,000
	KAWAS-R&M	35,00,00,000
	GANDHAR - R&M	20,00,00,000
	TSTPP-R&M	10,00,00,000
	Total Allocated Amount	5,00,00,00,000.00

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Form 8

TRANCHE NO

BP NO 5050000261

T00001

D00008

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,00,000	
Date of Drawl	11.03.2013	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	35,00,00,000
	SOLAPUR	30,00,00,000
	VINDHYACHAL-V	38,00,00,000
	TAPOVAN	18,00,00,000
	BARH-I	57,00,00,000
	MOUDA-II	26,00,00,000
	RIHAND III	32,00,00,000
	KUDGI-I	38,00,00,000
	DADRI SOLAR PV	19,00,00,000
	A&N SOLAR PV	20,00,00,000
	LARA-I	20,00,00,000
	BONGAIGAON	34,00,00,000
	FARAKKA-III	27,00,00,000
	SIMHADRI-II	20,00,00,000
	SINGRAULI-R&M	10,00,00,000
	TTPS-R&M	15,00,00,000
	KAWAS-R&M	15,00,00,000
	GANDHAR-R&M	8,00,00,000
	TSTPP-R&M	10,00,00,000
	RAMAGUNDAM-R&M	8,00,00,000
	BADARPUR-R&M	20,00,00,000
	Total Allocated Amount	5,00,00,00,000.00

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Form 8
TRANCHE NO

BP NO 5050000261

T00001

D00012

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,50,00,00,000	
Date of Drawl	22.07.2013	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-II	67,00,00,000
	FARAKKA-III	35,00,00,000
	SIMHADRI-II	20,00,00,000
	RAMAGUNDAM SOLAR	10,00,00,000
	FGUTPS-I	8,40,09,477
	FGUTPS-II	5,59,90,523
	VSTPS R&M	28,00,00,000
	RAMAGUNDAM-R&M	18,00,00,000
	KORBA-R&M	17,00,00,000
	KAWAS-R&M	17,00,00,000
	BADARPUR-R&M	14,00,00,000
	TSTPP-R&M	10,00,00,000
	Total Allocated Amount	2,50,00,00,000.00

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Form 8

TRANCHE NO

BP NO 5050000261

T00001

D00014

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,50,00,00,000	
Date of Drawl	01.11.2013	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SOLAPUR	1,50,00,00,000
	KUDGI-I	1,00,00,00,000
	KAWAS-R&M	40,00,00,000
	TAPOVAN	30,00,00,000
	TANDA-R&M	15,00,00,000
	SINGRAULI-R&M	15,00,00,000
	Total Allocated Amount	3,50,00,00,000.00

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Form 8
TRANCHE NO

BP NO 5050000261

T00001

D00016

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,00,000	
Date of Drawl	01.02.2014	
Interest Type :	Floating	
Rate of Interest as on 01.04.2014	8.25%	
Upfront fees	0.08% excluding service tax	
Margin, If Floating Interest :	Nil	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	MOUDA-I	50,00,00,000
	VINDHYACHAL-IV	50,00,00,000
	RIHAND-III	65,00,00,000
	MOUDA-II	1,80,00,00,000
	BARH-II	25,00,00,000
	SINGRAULI-R&M	30,00,00,000
	RAMAGUNDAM-R&M	15,00,00,000
	KORBA-R&M	20,00,00,000
	VINDHYACHAL-V	35,00,00,000
	KAWAS-R&M	20,00,00,000
	BADARPUR-R&M	10,00,00,000
Total Allocated Amount		5,00,00,00,000.00

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SBI New York		2014-15				
		01-04-2014	2.24820%	44	0.9892	
		15-05-2014	2.17290%	186	4.0416	
		17-11-2014	2.17615%	135	2.9378	
		01-04-2015		365	7.9686	2.1989%
		2015-16				
		01-04-2015	2.17615%	46	1.0010	
		17-05-2015	2.26415%	183	4.1434	
		16-11-2015	2.45050%	53	1.2988	
		08-01-2016	2.00050%	84	1.6804	
		01-04-2016				
				366	8.12361	2.2355%
		2016-17				
		01-04-2016	2.00050%	45	0.90023	
		16-05-2016	2.30665%	184	4.24424	
		16-11-2016	2.65822%	136	3.61518	
		01-04-2017				
				365	8.75964	2.4171%
		2017-18				
		01-04-2017	2.65822%	44	1.16962	
		15-05-2017	2.83933%	184	5.22437	
		15-11-2017	3.01618%	137	4.13217	
		01-04-2018				
				365	10.52615	2.9046%
		2018-19				
		01-04-2018	3.01618%	44	1.32712	
		15-05-2018	3.91500%	184	7.20360	
		15-11-2018	4.25500%	137	5.82935	
		01-04-2019				
				365	14.36007	3.9625%

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited			
Name of the Generating Station	Kawas Gas Power Station			
COD	01-11-1993			
For Financial Year	2019-24 (Summary)			

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Regulation under which claimed	Amount in Rs Lakh Admitted Cost by the Commission, if any	
		2019-20	2020-21	2021-22	2022-23			2023-24
1	2	3	4	5	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	LED installation in Plant	25.01		0			26(1)(b)	
2	Separation of storm water & effluent drains Effluent recycling scheme.		623				26(1)(b)	
3	CL02 dosing plant in CW pump house and Raw water pump house				550		26(1)(b) & 26(1)(d)	
4	Installation & Supply of 30 MLD tertiary treated water from Surat to NTPC Kawas.				5000		26(1)(b)& 26(1)(f)	
Total (A)		25.01	623.00	-	5,550.00			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
1	Installation of 126 kWp Roof top Solar PV	90.00					26(1)(d)	
2	NHAI deposit work for Laying of underground MS pipes for Utility crossings		250				26(1)(d)&26(1)(C)	
Total (B)		90.00	250.00	-	-			
Total Add. Cap. Claimed (A+B)		115.01	873.00	-	5,550.00			

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Kawas Gas Power Station	
COD	01-11-1993	
For Financial Year	2019-20	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
		3	4	5= (3-4)	6	7	8	9
1	LED installation in Plant	25.01	0	25.01	0	26(1)(b)	Hon'ble Prime Minister of India on 05.01.2015 launched National LED Programme with an objective to reduce energy consumption by using energy efficient lighting. In line with the objective, Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lighting National Programme is being implemented by EESL. In this regard, through MoP, Govt letter dated 02.08.2017 NTPC was mandated to replace all old bulbs with LED bulbs in all NTPC buildings including compound/ street lighting occupied by NTPC (copy of the letter dated 02.08.2017 is enclosed as Annexure A). Any directions of Government of India is required to implemented and has the force of Law. In order to comply with the directions of Govt. of India contained in the letter dated 02.08.2017, NTPC took the work of replacing the old in-efficient lights with efficient LED lighting in the premises of the station compound/ building owned and operated by NTPC. Accordingly, Hon'ble Commission may be pleased to allow the said capitalization under change in law, under Regulation 26 (1) (b)	
Total (A)		25.01	-	25.01	-			
B. Works beyond Original scope extending add-cap due to Change in Law, eligible for RoR at WRA/Average rate of interest								
1	Installation of 126 kWp Roof top Solar PV	90.00		90.00		26(1)(d)	In view of the Government of India target for installation of 175 GW of Renewable power by the end of 2022 and as the measure of energy conservation, the Petitioner has taken initiative by installing Rooftop Solar. This initiative shall not only help reduce the coal consumption, thereby reducing the CO2 emission; but also contribute to decrease in auxiliary power consumption (APC). While on one hand it will help pass on the benefit of saving in APC to the beneficiaries of the station on the other hand, it shall contribute towards the cleaner environment for the benefit of the public at large. Presently, MOEF is also prescribing the installation of renewable generation plants in the premises of thermal generating station, while granting the MOEF clearance for new projects. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1) (d).	
Total (B)		90.00	-	90.00	-			
Total Add. Cap. Claimed (A+B)		115.01	-	115.01	-			

(31)

SAW
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Kawas Gas Power Station	
COD	01-11-1993	
For Financial Year	2020-21	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP in col. 3	Un-discharged Liability included in col. 3	Cash basis 5= (3-4)	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 RoF at Normal Rate								
1	Separation of storm water & effluent drains Effluent recycling scheme .	623.00		623		26(1)(b)	Based on the directions of GPCB in consent to operate dated 27.07.2015(Enclosed at Annexure-B), Kawas GPS is required to separate the storm water drain from industrial effluent . In view of the above direction NTPC has to carry out modifications in the drainage system	
Total (A)		623.00	-	623.00	-			
B. Works beyond Original scope excluding add-cap due to Change in Law, eligible for RoF at Wid. Average rate of Interest								
1	NHAI deposit work for Laying of underground MS pipes for Utility crossings	250.00		250.00		26(1)(d)	A road between NTPC plant & Township has been acquired by NHAI which shall be used for widening the national highway 6 from 4 lane to six lane . There are several utilities of NTPC kawas like water lines/electrical supply cables, communication cables, sewerage pipelines and storm water pipelines which are passing the beneath the road. Accordingly for proper functioning of the utilities and for safety of the NH-6 all these lines to be protected and re-laid as per NHAI norms. These relaying works is to carried out by NHAI.As this expenditure is made on account of widening of NH-6 by NHAI and is for safety of the kawas GPS plant and NH-6, the same may please be allowed .	
Total (B)		250.00	-	250.00	-			
Total Add. Cap. Claimed (A+B)		873.00	-	873.00	-			

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SAV
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited	
Name of the Generating Station	Kawas Gas Power Station	
COD	01-11-1993	
For Financial Year	2021-22	

Sl. No.	Head of Work /Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9

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

Total (A)								
-								

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

Total (B)								
-								

Total Add. Cap. Claimed (A+B)								
-								

SA
(Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited		
Name of the Generating Station	Kawas Gas Power Station		
COD	01-11-1993		
For Financial Year	2023-24		

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

NIL(Shall claim at thetime of truing up, if any)

B. Works beyond Original scope exluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
6								
7								
8								
9								
10								
11								
	Total (B)	-	-	-	-			
	Total Add. Cap. Claimed (A+B)	-	-	-	-			

NIL(Shall claim at thetime of truing up, if any)

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S.A. (Petitioner)

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Kawas Gas Power Station
COD	01-11-1993
For Financial Year	2022-23

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	ACE Claimed (Projected)	Cash basis included in col. 3	IDC included in col. 3	Regulations under which claimed	Amount in Rs Lakh	Admitted Cost by the Commission, if any	Justification
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate										
1	CLO2 dosing plant in CW pump house and Raw water pump house	550.00			550.00		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/ tommers. 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 asked NTPC to consider replacement of highly hazardous gas chlorination system with ClO2 system. SPCH, Odisha while issuing consent to establish in case of Daripalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system. (Relevant documents is attached at Annexure-C). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1)(d) & 26(1)(b)
2	Installation & Supply of 30 MLD tertiary treated water from Surat to NTPC Kawas.	5,000.00			5000		26(1)(b) & 26(1)(f)			Ministry of Power, Govt vide Gazette Notification No. 2372/2005-R&R (Vol-IX) dt. 28.01.2016 has notified the New Tariff Policy 2016, which, inter-alia, provides for mandatory use of treated sewage water from Sewage Treatment Plants (STP) by all Thermal Power Plants falling in the radius of 50 km. In view of the above directions, the Petitioner hereby submits that Kawas GPS is located within the 50 km from STP facility of Surat Municipal Corporation (SMC), accordingly as per the above quoted tariff policy, the station is mandated to use the treated sewage water from the STP facility of SMC for further use in the station. It is further submitted that the treated water from the STP outlet is not suitable for use in Kawas GPS as the water parameters from STP outlet are beyond the permissible range for inlet raw water suitable for use in the thermal power plants. Accordingly, the Petitioner has to install, a Tertiary Treatment Plant (TTP) for making the same suitable for use. The total project cost for the abo notified the Environment (Protection) Amendment Rules, 2015 ("MoEFCC Notification") vide notification dated 07.12.2015 has Specified revised emission norms for thermal generating stations. As per above norms II existing CT-based plants reduce specific water consumption upto maximum of 3.5m3/MW/hr. In order to further minimize the water consumption in the project and for complying the norms of MOEF, the petitioner has envisaged to implement this scheme. Therefore, Hon'ble Commission may be pleased to allow the
Total (A)		5,550.00			5,550.00					
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)		5,550.00			5,550.00					

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(Petitioner)

**PART-I
FORM-10**

Name of the Petitioner	NTPC Limited										
Name of the Generating Station	Kawas Gas Power Station										
Date of Commercial Operation	01-11-1993										

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

Amount capitalised in Work/ Equipment

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

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

Note:

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

(35)

(Signature)
(Petitioner)

Statement of Depreciation

Name of the Company :	NTPC Limited
Name of the Power Station :	Kawas Gas Power Station

S. No.	Particulars	Existing 2018-19	(Amount in Rs Lakh)				
			2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Opening Capital Cost	188597.13	1,88,403.94	1,88,518.95	1,89,391.95	1,89,391.95	1,94,941.95
2	Closing Capital Cost	188403.94	1,88,518.95	1,89,391.95	1,89,391.95	1,94,941.95	1,94,941.95
3	Average Capital Cost	188500.54	1,88,461.45	1,88,955.45	1,89,391.95	1,92,166.95	1,94,941.95
1a	Cost of IT Equipments & Software included in (1) above		-	-	-	-	-
2a	Cost of IT Equipments & Software included in (2) above		-	-	-	-	-
3a	Average Cost of IT Equipments & Software		-	-	-	-	-
4	Freehold land	734.63	734.63	734.63	734.63	734.63	734.63
5	Rate of depreciation	0.000	0.000	0.000	0.000	0.000	0.000
6	Depreciable value	1,68,989.31	1,68,954.13	1,69,398.74	1,69,791.59	1,72,289.09	1,74,786.59
7.	Balance useful life at the beginning of the period	6.23	5.23	4.23	3.23	2.23	1.23
8	Remaining depreciable value	32,235.52	27,026.10	22,303.19	17,423.42	14,526.67	10,509.97
9	Depreciation (for the period)	0.00	5,167.51	5,272.62	5,394.25	6,514.20	8,544.69
10	Depreciation (annualised)	5,174.24	5,167.51	5,272.62	5,394.25	6,514.20	8,544.69
11	Cumulative depreciation at the end of the period		1,47,095.55	1,52,368.17	1,57,762.42	1,64,276.62	1,72,821.31
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-
13	Less: Cumulative depreciation adjustment on account of de-capitalisation	176.23	-	-	-	-	-
14	Net Cumulative depreciation at the end of the period after adjustments	1,41,928.03	1,47,095.55	1,52,368.17	1,57,762.42	1,64,276.62	1,72,821.31

Statement of Depreciation Recovery in Tariff

Year	Depreciation included in full fixed charges	Depreciation included in add cap FERV impact	Total Depreciation	% of Fixed Charges/Depreciation Recovered	Rs in Crs
1992-93	10.67	0	10.67	100	10.67
1993-94	56.13	0	56.13	98	55.01
1994-95	88.61	0	88.61	100	88.61
1995-96	88.61	9.15	97.76	100	97.76
1996-97	88.61	15.69	104.3	100	104.3
1997-98	88.61	13.9	102.51	100	102.51
1998-99	107.4	0	107.4	100	107.4
1999-2000	112.99	0	112.99	100	112.99
	110	0	110	100	110
	751.63	38.74	790.37		789.2474
Unrecovered Depreciation (Rs.Crs)					1.12

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					PART-I FORM-13	
Calculation of Interest on Actual Loans						
Name of the Company		NTPC Limited				
Name of the Power Station		Kawas				
(Amount in lacs)						
Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	SBI VII- T-1-D5					
	Gross loan - Opening	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	Cumulative repayments of Loans	2,000.00	2,500.00	3,000.00	3,500.00	4,000.00
	Net loan - Opening	2,000.00	1,500.00	1,000.00	500.00	-
	Addition					
	Repayments of Loans during the year	500.00	500.00	500.00	500.00	-
	Net loan - Closing	1,500.00	1,000.00	500.00	-	-
	Average Net Loan	1,750.00	1,250.00	750.00	250.00	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	144.51	103.22	61.93	20.64	-
2	SBI VII- T-1- D7					
	Gross loan - Opening	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00
	Cumulative repayments of Loans	1,750.00	2,187.50	2,625.00	3,062.50	3,500.00
	Net loan - Opening	1,750.00	1,312.50	875.00	437.50	-
	Addition					
	Repayments of Loans during the year	437.50	437.50	437.50	437.50	-
	Net loan - Closing	1,312.50	875.00	437.50	-	-
	Average Net Loan	1,531.25	1,093.75	656.25	218.75	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	126.44	90.32	54.19	18.06	-
3	SBI VII- T-1-D8					
	Gross loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Cumulative repayments of Loans	750.00	937.50	1,125.00	1,312.50	1,500.00
	Net loan - Opening	750.00	562.50	375.00	187.50	-
	Addition					
	Repayments of Loans during the year	187.50	187.50	187.50	187.50	-
	Net loan - Closing	562.50	375.00	187.50	-	-
	Average Net Loan	656.25	468.75	281.25	93.75	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	54.19	38.71	23.22	7.74	-
4	SBI VII- T-1-D12					
	Gross loan - Opening	1,700.00	1,700.00	1,700.00	1,700.00	1,700.00
	Cumulative repayments of Loans	850.00	1,062.50	1,275.00	1,487.50	1,700.00
	Net loan - Opening	850.00	637.50	425.00	212.50	-
	Addition					
	Repayments of Loans during the year	212.50	212.50	212.50	212.50	-
	Net loan - Closing	637.50	425.00	212.50	-	-
	Average Net Loan	743.75	531.25	318.75	106.25	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	61.42	43.87	26.32	8.77	-
5	SBI VII- T-1-D14					
	Gross loan - Opening	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	Cumulative repayments of Loans	2,000.00	2,500.00	3,000.00	3,500.00	4,000.00
	Net loan - Opening	2,000.00	1,500.00	1,000.00	500.00	-
	Addition					
	Repayments of Loans during the year	500.00	500.00	500.00	500.00	-
	Net loan - Closing	1,500.00	1,000.00	500.00	-	-
	Average Net Loan	1,750.00	1,250.00	750.00	250.00	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	144.51	103.22	61.93	20.64	-
6	SBI VII- T-1-D16					
	Gross loan - Opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cumulative repayments of Loans	1,000.00	1,250.00	1,500.00	1,750.00	2,000.00
	Net loan - Opening	1,000.00	750.00	500.00	250.00	-
	Addition					
	Repayments of Loans during the year	250.00	250.00	250.00	250.00	-
	Net loan - Closing	750.00	500.00	250.00	-	-
	Average Net Loan	875.00	625.00	375.00	125.00	-
	Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
	Interest on loan	72.25	51.61	30.97	10.32	-
7	SBI New York					
	Gross loan - Opening	6,816.63	6,816.63	6,816.63	6,816.63	6,816.63
	Cumulative repayments of Loans	-	6,816.63	6,816.63	6,816.63	6,816.63
	Net loan - Opening	6,816.63	-	-	-	-
	Addition					
	Repayments of Loans during the year	6,816.63	-	-	-	-
	Net loan - Closing	-	-	-	-	-
	Average Net Loan	3,408.31	-	-	-	-
	Rate of Interest on Loan	4.2550%	4.2550%	4.2550%	4.2550%	4.2550%
	Interest on loan	145.02	-	-	-	-

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Saw...

						PART-I
						FORM-13
Calculation of Interest on Actual Loans						
Name of the Company		NTPC Limited				
Name of the Power Station		Kawas				
						(Amount in lacs)
Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
8	4.75% Fixed Rate Notes Due 2022					
	Gross loan - Opening	11,570.74	11,570.74	11,570.74	11,570.74	11,570.74
	Cumulative repayments of Loans	-	-	-	-	11,570.74
	Net loan - Opening	11,570.74	11,570.74	11,570.74	11,570.74	-
	Addition					
	Repayments of Loans during the year	-	-	-	11,570.74	-
	Net loan - Closing	11,570.74	11,570.74	11,570.74	-	-
	Average Net Loan	11,570.74	11,570.74	11,570.74	5,785.37	-
	Rate of Interest on Loan	5.0243%	5.0243%	5.0243%	5.0243%	5.0243%
	Interest on loan	581.35	581.35	581.35	290.68	-
9	Bonds 54 Series					
	Gross loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Cumulative repayments of Loans	-	-	-	-	300.00
	Net loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,200.00
	Addition	-	-	-	-	-
	Repayments of Loans during the year	-	-	-	300.00	600.00
	Net loan - Closing	1,500.00	1,500.00	1,500.00	1,200.00	600.00
	Average Net Loan	1,500.00	1,500.00	1,500.00	1,350.00	900.00
	Rate of Interest on Loan	8.4900%	8.4900%	8.4900%	8.4900%	8.4900%
	Interest on loan	127.35	127.35	127.35	114.62	76.41
10	HDFC Bank Ltd.-IV					
	Gross loan - Opening	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
	Cumulative repayments of Loans	-	-	-	2,000.00	4,000.00
	Net loan - Opening	18,000.00	18,000.00	18,000.00	16,000.00	14,000.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	-	-	2,000.00	2,000.00	2,000.00
	Net loan - Closing	18,000.00	18,000.00	16,000.00	14,000.00	12,000.00
	Average Net Loan	18,000.00	18,000.00	17,000.00	15,000.00	13,000.00
	Rate of Interest on Loan	8.4500%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	1,521.00	1,521.00	1,436.50	1,267.50	1,098.50
11	HDFC Bank Ltd.-VI					
	Gross loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Cumulative repayments of Loans	-	-	-	-	-
	Net loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	-	-	-	-	-
	Net loan - Closing	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Average Net Loan	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Rate of Interest on Loan	8.4500%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	126.75	126.75	126.75	126.75	126.75
12	SBI-VIII					
	Gross loan - Opening	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
	Cumulative repayments of Loans	-	-	-	666.67	1,333.33
	Net loan - Opening	6,000.00	6,000.00	6,000.00	5,333.33	4,666.67
	Addition	0.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the year	-	-	666.67	666.67	666.67
	Net loan - Closing	6,000.00	6,000.00	5,333.33	4,666.67	4,000.00
	Average Net Loan	6,000.00	6,000.00	5,666.67	5,000.00	4,333.33
	Rate of Interest on Loan	8.2500%	8.2500%	8.2500%	8.2500%	8.2500%
	Interest on loan	495.00	495.00	467.50	412.50	367.50
	Total Loan					
	Gross loan - Opening	62,087.36	62,087.36	62,087.36	62,087.36	62,087.36
	Cumulative repayments of Loans	8,350.00	17,254.13	19,341.63	24,095.79	40,720.70
	Net loan - Opening	53,737.36	44,833.24	42,745.74	37,991.57	21,366.67
	Addition	-	-	-	-	-
	Repayments of Loans during the year	8,904.13	2,087.50	4,754.17	16,624.91	3,266.67
	Net loan - Closing	44,833.24	42,745.74	37,991.57	21,366.67	18,100.00
	Average Net Loan	49,285.30	43,789.49	40,368.66	29,679.12	19,733.33
	Rate of Interest on Loan	7.3040%	7.4958%	7.4266%	7.7436%	8.4079%
	Interest on loan	3,599.79	3,282.39	2,998.01	2,298.23	1,659.16
	Note:-					
	1)					
						SBI VII Rate of interest includes upfront fees of 0.0075% (i.e. 0.08%*1.1236%/12years).

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Signature

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	Natural Gas APM		
			Oct-18	Nov-18	Dec-18
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	47764.57	41518.89	39037.16
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)	47764.57	41518.89	39037.16
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)	47764.57	41518.89	39037.16
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	560091581.00	501190326.00	468277412.00
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.)	560091581.00	501190326.00	468277412.00
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.)	560091581.00	501190326.00	468277412.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9444.38	9509.55	9607.37
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	11726.09	12071.38	11995.68

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	Natural Gas NON APM	
			Oct-18	Nov-18 Dec-18
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	9011.98	6231.01
2	Adjustment (+/-) in quantity supplied/made by oil/gas company/supplier	(1000 SCM)	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)	9011.98	6231.01
4	Normative transit & handling losses	(1000 SCM)	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)	9011.98	6231.01
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	117322565.00	82760403.00
7	Adjustment (+/-) in amount charged by oil/gas company/supplier	(Rs.)	0.00	0.00
8	Total amount charged inclusive of opening stock (for liquid fuel) (6 + 7)	(Rs.)	117322565.00	82760403.00
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	-	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0.00	0.00
11	Demurrage charges, if any	(Rs.)	0.00	0.00
12	Cost of Diesel in trans Coal MGR Sys	(Rs.)	0.00	0.00
13	Total Transportation Charges and other charges (9+10-11+12)	(Rs.)	0.00	0.00
13A	Others			
15	Total amount charged for gas/RLNG/liquid fuel supplied including transportation (8+13)	(Rs.)	117322565.00	82760403.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9447.23	9489.44
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	13018.52	13282.02
				898019.00
				9637.88
				13227.06

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	RLNG		
			Oct-18	Nov-18	Dec-18
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	16194.51	2178.67	469.03
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)	16194.51	2178.67	469.03
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)	16194.51	2178.67	469.03
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	601399235.00	77750618.00	15345838.00
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.)	601399235.00	77750618.00	15345838.00
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.)	601399235.00	77750618.00	15345838.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9449.74	9438.35	9203.47
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	37135.99	35687.22	32718.49

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	Month:-		
			Oct-18	Nov-18	Dec-18
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(MT)	2838.46	2838.46	2838.46
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)	2838.46	2838.46	2838.46
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)	2838.46	2838.46	2838.46
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	204396775.48	204396775.48	204396775.48
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.)	204396775.48	204396775.48	204396775.48
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 Diesl 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.)	204396775.48	204396775.48	204396775.48
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	kCall/(Kg)	11219.71	11219.71	11219.71
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/MT	72009.75	72009.75	72009.75
*	Inclusive of opening stock				

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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:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	Oct-18	Nov-18	Dec-18
			Natural Gas APM		
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	47764.57	41518.89	39037.16
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)	47764.57	41518.89	39037.16
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)	47764.57	41518.89	39037.16
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	560091581.00	501190326.00	468277412.00
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.)	560091581.00	501190326.00	468277412.00
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.)	560091581.00	501190326.00	468277412.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9444.38	9509.55	9607.37
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	11726.09	12071.38	11995.68



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

UDIN: 20087002AAAAAE4535

Ganesh C. S.

गणेश सी.एस. / Ganesh C. S.
अपर महा प्रबंधक (वित्त) / AGM (Finance)
एनटीपीसी लिमिटेड / NTPC Limited

साझा सेवा केंद्र प.नं.-1 कवास / S.S.C. WR-1, Kawas
कवास गैस पावर परियोजना / Kawas Gas Power Project
आदित्यनगर, सुरत-394492 / Adityanagar, Surat-394516

S.K.

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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:- Kawas Gas Power Project

Month:-

			Oct-18	Nov-18	Dec-18
			Natural Gas NON APM		
S.No.	Particulars	Unit			
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM)	9011.98	6231.01	67.89
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)	9011.98	6231.01	67.89
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)	9011.98	6231.01	67.89
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	117322565.00	82760403.00	898019.00
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.)	117322565.00	82760403.00	898019.00
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.)	117322565.00	82760403.00	898019.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9447.23	9489.44	9637.88
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	13018.52	13282.02	13227.06



(CA J B G G A)
 M.N. 87002 22/01/2020
 PARTNER

UDIN: 20087002 AAAAAA 84535

45

गणेश सी.एस. / Ganesh C. S.

अपर महा प्रबंधक (वित्त) / AGM (Finance)
 एनटीपीसी लिमिटेड / NTPC Limited

साझा गैस केंद्र प.क. - 1 कवास / S.S.C. WR-1, Kawas
 कवास गैस पावर परियोजना / Kawas Gas Power Project
 आदित्यनगर, सुरत-394516 / Adityanagar, Surat-394516.

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:- Kawas 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)	16194.51	2178.67	469.03
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)	16194.51	2178.67	469.03
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)	16194.51	2178.67	469.03
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	601399235.00	77750618.00	15345838.00
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.)	601399235.00	77750618.00	15345838.00
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.)	601399235.00	77750618.00	15345838.00
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	(kcal/SCM)	9449.74	9438.35	9203.47
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/1000 SCM	37135.99	35687.22	32718.49



(CA J BAGGA)
M.NO. 87002
PARTNER

22/01/2020

UDIN: 20087002AAAAE4535

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जनेश सी.एस. / Genesh C. S.
 अपर महा प्रबंधक (वित्त) / AGM (Finance)
 एनटीपीसी लिमिटेड : NTPC Limited
 साहा सेवा केंद्र प.शे.-1 कवास / S.S.C. WR-1, Kawas
 कवास गैस पावर परियोजना / Kawas Gas Power Project
 आदित्यनगर, सुरत-394498 / Adityanagar, Surat-394518.

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:- Kawas Gas Power Project

Month:-

S.No.	Particulars	Unit	Oct-18	Nov-18	Dec-18
			HSD + Naptha		
1	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(MT)	2838.46	2838.46	2838.46
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)	2838.46	2838.46	2838.46
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)	2838.46	2838.46	2838.46
6	Amount charged by oil/gas company/supplier inclusive of value of opening stock (for liquid fuel)	(Rs.)	204396775.48	204396775.48	204396775.48
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.)	204396775.48	204396775.48	204396775.48
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.)	204396775.48	204396775.48	204396775.48
16	Weighted average GCV of Gas/RLNG/Liquid Fuel as received	kCal/L(Kg)	11219.71	11219.71	11219.71
17	Weighted average Price of Gas/RLNG/Liquid Fuel	Rs/MT	72009.75	72009.75	72009.75

* Inclusive of opening stock



(CA J B G G A)
M.No. 87002 22/01/2020
PARTNER

UDIN: 20087002AAAAA04535

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

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Computation of Energy Charges

Sl.No.	Description	Unit		APM Gas	NON APM	LNG	Naphtha
		Gas/RLNG	Naphtha				
1	Normative Heat Rate (For CC Operation)	(Kcal/kwh)	(Kcal/kwh)	2050			
2	Normative Heat Rate (For OC Operation)	(Kcal/kwh)	(Kcal/kwh)	3010			
3	Capacity	MW	MW	656.20			
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./KL	11919.82	13126.68	36858.51	72009.75
8	Weighted Average GCV of Fuel	Kcal/SCM	Kcal/Kg	9520.44	9524.85	9364	11219.71
9	Rate of Energy- Ex Bus-CC	(Paise/kwh)	(Paise/kwh)	263.923	290.510	829.750	1352.926
10	Rate of Energy- Ex Bus-OC	(Paise/kwh)	(Paise/kwh)	380.666	419.013	1196.780	1951.376
11	Mode of Operation on Fuel during 2013-14 (% of Schedule Generation)	%	%	78.71%	9.24%	11.27%	0.79%
12	Weighted Average Cost of Fuel as per above in 2018-19- Ex Bus CC	(Paise/kwh)	(Paise/kwh)	338.7			

Below 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)	4764.72	4751.70	4751.70	4751.70	4764.72
16	Fuel cost for One month	13448.41	13411.67	13411.67	13411.67	13448.41
17	Fuel cost for 30 days	13227.95	13227.95	13227.95	13227.95	13227.95
17	Cost of Liquid stock for 15 days	301.03	301.03	301.03	301.03	301.03

PETITIONER

48

Name of the Petitioner
Name of the Generating Station

NTPC Ltd
Kawas GPS(656.20 MW)


Statement of Capital cost
(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	222553.56	341.72	222211.84
	b) Amount of IDC in A(a) above	2137.00		2137.00
	c) Amount of FC in A(a) above			0.00
	d) Amount of FERV in A(a) above	5108.30		5108.30
	e) Amount of Hedging Cost in A(a) above			0.00
	f) Amount of IEDC in A(a) above			0.00
B	a) Addition in Gross Block Amount during the period (Direct purchases)			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

Note:

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

(Petitioner) 

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Name of the Petitioner
Name of the Generating Station

NTPC Ltd
Kawas GPS(656.20 MW)

Statement of Capital Woks in Progress

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on relevant date		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	659.00	435.04	223.96
	b) Amount of IDC in A(a) above			0.00
	c) Amount of FC in A(a) above			0.00
	d) Amount of FERV in A(a) above	0.04		0.04
	e) Amount of Hedging Cost in A(a) above			0.00
	f) Amount of IEDC in A(a) above			0.00
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

Note:

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

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(Petitioner) 

Calculation of Interest on Normative Loan

Name of the Company :		NTPC Limited							
Name of the Power Station :		Kawas 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	Gross Normative loan – Opening	1,01,191.52	1,01,056.28	1,01,136.79	1,01,747.89	1,01,747.89	1,05,632.89		
2	Cumulative repayment of Normative loan up to previous year	81,499.16	86,536.33	91,703.85	96,976.47	1,01,747.89	1,05,632.89		
3	Adj. in repayment due to liability discharge*	0.00							
4	Adj. in repayment due to decap*	137.07							
5	Net Normative loan – Opening	19,692.36	14,519.95	9,432.94	4,771.42	-	-		
6	Add: Increase due to addition during the year / period	0.27	80.51	611.10	-	3,885.00	-		
7	Less: Decrease due to de-capitalisation during the year / period	-137.07	0.00	0.00	0.00	0.00	0.00		
8	Less: Decrease due to reversal during the year / period								
9	Add: Increase due to discharges during the year / period	1.57	0.00	0.00	0.00	0.00	0.00		
10	Less: Repayment of Loan	5174.24	5,167.51	5,272.62	4,771.42	3,885.00	-		
11	Net Normative loan - Closing	14,519.96	9,432.94	4,771.42	-	-	-		
12	Average Normative loan	17,106.16	11,976.44	7,102.18	2,385.71	-	-		
13	Weighted average rate of interest	6.7073	7.3040	7.4958	7.4266	7.7436	8.4079		
14	Interest on Loan	1147.36	874.76	532.37	177.18	0.00	0.00		
15	Cumulative repayment of Normative loan at the end of the period after adjustments	86,536.33	91,703.85	96,976.47	1,01,747.89	1,05,632.89	1,05,632.89		

* Additional data

(Petitioner)

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Calculation of Interest on Working Capital

Name of the Company :	NTPC Limited
Name of the Power Station :	Kawas 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	10,380.11	13227.95	13227.95	13227.95	13227.95	13227.95
4	Liquid Fuel Stock		301.03	301.03	301.03	301.03	301.03
5	O & M Expenses	1,266.89	1308.60	1377.25	1450.50	1528.63	1612.65
6	Maintenance Spares	4,560.79	4710.97	4958.11	5221.79	5503.06	5805.55
7	Receivables	28,519.61	25195.78	25291.70	25380.16	25640.52	26029.11
8	Total Working Capital	44727.40	44744.34	45156.05	45581.43	46201.19	46976.30
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500
10	Interest on Working Capital	6038.20	5391.69	5441.30	5492.56	5567.24	5660.64


Petitioner

Liability as on 01.04.2019

S.No.	Party Name	Name of work	Year of creation	01.04.2019
Admitted works				
1	BHEL-GE GTS	TURBINE GENERATOR GAS PROJECT M-P-GT2A	2014-15	1,78,28,527
2	GAS TURBINE EFFICIENCY, SWEDEN AB	Online Compressor Washing System Block - I	2015-16	33,22,746
3	AQUA DESIGNS INDIA PVT LTD	RO PLANT	2015-16	41,26,583
4	Multiple Vendors	Ultra Filtration System Drinking Water Chlorifier	2017-18	3,35,934
Total admitted				2,56,13,791
Non claimed works				
1	MBOA and Spares		2014-15	1,32,536
2	MBOA and Spares		2015-16	8,96,234
3	MBOA and Spares		2016-17	2,60,835
4	MBOA and Spares		2017-18	2,19,581
5	MBOA and Spares		2018-19	70,49,691
Total not claimed				85,58,877
Grand Total Liability				3,41,72,669

Stw...

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Summary of issue involved in the petition

Name of the Company :		NTPC Limited					
Name of the Power Station :		Kawas Gas Power Station					
1	Petitioner:	NTPC Limited					
2	Subject	Approval of tariff of Kawas GPS (656.20 MW) for the period from 01.04.2019 to 31.03.2024					
3	Prayer: i) Approve tariff of Kawas 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.						
4	Respondents	Seven(7) no. respondents					
5	Name of Respondents	1.MSEDCL, Maharashtra 2.GUVNL, Gujarat 3.MPPMCL, Madhya Pradesh 4. CSPDCL, Chhattisgarh 5.Electricity Deptt, Goa 6.Electricity Deptt, DD 7. DNH Power Distribution Corporation Ltd-DNH					
Cost (Approved cost) (In Rs Crore)							
Claim		2019-20	2020-21	2021-22	2022-23	2023-24	
AFC (Rs Lakh)			43544.75	44203.79	44921.27	47033.07	50322.44
Capital cost(Rs Lakh)			1,88,461.45	1,88,955.45	1,89,391.95	1,92,166.95	1,94,941.95
Initial spare		N.A.					
NAPAF (Gen)		85%					
Any Specific							

Petitioner

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



भारत सरकार
 GOVERNMENT OF INDIA
 विद्युत मंत्रालय
 MINISTRY OF POWER
 श्रम शक्ति भवन, रफी मार्ग
 SHRAM SHAKTI BHAWAN, RAFI MARG

नई दिल्ली - 110001

NEW DELHI - 110001

Dated :-2nd August, 2017

DO NO.9/23/2014-EC

Dear Mr Singh

As you may be aware, lighting accounts for more than 20% of total electricity consumption in India. Use of LED lights in domestic and public lightings could result in 50-90% reduction in energy consumption by lighting. It was with this objective that the Hon'ble Prime Minister, on 5th January, 2015 launched the National LED Programme to facilitate rapid adoption of LED based home lighting and street lighting across the Country. This programme, consisting of Unnat Jyoti by Affordable LEDs for All (UJALA) and Street Lightings National Programme (SLNP), is being implemented by EESL, a joint venture company of four Power Sector PSUs.

2. The issue relating to use of LED lights was also deliberated in the infrastructure review meeting held by Hon'ble Prime Minister on 17th September, 2016, wherein it was recommended to issue orders for mandating use of LED lights in all lighting projects funded by the Government.

3. Subsequently, in the review meeting held by Hon'ble Prime Minister on 21st July, 2017, it was inter-alia recommended to replace old bulbs with LED bulbs and that the full replacement should be achieved by 15th August, 2017 in government buildings.

4. In view of the above, you are requested to take necessary action to ensure that all old bulbs are replaced with LED bulbs by 15th August, 2017 in all the buildings (including compound/street lightings) occupied by your organisation.

5. It will be appreciated if action taken in this regard is reported to this Ministry on priority basis.

With regards,

Yours sincerely,

(Raj Pal)

नि०(एकीकृत)/DIR (T)
 नि०(परिवहन)/DIR (Pro.)
 नि०(वित्त)/DIR (F)
 नि०(प्रकाशन)/DIR (O)
 नि०(सांख्यिक)/DIR (HR)
 नि०(वाणिज्य)/DIR (Com.)
 से०(नि०) /RED ()
 स०(नि०) /ED ()
 प्रमुख(नि०)/Head of CP

Shri Gurdeep Singh,
 CMD,NTPC,
 Scope Complex,
 Lodhi Road, New Delhi.



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GPCB

GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar-382 010

Phone : (079) 23226295

Fax : (079) 23232156

Website : www.gpcb.gov.in

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 3(c) & 5(5) of the Hazardous Waste (Management and Handling & Trans boundary Movement) Rules'2008 framed under the Environmental (Protection) Act-1986. This Board is empowered to Grant CC&A.

And whereas Board has received consolidated consent application letter No:- 94864 dated:- 15/05/2015 for the Consolidated Consent and Authorization (CC & A) of this Board under the provisions / rules of the aforesaid Acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions / rules of the aforesaid environmental acts)

To,
 M/s. National Thermal Power Corporation Ltd.
 Plot No:- Kawasgas Power Project,
 P.O. Adityanagar,
 Surat:- 394516,
 Tal:- Chorasi, Dist:- Surat.

1. Consent Order No. W-71702 Date of issue: 07/07/2015
2. The consents shall be valid up to 25/02/2020 for the use of outlet for the discharge of treated effluent & air emission and to operate industrial plant for manufacture of the following items/ products:

Sr. No.	Product	Capacity
1	ELECTRICITY	472.464 Million Units/Months

3. CONDITIONS UNDER THE WATER ACT:

- 3.1 The quantity of trade effluent generated due to manufacturing products and other ancillary operations shall not exceed 5022 M³/day.
- 3.2 The quantity of Domestic effluent from the factory shall not exceed 120 M³/Day.
- 3.3 **TRADE EFFLUENT:**
 - 3.3.1 The applicant shall provide adequate effluent treatment system so that effluent from the industrial unit shall conform to the GPCB norms mentioned below.

PARAMETERS	GPCB NORMS
Temperature	40° C
pH	6.5 To 8.5
Colour (Pt. Co. Scale) in units	100 units
Suspended Solids	100 mg/l
Oil and Grease	10 mg/l

Phenolic Compounds	1 mg/l
Sulphide	2 mg/l
Phosphate	5 mg/l
Ammonical Nitrogen	50 mg/l
Total Chromium	2 mg/l
Hexavalent Chromium	0.1 mg/l
BOD (5 days at 20°C)	30 mg/l
COD	100 mg/l
Total Dissolved Solids	2100 mg/l
Chloride	600 mg/l
Sulphate	1000 mg/l
Total Copper (as Cu)	1 mg/l
Total Iron (as Fe)	1 mg/l
Zinc	1 mg/l
Free Chlorine	0.5 ppm

All efforts shall be made to remove colour & unpleasant odour as far as practicable

- 3.3.2 The final treated effluent conforming to the above standard shall be discharged in to estuary zone of river Tapi.
- 3.3.3 Sewage shall be disposed off through Septic tank/soak pit system and shall be discharged conforming to the following standards:

BOD (20°C 5 days)	Less than 20 mg/l
Suspended Solids	Less than 30 mg/l
Residual Chlorine	Minimum 0.5 ppm

4. CONDITIONS UNDER THE AIR ACT:

- 4.1 The following shall be used as a fuel.

Sr. No.	Fuel	Quantity
1	Natural Gas	2074 MT/day
2	Naphtha	1918 MT/day

- 4.2 The applicant shall install & operate comprehensive adequate air pollution Control system in order to achieve prescribed norms.

- 4.2.1 The flue gas emission through stack attached to Boiler/D.G. Set shall conform to the following standards:

Sr.No.	Stack attached to	Stack height (Meter)	Air Pollution Control System	Parameter	Permissible Limit
1	Waste Heat Recovery Boiler	55 (Each-4 Nos.)	NOx Control System by DM water injection	Particulate Matter SO2	100 mg/NM3 100 ppm

	(WHRB)-A, IB,IC(3 nos)			NOx	150 ppm (v/vat 15 % excess oxygen)
2	D.G.Set (Stand By)	11	---	Particulate Matter SO2 NOx	100 mg/NM3 100 ppm 150 ppm

4.2.2. There shall be no Process emission. From the manufacturing process as well as any other ancillary process.

4.2.3 The concentration of the following parameters in the ambient air within the premises of the industry and a distance of 10meters from the source) other than the stack/vent) shall not exceed the following levels.

PARAMETER	PERMISSIBLE LIMIT	
	Annual Av.	24 hrs. Average
Particulate matter-10 (PM	60 microgram/NM ³	100 microgram/NM ³
Particulate matter-2.5 (PM	40 microgram /NM ³	60 microgram/NM ³
SO ₂	50 microgram/ NM ³	80 microgram/NM ³
NO _x	40 microgram /NM ³	80 microgram/NM ³

4.2.4 The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection to and for use of Board's staff. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/displayed to facilitate identification.

4.2.5. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(a) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

5. GENERAL CONDITIONS: -

5.1 Any change in personnel, equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this Board.

5.2 Applicant shall also comply with the general conditions given in annexure I.

5.3 If it is established by any competent authority that the damage is caused due to their industrial activities to any person or his property in that case they are obliged to pay the compensation as determined by the competent authority.

6. AUTHORISATION FOR THE MANAGEMENT & HANDLING OF HAZARDOUS WASTES Form-2 (See rule 3 (c) & 5 (5))

6.1 Number of authorization No: W-71702 Date of issue: 07/07/2015

6.1.1. **M/s. National Thermal Power Corporation Ltd.** is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at **Plot No:- Kawasgas Power Project, P.O. Adityanagar, Surat:- 394516, Tal:- Chorasi, Dist:- Surat.**

Sr. No.	Waste	Quantity	Schedule-I Process	Facility
1.	Used Spent Oil	30 MT/Year	5.1	Collections, Storage, Transportation, Disposal by selling to Registered refiners.
2.	Discarded Containers/Barrels/ Liners	5 MT/Year (i.e. 2000 no/year)	33.3	Collection, Storage, decontamination
3.	Oil soaked cotton waste making cloth	500 kg/Year	5.2	Collection, Storage, Transportation, disposal by incineration of CHWIF
4.	Used Ion Exchange Resin	10 MT/Year	34.2	Collection, Storage, Transportation and Disposal at TSD F- B E I L, Ankleshwar.
5.	Used Mineral wool	10 MT/Year	Schedule-2 B12	Collection, Storage, Transportation and Disposal at TSD F- B E I L, Ankleshwar.

6.1.2 The authorization is granted to operate a facility for collection, storage, within the factory premises transportation and ultimate disposal of Hazardous Waste at GPCB approved TSD F Site.

6.1.3 The authorization shall be valid up to 25/02/2020

6.1.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986 and Haz. Waste (M & H and-T M) Rules 2008.

6.1.5 TERMS AND CONDITIONS OF AUTHORIZATION :

- The applicant shall comply with the provisions of the Environment (Protection) Act - 1986 and the rules made there under.
- The authorization shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
- The persons authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the Gujarat Pollution Control Board.
- Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.
- It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.

- f) An application for the renewal of an authorization shall be made as laid down in rule 5 (6) (ii).
 - g) Industry shall have to manage waste oil, discarded containers etc. as per amended rules 2003.
 - h) Industry shall submit annual report within 15 days and subsequently by 31st January every year.
7. Industry shall have to display the relevant information with regard to hazardous waste as indicated in the Supreme Court's order in W.P. No.657 of 1995 dated 14th October 2003.
 8. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including waste water and air emissions and solid hazardous wastes generated within the factory premises.

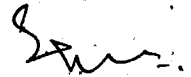
For and on behalf of
Gujarat Pollution Control Board


(K.C.Mistry)
Senior Environmental Scientist

NO: CCA-SRT-573(5) ID_20991 / 322321

Dt: 27/9/2015

Issued to:
✓ M/s. National Thermal Power Corporation Ltd.
Plot No:- Kawasgas Power Project,
P.O. Adityanagar, Surat:- 394516,
Tal:- Chorasi, Dist:- Surat.



GUJARAT POLLUTION CONTROL BOARD

GENERAL CONDITIONS (WATER CONSENT - No. 1 to 36)

ANNEXURE - I

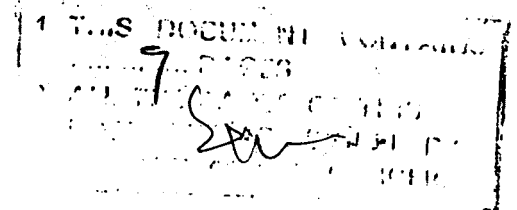
01. In case of any change either in products, its capacity or manufacturing process, the applicant shall have to obtain prior permission of this Board. The applicant shall not commence the production until consent under Water (Prevention and Control of Pollution) Act-1974, Air (Prevention and Control of Pollution) Act-1981 and authorisation under the Hazardous Waste (Management and Handling) Rules-1989 is obtained.
02. If the products/process falls in SCHEDULE -I or II of the Environmental Audit Scheme, as specified in the order dated 13.3.97 of Hon. High Court in MCA NO. 326/97 in SCA No. 770/95, the applicant shall also abide by the said scheme.
03. The applicant shall have to register the unit under the provisions of the Factories Act-1948 and shall obtained the necessary factory licence.
04. The applicant shall have to obtain P. L. I. Policy as per P. L. I. Act,1991 and submit the copy of the same to the G. P. C. B.
05. The concentration of Noise in ambient air within the factory premises shall not exceed the following limit.

Between 6 AM to 9 PM : 75 dB (A)

Between 9 PM to 6 AM : 70 dB (A)
06. The unit shall operate fully and efficiently all its effluent treatment plant/air pollution control equipments and shall close down all its manufacturing/processing activities whenever the effluent treatment plant/air pollution control equipments or any part thereof are fully or partly non-operational for any reason whatsoever (whether for maintenance/repairs/electricity failure or otherwise) and shall not restart such activities unless and until all the effluent treatment plants of the unit are fully operational.
07. The applicant shall have to submit the returns in form regarding water consumption and shall have to make payment of water cess to the Board under the Water Cess Act,1977.

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GUJARAT POLLUTION CONTROL BOARD

08. The unit shall make all the requisite arrangements for the safe storage and handling of solid waste including impervious flooring and leachate collection and the unit shall store and handle solid waste in accordance with the provisions of the relevant rules in their behalf.
09. The unit shall have and use only one outlet for the discharge of its effluent and no effluent shall be discharged without requisite treatment and without meeting with the GPCB norms. Such outlet shall be near the front gate/entrance of the unit. The unit shall not keep any bypass line or system or loose or flexible pipe for discharging effluent outside or even for transporting treated or untreated effluent within the factory premises, within effluent treatment plants or in the compound of the unit.
10. The unit shall, within one week from the date of issue of this order:
 - a.) Put up at the entrance and prominent places boards prominently displaying the name of the unit, particulars of the products/process and the names of the Proprietor/Partners/Directors of the unit, the electricity consumer number and the name of the electricity consumer as on the record of the GEB.
 - b.) Make adequate lighting arrangements all around the Effluent Treatment Plants and also above the boards mentioned in the above clause.
11. The unit shall submit, within one week from the date of the order, to the GPCB any committee appointed by the court, the site plan of the unit indicating the location of manufacturing/processing plant as also the effluent treatment plants and also a separate plan indicating the channel through which water/effluent passes from different stages of manufacturing/processing and the effluent treatment process right upto the stage of its final outlet. Such plans shall also be displayed by the unit on a Board of adequate size within its compound and near its effluent treatment plant/s.
12. The unit shall supply to the GPCB the figures of production and consumption of electricity and water for each day during the period of production, though such figures shall be supplied on monthly basis. The unit shall supply separate figures for consumption of electricity for running the effluent treatment plants by having a separate meter/

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GUJARAT POLLUTION CONTROL BOARD

- submeter for such effluent treatment plants. The number of units consumed by operating the diesel generating sets, if any, shall also be supplied to the GPCB on monthly basis.
13. The Unit shall also supply to the GPCB, within 1 week from the date of the order, the documents regarding monthly production and consumption of electricity in the last six months.
 14. The unit shall permit the officers/employees of the GPCB / Government. Members of the committee of the court, Members of the monitoring Committee of the Associations of the Industries to enter the factory premises and to inspect and take samples from the unit at any time without any prior intimation. Any delay in giving any of the above persons entry into the factory premises or any plant thereof on effluent treatment plants/air pollution control equipments shall entail closure of the unit. All the watchmen/security personnel of the unit shall be immediately appraised of the above.
 15. It shall be open to the GPCB through general instructions of circulars and to the GPCB officers inspecting the unit to give all the support instructions regarding location of the outlet and/or any other appropriate directions regarding effluent treatment plants/air pollution control equipments, their operation and processes and disposal channel and disposal system. The unit shall comply with all such instructions whether general or special.
 16. When electricity supply or water supply is disconnected in future on account of non-compliance with the GPCB norms or on account of the closure order, which may be passed by the court or by the Govt./GPCB under any statutory provisions relating to environmental protection and prevention and control of pollution.
 - a.) The unit shall not use any diesel generating set or any other alternative source of energy or water tankers from outside for continuing the production activities.
 - b.) The unit shall pay wages to its workers regularly every month or at such shorter intervals as per the central/practice followed so far.
 17. "Magnetic Flow Meters" should be installed at inlet and outlet of Effluent Treatment Plant (ETP thereafter).

(3)

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1 THIS DOCUMENT CONTAINS
..... 9 PAGES
2 ALL THE PAGES OF THIS
DOCUMENT ARE SIGNED &
..... AUTHORIZED OFFICER.

S. W. C.

GUJARAT POLLUTION CONTROL BOARD

18. All the chemicals and nutrients which are require to be added/dosed any where in the ETP. should be so added by using "Metering Pumps" only.
19. The pipelines connecting various equipments or sumps or tanks of ETP should be minimum in number. Loose connections of hose pipes or temporary connections will not be permitted.
20. In case of incinerators, the flow measuring devices for mother liquor, light diesel oil, air used for combustion and temperature measuring devices within incinerators at different points and scrubber. These devices should be provided outside the incinerators and temperatures as well as flow should be recorded, every day.
21. In case of plants involving 'Bio-mass treatment. For each addition of bio-mass-time and quantity, should be recorded. The uptake rate of Oxygen of the bio-mass in the aeration basin and other parameters of biological system should be recorded, every day.
22. The printed log-books shall be maintained and get it certified for :
 - a. Energy Fuel Consumption Raw Material Consumption and quantity of Products manufactured.
 - b. Waste water flow at inlet & outlet of ETP
 - c. Quantity of sludge generated.
 - d. Laboratoryanalysis/reports for each of the specified parameters of liquid effluents, gaseous discharge and soil sludge samples.
23. Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the Gujarat Pollution Control Board. Regular Effluent quality monitoring should be carried out for relevant parameters and the monitored data along with the statistical analysis and interpretation should be submitted to this Ministry once in six months and to the Gujarat Pollution Control Board on monthly basis.
24. Guard ponds of sufficient holding capacity should be provided to cope with the effluent discharge during the process disturbances. In the event

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GUJARAT POLLUTION CONTROL BOARD

of failure or non functioning of the ETP, the respective units should be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency. Guard pond should be provided with impervious lining and stability of the ponds with respect to leakages/cracks and other factors should be ensured.

25. The ground water quality around the guard ponds and landfill site should be monitored on a regular basis. The monitored data should be submitted to this Board once in six months.
26. A secured double lined landfill should be developed within the plant premises for disposal of solid waste by providing impervious liner and leachate collection system. The leachate shall be taken to the treatment plant for further treatment. In case of specified items or Napthalene based product and in the caste Pesticides waste, the leachate shall be totally incinerated after neutralisation and/or after detoxification treatment. The design of the landfill site should be submitted before commencing the production to this Board and Government.
27. Handling, manufacturing, storage and transport of hazardous chemicals should be in accordance with the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.
28. The hazardous wastes should be handled as per the Hazardous Waste (Management and Handling) Rules of the Environment (Protection) Act-1986.
29. On-site and off-site Emergency Plan as required under the Rules 13 and 14 of the Handling, Manufacture, Storage and Import of the Hazardous Chemicals Rules, 1989 should be prepared and approval from the Board should be obtained.
30. A community welfare scheme for improving the socio-economic environment should be worked out and report submitted to the Board and Government for review.
31. Periodical medical check up of the workers should be done and records maintained as a measures to provided occupational health service to the workers.

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GUJARAT POLLUTION CONTROL BOARD

32. The project authorities should set up laboratory facilities for collection, analysis of samples under the supervision of competent technical personnel who will report to the Chief Executive.
33. The funds earmarked for the Environmental protection measures should not be diverted for any other purpose and yearwise expenditure should be reported to this Board and to the Government.

~~Storm water shall not be mixed with the industrial effluent. Disposal system for storm water shall be provided separately.~~

35. Good house keeping shall be maintained within the factory and industrial premises. All pipes, valves and drains shall be leak proof. Floor washing shall be admitted in to the effluent collection system for subsequent treatment and disposal.
36. The applicant shall intimate the occurrence of any accident, act or event resulting in discharge of poisonous, noxious or polluting matter or the likelihood of the same into a stream or well, to the Regional Office under the intimation to the Member Secretary in accordance with Section 31(1) of the Water Act.

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Annexure - C

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

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 NIPCO Limited,
Kudugi Super Thermal Power Project,
Plot No. 9, Mallikarjun Nagar,
Munawali Road, Bijapur 586108

A GM (PKS)
Date 17/10/2013

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

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

* * *

We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted, etc and has concurred in principle to issue the Site Clearance for the establishment of super thermal power project for generating electrical power of 1 X 500 MW at Near Kudugi village, Basavara bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions;

~~The use of highly toxic and hazardous chemicals like chlorine dioxide, sodium hypochlorite shall be considered.~~

- The mobile hydrogen cylinder bank with manifold system shall be adopted in place of those Hydrogen Cylinders.
- The safety check shall be prepared in storing, handling and usage of Hydrazine and its holding capacity shall be limited to a minimum required quantity.
- The exclusive safety health and environment (SHE) department shall be termed under the direct control & supervision of the occupier. This department shall be supported by the senior level qualified and competent executives with adequate field staff.
- The effective online monitoring system shall be adopted in the work environment with special trust to fugitive emission of radiation noise level.
- No building of structure shall be constructed with obtaining a prior approval of plans by Director, Department of Factories, Boilers, Industrial Safety and Health.
- The pre and periodical medical examination shall be carried out to all the category of employees including contract and casual. The medical surveillance shall be carried out by creating a base line health data and shall have the provision for up-dating the same and continuous basis.

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6. 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.
7. The provisions of rule 70(1) - 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 this department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions

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

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

Your's Faithfully,

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

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ಕಾರ್ಖಾನೆಗಳು, ಬಾಯ್ಲರುಗಳು, ಕೈಗಾರಿಕಾ ಸುರಕ್ಷತೆ ಮತ್ತು ಸ್ವಾಸ್ಥ್ಯ ಇಲಾಖೆ

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

ನಿರ್ದೇಶಕರ ಕಾರ್ಯಾಲಯ,

ಕಾರ್ಮಿಕ ಭವನ, 2ನೇ ಮಹಡಿ, ಬನ್ನೇರುಘಟ್ಟ ರಸ್ತೆ,

ಬೆಂಗಳೂರು-29, ದಿನಾಂಕ: 13.04.2016

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

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

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

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

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

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

ಇಲಾಖೆ ಮತ್ತು ಸಂಪನ್ಮೂಲ ಇಲಾಖೆಗಳ ಸಹಾಯಕ ನಿರ್ದೇಶಕರು
ಕರ್ನಾಟಕ ಸರ್ಕಾರ

Copy to _____

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 IA 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

[Signature]

For ka 1 ... information please.

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BY REGD. POST

STATE POLLUTION CONTROL BOARD, ODISHA

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

No. 2755 /

Ind-II-NOC-5592

Date 28-02-14

OFFICE MEMORANDUM

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

GENERAL CONDITIONS.

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

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SPECIAL CONDITIONS :-

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

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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)

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Cooling Tower Blow Down

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

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

37. A toe drain shall be provided around the ash mound. The seepage water collected in the toe drain shall be monitored every month with respect to pH, SS, O&G and fluoride and shall meet the following standards
- pH-6.5 to 8.5
 - SS-100mg/l
 - O&G-20mg/l and
 - Flouride-2.0mg/l
- and the monitoring report shall be submitted to the Board quarterly.
38. Regular monitoring of runoff water from the disposal area and excess ash water shall be carried out with respect to pH, SS, O&G and fluoride content and monitoring report shall be submitted to the Board every quarter.
39. Ash pond shall be lined with HDPE or any other suitable impermeable lining such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.
40. The Project Proponent shall carry out detail hydrogeological study of the ash pond site incorporating soil analysis, ground water quality (fluoride & heavy metals), surface water quality (fluoride & heavy metals) and drainage network of the area and the change in hydrological status shall be monitored annually.
41. Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (F, Cd, Hg, Cr, As, Pb) and records shall be maintained and submitted to the Board. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.
42. The entire upstream face of the dyke shall be provided with stone pitching or brick lining or precast tile lining to prevent erosion of the slope by wave action during heavy wind.
43. The entire area of the ash dyke shall be provided with fencing and unauthorized entry within this ash pond area shall be strictly prohibited. Security guards shall be posted for vigilance of the ash dyke area round the clock. This is very important as there are chances of sabotage. The entire dyke perimeter shall have accessible roads. The entire dyke area shall be provided with street lights or flood lights for inspection during night time. A site office shall be constructed with a full time engineer responsible for inspection and monitoring of the ash dyke.
44. The industry shall construct a Sewage Treatment Plant (STP) for treatment of wastewater to be generated from domestic source and the treated sewage shall be discharged to the common monitoring basin.
45. The unit shall explore the possibility to use chlorine di-oxide for treatment of water instead of chlorine gas.
46. Plantation activity shall be planned in such a way so that trees will have better growth by the time the unit starts operation.
47. The proponent shall deploy vehicles which conform to the latest BIS emission specification. The proponent shall also to give a detail proposal to control noise pollution during construction phase. The proponent shall prepare pollution prevention and environment management plan for construction phase and operation phase separately and should submit to the Board three months prior to commencement of construction and operation respectively.
48. The rising temperature during summer in the area is a major concern. The unit shall conduct a detailed study on contribution of thermal heat to atmosphere due to the proposed project and its impact on ambient temperature during different season. The study should also investigate the heat island effect due to the project.

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(75)

Signature

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 Khasam 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, at least plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years.
54. No production activity shall commence prior to installation of the pollution control devices. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and /or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.
55. The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

Encl: Approved layout Map & Annexures

[Signature]
MEMBER SECRETARY

To

✓ Shri S. K. Reddy, General Manager,
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)

[6]

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[Signature]

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

Ambient Air Quality Standards in respect of Noise

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

Note

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

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

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

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

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

[F. No. Q-13012/096-CPA]
VIJAI SHARMA, Jt. Secy.

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Sen.

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

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SAN

भाग II - खण्ड 3(1)

भारत का राजपत्र - असाधारण

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

[सा. सं. न्यू-15017-43/2007-ओ. पी. डब्ल्यू.]
रजनीश दूबे, संयुक्त सचिव

MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION

New Delhi, the 16th November, 2009

G.S.R. 826(E).— In exercise of the powers conferred by section 6 and section 25 of the Environment (Protection) Act, 1986 (20 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. (1) These rules may be called the Environment (Protection) Seventh Amendment Rules, 2009.
- (2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986 hereinafter referred to as the said rules, in rule 3, in sub-rule (3B), for the words, brackets, figures and letters, "in columns (3) to (5) of Schedule VII", the words, brackets, figures 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]
[Sec rule 3(3B)]
NATIONAL AMBIENT AIR QUALITY STANDARDS

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

S.T.W.

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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 EPM 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 Nadophenol blue method
9	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	Gas chromatography based continuous analyzer Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m ³	Annual*	01	01	Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m ³	Annual*	06	06	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m ³	Annual*	20	20	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

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

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

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

[F. No. Q-15017/41/2007-CPW]

RAJNESH DUBE, Jt. Secy.

Note.— The principal rules were published in the Gazette of India, Extraordinary vide number S.O. 344(E), dated the 19th November, 1986; and subsequently amended vide numbers S.O. 433(E), dated the 18th April, 1987; G.S.R. 176 (E), dated the 2nd April 1996; and were recently amended vide numbers G.S.R. 97(E), dated the 13th February, 2009; G.S.R. 149(E), dated the 4th March, 2009; G.S.R. 343(E), dated the 22nd July, 2009; G.S.R. 794(E), dated the 21st August, 2009; and G.S.R. 794(E), dated the 4th November, 2009.