

Petition No :



A Maharatna Company

Farakka STPS Stage-III (1x500MW)

**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 **Farakka STPS Stage-III (1x500MW) for the period from 01.04.2019 to 31.03.2024.**

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BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION
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AND
IN THE MATTER OF

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

Respondents

- 1.** West Bengal State Electricity Distribution Company Limited
Vidyut Bhawan, Block-DJ,
Sector-II, Salt Lake City
Kolkata – 700 091
- 2.** Bihar State Power Holding Company Limited
(erstwhile Bihar State Electricity Board)
Vidyut Bhawan, Bailey Road
Patna – 800 001
- 3.** Jharkhand Bijlee Vitaran Nigam Ltd.,
Engineering Building, HEC Township, Dhurwa,
Ranchi – 834 004
- 4.** GRIDCO Limited
24, Janpath,
Bhubaneswar – 751007



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. Farakka STPS Stage-III (1x500MW) (hereinafter referred to as Farakka-III) is one such station located in the State of West Bengal. The power generated from Farakka-III is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2019 to 31.03.2024.
- 5) Regulation 9(2) of Tariff Regulations 2019 provides as follows:
"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.10.2019, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2019-24 along



with the true up petition for the period 2014-19 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2014."

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

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

- 6) The tariff of the Farakka-III for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 03.03.2017 in Petition No. 280/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. Further, The Petitioner thereafter had filed an Appeal (being No.178/2017) in Appellate Tribunal of Electricity on certain aspects of the order dated 03.03.2017. The appeal is under consideration of the Hon'ble Appellate Tribunal of Electricity. The petitioner vide affidavit dated 15th January 2020 has filed a separate true up petition for the period 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations 2014.
- 7) The Hon'ble Commission vide order dated 03.03.2017 in Petition no 280/GT/2014 has allowed a capital cost of Rs 261047.29 Lakhs as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 269631.42 Lakhs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs. 8584.13 Lakhs 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 269631.42 Lakhs. 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 estimated 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) 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, estimated 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	Thermal
Type of cooling water system	Closed Cycle
Consumption of Water	1939343m3
Rate of Water charges	Rs.20.82/ 1000 Gallan
Total Water Charges (Rs.Lakhs)	1065.63

- 10) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2019-24, the same shall be subject to retrospective adjustment based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 35 (1)(6) based on actual consumption of spares during the period 2019-24
- 11) The present petition is filed on the basis of norms specified in the Tariff Regulations 2019. It is submitted that the petitioner is in the process of installing the Emission Control Systems (ECS) in compliance of the Revised Emission Standards as notified by MOEF vide notification dated 07.12.2015 as amended. Completion of these schemes in compliance of revised emission norms will effect the station APC, Heat Rate , O&M

expenses etc. In addition the availability of the unit/ station would be also effected due to shutdown of the units for installation of ECS. The petitioner would be filing the details of the same in a separate petition in terms of the Regulation 29 of Tariff Regulations 2019. The tariff of the instant petition would undergo changes consequent to the order of the Hon'ble Commission in the said ECS petition.

- 12) A notification dated 25.01.2016 has been issued by Government of India, Ministry of Environment, Forest & Climate Change (MOEFCC) under the statutory provisions of Environment (Protection) Act 1986. The said notification of MOEFCC prescribed bearing the transportation cost of Fly Ash generated at power stations. Ash. In this regard, Petitioner filed a petition, being no. 172/MP/2016, before the Hon'ble Commission seeking reimbursement of the additional expenditure for Fly Ash Transportation directly from the beneficiaries as the same was in the nature of statutory expense. Hon'ble Commission vide order dated 05.11.2018 disposed of the said petition and directed as follows :

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

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

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

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

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

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

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

- 13) The Hon'ble Commission has prescribed boiler efficiency and turbine heat rate separately for deriving the unit heat rate where the Unit Heat Rate is not guaranteed by the suppliers. It is submitted that the instant station was envisaged during the period 2004-09 and equipments including SG and TG specifications for tendering / award was stipulated considering the boiler efficiency and the turbine heat rate prescribed by the Hon'ble Commission in the Tariff Regulations at that time. Based on the same the equipments were ordered through competitive bidding. It was not possible for the petitioner to specify the efficiency parameters at the time of finalizing the contracts on the instant station as per the efficiency parameters specified in subsequent Tariff Regulations which were more stringent. .

In a similar case, Hon'ble Commission in its order dated 20.02.2014 in Petition No. 160/GT/2012 has considered the design parameters for computing Gross Heat Rate of the station with appropriate operating margin and has stated as under:

"161. As per the guaranteed turbine cycle heat rate of 1945 kCal/kWh and boiler efficiency of 88.5% along with the deviation of 6.5 % as per the 2009 Tariff Regulations, the Gross Heat Rate works out to 2340.59 kcal/kWh. Without the margin of Auxiliary consumption of 6.5%, the Gross Heat Rate works out as 2197.74 kcal/kWh. In light of this, achieving a GSHR of 2220 kcal/kWh as per submission of the respondents 1 to 6 is not possible. Also, the EPC contract was finalized in 2006 and there was no possibility for the petitioner to specify the Station Heat Rate as per the 2009 Tariff Regulations. In view of above, we consider a GSHR of 2340.59 kCal/kWh based on guaranteed turbine cycle heat rate 1945 kCal/kWh and boiler efficiency of 88.5% with a deviation of 6.5 % from the guaranteed design value."

Further, if the Petitioner had stipulated more stringent unit heat rate this would have increased the capital cost commensurate to the efficiency parameters sought. The benefit of the lower capital cost due to lower efficiency parameters has already been passed onto the beneficiaries in terms of lower capital cost. If now the boiler efficiency for working out the normative heat rate is considered as 86% instead of the actual design efficiency of 83.39% the unit heat rate would be worked out to be 2373.98 kcal/kwh and the operating margin available over the design heat rate would be 1.814% only which is much less than the operating margin of 5% allowed in the Tariff Regulations 2019. Moreover, it is submitted that boiler efficiency is largely a function of coal quality. In view of above submissions it is prayed that Gross Station Heat rate may be allowed based on guaranteed turbine cycle heat rate of 1944.4 and boiler efficiency of 83.39 with operating margin of 5% from the guaranteed design value. The tariff computation attached at Appendix-I is based on considering Station Heat Rate as per design heat rate with applicable operating margin of 5%.

- 14) The Petitioner has already paid the requisite filing fee vide UTR No. CMS1106438370 on 22.04.2019 for the year 2019-20 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dtd. 25.04.2019. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 70 (1) of Tariff Regulations 2019 provides that the application fee and publication expenses may be allowed to be recovered directly from the beneficiaries at the discretion of the Hon'ble Commission. Accordingly, it is prayed that Hon'ble Commission may be pleased to allow recover filing fee and publication fee directly from the beneficiaries.
- 15) 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.
- 16) The Petitioner has served a copy of the Petition to the Respondents mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in

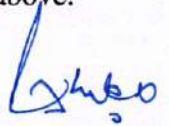
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- 17) The petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.3.2014 through true-up exercise 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, prays that the Hon'ble Commission may be pleased to:

- i) Approve tariff of Farakka-III for the tariff period 01.04.2019 to 31.03.2024.
- ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.
- iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis.
- iv) Consider station heat rate based on design heat rate with applicable operating margin.
- v) Pass any other order as it may deem fit in the circumstances mentioned above.



Petitioner

Place: New Delhi

Date: 28.01.2020

BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

PETITION NO.....

IN THE MATTER OF : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-V of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for approval of tariff of **Farakka STPS Stage-III (1x500MW) 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 West Bengal State Electricity Distribution Company Limited
Vidyut Bhawan, Block-DJ,
Sector-II, Salt Lake City
Kolkata – 700 091

.....and others



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Affidavit

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

1. That I am the Addl. General Manager (Commercial) in Petitioner Corporation NTPC Ltd. and am well conversant with the facts of the case and am competent to swear the present affidavit.
2. That I have read the contents of the accompanying Petition being filed by NTPC and have understood the same.
3. That the contents of the accompanying Petition being filed by NTPC are based on information available with the Petitioner in the normal course of business and believed by the deponent to be true.

Deponent

Verification

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

Verified at New Delhi on this day 28th January 2020.

Deponent



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

Notary Public, DELHI

28 JAN 2020

TARIFF FILING FORMS (THERMAL)

FOR DETERMINATION OF TARIFF

FOR

Farakka Super Thermal power Station Stage-III

(From 01.04.2019 to 31.03.2024)

PART-I

APPENDIX-I

Checklist of Main Tariff Forms and other information for tariff filing for Thermal Stations		
Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM- 1	Summary of Tariff	✓
FORM -1 (I)	Statement showing claimed capital cost	✓
FORM -1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Special Allowance	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	✓
FORM- 12	Statement of Depreciation	✓
FORM- 13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A	Details of Secondary Fuel for Computation of Energy Charges	✓
FORM- 15B	Computation of Energy Charges	✓
FORM- 16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	***
FORM- 18	Non-Tariff Income	***
FORM-19	Details of Water Charges	***
FORM-20	Details of Statutory Charges	***
## Provided yearwise for the period 2019-24		
**Additional Form		
*** shall be provided at the time of true-up		
List of Supporting Forms / documents for tariff filing for Thermal Stations		PART-I
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	
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	✓
*** Shall be provided at the time of true up		

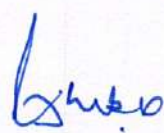
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List of supporting documents for tariff filing for Thermal Stations

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

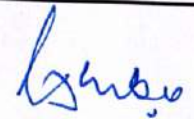
*** Shall be provided at the time of True-up of petition.

Summary of Tariff

Name of the Petitioner: NTPC Limited
 Name of the Generating Station: Farakka Super Thermal power Station Stage-III
 Place (Region/District/State): Eastern Region/ Murshidabad/ West Bengal

S. No.	Particulars	Unit	Amount in Rs. Lakhs					
			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	14,558.29	13,869.56	14,564.98	15,380.45	15,637.48	15,661.48
1.2	Interest on Loan	Rs Lakh	8,690.30	7,788.87	7,406.01	7,083.77	6,069.53	4,764.65
1.3	Return on Equity	Rs Lakh	15,932.16	15,317.41	16,085.43	16,986.03	17,269.88	17,296.39
1.4	Interest on Working Capital	Rs Lakh	5,596.14	4,095.84	4,138.14	4,183.98	4,202.72	4,208.18
1.5	O&M Expenses	Rs Lakh	11,407.72	13533.97	14012.23	14511.33	15031.66	15568.66
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	56184.61	54605.65	56206.78	58145.56	58211.27	57499.37
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid)	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.2	Landed Fuel Cost Imported Coal as per FSA approved by beneficiaries	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.4	Landed Fuel Cost Imported Coal	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.5	Secondary fuel oil cost	Rs/Unit						
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit						



(Petitioner)

Name of the Petitioner: NTPC Limited

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

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

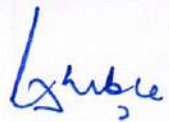
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	269,631.43	274,059.59	296,892.21	306,026.44	306,967.55
2	Add: Addition during the year/period	4,428.16	22,832.62	9,134.23	941.11	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	274,059.59	296,892.21	306,026.44	306,967.55	306,967.55
7	Average Capital Cost	271,845.51	285,475.90	301,459.33	306,497.00	306,967.55

Statement showing claimed capital cost eligible for RoE at normal rate (A)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	269631.43	274059.59	296892.21	306026.44	306967.55
2	Add: Addition during the year / period	4428.16	22832.62	9134.23	941.11	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	274059.59	296892.21	306026.44	306967.55	306967.55
7	Average Capital Cost	271845.51	285475.90	301459.33	306497.00	306967.55

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

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



(Petitioner)

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PART-I
FORM- 1(IIA)

Name of the Petitioner: NTPC Limited

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

Statement showing Return on Equity at Normal Rate

		Amount in Rs. Lakhs				
S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	80,889.43	82,217.88	89,067.66	91,807.93	92090.266
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	80,889.43	82,217.88	89,067.66	91,807.93	92,090.27
5	Add: Increase in equity due to addition during the year / period	1328.45	6849.79	2740.27	282.33	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)	82,217.88	89,067.66	91,807.93	92,090.27	92,090.27
11	Average Equity (Normal)	81,553.65	85,642.77	90,437.80	91,949.10	92,090.27
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	15,317.41	16,085.43	16,986.03	17,269.88	17,296.39

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(Petitioner)

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PART-I
FORM- 1(IIB)

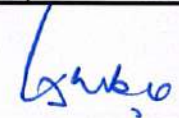
Name of the Petitioner: NTPC Limited

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

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
Return on Equity (beyond the original scope of work excluding additional capitalization due to Change in Law)						
1	Gross Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	0.00	0.00	0.00	0.00	0.00
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	0.00	0.00	0.00	0.00	0.00
11	Average Equity (Normal)	0.00	0.00	0.00	0.00	0.00
12	Rate of ROE (%)	10.268	10.286	10.285	10.290	10.281
13	Total ROE	0.00	0.00	0.00	0.00	0.00



(Petitioner)

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Plant Characteristics

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
Unit(s)/Block(s)/Parameters	Unit-1
Installed Capacity (MW)	500
Schedule COD as per Investment Approval	NA
Actual COD /Date of Taken Over (as applicable)	04-04-12
Pit Head or Non Pit Head	Non Pit Head
Name of the Boiler Manufacture	BHEL
Name of Turbine Generator Manufacture	BHEL
Main Steams Pressure at Turbine inlet (kg/Cm ²) abs ¹ .	175.6
Main Steam Temperature at Turbine inlet (°C) ¹	537
Reheat Steam Pressure at Turbine inlet (kg/Cm ²) ¹	41.8
Reheat Steam Temperature at Turbine inlet (°C) ¹	537
Main Steam flow at Turbine inlet under MCR condition (tons /hr) ²	1499
Main Steam flow at Turbine inlet under VWO condition (tons /hr) ²	1588
Unit Gross electrical output under MCR /Rated condition (MW) ²	500
Unit Gross electrical output under VWO condition (MW) ²	524.9
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) ³	1944.4
Conditions on which design turbine cycle heat rate guaranteed(kcal/kwhr)	
% MCR	100% TMCR
% Makeup Water Consumption	
Design Capacity of Make up Water System(% of throttle steam flow)	2700 m3/hr
Design Capacity of Inlet Cooling System	2X30000 m3/hr
Design Cooling Water Temperature (°C)	33
Back Pressure(Average condenser pressure in mmHg(A))	77mm of Hg
Steam flow at super heater outlet under BMCR condition (tons/hr)	1625
Steam Pressure at super heater outlet under BMCR condition (kg/Cm ²)	178
Steam Temperature at super heater outlet under BMCR condition (°C)	540
Steam Temperature at Reheater outlet at BMCR condition (°C)	540
Design / Guaranteed Boiler Efficiency (%) ⁴	83.39%
Design Fuel with and without Blending of domestic/imported coal	540
Type of Cooling Tower	IDCT
Type of cooling system ⁵	CLOSED
Type of Boiler Feed Pump ⁶	TDBFP
Fuel Details ⁷	
-Primary Fuel	Coal
-Secondary Fuel	HFO
-Alternate Fuels	
Special Features/Site Specific Features ⁸	
Special Technological Features ⁹	
Environmental Regulation related features ¹⁰	1.ESP is provided 2.FGD under implementation
Any other special features	
1: At Turbine MCR condition.	
2: with 0% (Nil) make up and design Cooling water temperature	
3: at TMCR output based on gross generation, 0% (Nil) makeup and design Cooling water temperature.	
4: With Performance coal based on Higher Heating Value (HHV) of fuel and at BMCR) out put	
5: Closed circuit cooling, once through cooling, sea cooling, natural draft cooling, induced draft cooling etc.	
6: Motor driven, Steam turbine driven etc.	
7: Coal or natural gas or Naptha or lignite etc.	
8: Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features	
9: Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.	
10: Environmental Regulation related features like FGD, ESP etc.,	

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Normative parameters considered for tariff computations

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

(Year Ending March)

Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity \$\$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization** \$\$	%	-	8.473	8.489	8.488	8.491	8.484
Effective Tax Rate	%	21.5488	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00				
In High Demand Season	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
In Low Demand Season(Off-Peak)	%	-	-	85.00	85.00	85.00	85.00
Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Off-Peak Hours	%	-	-	85.00	85.00	85.00	85.00
Auxiliary Energy Consumption	%	5.75	6.25	6.25	6.25	6.25	6.25
Gross Station Heat Rate	kCal/kWh	2436.62	2448.28	2448.28	2448.28	2448.28	2448.28
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50	0.50
Cost of Coal/Lignite for WC1	in Days	45	50	50	50	50	50
Cost of Main Secondary Fuel Oil for WC1	in Months	2	2	2	2	2	2
Fuel Cost for WC2	in Months						
Liquid Fuel Stock for WC2	in Months						
O&M Expenses	Rs lakh/MW	18.39	22.51	23.3	24.12	24.97	25.84
Maintenance Spares for WC	% of O&M	20.00	20.00	20.00	20.00	20.00	20.00
Receivables for WC	in Days	60	45	45	45	45	45
Storage capacity of Primary fuel	MT	0			279520		
SBI 1 Year MCLR plus 350 basis point3	%	13.50	12.05	12.05	12.05	12.05	12.05
Blending ratio of domestic coal/imported coal							

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

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

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Petitioner

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Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

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

Amount in Rs. Lakhs

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	7	8
1	O&M expenses under Reg.35(1)					
1a	Normative	11255.00	11650.00	12060.00	12485.00	12920.00
2	O&M expenses under Reg.35(6)					
2a	Water Charges*	1065.63	1065.63	1065.63	1065.63	1065.63
2b	Security expenses *	1213.34	1296.60	1385.70	1481.03	1583.03
2c	Capital Spares**	0.00	0.00	0.00	0.00	0.00
3	O&M expenses-Ash Transportation	0.00	0.00	0.00	0.00	0.00
	Total O&M Expenses	13533.97	14012.23	14511.33	15031.66	15568.66

** Shall be provided at the time of truing up

*Subject to true-up



Petitioner

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Abstract of Admitted Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Farakka Super Thermal power Station Stage-III	
Last date of order of Commission for the project	Date (DD-MM-YYYY)	03-03-17
Reference of petition no. in which the above order was passed	Petition no.	280/GT/2014
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:		
Capital cost	(Rs. in lakh)	261047
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		2082
Gross Normative Debt		182733
Cumulative Repayment		87170
Net Normative Debt		95563
Normative Equity		78314
Cumulative Depreciation		87680
Freehold land		0

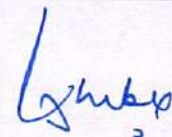


(Petitioner)

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Abstract of Claimed Capital Cost for the existing Projects

Name of the Company :	NTPC Limited	
Name of the Power Station :	Farakka Super Thermal power Station Stage-III	
Reference of Final True-up Tariff Petition	Affidavit dated	15-Jan-2020
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 03-03-2017 In Pet. No. 280/GT/2014.	Rs. Lakhs	261047
Adjustment as per Para 7 of this petition		8584
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.2019	(Rs. in lakh)	269631
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		2082
Gross Normative Debt		188742
Cumulative Repayment		91436
Net Normative Debt		97306
Normative Equity		80889
Cumulative Depreciation		92181
Freehold land		0



(Petitioner)



Statement Giving Details of Project Financed through a Combination of loan		
Form 8		
TRANCHE NO		
BP NO 5050000442	T00001	D00024
Unsecured Loan From SBI-VIII		
Source of Loan :	SBI-VIII	
Currency :	INR	
Amount of Loan :	100,000,000,000	
Total Drawn amount :	11,500,000,000	
Date of Drawl	14.02.2017	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	D00024-8.25%	
Loan Refinancing Spread	0.2% (OBC), 0.53%(PSB-I)	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	6 Years	
Moratorium effective from :	14.02.2017	
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	3,000,000,000
	BONGAIGAON	342,857,142
	FARAKKA III	142,857,141
	GADARWARA	2,500,000,000
	KOLDAM	928,571,427
	KORBA-III	28,571,428
	KUDGI	1,000,000,000
	MOUDA-I	407,142,856
	NCTPP-II	157,142,855
	NORTH KARANPURA	1,000,000,000
	RIHAND-III	321,428,570
	SIMHADRI-II	532,857,141
	SIPAT-I	214,285,711
	SIPAT-II	57,142,856
	TAPOVAN VISHNUGAD	500,000,000
	VINDHYACHAL IV	324,285,714
	PAKRI BARWADIH	42,857,159
Total Allocated Amount		11,500,000,000

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Statement Giving Details of Project Financed through a Combination of loan		
Form 8		
TRANCHE NO		
BP NO 50500000461	T00001	D000
Unsecured Loan From ICICI-V		
Source of Loan :	ICICI-V	
Currency :	INR	
Amount of Loan :	30,000,000,000	
Total Drawn amount :	28,000,000,000	
Date of Drawal	20.12.2016	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	D00001 -8.80%	
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 :	20.12.2016	
Repayment Period (Inc Moratorium) :	12 years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	20.12.2020	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SINGRAULI 8MW HYDR	87,500,000.00
	BARH-I	285,714,290.00
	BARH-II	6,757,589,280.00
	BONGAIGAON	2,941,964,287.00
	FARAKKA III	114,285,716.00
	FARIDABAD SOLAR PV	87,500,000.00
	KOLDAM	3,525,000,000.00
	KUDGI	2,000,000,000.00
	LARA	2,281,250,000.00
	MOUDA-I	1,054,464,284.00
	MOUDA-II	500,000,000.00
	NCTPP-II	142,857,139.00
	NORTH KARANPURA	500,000,000.00
	PAKRI BARWADIH CMB	525,000,000.00
	RAJGARH SOLAR	131,250,000.00
	RIHAND-III	1,228,571,426.00
	SIMHADRI-II	232,142,855.00
	SINGRAULI SOLAR	87,500,000.00
	SIPAT-I	234,375,000.00
	SIPAT-II	1,010,714,287.00
	TAPOVAN VISHNUGAD	656,250,000.00
	VINDHYACHAL-IV	2,450,000,000.00
	VINDHYACHAL-V	1,000,000,000.00
	GANDHAR R&M	166,071,436.00
	Total Allocated Amount	28,000,000,000.00

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Statement Giving Details of Project Financed through a Combination of loan		
Form 8		
TRANCHE NO		
BP NO 5050000721	T00001	D00001
Unsecured Loan From Corporation Bank-IV		
Source of Loan :	Corporation Bank-IV	
Currency :	INR	
Amount of Loan :	20,000,000,000	
Total Drawn amount :	20,000,000,000	
Date of Drawal:	11.01.2019	
Interest Type :	Floating	
Fixed Interest Rate :	8.25%	
Loan Refinancing Spread	0.13%	
Base Rate, If Floating Interest	-	
Margin, If Floating Interest :	-	
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 :	11.01.2019	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	11-Jan-23	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SINGRAULI 8MW HYDR	87,500,000
	FARIDABAD SOLAR PV	87,500,000
	SINGRAULI SOLAR	87,500,000
	FARAKKA III	114,285,716
	RAJGARH SOLAR	131,250,000
	NCTPP-II	142,857,139
	GANDHAR R&M	166,071,436
	SIMHADRI-II	232,142,855
	SIPAT-I	234,375,000
	MOUDA-II	500,000,000
	VINDHYACHAL-V	1,000,000,000
	SIPAT-II	1,010,714,287
	MOUDA-I	1,054,464,284
	RIHAND-III	1,228,571,426
	VINDHYACHAL-IV	2,450,000,000
	KOLDAM	2,715,178,577
	BARH-II	6,757,589,280
	KUDGI	2,000,000,000
Total Allocated Amount		20,000,000,000

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Statement Giving Details of Project Financed through a Combination of loan Form 8		
TRANCHE NO		
BP NO 5050000711	T00001	D00001
Unsecured Loan From Punjab National Bank-III		
Source of Loan :	Punjab National Bank-III	
Currency :	INR	
Amount of Loan :	20,000,000,000	
Total Drawn amount :	20,000,000,000	
Date of Drawl	01.01.2019	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.30%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	MONTHLY	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	3 Years	
Moratorium effective from :	01.01.2019	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	01.02.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	UNCHAHAR STPP IV	650,000,000.00
	TANDA-II	850,000,000.00
	NCTPP-II	364,300,000.00
	DADRI GAS R&M	560,000,000.00
	KORBA-III	150,000,000.00
	SIPAT-II	171,400,000.00
	FARAKKA-III	85,700,000.00
	KAHALGAON-II	171,400,000.00
	BARH-I	1,085,700,000.00
	BARH-II	80,000,000.00
	NORTH KARANPURA	1,090,000,000.00
	KOLDAM	64,300,000.00
	TAPOVAN VISHNUGAD	285,700,000.00
	PAKRI BARWADIH	1,420,000,000.00
	CHATTI BARIATU	100,000,000.00
	BONGAIGAON	364,300,000.00
	KUDGI	600,000,000.00
	LARA	1,230,000,000.00
	GADARWARA	2,277,200,000.00
	DARLIPALLI	2,730,000,000.00
	KHARGONE	500,000,000.00
	ANANTPUR SOLAR	170,000,000.00
	TALAIPALI COAL MINE	5,000,000,000.00
Total Allocated Amount		20,000,000,000.00

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Statement Giving Details of Project Financed through a Combination of loan Form 8 TRANCHE NO BP NO 5050000741 T00001 D00002 Unsecured Loan From SBI-XII		
Source of Loan :	SBI-XII	
Currency :	INR	
Amount of Loan :	50,000,000,000	
Total Drawn amount :	26,350,000,000	
Date of Drawal:	18.02.2019	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	8.35%	
Loan Refinancing Spread	0.10%	
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 :	18.02.2019	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.03.2026	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	900,000,000.00
	FARAKKA-III	245,000,000.00
	GADARWARA	900,000,000.00
	KORBA-III	250,000,000.00
	LARA	1,000,000,000.00
	MOUDA-I	210,000,000.00
	MOUDA-II	2,250,000,000.00
	NCTPP-II	635,000,000.00
	NORTH KARANPURA	10,400,000,000.00
	PAKRI BARWADIH CMB	1,200,000,000.00
	SIMHADRI-II	210,000,000.00
	SOLAPUR	2,400,000,000.00
	TELANGANA	750,000,000.00
	KUDGI	2,000,000,000.00
	BARH-I	500,000,000.00
	NORTH KARANPURA	800,000,000
	TAPOVAN VISHNUGARH	200,000,000
	TELANGANA	1,500,000,000
	Total Allocated Amount	26,350,000,000.00

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Statement Giving Details of Project Financed through a Combination of loan		
Form 8		
TRANCHE NO		
BP NO 5050000261	T00001	D00006
Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	100,000,000,000	
Total Drawn amount :	5,000,000,000	
Date of Drawl	28.09.2012	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	D00006-8.25%	
Margin, If Floating Interest :	D00006=	
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 :	28.09.2012	
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	450,000,000
	SIMHADRI-II	500,000,000
	VINDHYACHAL-IV	300,000,000
	SIPAT-I	750,000,000
	BARH-I	150,000,000
	MOUDA-I	200,000,000
	RIHAND III	200,000,000
	KUDGI-I	400,000,000
	MOUDA-II	500,000,000
	FARAKKA-III	150,000,000
	GANDHAR-R&M	400,000,000
	BONGAIGAON	1,000,000,000
Total Allocated Amount		5,000,000,000.00

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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 :	100,000,000,000	
Total Drawn amount :	5,000,000,000	
Date of Drawl	11.03.2013	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	D00008-8.25%	
Margin, If Floating Interest :	D00008=	
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 :	11.03.2013	
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	350,000,000
	SOLAPUR	300,000,000
	VINDHYACHAL-V	380,000,000
	TAPOVAN	180,000,000
	BARH-I	570,000,000
	MOUDA-II	260,000,000
	RIHAND III	320,000,000
	KUDGI-I	380,000,000
	DADRI SOLAR PV	190,000,000
	A&N SOLAR PV	200,000,000
	LARA-I	200,000,000
	BONGAIGAON	340,000,000
	FARAKKA-III	270,000,000
	SIMHADRI-II	200,000,000
	SINGRAULI-R&M	100,000,000
	TTPS-R&M	150,000,000
	KAWAS-R&M	150,000,000
	GANDHAR-R&M	80,000,000
	TSTPP-R&M	100,000,000
	RAMAGUNDAM-R&M	80,000,000
	BADARPUR-R&M	200,000,000
Total Allocated Amount		5,000,000,000.00

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Statement Giving Details of Project Financed through a Combination of loan Form 8 TRANCHE NO BP NO 5050000261 T00001 D00012 Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	100,000,000,000	
Total Drawn amount :	2,500,000,000	
Date of Drawl	22.07.2013	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	D00012-8.25%	
Margin, If Floating Interest :	D00012	
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 :	22.07.2013	
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	670,000,000
	FARAKKA-III	350,000,000
	SIMHADRI-II	200,000,000
	RAMAGUNDAM SOLAR	100,000,000
	FGUTPS R&M	140,000,000
	VSTPS R&M	280,000,000
	RAMAGUNDAM-R&M	180,000,000
	KORBA-R&M	170,000,000
	KAWAS-R&M	170,000,000
	BADARPUR-R&M	140,000,000
	TSTPP-R&M	100,000,000
Total Allocated Amount		2,500,000,000.00

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Form 8- Domestic Bonds- Details of Allocation of corporate loans to various projects during the FY 2019-24

Particulars	XXII 8.1771%	XXIII 8.3796%	XXX 7.89%	XXXII 8.8493%	XXXIV 8.71%	XXXVII 8.93%	XXXVIII 9.17%	XLII 9%	5d
Source of Loan ¹	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS
Currency ²	INR	INR	INR	INR	INR	INR	INR	INR	INR
Amount of Loan sanctioned	50000	50000	70000	10500	15000	30000	7500	50000	1030683
Interest Type ⁶	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if appli	8.1771%	8.3796%	7.890%	8.8493%	8.71%	8.93%	9.17%	9.00%	8.49%
Base Rate, if Floating Interest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Margin, if Floating Interest ⁸	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Are there any Caps/Floor ⁹	No	No	No	No	No	No	No	No	No
If above is yes,specify caps/floor									N/A
Moratorium Period ¹⁰	4.5 yrs *	4.5 yrs *	10 yrs	6 yrs *	6 yrs	10 yrs *	6 yrs	10 yrs.	8
Moratorium effective from	02.01.07	05.02.07	05.05.09	25.03.2010	10.06.2010	19.01.2011	22.03.11	25.01.2012	25-03-15
Repayment Period ¹¹	9.5 yrs	9.5 yrs	Bullet Repayment	15 yrs	14 yrs	Bullet Repayment	14 yrs	5 yrs	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025
Repayment effective from	02.07.11	05.08.11	05.05.19	25.03.2016	10.06.16	19.01.2021	22.03.2017	25.01.2023	25-03-23
Repayment Frequency ¹²	Half Yearly	Half Yearly	Bullet Repayment	Yearly	Yearly	Bullet Repayment	Yearly	Yearly	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025
Repayment Instalment ^{13,14}	2500	2500	70000	700	1000	30000	500	10000	Installments 1st - 206,136.61 2nd - 412,273.22 3rd - 412,273.22
Base Exchange Rate ¹⁶									N/A
Door to Door Maturity	14 yrs	14 yrs	10 yrs	20 yrs	20 yrs	10 yrs	20 yrs	15 yrs.	10
Name of the Projects									
Anantpur Solar	-	-	-	-	-	-	-	-	5,600
ANTA	-	-	-	-	-	-	-	-	-
AURAIYA	-	-	-	-	-	-	-	-	-
Auraiya R & M	-	-	-	-	-	-	-	-	-
Badarpur R&M	-	-	-	-	-	-	-	-	2,300
BARH I	5,000	8,200	-	2,500	5,300	9,000	700	8,400	74,883
BARH II	-	-	12,500	-	-	-	-	2,000	63,500
Bhadla Solar	-	-	-	-	-	-	-	-	-
BONGAIGAON	-	-	6,000	-	-	-	-	1,700	54,000
Chatti Bariatu CMB	-	-	-	-	-	-	-	-	8,100
Dadri Gas R & M	-	-	-	-	-	-	-	-	600
DADRI GAS	-	-	-	-	-	-	-	-	-
DARLIPALLI	-	-	-	-	-	-	-	-	49,200
Dulanga CMB	-	-	-	-	-	-	-	-	-
FARAKKA II	-	-	-	-	-	-	-	-	-
FARAKKA III	700	1,400	5,000	1,000	1,200	3,000	100	7,000	10,900
Farakka R & M	-	-	-	-	-	-	-	-	2,000
FARIDABAD	-	-	-	-	-	-	-	-	-
GADARWARA	-	-	-	-	-	-	-	-	81,000
GANDHAR	-	-	-	-	-	-	-	-	-
Gandhar R & M	-	-	-	-	-	-	-	-	4,300
Kahalgaon II Phase I	-	1,800	-	-	-	-	-	-	-
Kahalgaon II Phase II	-	-	-	-	-	-	-	-	1,800
Khstpp R & M	-	-	-	-	-	-	-	-	2,000
KAWAS	-	-	-	-	-	-	-	-	-
Kawas R & M	-	-	-	-	-	-	-	-	1,400
Khargone	-	-	-	-	-	-	-	-	45,000
KOLDAM	10,500	1,700	3,000	7,000	3,900	6,000	700	7,500	25,100
KORBA III	1,000	1,200	5,000	-	-	-	1,500	-	9,200
Korba R & M	-	-	-	-	-	-	-	-	4,400
Kudgi	-	-	-	-	-	-	-	-	123,300
LARA I	-	-	-	-	-	-	-	-	53,300
Lata Tapovan	-	-	-	-	-	-	-	-	1,600
LOHARINAGPALA	-	-	-	-	-	-	-	-	-
Mauda	-	-	3,500	-	-	-	-	2,400	21,900
Mauda II	-	-	-	-	-	-	-	-	45,800
Mandsaur Solar	-	-	-	-	-	-	-	-	-
NCTPP	-	-	-	-	-	-	-	-	-
NCTPP II	500	-	20,000	-	500	-	3,300	-	11,000
NCTPP R & M	-	-	-	-	-	-	-	-	3,700
NORTH KARANPURA	-	-	-	-	-	-	-	-	12,400

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Exhibit

Pakri Barwadih CMB	-	-	-	-	-	-	-	-	-	26,600
Ramagundam I & II R & M	-	-	-	-	-	-	-	-	-	2,400
RAMAGUNDAM III	-	-	-	-	-	-	-	-	-	-
Rammam	-	-	-	-	-	-	-	-	-	3,100
RIHAND II	-	-	-	-	-	-	-	-	-	-
RIHAND III	-	-	-	-	-	-	600	800	-	28,300
Rihand R & M	-	-	-	-	-	-	-	-	-	2,500
SIMHADRI	-	-	-	-	-	-	-	-	-	-
Simhadari II	-	-	15,000	-	-	-	-	-	3,800	26,800
Simhadari R & M	-	-	-	-	-	-	-	-	-	900
Vidhyachal Hydro**	-	-	-	-	-	-	-	-	-	1,900
Singrauli R & M	-	-	-	-	-	-	-	-	-	1,600
Vindhyachal Solar**	-	-	-	-	-	-	-	-	-	4,800
SIPAT I	23,600	20,900	-	-	3,700	12,000	-	300	14,500	20,500
SIPAT II	4,200	6,800	-	-	-	-	-	-	-	-
SOLAPUR	-	-	-	-	-	-	-	-	-	70,300
TALCHER I	-	-	-	-	-	-	-	-	-	-
TALCHER II	-	-	-	-	-	-	-	-	-	12,000
Tanda II	-	-	-	-	-	-	-	-	-	9,000
Tanda R & M	-	-	-	-	-	-	-	-	-	-
Tapovan Vishnugad	2,000	100	-	-	400	-	-	300	1,500	26,400
Telangana	-	-	-	-	-	-	-	-	-	-
TSTPP R & M	-	-	-	-	-	-	-	-	-	1,600
TTPS R & M	-	-	-	-	-	-	-	-	-	1,000
Unchahar R & M	-	-	-	-	-	-	-	-	-	3,400
Unchahar IV	-	-	-	-	-	-	-	-	-	17,400
UNCHAHAR II	-	-	-	-	-	-	-	-	-	-
Unchahar III	1,000	200	-	-	-	-	-	-	-	-
VINDHYACHAL II	-	-	-	-	-	-	-	-	-	-
Vindhyachal III	1,500	7,700	-	-	-	-	-	-	-	-
Vindhyachal IV	-	-	-	-	-	-	-	400	-	17,200
Vindhyachal V	-	-	-	-	-	-	-	-	-	33,500
Vindhyachal R & M	-	-	-	-	-	-	-	-	-	1,200
DADRI SOLAR	-	-	-	-	-	-	-	-	-	-
A&N SOLAR	-	-	-	-	-	-	-	-	-	-
RAMAGUNDAM SOLAR	-	-	-	-	-	-	-	-	-	-
TALCHER SOLAR	-	-	-	-	-	-	-	-	-	-
UNCHAHAR SOLAR	-	-	-	-	-	-	-	-	-	-
FARIDABAD SOLAR	-	-	-	-	-	-	-	-	-	-
RAJGARH SOLAR	-	-	-	-	-	-	-	-	-	-
Talalpali Coal Mine	-	-	-	-	-	-	-	-	-	-
CC	-	-	-	-	-	-	-	-	-	-
TOTAL	50,000	50,000	70,000	10,500	15,000	30,000	7,500	50,000	1,030,683	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2019-24 (Summary)

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)					Regulations under which claimed	Admitted Cost by the Commission, if any
		2019-20	2020-21	2021-22	2022-23	2023-24		
1	2	3	4	5	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	MALANCHA ASH DYKE LAGOON II	923.00	102				25 (1) (g) & 25 (1) (c)	
2	MALANCHA ASH DYKE LAGOON-I	726.79	553.21				25 (1) (g) & 25 (1) (c)	
3	STP AT TOWNSHIP	300.00	921.15				26(1)(b)	
4	ONLINE COAL ANALYSER	1,928.37					26(1)(b)	
6	SUBMERSIBLE PUMP PACAKGE	550.00	2500	4341.21	523.87		26(1)(b) & 26(1)(c)	
8	CLO2 SYSTEM		1123.56	1,021.40			26 (1) (b) & 26 (1)(d)	
9	CONSTRUCTION OF TWO LANE BRIDGE		7001				25(1)(e) with Reg.76	
10	TOE DRAIN WATER RECIRCULATION SYSTEM		4131.7	1,377.23			26(1) (b)	
11	ASH WATER RECIRCULATION		6500	1,500.00	417.24		26(1) (b)	
12	N2 SPARGING			894.39			26(1) with Reg.76	
	Total (A)	4,428.16	22,832.62	9,134.23	941.11	-		
B. Works beyond Original scope exluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
		-						
		-						
	Total (B)	-	-	-	-			
	Total Add. Cap. Claimed (A+B)	4,428.16	22,832.62	9,134.23	941.11			

[Signature]
(Petitioner)

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Year wise Statement of Additional Capitalisation after COD

PART-3
FORM-9

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2019-20

Sl. No.	Head of Work/ Equipment	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Amount in Rs. Lakh	
		Accrual basis as per RGAAP	Un-discharged Liability included in col. 3	Cash basis	IFC included in col. 3			Admitted	Cost by the Commission, if any
1	2	3	4	5	6	7	8	9	
A. Works under Original scope, Change in Law etc. eligible for Roll at Normal Rate									
1	MALANCHA ASH DYKE LAGOON II	923.00	0	923.00		25 (1) (g) & 25 (1) (c)	The said amount has been projected against the Ash Dyke raising and associated work within the original scope of work required for sustainable operation through out the operating life of the plant. The Hon'ble Commission may be pleased to allow the capitalization of for ash dyke work under Regulation 25 (1) (g) (Raising of Ash Dyke work as a part of ash disposal system) & 25 (1) (c) (Deferred work relating to Ash pond or ash handling system) of Tariff Regulation 2019		
2	MALANCHA ASH DYKE LAGOON-I	726.79		726.79		25 (1) (g) & 25 (1) (c)			
3	STP AT TOWNSHIP	300		300.00		26(1)(b)	As per Gazette notification (Copy Attached at Annexure-A) by Ministry of Water Resources, River Development, and Ganga Rejuvenation dated 7th October, 2016 of clause 6(2) " No person shall discharge, directly or indirectly, any untreated or treated trade effluent and industrial waste, Bio medical waste or other hazardous substances into the River Ganga or its tributaries or on their banks". Accordingly, Ash water circulation sytem for ashdyke, Toe drain water circulation and STP is being installed to comply the statutory direction. The Hon'ble commision may be please to allow the same unde change in law.		
4	ONLINE COAL ANALYSER	1928.37		1,928.37		26(1)(b)	Vide OM dated 26.08.2015 (copy attached at Annexure B), MOEF had mandated all coal based thermal power plants with installed capacity of 100 MW and above located at a distance of 500 kms and above from coal source for sampling and analysis of coal and reporting of compliance in respect of use and supply of raw or blended coal with ash content not exceeding 34% as content in coal. It is also directed that real time monitoring using auto mechanical sampling (online) from moving stream of coal to be used for sampling fuels. Further, it is submitted that Govt. of India has approved flexible utilization of domestic coal amongst power generating stations of single company and/or from other gencos as per the methodology prescribed by GoI. Accordingly, the instant station is sourcing coal from linked mines of other generating stations of the petitioner which are located at distance of more than 500 Kms. Also, in case of coal supply constrain from linked mine, Petitioner may have to procure e-auction coal or coal from other sources including MoU route, imported coal etc. and the same could be sourced from different locations located at a distance of 500 kms and more from the instant station. Accordingly online coal analyser is being installed to meet the statutory direction. Hon'ble Commission may be pleased to allow the same under change in law.		
5	SUBMERSIBLE PUMP PACAKGE	550		550.00		26(1)(b) & 26(1)(c)	As per Implementation of water sharing treaty between India and Bangladesh in 1996, 35000 Cusec of water is guaranteed to each side on 10 days roster basis from 1st March to 10th May every year. In case of scanty rainfall in the catchment area Ganga Feeder Canal water supply affected during the roster period of 10 day, during which guaranteed supply to Bangladesh is released, water level goes down from drawl point of existing intake structure and entire plant has to be shut down due to non-availability of water level at drawl point in Farakka feeder. Therefore, when Farakka Stage-III was envisaged then NTPC had also envisaged for installation of lift pump to mitigate the problem by 2011-12 and same was allowed by CERC in tariff petition. However, lift pump could not be installed due to hydrological surprises (water ingress during piling). Also difficulty petition for seeking relaxation of target availability due to Force majeure event (shortage of water in feed canal) was not allowed due to non-installation of the lift pump scheme to mitigate the problem. Now, to address the substantial reduction in availability of water at drawl point in Farakka feeder canal during the lean monsoon years, it is envisaged to install the Barge mounted pumps (Horizontal or Submersible) / Submersible pumps (Floor mounted) of required capacity to meet the water requirement to ensure the availability of Plant. The Hon'ble commission may be please to allow the same under compliance of existing law.		
Total (A)		4,028.16		4,028.16					
B. Works beyond Original scope including add-on due to Change in Law eligible for Roll at 10% Average rate of Interest									
6									
7									
Total (B)									
Total Add. Cap. Claimed (A+B)		4,028.16		4,028.16					

(Signature)
(Petitioner)

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2020-21

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)		Regulations under which claimed	Justification	Amount in Rs Lakh
			Un-discharged Liability included in col. 3	Cash basis IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate							
1	MALANCHA ASH DYKE LAGOON II	102		102	25 (1) (g) & 25 (1) (c)	As per Form-9A (2019-20) SLNo. 1&2	
2	MALANCHA ASH DYKE LAGOON-I	553.21		553.21	25 (1) (g) & 25 (1) (c)		
3	CLO2 SYSTEM	1123.56		1123.56	26 (1) (b) & 26 (1)(d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of public at large. In the interest of public safety the chlorine dozing system is now being replaced by Chlorine Dioxide (ClO2) system, which is much safer and less hazardous than chlorine. In the proposed scheme ClO2 shall be produced on site by use of commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, at Kudgi NTPC project Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka has asked NTPC to replace highly hazardous gas chlorination system with ClO2 system. SPCB, Odisha while issuing consent to establish in case of Darlipalli Station has asked NTPC to explore the possibility of installing ClO2 system instead of Chlorine gas system (Relevant documents is attached at Annexure-C). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same.	
4	CONSTRUCTION OF TWO LANE BRIDGE	7001		7001	25(1) (c) with Regulation 76	Construction of Two lane Bridged is in the original scope of project and same has been allowed by the Hon'ble Commission vide tariff order dtd. 03.02.2017, considering two lane bridge over Ganga Feeder canal is necessary for smooth movement of traffic and is an approach bridge for employees/operating staff/agencies/person from township/ and would contribute to the efficient operation of Generating station, under Regulation 14 (1) in exercise of Power to relax Regulation 54 of tariff Regulations' 2014 during the 2016-17. Bridge is located on the land of Farakka Barrage and FFC is the National Waterways and comes under the jurisdiction of Inland Waterways Authority of India (IWAI). During the launching for construction of bridge (cantilever part) over feeder canal additional support foundation was felt necessary due to geological changes and was incorporated. Substantial amount of time was taken to get it approved from Farakka Barrage Project over which NTPC has no control. It is further submitted that the progress of the bridge construction is being frequently obstructed due to IR problems created by locals as the bridge is located outside the plant premises. The bridge is likely to be capitalized during the 2020-21. Keeping in view of the above for smooth operation of Generating Station the Hon'ble commission may be please to allow the same.	
5	TOE DRAIN WATER RECIRCULATION SYSTEM	4131.7		4131.7	26(1) (b)	As per Gazette notification by Ministry of Water Resources, River Development, and Ganga Rejuvenation dated 7th October, 2016 of clause 6(2) "Any untreated or treated trade effluent and industrial waste, Bio medical waste or other hazardous substances shall not be discharged, directly or indirectly into the River Ganga or its tributaries or on their banks". This work is envisaged for zero liquid discharge in River Ganga or its tributaries from the ASH dyke of Farakka STPS. The Hon'ble Commission may be please to allow the work under change in law.	
6	STP AT TOWNSHIP	921.15		921.15			
7	ASH WATER RECIRCULATION	6500		6500			
8	SUBMERSIBLE PUMP PACAKGE	2500		2500			
	Total (A)	22,832.62	-	22,832.62	-	As per Form-9A (2019-20) Sl.no. 5	
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest							
9							
10							
	Total (B)	-	-	-	-		
	Total Add. Cap. Claimed (A+B)	22,832.62	-	22,832.62	-		

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[Signature]
(Petitioner)

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2021-22

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh	
		Accrual basis as per IGAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3				Admitted Cost by the Commission, if any
1	2	3	4	5= (3-4)	6	7	8	9	
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate									
1	CLO2 SYSTEM	1021.4		1021.4		26 (1) (b) & 26 (1)(d)	As per Form-9 (2020-21) S.No.3		
2	N2 SPARGING	894.39		894.39		26(1) with Reg.76	Boilers, condensers and other steam/ water handling equipments are very sensitive to corrosion and fouling. Main fouling impurity causing corrosion is the dissolved oxygen which enter the water-steam cycle through the cycle make-up water or during the start-up after outages when the system is filled with DM water. At present the DM water is stored in the vented storage tanks exposed to air wherein CO2 and O2 gets absorbed into this water. When this water containing high concentrations O2 & CO2 enters the system causes stress corrosion, fatigue corrosion, pitting etc. leading to failures. Further, it causes pH swings decremental to pressure parts and forms oxides which precipitate and gets deposited in the system. Most of the adverse effects are visible in the long run. Due to temperature and pressure variations during start-ups and load variations these deposits gets dis-lodged and need lot of time to mechanically scavenging out of the system by way of continuous blowdown which is a waste of energy or through polishing units. By nitrogen sparging/ blanketing the storage tanks and other related systems ingress of O2 and Co2 could be avoided resulting in increased life of components, reduce failures, reduce start-up time. Moreover it would unplanned outages increasing the system stability and reliability. In view of various technological benefits the Hon'ble Commission may be please to allow the capitalization of the same.		
3	TOE DRAIN WATER RECIRCULATION SYSTEM	1377.23		1377.23		26(1) (b)	As per Form-9A (2020-21) S.No. 5-7		
4	ASH WATER RECIRCULATION	1500		1500					
5	SUBMERSIBLE PUMP PACAKGE	4341.21		4341.21		26(1)(b) & 26(1)(c)	As per Form-9A (2019-20) S.No. 5		
Total (A)		9,134.23	-	9,134.23	-				
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest									
6									
7									
8									
Total (B)		-	-	-	-				
Total Add. Cap. Claimed (A+B)		9,134.23	-	9,134.23	-				

(Petitioner)

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Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2022-23

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Actual / Projected)			Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
A. Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate								
1	ASH WATER RECIRCULATION	417.24		417.24		26(1) (b)	As per Form-9A (2020-21) Sl.no. 5-7	
2	SUBMERSIBLE PUMP PACAKGE	523.87		523.87		26(1)(b) & 26(1)(c)	As per Form-9A (2019-20) Sl.no. 5	
	Total (A)	941.11	-	941.11	-			
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)		941.11	-	941.11	-			



(Petitioner)

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39

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Farakka Super Thermal power Station Stage-III
COD	04-04-12
For Financial Year	2023-24

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)				Regulations under which claimed	Justification	Admitted Cost by the Commission, if any
		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	NA							
2								
3								
Total (A)		-	-	-	-			
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Wtd. Average rate of Interest								
1	NA							
2								
Total (B)		-	-	-	-			
Total Add. Cap. Claimed (A+B)		-	-	-	-			

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(Petitioner)

8

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Name of the Petitioner: NTPC Limited
 Name of the Generating Station: Farakka Super Thermal power Station Stage-III
 Date of Commercial Operation: 04-04-12

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

Amount capitalised in Work/ Equipment										
Financing Details	Add cap is proposed to be finance in Debt:Equity ratio of 70:30									
Loan-1										
Loan-2										
Loan-3 and so on										
Total Loan2										
Equity										
Internal Resources										
Others (Pl. specify)										
Total										

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(Petitioner)

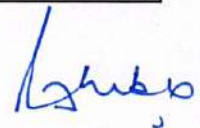
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Calculation of Depreciation

Name of the Company :		NTPC Limited		
Name of the Power Station :		Farakka Super Thermal power Station Stage-III		
(Amount in Rs Lakh)				
Sl.No.	Name of the Assets	Gross Block as on 31.04.2019 as on COD	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation Amount for each year up to 31.03.24
1	2	3	4	5= Col.3 X Col.4
1	Site Levelling	633.19	3.34	21.15
2	Approach Roads	2547.50	3.34	85.09
3	DRAINS	241.37	3.34	8.06
4	Stores Civil Works	320.70	3.34	10.71
5	Stores - Electrification	8.03	6.33	0.51
6	Construction Power Supply	538.69	5.28	28.44
7	Misc Civil Works-M.Plant	113.49	3.34	3.79
8	Chimney	3216.04	5.28	169.81
10	Drainage System	164.37	3.34	5.49
11	Electrification work of 48 nos D-II type	152.25	6.33	9.64
12	DPS Building Extension	474.54	3.34	15.85
13	395 CAR GARRAGE -ELECTRIFICATION	6.40	6.63	0.42
14	CONSTRUC OF SWIMMING POOL	157.45	3.34	5.26
15	CONSTRUC OF SWIMMING POOL-elect	15.40	6.63	1.02
16	CONSTRUC OF INDOOR STADIUM	427.19	3.34	14.27
17	CONSTRUC OF INDOOR STADIUM- elect	32.41	6.63	2.15
18	CONSTR OF HOSPITAL AT FHC CIVIL	879.94	3.34	29.39
19	Hospital-internal Elect	55.08	6.33	3.49
20	Const of indoor Badmin Court & Gymnasium	105.38	3.34	3.52
21	Construction of Community Centre at FHC	361.64	3.34	12.08
22	Community Centre at FHC-Inter Elect	14.70	6.33	0.93
23	SG & TG	169013.17	5.28	8923.90
24	MAIN PLANT CIVIL WORKS PKG	26665.76	3.34	890.64
25	Condensate Polishing Plant	1092.56	5.28	57.69
26	Control & Instrumentation	3026.83	5.28	159.82
27	INSTRUMENTATION CABLES -SUPPLY PKG	173.43	5.28	9.16
28	MGR track & Signalling system	4319.49	5.28	228.07
29	Coal Handling Package	1163.10	5.28	61.41
30	Ash Handling System	13775.22	5.28	727.33
31	ASH WATER RECIRCULATION SYSTEM PKG	136.81	5.28	7.22
32	SEPTIC TANK & DIVER, ASH LINE PED BOTTOM	43.90	5.28	2.32
33	CW SYSTEM-EQUIPMENT	5457.12	5.28	288.14
34	CW System & Offsite Civil Works	1289.85	5.28	68.10
35	WATER PRE-TREATMENT SYSTEM PKG	2190.03	5.28	115.63
36	DM PLANT & CW TREATMENT SYSTEM	1931.19	5.28	101.97
37	Cooling Tower	5524.98	5.28	291.72
38	STATION PIPING PKG	1124.73	5.28	59.39
39	Fire Detection & Protection System	1156.14	5.28	61.04
40	Air Conditioning	1101.05	5.28	58.14
41	Ventilation	316.11	5.28	16.69
42	Generator Bus Dust 11 /9.3 KV & Ass Eqpt	572.17	5.28	30.21
43	UNIT TRANSFORMER	711.42	5.28	37.56
44	STATION TRANSFORMER	339.38	5.28	17.92
45	GENERATOR TRANSFORMER	4215.08	5.28	222.56
46	LT (outdoor) transformers	519.85	5.28	27.45
47	33KV,11 KV, 6.6 kv & 3.3 KV SWITCHGEAR	1137.77	5.28	60.07
48	LT SWITCHGEAR & LT BUS DUCTS PKG	1300.35	5.28	68.66
49	ELECTRICAL EQUIPMENT SUPPLY & ERECTION	2401.43	5.28	126.80
50	POWER CABLES-HT	369.01	5.28	19.48
51	POWER CABLES-LT	498.82	5.28	26.34
52	Control Cable	135.22	5.28	7.14
53	400 KV SWITCHYARD PKG	3189.91	5.28	168.43
54	Residential Building-D-II-Civil works	1562.90	3.34	52.20
55	CONSTRUCTION OF 395 CAR GARRAGE	267.02	3.34	8.92
56	1ST RAISING OF MALANCHA ASH DYKE LAGOON	143.82	5.28	7.59
57	T&P	783.40	5.28	41.36
58	Lab Equipments	188.19	5.28	9.94
59	Capital Spares	7933.00	5.28	418.86
60	MBOA - Furnitures	1034.10	6.33	65.46
61	MBOA - EDP	888.94	18.00	160.01
62	MBOA - Software	91.88	33.33	30.62
63	MBOA - Hospital	211.94	5.28	11.19
64	MBOA - P&M	889.35	5.28	46.96
65	MBOA - Others	2132.69	6.33	135.00
TOTAL		281484.87		14360.15
Weighted Average Rate of Depreciation (%)				5.10

Petitioner




Statement of Depreciation

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

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Opening Capital Cost	267958.48	269,631.43	274,059.59	296,892.21	306,026.44	306,967.55
2	Closing Capital Cost	269631.43	274,059.59	296,892.21	306,026.44	306,967.55	306,967.55
3	Average Capital Cost	268794.96	271,845.51	285,475.90	301,459.33	306,497.00	306,967.55
1a	Cost of IT Equipments & Software included in (1) above*		-	-	-	-	-
2a	Cost of IT Equipments & Software included in (2) above*		-	-	-	-	-
3a	Average Cost of IT Equipments & Software*		-	-	-	-	-
4	Freehold land	0.00	-	-	-	-	-
5	Rate of depreciation	5.416	5.102	5.10	5.10	5.10	5.10
6	Depreciable value	241,915.46	244,660.96	256,928.31	271,313.39	275,847.30	276,270.80
7	Balance useful life at the beginning of the period	19.00	18	17	16	15	14
8	Remaining depreciable value	164,273.44	152,480.41	150,878.20	150,698.30	139,851.75	124,637.77
9	Depreciation (for the period)	0.00	13,869.56	14,564.98	15,380.45	15,637.48	15,661.48
10	Depreciation (annualised)	14,558.29	13,869.56	14,564.98	15,380.45	15,637.48	15,661.48
11	Cumulative depreciation at the end of the period	92,200.30	106,050.11	120,615.09	135,995.55	151,633.02	167,294.51
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	-	-	-	-	-
13	Add: Cumulative depreciation adjustment on account of liability Discharge	0.00	-	-	-	-	-
14	Less: Cumulative depreciation adjustment on account of de-capitalisation	19.75	-	-	-	-	-
15	Net Cumulative depreciation at the end of the period after adjustments	92,180.55	106,050.11	120,615.09	135,995.55	151,633.02	167,294.51

* Shall be claimed at the time of true-up


(Petitioner)

Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	Bonds XXII Series					
	Gross loan - Opening	700.00	700.00	700.00	700.00	700.00
	Cumulative repayments of Loans upto previous period	560.00	630.00	700.00	700.00	700.00
	Net loan - Opening	140.00	70.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE					
	Total	140.00	70.00	0.00	0.00	0.00
	Repayments of Loans during the period	70.00	70.00	0.00	0.00	0.00
	Net loan - Closing	70.00	0.00	0.00	0.00	0.00
	Average Net Loan	105.00	35.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.2071%	8.2071%	8.2071%	8.2071%	8.2071%
	Interest on loan	8.62	2.87	0.00	0.00	0.00
2	Bonds XXIII Series					
	Gross loan - Opening	1400.00	1400.00	1400.00	1400.00	1400.00
	Cumulative repayments of Loans upto previous period	1120.00	1260.00	1400.00	1400.00	1400.00
	Net loan - Opening	280.00	140.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE					
	Total	280.00	140.00	0.00	0.00	0.00
	Repayments of Loans during the period	140.00	140.00	0.00	0.00	0.00
	Net loan - Closing	140.00	0.00	0.00	0.00	0.00
	Average Net Loan	210.00	70.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.4100%	8.4100%	8.4100%	8.4100%	8.4100%
	Interest on loan	17.66	5.89	0.00	0.00	0.00
7	Bonds XXX Series					
	Gross loan - Opening	5000.00	5000.00	5000.00	5000.00	5000.00
	Cumulative repayments of Loans upto previous period	0.00	5000.00	5000.00	5000.00	5000.00
	Net loan - Opening	5000.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	5000.00	0.00	0.00	0.00	0.00
	Repayments of Loans during the period	5000.00		0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	2500.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan	7.9200%	7.9200%	7.9200%	7.9200%	7.9200%
	Interest on loan	198.00	0.00	0.00	0.00	0.00

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
8	Bonds XXXII Series					
	Gross loan - Opening	1000.00	1000.00	1000.00	1000.00	1000.00
	Cumulative repayments of Loans upto previous period	266.67	333.33	400.00	466.67	533.33
	Net loan - Opening	733.33	666.67	600.00	533.33	466.67
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	733.33	666.67	600.00	533.33	466.67
	Repayments of Loans during the period	66.67	66.67	66.67	66.67	66.67
	Net loan - Closing	666.67	600.00	533.33	466.67	400.00
	Average Net Loan	700.00	633.33	566.67	500.00	433.33
	Rate of Interest on Loan	8.8793%	8.8793%	8.8793%	8.8793%	8.8793%
	Interest on loan	62.16	56.24	50.32	44.40	38.48
9	Bonds XXXIV Series					
	Gross loan - Opening	1200.00	1200.00	1200.00	1200.00	1200.00
	Cumulative repayments of Loans upto previous period	257.14	342.86	428.57	514.29	600.00
	Net loan - Opening	942.86	857.14	771.43	685.71	600.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	942.86	857.14	771.43	685.71	600.00
	Repayments of Loans during the period	85.71	85.71	85.71	85.71	85.71
	Net loan - Closing	857.14	771.43	685.71	600.00	514.29
	Average Net Loan	900.00	814.29	728.57	642.86	557.14
	Rate of Interest on Loan	8.7400%	8.7400%	8.7400%	8.7400%	8.7400%
	Interest on loan	78.66	71.17	63.68	56.19	48.69
10	Bonds XXXVII Series					
	Gross loan - Opening	3000.00	3000.00	3000.00	3000.00	3000.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	3000.00	3000.00	3000.00
	Net loan - Opening	3000.00	3000.00	0.00	0.00	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	3000.00	3000.00	0.00	0.00	0.00
	Repayments of Loans during the period	0.00	3000.00	0.00	0.00	0.00
	Net loan - Closing	3000.00	0.00	0.00	0.00	0.00
	Average Net Loan	3000.00	1500.00	0.00	0.00	0.00
	Rate of Interest on Loan	8.9600%	8.9600%	8.9600%	8.9600%	8.9600%
	Interest on loan	268.80	134.40	0.00	0.00	0.00

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
11	Bonds XXXVIII Series					
	Gross loan - Opening	100.00	100.00	100.00	100.00	100.00
	Cumulative repayments of Loans upto previous period	21.43	28.57	35.71	42.86	50.00
	Net loan - Opening	78.57	71.43	64.29	57.14	50.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	78.57	71.43	64.29	57.14	50.00
	Repayments of Loans during the period	7.14	7.14	7.14	7.14	7.14
	Net loan - Closing	71.43	64.29	57.14	50.00	42.86
	Average Net Loan	75.00	67.86	60.71	53.57	46.43
	Rate of Interest on Loan	9.2000%	9.2000%	9.2000%	9.2000%	9.2000%
	Interest on loan	6.90	6.24	5.59	4.93	4.27
12	Bonds X L I I Series					
	Gross loan - Opening	7000.00	7000.00	7000.00	7000.00	7000.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	1400.00
	Net loan - Opening	7000.00	7000.00	7000.00	7000.00	5600.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	7000.00	7000.00	7000.00	7000.00	5600.00
	Repayments of Loans during the period	0.00	0.00	0.00	1400.00	1400.00
	Net loan - Closing	7000.00	7000.00	7000.00	5600.00	4200.00
	Average Net Loan	7000.00	7000.00	7000.00	6300.00	4900.00
	Rate of Interest on Loan	9.0300%	9.0300%	9.0300%	9.0300%	9.0300%
	Interest on loan	632.10	632.10	632.10	568.89	442.47
13	Bonds 54 Series					
	Gross loan - Opening	10900.00	10900.00	10900.00	10900.00	10900.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	2180.00
	Net loan - Opening	10900.00	10900.00	10900.00	10900.00	8720.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	10900.00	10900.00	10900.00	10900.00	8720.00
	Repayments of Loans during the period	0.00	0.00	0.00	2180.00	4360.00
	Net loan - Closing	10900.00	10900.00	10900.00	8720.00	4360.00
	Average Net Loan	10900.00	10900.00	10900.00	9810.00	6540.00
	Rate of Interest on Loan	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on loan	928.68	928.68	928.68	835.81	557.21

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
16	Corporation Bank (ICICI V Bank Prepayment Loan)					
	Gross loan - Opening	1142.86	1142.86	1142.86	1142.86	1142.86
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	126.98
	Net loan - Opening	1142.86	1142.86	1142.86	1142.86	1015.88
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	1142.86	1142.86	1142.86	1142.86	1015.88
	Repayments of Loans during the period				126.98	126.98
	Net loan - Closing	1142.86	1142.86	1142.86	1015.88	888.89
	Average Net Loan	1142.86	1142.86	1142.86	1079.37	952.39
	Rate of Interest on Loan	8.3800%	8.3800%	8.3800%	8.3800%	8.3800%
	Interest on loan	95.77	95.77	95.77	90.45	79.81
20	SBI-XII (Prepayment loan IDFC loan)					
	Gross loan - Opening	2450.00	2450.00	2450.00	2450.00	2450.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	2450.00	2450.00	2450.00	2450.00	2450.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	2450.00	2450.00	2450.00	2450.00	2450.00
	Repayments of Loans during the period					
	Net loan - Closing	2450.00	2450.00	2450.00	2450.00	2450.00
	Average Net Loan	2450.00	2450.00	2450.00	2450.00	2450.00
	Rate of Interest on Loan	8.4500%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	207.03	207.03	207.03	207.03	207.03
24	SBI VIII(OBC Prepayment Loan)					
	Gross loan - Opening	571.43	571.43	571.43	571.43	571.43
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	63.49	126.98
	Net loan - Opening	571.43	571.43	571.43	507.94	444.44
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	571.43	571.43	571.43	507.94	444.44
	Repayments of Loans during the period			63.49	63.49	63.49
	Net loan - Closing	571.43	571.43	507.94	444.44	380.95
	Average Net Loan	571.43	571.43	539.68	476.19	412.70
	Rate of Interest on Loan	8.4500%	8.4500%	8.4500%	8.4500%	8.4500%
	Interest on loan	48.29	48.29	45.60	40.24	34.87

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
25	Power Finance Corporation V (Consolidated)					
	Gross loan - Opening	66400.00	66400.00	66400.00	66400.00	66400.00
	Cumulative repayments of Loans upto previous period	24900.00	29050.00	33200.00	37350.00	41500.00
	Net loan - Opening	41500.00	37350.00	33200.00	29050.00	24900.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	41500.00	37350.00	33200.00	29050.00	24900.00
	Repayments of Loans during the period	4150.00	4150.00	4150.00	4150.00	4150.00
	Net loan - Closing	37350.00	33200.00	29050.00	24900.00	20750.00
	Average Net Loan	39425.00	35275.00	31125.00	26975.00	22825.00
	Rate of Interest on Loan	8.3600%	8.3600%	8.3600%	8.3600%	8.3600%
	Interest on loan	3295.92	2948.98	2602.04	2255.10	1908.16
35	SBI VIII(PSB-I Prepayment Loan)					
	Gross loan - Opening	857.14	857.14	857.14	857.14	857.14
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	95.24	190.48
	Net loan - Opening	857.14	857.14	857.14	761.90	666.67
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	857.14	857.14	857.14	761.90	666.67
	Repayments of Loans during the period			95.24	95.24	95.24
	Net loan - Closing	857.14	857.14	761.90	666.67	571.43
	Average Net Loan	857.14	857.14	809.52	714.29	619.05
	Rate of Interest on Loan	8.7800%	8.7800%	8.7800%	8.7800%	8.7800%
	Interest on loan	75.26	75.26	71.08	62.71	54.35
36	SBI-VII D-6					
	Gross loan - Opening	1500.00	1500.00	1500.00	1500.00	1500.00
	Cumulative repayments of Loans upto previous period	750.00	937.50	1125.00	1312.50	1500.00
	Net loan - Opening	750.00	562.50	375.00	187.50	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	750.00	562.50	375.00	187.50	0.00
	Repayments of Loans during the period	187.50	187.50	187.50	187.50	0.00
	Net loan - Closing	562.50	375.00	187.50	0.00	0.00
	Average Net Loan	656.25	468.75	281.25	93.75	0.00
	Rate of Interest on Loan	8.3300%	8.3300%	8.3300%	8.3300%	8.3300%
	Interest on loan	54.67	39.05	23.43	7.81	0.00

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
37	SBI-VII D-8					
	Gross loan - Opening	2700.00	2700.00	2700.00	2700.00	2700.00
	Cumulative repayments of Loans upto previous period	1350.00	1687.50	2025.00	2362.50	2700.00
	Net loan - Opening	1350.00	1012.50	675.00	337.50	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1350.00	1012.50	675.00	337.50	0.00
	Repayments of Loans during the period	337.50	337.50	337.50	337.50	0.00
	Net loan - Closing	1012.50	675.00	337.50	0.00	0.00
	Average Net Loan	1181.25	843.75	506.25	168.75	0.00
	Rate of Interest on Loan	8.3300%	8.3300%	8.3300%	8.3300%	8.3300%
	Interest on loan	98.40	70.28	42.17	14.06	0.00
38	SBI-VII D-12					
	Gross loan - Opening	3500.00	3500.00	3500.00	3500.00	3500.00
	Cumulative repayments of Loans upto previous period	1750.00	2187.50	2625.00	3062.50	3500.00
	Net loan - Opening	1750.00	1312.50	875.00	437.50	0.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1750.00	1312.50	875.00	437.50	0.00
	Repayments of Loans during the period	437.50	437.50	437.50	437.50	0.00
	Net loan - Closing	1312.50	875.00	437.50	0.00	0.00
	Average Net Loan	1531.25	1093.75	656.25	218.75	0.00
	Rate of Interest on Loan	8.3300%	8.3300%	8.3300%	8.3300%	8.3300%
	Interest on loan	127.55	91.11	54.67	18.22	0.00
39	Punjab National Bank-III					
	Gross loan - Opening	857.00	857.00	857.00	857.00	857.00
	Cumulative repayments of Loans upto previous period	0.00	0.00	0.00	0.00	0.00
	Net loan - Opening	857.00	857.00	857.00	857.00	857.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period	0	0	0	0	0
	Total	857.00	857.00	857.00	857.00	857.00
	Repayments of Loans during the period					
	Net loan - Closing	857.00	857.00	857.00	857.00	857.00
	Average Net Loan	857.00	857.00	857.00	857.00	857.00
	Rate of Interest on Loan	8.3000%	8.0138%	8.0138%	8.0138%	8.0138%
	Interest on loan	71.13	68.68	68.68	68.68	68.68

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	TOTAL LOAN					
	Gross loan - Opening	110278.43	110278.44	110278.44	110278.44	110278.44
	Cumulative repayments of Loans upto previous period	30975.24	41457.26	49939.29	55370.04	64507.78
	Loans for Financing of Repayment	0.00	0.00	0.00	0.00	0.00
	Gross loan - Revised	0.00	0.00	0.00	0.00	0.00
	Cumulative repayments of Loans upto previous period	30975.24	41457.26	49939.29	55370.04	64507.78
	Net loan - Opening	79303.19	68821.17	60339.15	54908.40	45770.66
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.01	0.00	0.00	0.00	0.00
	Total	79303.20	68821.18	60339.15	54908.40	45770.66
	Repayments of Loans during the period	10482.02	8482.02	5430.75	9137.74	10355.24
	Net loan - Closing	68821.17	60339.15	54908.40	45770.66	35415.42
	Average Net Loan	74062.19	64580.16	57623.78	50339.53	40593.04
	Rate of Interest on Loan	8.4734%	8.4887%	8.4875%	8.4914%	8.4843%
	Interest on loan	6275.58	5482.03	4890.82	4274.51	3444.02
1	Power Finance Corporation V T1D22					
	Gross loan - Opening	2500.00	2500.00	2500.00	2500.00	2500.00
	Cumulative repayments of Loans upto previous period	937.50	1093.75	1250.00	1406.25	1562.50
	Net loan - Opening	1562.50	1406.25	1250.00	1093.75	937.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1562.50	1406.25	1250.00	1093.75	937.50
	Repayments of Loans during the period	156.25	156.25	156.25	156.25	156.25
	Net loan - Closing	1406.25	1250.00	1093.75	937.50	781.25
	Average Net Loan	1484.38	1328.13	1171.88	1015.63	859.38
	Rate of Interest on Loan	7.6200%	7.6200%	7.6200%	7.6200%	7.6200%
	Interest on loan	113.11	101.20	89.30	77.39	65.48
2	Power Finance Corporation V T1D2					
	Gross loan - Opening	5000.00	5000.00	5000.00	5000.00	5000.00
	Cumulative repayments of Loans upto previous period	1875.00	2187.50	2500.00	2812.50	3125.00
	Net loan - Opening	3125.00	2812.50	2500.00	2187.50	1875.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	3125.00	2812.50	2500.00	2187.50	1875.00
	Repayments of Loans during the period	312.50	312.50	312.50	312.50	312.50
	Net loan - Closing	2812.50	2500.00	2187.50	1875.00	1562.50
	Average Net Loan	2968.75	2656.25	2343.75	2031.25	1718.75
	Rate of Interest on Loan	9.9700%	9.9700%	9.9700%	9.9700%	9.9700%
	Interest on loan	295.98	264.83	233.67	202.52	171.36

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
3	Power Finance Corporation V TID4					
	Gross loan - Opening	7000.00	7000.00	7000.00	7000.00	7000.00
	Cumulative repayments of Loans upto previous period	2625.00	3062.50	3500.00	3937.50	4375.00
	Net loan - Opening	4375.00	3937.50	3500.00	3062.50	2625.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	4375.00	3937.50	3500.00	3062.50	2625.00
	Repayments of Loans during the period	437.50	437.50	437.50	437.50	437.50
	Net loan - Closing	3937.50	3500.00	3062.50	2625.00	2187.50
	Average Net Loan	4156.25	3718.75	3281.25	2843.75	2406.25
	Rate of Interest on Loan	9.6600%	9.6600%	9.6600%	9.6600%	9.6600%
	Interest on loan	401.49	359.23	316.97	274.71	232.44
4	Power Finance Corporation V TID11					
	Gross loan - Opening	5000.00	5000.00	5000.00	5000.00	5000.00
	Cumulative repayments of Loans upto previous period	1875.00	2187.50	2500.00	2812.50	3125.00
	Net loan - Opening	3125.00	2812.50	2500.00	2187.50	1875.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	3125.00	2812.50	2500.00	2187.50	1875.00
	Repayments of Loans during the period	312.50	312.50	312.50	312.50	312.50
	Net loan - Closing	2812.50	2500.00	2187.50	1875.00	1562.50
	Average Net Loan	2968.75	2656.25	2343.75	2031.25	1718.75
	Rate of Interest on Loan	8.6600%	8.6600%	8.6600%	8.6600%	8.6600%
	Interest on loan	257.09	230.03	202.97	175.91	148.84
5	Power Finance Corporation V TID13					
	Gross loan - Opening	3000.00	3000.00	3000.00	3000.00	3000.00
	Cumulative repayments of Loans upto previous period	1125.00	1312.50	1500.00	1687.50	1875.00
	Net loan - Opening	1875.00	1687.50	1500.00	1312.50	1125.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1875.00	1687.50	1500.00	1312.50	1125.00
	Repayments of Loans during the period	187.50	187.50	187.50	187.50	187.50
	Net loan - Closing	1687.50	1500.00	1312.50	1125.00	937.50
	Average Net Loan	1781.25	1593.75	1406.25	1218.75	1031.25
	Rate of Interest on Loan	8.7600%	8.7600%	8.7600%	8.7600%	8.7600%
	Interest on loan	156.04	139.61	123.19	106.76	90.34

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Calculation of Interest on Actual Loans

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Name of the Company
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NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
6	Power Finance Corporation V T1D1					
	Gross loan - Opening	2500.00	2500.00	2500.00	2500.00	2500.00
	Cumulative repayments of Loans upto previous period	937.50	1093.75	1250.00	1406.25	1562.50
	Net loan - Opening	1562.50	1406.25	1250.00	1093.75	937.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1562.50	1406.25	1250.00	1093.75	937.50
	Repayments of Loans during the period	156.25	156.25	156.25	156.25	156.25
	Net loan - Closing	1406.25	1250.00	1093.75	937.50	781.25
	Average Net Loan	1484.38	1328.13	1171.88	1015.63	859.38
	Rate of Interest on Loan	9.9400%	9.9400%	9.9400%	9.9400%	9.9400%
	Interest on loan	147.55	132.02	116.48	100.95	85.42
7	Power Finance Corporation V T1D23					
	Gross loan - Opening	1500.00	1500.00	1500.00	1500.00	1500.00
	Cumulative repayments of Loans upto previous period	562.50	656.25	750.00	843.75	937.50
	Net loan - Opening	937.50	843.75	750.00	656.25	562.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	937.50	843.75	750.00	656.25	562.50
	Repayments of Loans during the period	93.75	93.75	93.75	93.75	93.75
	Net loan - Closing	843.75	750.00	656.25	562.50	468.75
	Average Net Loan	890.63	796.88	703.13	609.38	515.63
	Rate of Interest on Loan	7.4300%	7.4300%	7.4300%	7.4300%	7.4300%
	Interest on loan	66.17	59.21	52.24	45.28	38.31
8	Power Finance Corporation V T1D33					
	Gross loan - Opening	13100.00	13100.00	13100.00	13100.00	13100.00
	Cumulative repayments of Loans upto previous period	4912.50	5731.25	6550.00	7368.75	8187.50
	Net loan - Opening	8187.50	7368.75	6550.00	5731.25	4912.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	8187.50	7368.75	6550.00	5731.25	4912.50
	Repayments of Loans during the period	818.75	818.75	818.75	818.75	818.75
	Net loan - Closing	7368.75	6550.00	5731.25	4912.50	4093.75
	Average Net Loan	7778.13	6959.38	6140.63	5321.88	4503.13
	Rate of Interest on Loan	7.8300%	7.8300%	7.8300%	7.8300%	7.8300%
	Interest on loan	609.03	544.92	480.81	416.70	352.59

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
9	Power Finance Corporation V T1D34					
	Gross loan - Opening	2300.00	2300.00	2300.00	2300.00	2300.00
	Cumulative repayments of Loans upto previous period	862.50	1006.25	1150.00	1293.75	1437.50
	Net loan - Opening	1437.50	1293.75	1150.00	1006.25	862.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1437.50	1293.75	1150.00	1006.25	862.50
	Repayments of Loans during the period	143.75	143.75	143.75	143.75	143.75
	Net loan - Closing	1293.75	1150.00	1006.25	862.50	718.75
	Average Net Loan	1365.63	1221.88	1078.13	934.38	790.63
	Rate of Interest on Loan	8.1700%	8.1700%	8.1700%	8.1700%	8.1700%
	Interest on loan	111.57	99.83	88.08	76.34	64.59
10	Power Finance Corporation V T1D31					
	Gross loan - Opening	4800.00	4800.00	4800.00	4800.00	4800.00
	Cumulative repayments of Loans upto previous period	1800.00	2100.00	2400.00	2700.00	3000.00
	Net loan - Opening	3000.00	2700.00	2400.00	2100.00	1800.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	3000.00	2700.00	2400.00	2100.00	1800.00
	Repayments of Loans during the period	300.00	300.00	300.00	300.00	300.00
	Net loan - Closing	2700.00	2400.00	2100.00	1800.00	1500.00
	Average Net Loan	2850.00	2550.00	2250.00	1950.00	1650.00
	Rate of Interest on Loan	7.4400%	7.4400%	7.4400%	7.4400%	7.4400%
	Interest on loan	212.04	189.72	167.40	145.08	122.76
11	Power Finance Corporation V T1D32					
	Gross loan - Opening	4200.00	4200.00	4200.00	4200.00	4200.00
	Cumulative repayments of Loans upto previous period	1575.00	1837.50	2100.00	2362.50	2625.00
	Net loan - Opening	2625.00	2362.50	2100.00	1837.50	1575.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	2625.00	2362.50	2100.00	1837.50	1575.00
	Repayments of Loans during the period	262.50	262.50	262.50	262.50	262.50
	Net loan - Closing	2362.50	2100.00	1837.50	1575.00	1312.50
	Average Net Loan	2493.75	2231.25	1968.75	1706.25	1443.75
	Rate of Interest on Loan	7.6800%	7.6800%	7.6800%	7.6800%	7.6800%
	Interest on loan	191.52	171.36	151.20	131.04	110.88

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
12	Power Finance Corporation V T1D38					
	Gross loan - Opening	4500.00	4500.00	4500.00	4500.00	4500.00
	Cumulative repayments of Loans upto previous period	1687.50	1968.75	2250.00	2531.25	2812.50
	Net loan - Opening	2812.50	2531.25	2250.00	1968.75	1687.50
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	2812.50	2531.25	2250.00	1968.75	1687.50
	Repayments of Loans during the period	281.25	281.25	281.25	281.25	281.25
	Net loan - Closing	2531.25	2250.00	1968.75	1687.50	1406.25
	Average Net Loan	2671.88	2390.63	2109.38	1828.13	1546.88
	Rate of Interest on Loan	8.2300%	8.2300%	8.2300%	8.2300%	8.2300%
	Interest on loan	219.90	196.75	173.60	150.45	127.31
13	Power Finance Corporation V T1D29					
	Gross loan - Opening	9000.00	9000.00	9000.00	9000.00	9000.00
	Cumulative repayments of Loans upto previous period	3375.00	3937.50	4500.00	5062.50	5625.00
	Net loan - Opening	5625.00	5062.50	4500.00	3937.50	3375.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	5625.00	5062.50	4500.00	3937.50	3375.00
	Repayments of Loans during the period	562.50	562.50	562.50	562.50	562.50
	Net loan - Closing	5062.50	4500.00	3937.50	3375.00	2812.50
	Average Net Loan	5343.75	4781.25	4218.75	3656.25	3093.75
	Rate of Interest on Loan	7.7600%	7.7600%	7.7600%	7.7600%	7.7600%
	Interest on loan	414.68	371.03	327.38	283.73	240.08
14	Power Finance Corporation V T1D20					
	Gross loan - Opening	2000.00	2000.00	2000.00	2000.00	2000.00
	Cumulative repayments of Loans upto previous period	750.00	875.00	1000.00	1125.00	1250.00
	Net loan - Opening	1250.00	1125.00	1000.00	875.00	750.00
	Increase/ Decrease due to FERV					
	Increase/ Decrease due to ACE/Drawl during the period					
	Total	1250.00	1125.00	1000.00	875.00	750.00
	Repayments of Loans during the period	125.00	125.00	125.00	125.00	125.00
	Net loan - Closing	1125.00	1000.00	875.00	750.00	625.00
	Average Net Loan	1187.50	1062.50	937.50	812.50	687.50
	Rate of Interest on Loan	8.4000%	8.4000%	8.4000%	8.4000%	8.4000%
	Interest on loan	99.75	89.25	78.75	68.25	57.75

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Calculation of Interest on Actual Loans

FORM-13

Name of the Company
Name of the Power Station

NTPC Limited
FARAKKA-STPS Stage-III

Sl. no.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Power Finance Corporation V (Consolidated)					
	Gross loan - Opening	66400.00	66400.00	66400.00	66400.00	66400.00
	Cumulative repayments of Loans upto previous period	24900.00	29050.00	33200.00	37350.00	41500.00
	Net loan - Opening	41500.00	37350.00	33200.00	29050.00	24900.00
	Increase/ Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
	Increase/ Decrease due to ACE/Drawl during the period	0.00	0.00	0.00	0.00	0.00
	Total	41500.00	37350.00	33200.00	29050.00	24900.00
	Repayments of Loans during the period	4150.00	4150.00	4150.00	4150.00	4150.00
	Net loan - Closing	37350.00	33200.00	29050.00	24900.00	20750.00
	Average Net Loan	39425.00	35275.00	31125.00	26975.00	22825.00
	Rate of Interest on Loan	8.3600%	8.3600%	8.3600%	8.3600%	8.3600%
	Interest on loan	3295.92	2948.98	2602.04	2255.10	1908.16

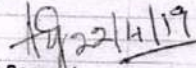
Note:-

- 2) SBI VII Rate of interest includes upfront fees of 0.0075% (i.e. 0.08%*1.1236%/12years).

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REVISED		FORM - 15			ANNEXURE - B	
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 Consumption of Energy Charges						
NAME OF THE PETITIONER :		NTPC LIMITED				
NAME OF THE GENERATING STATION :		FARAKKA SUPER THERMAL POWER STATION (St- III)				
Month :		NOV'18 as on 22.04.2019				
S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplies by MGR (I)	Supplies by Rail (II)	E-auction coal (III)	
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	MT	858973.32			3573.77
2	Adjustment (+/-) in quantity supplied made by Coal Company	MT	-3579.68	0.00		0.00
3	Coal supplied by Coal Company inclusive of opening stock of coal (1+2)	MT	855393.64			3573.77
4	Normative transit & Handling losses	MT	677.48	3690.76		7.15
5	Net Coal supplied (3-4)	MT	851025.40			3566.62
6	Amount charged by the Coal company *	Rs.	2681086278.71			18266118.15
7	Adjustment (+ / -) in amount charged by coal Company	Rs.	0.00			0.00
8	Total Amount charged (6+7)	Rs.	2681086278.71			18266118.15
9	Transportation charges by Rail / Ship / Road Transport	Rs.	327693527.65			0.00
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 transporting Coal through MGR system	Rs.	24536120.40			0.00
13	Total transportation charges (9 +/- 10 - 11 + 12)	Rs.	352229648.05			0.00
13A	Others (Stone picking charge , Loco drivers salary , Sampling ch etc.) #		36519345.64			34384.90
14	Total amount charged for Coal / Lignite supplied including transportation (8 + 13)	Rs.	3069835272.40			18300503.05
15	Landed Cost	(Rs./ MT)	3607.22			5131.05
16	Blending Ratio			99.57		0.43
17	Weighted average cost of Coal	(Rs./ MT)	3613.73			
18	GCV of Domestic Coal as per bill of Coal Co. (Equip. basis)	Kcal/Kg	4870			
19	GCV of Imported Coal as per bill of Coal Co. (AD basis)	Kcal/Kg				5690
20	Weighted Average GCV of Coal as Billed (Domestic-Equip. Basis & Imported-AD Basis)	Kcal/Kg	4874			
21	GCV of Domestic Coal as received at Station(TM basis)	Kcal / Kg	3736			
22	GCV of Imported Coal as received at Station (TM basis)	Kcal / Kg				4662
23	Weighted Average GCV of Coal as Received at station (TM basis)	Kcal/Kg	3736			


 A Sengupta
 AGM (Fin)
 SSC ER-1: Barh



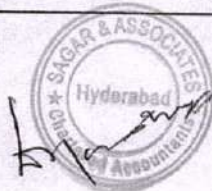
REVISED		FORM - 15			ANNEXURE - B	
Details / Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) RegulationS-2014						
Details /Information to be submitted in respect of Fuel for Consumption of Energy Charges						
NAME OF THE PETITIONER :		NTPC LIMITED				
NAME OF THE GENERATING STATION :		FARAKKA SUPER THERMAL POWER STATION (St- III)				
Month :		OCT'18 as on 22.04.2019				
S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplies by MGR (I)	Supplies by Rail (II)	E-auction coal (III)	
1	Qty of coal supplied by the coal Company inclusive of opening stock of coal	MT	890648.13			2995.16
2	Adjustment (+/-) in quantity supplied made by Coal Company	MT	-3140.22	0.00		0.00
3	Coal supplied by Coal Company inclusive of opening stock of coal (1+2)	MT	887507.91			2995.16
4	Normative transit & Handling losses	MT	858.46	3691.36		5.99
5	Net Coal supplied (3-4)	MT	882958.10			2989.17
6	Amount charged by the Coal company *	Rs.	2721700565.80			15311687.91
7	Adjustment (+/-) in amount charged by coal Company	Rs.	0.00			0.00
8	Total Amount charged (6+7)	Rs.	2721700565.80			15311687.91
9	Transportation charges by Rail / Ship / Road Transport	Rs.	309156914.06			0.00
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 transporting Coal through MGR system	Rs.	25598550.45			0.00
13	Total transportation charges (9 +/- 10 - 11 + 12)	Rs.	334755464.51			0.00
13A	Others (Stone picking charge , Loco drivers salary , Sampling ch etc.) #		36996308.98			25876.73
14	Total amount charged for Coal / Lignite supplied including transportation (8 + 13)	Rs.	3093452339.29			15337564.64
15	Landed Cost	(Rs./ MT)	3503.51			5131.05
16	Blending Ratio		99.56			0.44
17	Weighted average cost of Coal	(Rs./ MT)	3510.59			
18	GCV of Domestic Coal as per bill of Coal Co. (Equib. basis)	Kcal/Kg	4770			
19	GCV of Imported Coal as per bill of Coal Co. (AD basis)	Kcal/Kg				5690
20	Weighted Average GCV of Coal as Billed (Domestic-Equib. Basis & Imported-AD Basis)	Kcal/Kg	4773			
21	GCV of Domestic Coal as received at Station(TM basis)	Kcal / Kg	3655			
22	GCV of Imported Coal as received at Station (TM basis)	Kcal / Kg				4662
23	Weighted Average GCV of Coal as Received at station (TM basis)	Kcal/Kg	3655			


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REVISED		ANNEXURE - B				
FORM - 15						
Details / Information to be provided to beneficiaries under Clause (7) of Regulation 30 of CERC (Terms & Conditions of Tariff) RegulationS-2014						
Details /Information to be submitted in respect of Fuel for Consumption of Energy Charges						
NAME OF THE PETITIONER : NTPC LIMITED						
NAME OF THE GENERATING STATION : FARAKKA SUPER THERMAL POWER STATION (St- III)						
Month : DEC'18 as on 22.04.2019						
S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplies by MGR (I)	Supplies by Rail (II)	E-auction coal (III)	
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	MT	880571.56			7851.28
2	Adjustment (+/-) in quantity supplied made by Coal Company	MT	-2366.31	0.00		0.00
3	Coal supplied by Coal Company inclusive of opening stock of coal (1+2)	MT	878205.25			7851.28
4	Normative transit & Handling losses	MT	709.33	4055.38		15.70
5	Net Coal supplied (3-4)	MT	873440.54			7835.57
6	Amount charged by the Coal company *	Rs.	3024013215.93			40101517.44
7	Adjustment (+ / -) in amount charged by coal Company	Rs.	0.00			0.00
8	Total Amount charged (6+7)	Rs.	3024013215.93			40101517.44
9	Transportation charges by Rail / Ship / Road Transport	Rs.	349521680.59			0.00
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 transporting Coal through MGR system	Rs.	21035541.60			0.00
13	Total transportation charges (9 +/- 10 - 11 + 12)	Rs.	370557222.19			0.00
13A	Others (Stone picking charge , Loco drivers salary , Sampling ch etc.) #		35817323.26			103201.40
14	Total amount charged for Coal / Lignite supplied including transportation (8 + 13)	Rs.	3430387761.38			40204718.84
15	Landed Cost	(Rs / MT)	3927.44			5131.05
16	Blending Ratio			99.11		0.89
17	Weighted average cost of Coal	(Rs / MT)	3938.15			
18	GCV of Domestic Coal as per bill of Coal Co. (Equip. basis)	Kcal/Kg	4984			
19	GCV of Imported Coal as per bill of Coal Co. (AD basis)	Kcal/Kg				5672
20	Weighted Average GCV of Coal as Billed (Domestic-Equip. Basis & Imported-AD Basis)	Kcal/Kg	4990			
21	GCV of Domestic Coal as received at Station(TM basis)	Kcal / Kg	4109			
22	GCV of Imported Coal as received at Station (TM basis)	Kcal / Kg				4662
23	Weighted Average GCV of Coal as Received at station (TM basis)	Kcal/Kg	4109			

19/22/19
A Sengupta
AGM (Fin)
SSC ER-1: Barh



Details of Secondary Fuel for Computation of Energy Charges

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

Sl.No.	Month	Unit	Oct-18	Nov-18	Dec-18
1	Opening Stock of Oil		HFO	HFO	HFO
2	Value of Opening Stock	KL	6690	5839	8006.65
3	Quantity of Oil supplied by Oil Company	(Rs)	212001099	185047746	293298605
4	Adjustment(+/-) in quantity supplied made by Oil Company	KL			
5	Oil supplied by Oil Company (3+4)	KL			
6	Normative Transit & Handling Losses	KL			
7	Net Oil Supplied (4-6)	KL			
8	Amount charged by the Oil Company	(Rs)			
9	Adjustment(+/-) in amount charged made by Oil Company	(Rs)			
10	Total amount charged (8+9)	(Rs)			
11	Transportation charges by rail / ship / road transport	(Rs)			
12	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs)			
13	Demurrage Charges, if any	(Rs)			
14	Total Transportation Charges (11+/-12+13)	(Rs)			
15	Total amount Charged for fuel supplied including Transportation (10+14)	(Rs)			
16	Weighted average GCV of Oil as received	(kCal/L)	9820	9740	9810
17	Quantity of oil at the station for the Month (1+7)	KL	6690	5839	8007
18	Total Amount Charged for Oil (2+15)	(Rs)	212001099	185047746	293298605
19	Weighted average rate of Secondary Fuel	Rs/KL	31691.19	31691.68	36631.88

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Computation of Energy Charges

**Form-15B
ADDITIONAL FORM**

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

Computation of Energy Charges

- 1 Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $(REC)_s = (Q_s)_n \times P_s$ = 1.667
- 2 Heat Contribution from SFO / Alternate Fuel $(H_s) = (Q_s)_n \times (GCV)_s$ = 4.895
- 3 Heat Contribution from coal $(H_p)_s = GHR - H_s$ = 2443.38
- 4 Specific Primary Fuel Consumption $(Qp)_n = H_p / (GCV)_p$ = 0.651
- 5 Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$ = 240.059
- 6 Rate of Energy charge ex-bus (p/kWh) $(REC) = ((REC)_s + (REC)_p) / (1-(AUX))$ = 257.841

		2019-20	2020-21	2021-22	2022-23	2023-24
No of Days in the year	Days	366	365	365	365	366
Sp. Oil consumption	ml/kwh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption	%	6.25	6.25	6.25	6.25	6.25
Heat Rate	Kcal/Kwh	2,448.28	2,448.28	2,448.28	2,448.28	2448.27917

Computation of Variable Charges

Variable Charge (Coal)	p/kwh	256.063	256.063	256.063	256.063	256.063
Variable Charge (Oil)	p/kwh	1.778	1.778	1.778	1.778	1.778
Total	p/kwh	257.841	257.841	257.841	257.841	257.841

Price of fuel from Form-15/15A

Coal Cost	(Rs./MT)	3687.34	3687.34	3687.34	3687.34	3687.34
Oil Cost	(Rs./KL)	33338.25	33338.25	33338.25	33338.25	33338.25

Computation of Fuel Expenses for Calculation of IWC:

ESO in a year	(MUs)	3499.88	3490.31	3490.31	3490.31	3499.875
ESO for 50 days	(MUs)	478.125	478.125	478.13	478.13	478.125
Cost of coal for 45 Days	(Rs. Lakh)	12243.02	12243.02	12243.02	12243.02	12243.02
Cost of oil for 2 months	(Rs. Lakh)	103.72	103.43	103.43	103.43	103.72
Energy Expenses for 45 days	(Rs. Lakh)	11095.23	11095.23	11095.23	11095.23	11095.23

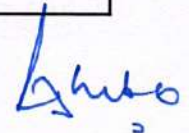
Coal		3rd month	2nd month	1st month	Wtd. Avg.
Wtd. Avg. Price of Coal	Rs./MT	3509.00	3613.58	3938.14	3687.34
Wtd. Avg. GCV of Coal as received	kCal/Kg	3655	3736	4109	3838.07
Wtd. Avg. GCV of Coal as received after adjustment of 85 kcal/kg					3753.07
Sec. Oil					
Wtd. Avg. Price of Secondary Fuel	Rs/KL	31691.19	31691.68	36631.88	33338.25
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9820.00	9740.00	9810.00	9790.00

PETITIONER

Name of the Petitioner		NTPC Ltd		
Name of the Generating Station		Farakka Super Thermal power Station Stage-III		
<u>Statement of Capital cost</u>				
(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	281484.87	2082.10	279402.77
	b) Amount of IDC in A(a) above	43199.77	0.00	43199.77
	c) Amount of FC in A(a) above	0	0.00	0.00
	d) Amount of FERV in A(a) above	0	0.00	0.00
	e) Amount of Hedging Cost in A(a) above	0	0.00	0.00
	f) Amount of IEDC in A(a) above	0	0.00	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			
To be filed at the time of actual COD/truing-up.				

Note:

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



(Petitioner)



Name of the Petitioner
Name of the Generating Station

NTPC Ltd
Farakka Super Thermal power Station Stage-III

Statement of Capital Woks in Progress

(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	10467.26	2305.65	8161.60
	b) Amount of IDC in A(a) above	581.97	0.00	581.97
	c) Amount of FC in A(a) above			0.00
	d) Amount of FERV in A(a) above			0.00
	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 th			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

To be filed at the time of actual COD/truing-up.

Note:

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


(Petitioner)



Calculation of Interest on Normative Loan

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

(Amount in Rs Lakh)

S. No.	Particulars	Existing	2019-20	2020-21	2021-22	2022-23	2023-24
		2018-19					
1	2	3	4	5	6	7	8
1	Gross Normative loan – Opening	187,570.94	188,742.00	191,841.71	207,824.55	214,218.51	214,877.28
2	Cumulative repayment of Normative loan up to previous year	77,010.16	91,435.61	105,305.17	119,870.15	135,250.60	150,888.08
3	Net Normative loan – Opening	110,560.78	97,306.39	86,536.54	87,954.40	78,967.90	63,989.20
4	Add: Increase due to addition during the year / period	857.47	3,099.71	15,982.83	6,393.96	658.78	-
5	Less: Decrease due to de-capitalisation during the year / period	132.84	0.00	0.00	0.00	0.00	0.00
6	Less: Decrease due to reversal during the year / period						
7	Add: Increase due to discharges during the year / period	446.43	0.00	0.00	0.00	0.00	0.00
8	Less: Repayment of Loan	14425.45	13,869.56	14,564.98	15,380.45	15,637.48	15,661.48
9	Net Normative loan - Closing	97,306.39	86,536.54	87,954.40	78,967.90	63,989.20	48,327.72
10	Average Normative loan	103,933.58	91,921.47	87,245.47	83,461.15	71,478.55	56,158.46
11	Weighted average rate of interest	8.3614	8.4734	8.4887	8.4875	8.4914	8.4843
12	Interest on Loan	8690.30	7788.87	7406.01	7083.77	6069.53	4764.65


(Petitioner)

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Calculation of Interest on Working Capital

Name of the Company : NTPC Limited

Name of the Power Station : Farakka Super Thermal power Station Stage-III

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Cost of Coal/Lignite	12,138.92	12243.02	12243.02	12243.02	12243.02	12243.02
2	Cost of Main Secondary Fuel Oil	153.82	103.72	103.43	103.43	103.43	103.72
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	950.64	1127.83	1167.69	1209.28	1252.64	1297.39
6	Maintenance Spares	2,281.54	2706.79	2802.45	2902.27	3006.33	3113.73
7	Receivables	25,927.95	17809.04	18024.83	18263.86	18271.96	18164.82
8	Total Working Capital	41452.88	33990.40	34341.41	34721.85	34877.38	34922.68
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500
10	Interest on Working Capital	5596.14	4095.84	4138.14	4183.98	4202.72	4208.18



Petitioner

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Part-I
Form-18

Liability Flow Statement

SI No.	Party name	Name of work	Year of creation	Liability as on 31.03.2019
1	2	3	4	5
1	M S ENTERPRISE	Misc Civil Works-M.Plant	2012-13	54,756
2	NATIONAL BUILDINGS CONSTRUCTION	Chimney	2012-13	11,094,676
3	BHARAT HEAVY ELECTRICALS LTD	MAIN PLANT TURNKEY-SG & ESP	2012-13	13,470,086
4	POWER MECH PROJECTS PVT LTD	MAIN PLANT TURNKEY-SG & ESP	2012-13	65,060
5	BHARAT HEAVY ELECTRICALS LTD		2012-13	2,309,032
6	BHARAT HEAVY ELECTRICALS LTD	MAIN PLANT TURNKEY-TG	2012-13	3,349,653
7	NAVAYUGA ENGINEERING/ B.K.BISWAS	MAIN PLANT CIVIL WORKS PKG	2012-13	6,408,820
8	BHEL / EDN BANGALORE	Control & Instrumentation Unit-6	2012-13	10,638,019
9	TOFAUR RAHAMAN	Control & Instrumentation Unit-6	2013-14	26,135
10	rites ltd	Permanent Rail Siding & rail Infra MGR track & Signalling system (MGR track & signalling system)	2012-13	13,478,916
11	HILSA ENTERPRISES	Permanent Rail Siding & rail Infra MGR track & Signalling system (MGR track & signalling system)	2012-13	214,043
12	K B ENTERPRISE	Permanent Rail Siding & rail Infra MGR track & Signalling system (MGR track & signalling system)	2012-13	7,157
13	WPIL LTD.	CW SYSTEM-EQUIPMENT Unit-6	2012-13	11,059,559
14	KIRLOSKAR BROTHERS LTD	CW System & Offsite Civil Works	2012-13	14,391,520
15	NATIONAL BUILDINGS CONSTRUCTION	Cooling Tower Unit-6	2012-13	47,434,811
16	UTC FIRE & SECURITY INDIA LTD	Fire Detection & Protection System	2012-13	3,566,489
17	NSK ENTERPRISE	Fire Detection & Protection System	2012-13	1,846
18	WEIR MINERALS (INDIA) PVT. LTD.	WARMAN MAKE ASH SLURRY PUMP 8/6' EAH	2012-13	99,000
19	YORCO SALES PVT LTD D	AUTOCLAVE: HORIZONTAL	2012-13	74,000
20	SCHNEIDER ELECTRIC INFRASTRUCTURE	NUMERICAL DIFF.PROTECTION RELAY MICOM6	2013-14	145,000
21	JOSTS ENGG COMPANY LTD	BATTERY OPERATED TROLLEY CAP:2MT	2013-14	33,800
22	ARTEK ENTERPRISES PVT LTD	LAYER 2 ETHERNET SWITCHM9630050551N L	2013-14	96,540
23	LG ELECTRONICS INDIA PVT LTD	Air Conditioning of Administrative Build	2014-15	1,383,945
24	HILSA ENTERPRISES	ASH WATER RECIRCULATION SYSTEM PKG	2014-15	383,505
25	HILSA ENTERPRISES	Const of Indoor Badmin Court & Gymnasium	2014-15	1,367,582
26	HILSA ENTERPRISES	CONSTRUC OF SWIMMING POOL--Civil	2014-15	4,215,121
27	PAUL BUILDERS PVT LTD	Construction of Community Centre at FHC	2014-15	3,315,207
28	M S ENTERPRISE	CW System & Offsite Civil Works	2014-15	17,858
29	ASSOCIATED ERECTOR (NORTH)	CW System & Offsite Civil Works	2014-15	185,141
30	M S ENTERPRISE	DPS Building Extention	2014-15	2,059,440
31	SURGIDENT (INDIA)	OBSTETRIC LABOUR TABLE WITH MATTRESS	2014-15	12,000
32	STAAN BIOMED ENGINEERING PVT LTD	OPERATION THEATRE TABLE-MULTIPURPOSE	2014-15	32,500
33	JAIN TRADING CO	HYDRAULIC JACK 50T LOW HEIGHT WITH PUMP	2014-15	62,123
34	SARTECH INTL	COMPLETE OPACITY MONITOR	2014-15	381,600
35	POWER SYSTEMS	AUDIO CONFERENCING AND PA SYSTEM	2014-15	115,901
36	NAVAYUGA ENGG COMPANY LIMITED	Sevice Building	2014-15	19,615

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Liability Flow Statement

SI No.	Party name	Name of work	Year of creation	Liability as on 31.03.2019
1	2	3	4	5
	Name of the Petitioner	NTPC Ltd.		
	Name of the Generating Station	Farakka STPS Stage - III		
	COD	4-Apr-12		
37	INDO CONSTRUCTION	Sevice Building	2014-15	12,859
38	ALINE CURTAIN WALLS PVT LTD	Sevice Building	2014-15	54,401
39	NH CONSTRUCTION	Stores Civil Works	2014-15	297,023
40	NASIRUDDIN CONSTRUCTION	Misc Civil Works-M.Plant	2014-15	17,626
41	BIJOY GHOSH	Drainage System	2015-16	50,000
42	B P CONSTRUCTION & CO	Residential Building-D-II-Civil works	2015-16	9,455,433
43	NH CONSTRUCTION	Residential Building-D-II-Civil works	2015-16	315,895
44	M S ENTERPRISE	Residential Building-D-II-Civil works	2015-16	499,199
45	HILSA ENTERPRISES	Residential Building-D-II-Civil works	2015-16	6,552,986
46	DAFFODIL CONSTRUCTION	Internal & External Electrification work	2015-16	892,558
47	PAUL BUILDERS PVT LTD	CONSTRUCTION OF HOSPITAL AT FHC-CIVIL	2015-16	6,879,115
48	SKY DECORATIONS PVT LTD	Air Conditioning of Administrative Build	2015-16	422,933
49	INDO CONSTRUCTION	Cooling Tower	2015-16	98,013
50	BHARAT HEAVY ELECTRICALS LIMITED	Control & Instrumentation Unit-6	2015-16	3,228,793
51	REFLECT	Control & Instrumentation	2015-16	16,725
52	THE INDURE PRIVATE LTD	Ash Handling System Unit-6	2015-16	1,083,646
53	KIRLOSKAR BROTHERS LTD Transfer from CW system & offsite Civil (IN-C42430.2.17)	CW System & Offsite Civil Works	2015-16	59,671
54	NUTECH JETTING EQUIPMENTS INDIA	Steam Generator Unit-6(cap spares)	2015-16	273,000
55	USHA INTERNATIONAL LTD	COOLER-WATER.COMPLETE CAP:121-150LTR	2015-16	106,950
56	LG ELECTRONICS INDIA PVT	INTERACTIVE DISPLAY BOARD	2015-16	76,170
57	YORCO SALES PVT LTD	M1480904000 AUTOCALVE VERTICAL MANUAL OPERATION	2015-16	25,600
58	NH CONSTRUCTION	Residential Building-D-II-Civil works	2016-17	803,157
59	BHARAT HEAVY ELECTRICALS LTD	Steam Generator Unit-6	2016-17	864,733
60	BHEL EDN BANGALORE	Control & Instrumentation Unit-6	2016-17	27,798
61	KIRLOSKAR BROTHERS LTD Transfer from CW system & offsite Civil (IN-C42430.2.17.03)	CW System & Offsite Civil Works	2016-17	3,756,828
62	RAJCOMM COMMUNICATION SYSTEMS	TELEPHONE INSTRUMENT PUSH BUTTON	2016-17	23,220
63	HITACHI HI-REL POWER ELECTRONICS	M9243211002 10 KVA ON-LINE UPS (IGBT BASED) WITH S	2016-17	11,280
64	INDIA MEDICO INSTRUMENTS	SHORT WAVE MEDICAL DIATHERMY EQPT	2016-17	22,600
65	MECORD SYSTEMS & SERVICES PVT LTD	DEW POINT OF NITROGEN,SF6,MES,INSTRUM	2016-17	24,000
66	INTEGRATED DATA SYSTEM	DLWSPR:TURBO CHARGER ASSLY	2016-17	218,000
67	R G ENTERPRISES	FAN:CEILING:1400MM SWEEP	2016-17	2,170
68	Proglity Technologies Pvt Ltd	LED MONITOR-55*_RESN:1920X1080/1920X12	2016-17	6,336
69	Aplab Ltd	M9243020509 UPS: SKVA,I/P:170-270VAC.O/P:230VAC+/-	2016-17	25,725
70	MAHINDRA STILLER AUTO TRUCKS LTD	BATTERY OPERATED TROLLEY CAPACITY- 4 M	2016-17	28,900
71	BHARAT HEAVY ELECTRICALS LTD	DOUBLE REDUCTION WORM FOR SOOT BLOWER	2016-17	87,990
72	MARWAHA MANUFACTURING COMPANY	SYNCHRONUS SCREW JACK,CAPACITY-25T	2017-18	362,500
73	MANOBINDU ASSOCIATES	CCTV SYSTEM HARDWARES & ACCESSORIES	2017-18	84,375
74	HEXXA GEO SYSTEMS INTEGRATORS	M9497306029 CCTV SYSTEM HARDWARES & ACCESSORIES	2017-18	511,616

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Liability Flow Statement				Part-I Form-18
Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		Farakka STPS Stage - III		
COD		4-Apr-12		
Sl No.	Party name	Name of work	Year of creation	Liability as on 31.03.2019
1	2	3	4	5
75	THE WINGS	MULTIPLE RADIO SYNCHRONIZATION MODULE	2017-18	93,874
76	ELECTRO CARE SALES	VENTILATOR-PORTABLE	2017-18	238,000
77	Menally Savaji Engineering Ltd	SUBMERSIBLE SLUDGE/SLURRY PUMP,	2017-18	47,628
78	MIL CONTROLS LTD	RH SPRAY MAIN CONTROL V/V PART NO.SD01	2017-18	94,311
79	WPIL LTD	M3264316001 COMPLETE PUMP,	2017-18	31,615
80	METACHEM CORPORATION	MC-2RL:COMPLETE ASSY.	2017-18	13,020
81	GE POWER INDIA LIMITED	COLLECTING ELECTRODE OF ESP	2017-18	163,182
82	NUTECH JETTING EQUIPMENTS INDIA	HLPR JET PUMP,WP:645BAR,Q=72LPM,UT	2017-18	158,805
83	SEEMA INDUSTRIAL UDYOG	HP DOSING PUMP	2017-18	22,514
84	THERMO FISHER SCIENTIFIC INDIA	PBIL BELT WEIGHER COMPLETE 100-14-4 U	2017-18	400,000
85	BHARAT HEAVY ELECTRICALS LTD	WORK STATION: MAXDNA HMI VERSN-6.0; BH	2017-18	3,225,950
86	FRANCIS KLEIN & CO PVT LTD	EH-120/60-575:COMPLETE JACK	2017-18	95,405
87	S.D.S ELECTRONICS PVT.LTD	SEARCH LIGHT-LONG BEAM/RANGE PORTABLE	2017-18	14,950
88	DATACON SYSTEMS PVT LTD	IP CAMERA: FIXED, 1920X1080	2017-18	32,153
89	MONDAL DISTRIBUTION PVT LTD	REFRIGERATOR(FREEZE) CAP:300-350 LTR	2017-18	3,535
90	ETHEREAL	PHOTO COPIER MACHINE	2017-18	13,402
91	THE WINGS	IP CAMERA: FIXED, 1920X1080	2017-18	4,425
92	VISHAL SURGICAL EQUIPMENT CO	MOBILE OT LIGHT	2017-18	33,094
93	ANNAPURNA SCIENTIFIC INSTRUMENTS CO	M1493500001 STETHOSCOPE STANDARD DELUXE TYPE	2017-18	90
94	LAWRENCE & MAYO INDIA PVT LTD	BINOCULAR MICROSCOPE	2017-18	270
95	SCRUM SYSTEM PVT LTD	SAFETY:KIOSK WITH STANDARD FEATURES	2017-18	28,750
96	EUREKA FORBES LIMITED	WATER PURIFIER-ELE-STD-ON LINE	2017-18	7,911
97	BHANDARI ENTERPRISES	CB SF6 6.6KV 3150 AMP ABB MAKE	2018-19	105,930
98	SHOP IN	STUDY TABLE: SQUADRO PLUS-43"X24"X40"	2018-19	4,627
99	SHOP IN	SOFA SET:GODREJ:ARISTOCRAT SOFA	2018-19	5,865
100	KELVION INDIA PVT LTD	LUB OIL COOLER FOR XRP 1003 MILL	2018-19	58,000
101	BARD ROY INFOTECH PVT LTD	DESKTOP PC: CORE-I5 VPRO WIN, 8GB	2018-19	2,561,392
102	THE INDURE PVT LTD	DRAIN PUMP INDURE MODEL : 65Q V-SP ASP	2018-19	7,038
103	NORTH STREET COOLING TOWERS	10F:COMPLETE ASSEMBLY	2018-19	76,680
104	U D MARKETING PVT LTD	10&6X7PHE7:ASSEMBLY PISTON	2018-19	19,871
105	SHOP IN	TABLE:GODREJ:CENTRE TABLE- BLOOM:STD	2018-19	9,548
106	AKTION SAFETY SOLUTIONS PVT LTD	M2966740015 :ROAD SAFETY:CONVEX MIRROR+ACCS:STD	2018-19	653
107	BHARAT HEAVY ELECTRICALS LTD	DRIVE CONTROL MODULE 69205DSZAB MAX-DN	2018-19	3,847
108	THERMAX LTD	C211E+42:HIGH TEMP HEAT EXCHANGE	2018-19	304,216
109	AIA ENGINEERING LIMITED	M4761056003N BULL RING SEGMENTS ASSEMBLY,MILL XRP1	2018-19	1,976,437
110	MANOJ KUMAR CHANDRA	ANTIVIRUS SOFTWARE	2018-19	38,593
111	SHOP IN	BED:GODREJ:SINGLE- ADRIANA:.	2018-19	225,394
112	INTERACTIVE DATA SYSTEMS LIMITED	TIME ATTENDANCE RECORDER SYSTEM	2018-19	331,344
113	INTERACTIVE DATA SYSTEMS LIMITED	SECURITY CHK:BOOM BARRIER ASSY	2018-19	413,247

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Part-I Form-18				
Liability Flow Statement				
Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		Farakka STPS Stage - III		
COD		4-Apr-12		
Sl No.	Party name	Name of work	Year of creation	Liability as on 31.03.2019
1	2	3	4	5
114	THE WINGS	HDPE PVC JACKET UNDERGROUND FIBRE LAYI	2018-19	188,317
115	COOPER CORPORATION PVT LTD	M7197010216 DLW/SPR:ASSLY.CYL HEAD 251 PLUS	2018-19	65,128
116	BHARAT HEAVY ELECTRICALS LTD	VALVE SPINDLE DRG.11132027000-9	2018-19	1,135,278
117	BHARAT HEAVY ELECTRICALS LTD	PSFF POWER SUPPLY MODULE FOR VFD	2018-19	9,273
118	RANCHI ELECTRICALS	PUMP WARMAN 8/6 EAH	2018-19	1,091,240
119	GE T&D INDIA LTD	DISTANCE PROTECTION RELAY MICOM P442	2018-19	950,400
120	SHOP IN	GODREJ:STUDY TABLE - UNO:STD	2018-19	1,647
121	DAFFODIL CONSTRUCTION	Electrification work of 48 nos D-II type	2018-19	3,546,111
122	KIRLOSKAR BROTHERS LTD	CHILLED/CONDENSER WATER PUMP ASSLY	2018-19	2,354
123	UNICON TECHNO SOLUTIONS PVT LTD	MOTR 1SQL6.6KV:300KW:4P:B3 TEFC:VTPC74	2018-19	70,000
124	WPIL LTD	M3397466037N JTC-12GM:BOWL ASSLY	2018-19	17,158
125	LARSEN & TOUBRO LTD	COUPLING MODEL:RG08 COMP ASSY MAKE:GBM	2018-19	165,033
126	HILSA ENTERPRISES	CONSTRUC OF SWIMMING POOL-Int Elect	2018-19	19,490
127	ELECTRO THERAPY	ELECT.MONORAIL-HOIST,7.5 TON	2018-19	1,232,806
TOTAL Liability ST - III				208,210,081

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PART 1
FORM-T

Summary of issue involved in the petition

Name of the Company :		NTPC Limited
Name of the Power Station :		Farakka Super Thermal power Station Stage-III
1	Petitioner:	NTPC Limited
2	Subject	
3	<p>Prayer: i) Approve tariff of Farakka-III for the tariff period 01.04.2019 to 31.03.2024. ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries. iii) Allow reimbursement of Ash Transportation Charges directly from the beneficiaries quarterly on net basis. iv) Consider station heat rate based on design heat rate with applicable operating margin. v) Pass any other order as it may deem fit in the circumstances mentioned above.</p>	
4	Respondents	
	Name of Respondents	
	a. West Bengal State Electricity Distribution	d. GRIDCO Limited
	b. Bihar State Power Holding Company Limited	
	c. Jharkhand State Electricity Board	
5	Project Scope	
	Capital cost as on 01.04.2019 Rs.Lakhs	269631.43
	CoD	4-Apr-12
	Claim	
	AFC (2019-20) Rs. Lakhs	54605.65
	Capital cost as on 01.04.2019	269631.43
	Initial spare	
	NAPAF (Gen)	85%
	Any Specific	

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	(च) प्रधान सचिव, सार्वजनिक स्वास्थ्य इंजीनियरिंग विभाग, राज्य सरकार (नाम) सदस्य, पदेन
	(छ) अध्यक्ष (नाम) राज्य प्रदूषण नियंत्रण बोर्ड -सदस्य, पदेन
	(झ) (नाम) राज्य में कार्यान्वयन एजेंसी के चीफ ऐक्जीक्यूटिव अधिकारी- सदस्य, पदेन
	(ञ) वनों के प्रधान मुख्य संरक्षक, राज्य सरकार (नाम) -सदस्य, पदेन
	(ट) सरकार (नाम) द्वारा संबंधित क्षेत्रों से पांच विशेषज्ञों से अधिक मनोनीत नहीं किए जाएंगे।-सदस्य

[फा. सं. स्था.-01/2016-17/111/एनएमसीजी]

संजय कुंडू, संयुक्त सचिव

**MINISTRY OF WATER RESOURCES, RIVER DEVELOPMENT, AND GANGA REJUVENATION
NOTIFICATION**

New Delhi, the 7th October, 2016

S.O. 3187(E).—Whereas it is necessary to constitute authorities at Central, State and District levels to take measures for prevention, control and abatement of environmental pollution in River Ganga and to ensure continuous adequate flow of water so as to rejuvenate the River Ganga to its natural and pristine condition and for matters connected therewith or incidental thereto;

And whereas the River Ganga is of unique importance ascribed to reasons that are geographical, historical, socio-cultural and economic giving it the status of a National River;

And whereas the River Ganga has been facing serious threat due to discharge of increasing quantities of sewage, trade effluents and other pollutants on account of rapid urbanisation and industrialisation;

And whereas, the demand for water of River Ganga is growing for irrigation, drinking water supplies, industrial use and hydro-power due to increase in population, urbanisation, industrialisation, infrastructural development and taking into account the need to meet competing demands;

And whereas there is an urgent need-

- (a) to ensure effective abatement of pollution and rejuvenation of the River Ganga by adopting a river basin approach to promote inter-State and inter-sectoral co-ordination for comprehensive planning and management;
- (b) to maintain ecological flows in the River Ganga with the aim of ensuring continuous flows throughout its length so as to restore its ecological integrity that enables it to self rejuvenate;
- (c) for imposing restrictions in areas abutting the River Ganga in which industries, operations or processes, or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards;
- (d) to make provision for inspection of any premises, plants, equipment, machineries, manufacturing or other processes, materials or substances and giving direction to the authorities, officers and persons as may be necessary to take steps, for prevention, control and abatement of environmental pollution in the River Ganga;
- (e) for carrying out and sponsoring investigations and research relating to problems of environmental pollution in the River Ganga and examination of such manufacturing processes, material and substance as are likely to cause environmental pollution;
- (f) for collection and dissemination of information in respect of matters relating to environmental pollution in the River Ganga and preparation of manual, codes or guide relating to the prevention, control and abatement of environmental pollution;

And whereas the State Governments concerned, being equally responsible for Ganga rejuvenation, are required to co-ordinate and implement the river conservation activities at the State level, and to take steps for comprehensive management of the River Ganga in their States;

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And whereas it is required to have planning, financing, monitoring and coordinating authorities for strengthening the collective efforts of the Central Government and the State Governments and authorities under this Order for effective abatement of pollution and rejuvenation, protection and management of the River Ganga;

Now, therefore, in exercise of the powers conferred by sub-section (1), read with clauses (i), (ii), (v), (vi), (vii), (viii), (ix), (x), (xii) and (xiii) of sub-section (2) and (3) of section 3 and sections 4,5,9,10,11, 19, 20 and 23 of the Environment (Protection) Act, 1986 (29 of 1986) (hereinafter referred to as the Act) and in supersession of the notifications of the Government of India in the erstwhile Ministry of Environment and Forests numbers S.O.1111(E), dated the 30th September, 2009, S.O. 2493 (E), dated the 30th September, 2009, S.O. 2494 (E), dated the 30th September 2009, S.O. 2495 (E), dated the 30th September 2009, S.O. 287 (E) dated the 8th February, 2010 and in the Ministry of Water Resources, River Development and Ganga Rejuvenation No. S.O. 2539 (E), dated the 29th September 2014, except as respects things done or omitted to be done before such supersession, the Central Government hereby-----

(i)constitutes the authorities by the names mentioned in this Order for the purpose of exercising and performing such of the powers and functions (including the power to issue directions under section 5 of the Act and for taking measures with respect to the matters as mentioned in this Order;

(ii)directs, subject to the supervision and control of the Central Government and the provisions of this Order, such authority or authorities as specified in this Order that shall exercise the powers or perform the functions or take the measures so mentioned in this Order as if such authorities had been empowered by the Act to exercise those powers, perform those functions, or take such measures;

(iii)directs that all its powers and functions (except the power to constitute any authority under sub-section (3) of section 3 and to make rules under the sections 6 and 25 of the Act) under any provision of the Act shall, in relation to River Ganga and matters connected therewith, be exercisable and discharged also by the authorities constituted by this Order and by the officers specified in this Order, subject to such conditions and limitations and to the extent as specified in this Order.

1.Short title and commencement. – (1) This Order may be called the River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016.

(2) It shall come into force on the date of its publication in the Official Gazette.

2. Applicability.- This Order shall apply to the States comprising River Ganga Basin, namely, Himanchal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as the National Council for Rejuvenation, Protection and Management of River Ganga may decide for the purpose of effective abatement of pollution and rejuvenation, protection and management of the River Ganga.

3.Definitions.- (1) In this Order, unless the context otherwise requires, -

(a) “Act” means the Environment (Protection) Act, 1986 (29 of 1986);

(b) “Basin” means the entire catchment of a water body or water course including the soil, water, vegetation and other natural resources in the area and includes land, water, vegetation and other natural resources on a catchment basis;

(c) “Buffer Area” means an area which extends beyond the flood plain of a stream;

(d) “catchment” or “catchment area” includes the entire land area whose runoff from rain, snow or ice drains into a water body or a water course, before the water course joins River Ganga or its tributaries or discharges water into River Ganga or its tributaries;

(e) “commercial fishing” means large scale fishing for commercial purposes by nets, poisoning, or other modern fishing gear or methods in River Ganga or its tributaries;

(f) Competent authority means “Central Government”

(g) “deforestation” means removal or reduction of forest cover, especially when caused by anthropogenic activities or removal of trees and other vegetation of a forest excluding a planned clearance for scientific management of forest in particular in the catchment area of River Ganga;

(h) “degraded forest” means a forest having loss or reduction of native forest cover or vegetation density in the catchment area abutting River Ganga or its tributaries;

(i) “direction” shall mean direction issued under section 5 of the Act and the expression “direct” shall be construed accordingly;

(j) “District Ganga Committee” means the District Ganga Protection Committee mentioned in paragraph 53;

(k) “engineered diversion” means a structure or device constructed or installed to transfer the water of River Ganga or its tributaries into canals or other engineering structures;

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- (l) "flood plain" means such area of River Ganga or its tributaries which comes under water on either side of it due to floods corresponding to its greatest flow or with a flood of frequency once in hundred years;
- (m) "Ghat" means sloping part at Bank of River Ganga or its tributaries with artificially constructed steps or sloping piece of land used for providing easy human access to water of River Ganga or its tributaries and includes usage of such parts for religious or other related purposes;
- (n) "local authority" includes Panchayati raj institutions, municipalities, a district board, cantonment board, town planning authority or Zila Parishad or any other body or authority, by whatever name called, for the time being invested by law, for rendering essential services or with the control and management of civic services, within a specified local area;
- (o) "National Mission for Clean Ganga" means the authority mentioned in paragraph 31.
- (p) "notification" means a notification published in the Official Gazette and the expression 'notifying' shall be construed accordingly;
- (q) "offensive matter" consists of solid waste which includes animal carcasses, kitchen or stable refuse, dung, dirt, putrid or putrefying substances and filth of any kind which is not included in the sewage;
- (r) "person" include ----
- (i) an individual or group or association of individuals whether incorporated or not;
 - (ii) a company established under the Companies Act, 2013 (18 of 2013);
 - (iii) any corporation established by or under any Central or State Act;
 - (iv) a local authority;
 - (v) every juridical person not falling within any of the preceding sub-clauses;
- (s) "River Bed" means the dried portion of the area of River Ganga or its tributaries and includes the place where the River Ganga or its tributaries run its course when it fills with water and includes the land by the side of River Ganga or its tributaries which retains the water in its natural channel, when there is the greatest flow of water;
- (t) "River Bed Farming" includes seasonal agriculture or farming on the River Bed of River Ganga or its tributaries during low flows of water;
- (u) "River Ganga" means the entire length of six head-streams in the State of Uttarakhand namely, Rivers Alakananda, Dhauri Ganga, Nandakini, Pinder, Mandakini and Bhagirathi starting from their originating glaciers up to their respective confluences at Vishnu Prayag, Nand Prayag, Karn Prayag, Rudra Prayag, and Dev Prayag as also the main stem of the river thereafter up to Ganga Sagar including Prayag Raj and includes all its tributaries;
- (v) "rubbish" means ashes, broken brick, mortar, broken glass, dust or refuse of any kind and includes filth;
- (w) "sand mining" means large scale removal of river sand from the dried channel belt, flood plain or a part of River Ganga or its tributaries;
- (x) "sewage effluent" means effluent from any sewerage system or sewage disposal works and includes sewage from open drains;
- (y) "sewerage scheme" means any scheme which a local authority may introduce for removal of sewage by flushing with water through underground closed sewers;
- (z) "Schedule" means Schedule appended to this Order;
- (za) "specified District" means an area of every District abutting the River Ganga, being within a radius of fifteen kilometers of the Ganga River Bank or its tributaries in the States of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Haryana, Rajasthan, West Bengal and the National Capital Territory of Delhi and such other States, having major tributaries of the River Ganga as referred to in this Order;
- (zb) "State Ganga Committee" means the State Ganga Rejuvenation, Protection and Management Committee constituted under this Order for each of the States mentioned in paragraph 2.
- (zc) State Ganga River Conservation Authority means an authority earlier constituted in each State under the Act as follows, namely:-
- (i) the Bihar State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O287 (E), dated 8th February 2010;
 - (ii) the Jharkhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2495(E), dated 30th September 2009;

- (iii) the Uttarakhand State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O 1111 (E), dated 30th September 2009;
- (iv) the Uttar Pradesh State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2493 (E), dated 30th September 2009; and
- (v) the West Bengal State Ganga River Conservation Authority constituted by the notification of the Government of India in the Ministry of Environment and Forests number S.O2494 (E), dated 30th September 2009.

(zd) "stream" includes river, water course (whether flowing or for the time being dry), inland water (whether natural or artificial) and sub-terrain waters;

(ze) "tributaries of River Ganga" means those rivers or streams which flow into River Ganga and includes Yamuna River, Son River, Mahananda River, Kosi River, Gandak River, Ghaghara River and Mahakali River and their tributaries or such other rivers which National Council for Rejuvenation Protection and Management of River Ganga may, by notification, specify for the purposes of this Order.

2. The words and expressions used herein and not defined but defined in the Environment (Protection) Act, 1986 (29 of 1986) shall have the meanings respectively assigned to them in the Act.

4. Principles to be followed for rejuvenation, protection and management of River Ganga. – (1) The following principles shall be followed in taking measures for the rejuvenation, protection and management of River Ganga, namely:-

- (i) the River Ganga shall be managed as a single system;
- (ii) the restoration and maintenance of the chemical, physical, and biological quality of the waters of River Ganga shall be achieved in a time bound manner;
- (iii) the River Ganga shall be managed in an ecologically sustainable manner;
- (iv) the continuity of flow in the River Ganga shall be maintained without altering the natural seasonal variations;
- (v) the longitudinal, lateral and vertical dimensions (connectivities) of River Ganga shall be incorporated into river management processes and practices;
- (vi) the integral relationship between the surface flow and sub-surface water (ground water) shall be restored and maintained;
- (vii) the lost natural vegetation in catchment area shall be regenerated and maintained;
- (viii) the aquatic and riparian biodiversity in River Ganga Basin shall be regenerated and conserved;
- (ix) the bank of River Ganga and its flood plain shall be construction free Zone to reduce pollution sources, pressures and to maintain its natural ground water recharge functions;
- (x) the public participation in rejuvenation, protection and management, revision and enforcement of any regulation, standard, effluent limitation plan, or programme for rejuvenation, protection and management shall be encouraged and made an integral part of processes and practices of

River Ganga rejuvenation, protection and management.

(2) National Mission for Clean Ganga may, having regard to the needs of the people of the country, advances in technology and socio economic conditions of the people and to preserve the rich heritage of national composite culture, specify additional principles in addition to the principles specified under sub-paragraph (1).

5. Ecological flow of water in River Ganga to be maintained. – (1) Every State Government, shall endeavor to ensure that uninterrupted flows of water are maintained at all times in River Ganga as required under clause (iv) of paragraph (4).

(2) Every State Government shall also endeavor to maintain adequate flow of water in River Ganga in different seasons to enable River Ganga to sustain its ecological integrity and to achieve the goal, all concerned authorities shall take suitable actions in a time bound manner.

(3) For the purposes of this paragraph, the average flow of water shall be determined by such Hydrology Observation Stations at such points of the River Ganga, as may be specified by the National Mission for Clean Ganga:

Provided that the average flow of water in River Ganga may, having regard to ecology, be determined by the National Mission for Clean Ganga for different points of River Ganga.

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6. Prevention, control and abatement of environmental pollution in River Ganga and its tributaries.- (1) No person shall discharge, directly or indirectly, any untreated or treated sewage or sewage sludge into the River Ganga or its tributaries or its banks:

Provided that where a local authority does not have, on the date of commencement of this Order, sewerage scheme or infrastructure for collection, storage, transportation and disposal of sewage or sewage sludge or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such local authority shall, within a period, specified by National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of sewage in the territorial area of the local authority.

(2) No person shall discharge, directly or indirectly, any untreated or treated trade effluent and industrial waste, bio-medical waste, or other hazardous substance into the River Ganga or its tributaries or on their banks:

Provided further that where an industry or industrial area management does not have, on the date of commencement of this Order, industrial effluent treatment scheme or infrastructure for collection, storage, transportation and disposal of trade effluents industrial waste, bio-medical waste, or other hazardous substance, etc. or such infrastructure is not functional on the said date in an area abutting the River Ganga or its tributaries, every such industry or industrial area management shall, within a period so specified by the National Mission for Clean Ganga from the date of commencement of this Order, develop such infrastructure or make such infrastructure functional, as the case may be, for collection, storage, transportation and disposal of trade effluent and industrial waste, bio-medical waste, or other hazardous substance in the jurisdiction of the industry or industrial area management.

(3) No person shall construct any structure, whether permanent or temporary for residential or commercial or industrial or any other purposes in the River Ganga, Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries:

Provided that in exceptional circumstances like natural calamities or religious events at traditional locations, temporary structures can be raised after prior permission of the National Mission for Clean Ganga acting through the State Ganga Committee and the District Ganga Committee:

Provided further that in case any such construction has been completed, before the commencement of this Order, in the River Bank of River Ganga or its tributaries or active flood plain area of River Ganga or its tributaries, the National Mission for Clean Ganga shall review such constructions so as to examine as to whether such constructions are causing interruption in the continuous flow of water or pollution in River Ganga or its tributaries, and if that be so, it shall cause for removing them.

(4) No person shall do any act or carry on any project or process or activity which, notwithstanding whether such act has been mentioned in this Order or not, has the effect of causing pollution in the River Ganga.

(5) It shall be the duty of the National Mission for Clean Ganga, every Specified State Ganga Committee or specified District Ganga Protection Committee, local authority and all other authorities and persons to disseminate widely and bring to public notice, using various means, information captured in reports and the aforesaid measures in the local language in every village, town, city and other areas abutting River Ganga and its tributaries.

7. Emergency measures in case of pollution of River Ganga or its tributaries --- If any poisonous, noxious or polluting matter is present or has entered into the River Ganga due to any accident or other unforeseen act or event, and it is necessary or expedient to take immediate action, the National Mission for Clean Ganga shall take immediate action for carrying out such operations or direct for carrying out such operations by the specified State Ganga Committee or specified District Ganga Committee or local authority or any other authority or Board or Corporation, as it may consider necessary for all or any of the following purposes, namely; -

(a) the manner of removing the matter from River Ganga and disposing it off in such a manner as it may specify, as also, for carrying out such operations as is considered appropriate for mitigation or removal of any pollution caused by such matter;

(b) issuing directions restraining or prohibiting any person concerned from discharging any poisonous, noxious or polluting matter in the River Ganga;

(c) undertaking any additional work or functions as may be necessary to address such emergency.

8. Power to issue directions. - The National Mission for Clean Ganga shall, in the exercise of its powers and performance or its functions under this Order, issue such directions in writing as it may consider necessary for abatement of pollution and rejuvenation, protection and management of the River Ganga to the concerned authority or local authority or other authorities or Board or Corporation or person and they shall be bound to comply with such directions.

9. Ganga safety audit.- Every District Ganga Committee shall cause the Ganga safety audit to be carried out by such Ganga Safety Auditors within such time frame and in accordance with such protocols as may be specified by the

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No. Q-1501740/2007-CPW
Government of India
Ministry of Environment, Forest & Climate Change
C P Division

Indira Paryavaran Bhawan,
Jor Bagh Road,
New Delhi-110003
Dated 26th August, 2015

Office Memorandum

Subject: Protocol for sampling, analysis of coal and reporting of compliance in respect of implementation of the Gazette notification on use & supply of raw or blended or beneficiated coal with ash content not exceeding 34% ash content in coal based thermal power plants

1.0 Purpose:

This protocol presents the protocol for sampling, analysis of coal and reporting of compliance on quarterly basis with respect to ash content in coal to be supplied and used by the thermal power plants covered under the provisions of the Gazette notification GSR 02 (E) dated January 02, 2014 on supply and use of raw or blended or beneficiated coal in thermal power plants. The objective is to ensure compliance of the quality of coal with respect to ash content, supplied and used by thermal power plants in keeping with applicable extant Notification of the Ministry in this regard. The data generated shall help in evaluation of compliance level of the notification.

2.0 The Notification:

In exercise of the powers conferred by Section 3, Section 6 and Section 25 of the Environment (Protection) Act, 1986 (29 of 1986) read with rule 5 of the Environment (Protection) Rules, 1986, the Ministry of Environment, Forest & Climate Change, Government of India made the following rules vide notification No GSR 2 (E) dated January 02, 2014 under the Environment (Protection) Rules, 1986, namely:—

With effect from the date specified hereunder, the following coal based thermal power plants shall be supplied with, and shall use, raw or blended or beneficiated coal with ash content not exceeding thirty-four per cent, on quarterly average basis, namely:—

- (a) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located beyond 1000 kilometres from the pit-head or, in an urban area or an ecologically sensitive area or a critically polluted industrial area, irrespective of its distance from the pit-head, except a pit-head power plant, with immediate effect;
- (b) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located between 750 – 1000 kilometres from the pit-head, with effect from the 1st day of January, 2015;

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(c) a stand-alone thermal power plant (of any capacity), or a captive thermal power plant of installed capacity of 100 MW or above, located between 500-749 kilometres from the pit-head, with effect from the 5th day of June, 2016:

Provided that in respect of a thermal power plant using Circulating Fluidised Bed Combustion or Atmosphere Fluidised Bed Combustion or Pressurized Fluidised Bed Combustion or Integrated Gasification Combined Cycle technologies or any other clean technologies as may be notified by the Central Government in the Official Gazette, the provisions of clauses (a), (b) and (c) shall not be applicable.

3.0 Statutory Compliance Requirement and Reporting:

As per the notification, power plants located 750 kilometres from pit head (500 kilometres from June 05, 2016) shall be supplied with, and shall use, raw or blended or beneficiated coal with ash content not exceeding thirty-four per cent, on quarterly average basis. Hence, coal mine or company, as applicable, supplying coal to thermal power plants as well as thermal power plants covered under provisions of the notification shall require to submit compliance report for each quarter with respect to average ash content in coal used by them to respective State Pollution Control Boards (SPCBs), Regional office of the Ministry of Environment, Forest & Climate Change (MoEF&CC) and Central Pollution Control Board (CPCB).

4.0 Amendment in Consent under Air (Prevention and Control of Pollution) Act, 1981 & conditions in Environmental Clearance issued under Environment (Protection) Act, 1986:

In order to implement the provisions made in the notification, the State Pollution Control Board concerned and Ministry of Environment, Forest & Climate Change shall include a condition with respect to specifying ash content in raw or blended or beneficiated coal to be supplied by the coal mine or company, as applicable, and used by thermal power plants, in the existing consent orders issued under Air (Prevention and control of pollution) Act, 1981 and in Environmental Clearance issued under Environment (Protection) Act, 1986 to thermal power plant and coal mine or company, as applicable, under the purview of the notification on supply and use of raw or blended or beneficiated coal and shall invariably prescribe to all new thermal power plant and coal mine or company, as applicable, which may otherwise fall under the purview of the said notification.

5.0 Ash content monitoring (sampling and analysis) technique of coal:

Coal is highly heterogeneous in nature consisting of particles of various shapes and sizes each having different physical characteristics, chemical properties and residual ash content. Sampling is further complicated by the sampling equipment available, the quantity to be represented by the sample mass, and the degree of precision required. In addition, the coal to be sampled may be a blend of different coal types and how the coal is blended has a profound effect on the way a representative sample is obtained. National and international standards have been developed to provide guidelines for coal sampling procedures under different conditions, sample preparation and bias test procedures for the purpose of obtaining unbiased samples.

Real Time monitoring using auto mechanical sampling (online) from moving streams shall be used for sampling fuels. This shall be effective from a date not later



than 01 September, 2016 in order to enable the Coal Companies and thermal power plants to install and operationalise the real time monitoring system. Manual sampling and analysis may be done so as to verify the online monitoring results.

In case of manual monitoring, coal samples may be taken from a moving conveyor belt since sampling from stationary coal such as a coal storage pile or railcars may be problematic. The analysis of samples shall be carried out by third party appointed by the respective thermal power plant/coal mine or company, as applicable, as per the guidelines of Coal Controller.

6.0 Calibration of auto-mechanical sampler:

It should be ensured that the online ash monitoring instrument is properly calibrated. Measurements should be accepted as valid only if the calibration level shows variation in ash content is 1.0-2%. The online monitor and calibrator will hold a current calibration certificate traceable to national standards.

7.0 Location of Real-Time monitor:

The best location of real-time monitor for sampling from a moving stream is at the coal discharge point of a conveyor belt to bunker where the complete stream can be intersected at regular intervals.

8.0 Sampling frequency:

The continuous sampling of ash content in coal shall be carried out using real-time coal quality monitoring devices. In case of manual monitoring, minimum one sample from moving conveyor belt leading to bunker at each filling shall be collected. The data generated shall be computed and average for each quarter shall be calculated for reporting to concerned agencies as specified in the para 3.0 of this Office Memorandum.

9.0 Monitoring:

The following criteria will be observed when undertaking the sampling and analysis of coal samples with respect to ash content:

9.1 In case of manual monitoring:

- i. Collection of coal samples shall strictly be collected as per the guidelines of Coal Controller/ Bureau of Indian Standards (BIS).
- ii. Coal samples shall be collected by the third party appointed by the respective thermal power plant, coal mine or company, as applicable. However, in case of legal sampling a representative of concerned SPCB, thermal power plant, coal mine or company, as applicable shall also be present during sampling.
- iii. Preparation of samples and analysis shall be carried out by using standard methodology as given by Coal Controller/ Bureau of Indian Standards (BIS) at the NABL accredited laboratory of either coal company/power plant or third party engaged.

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9.2 In case of Real Time monitoring:

Data generated through real time online monitors shall be computed on daily basis an average of 3 months shall be calculated for reporting of compliance.

10.0 Monitoring records:

All power plants and coal mine or company, as applicable shall maintain records of the data generated and reported to SPCBs concerned, CPCB & Regional Office of MoEF&CC in compliance to the provisions of the notification for every quarter.

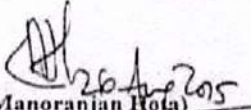
11.0 Compliance Reporting:

All thermal power plants covered under provisions of the notification shall submit compliance Report for each quarter with respect to average ash content in coal used by them to respective SPCBs, Regional office of the MoEF& CC and CPCB on or before 10th day of next month of each quarter ending on 31st day of March, 30th day of June, 30th day of September and 31st day of December every year. Similarly, all coal mine or company, as applicable, supplying coal to power plants shall also submit the same to agencies as mentioned in para 3 of this Office Memorandum.

In order to improve compliance reporting, the thermal power plants and connected coal mine or company, as applicable, should explore possibility of reporting of compliance on continuous basis (online) by making suitable arrangements with respect to ash content in coal being supplied and used by thermal power plants.

12.0 Verification of data & Compliance:

The SPCB concerned shall verify the sampling and analysis process and calibration of real time monitoring devices at least once a year at each thermal power plant and coal mine. Besides, random sampling and analysis of coal used by the power plant and supplied by coal mine shall also be conducted once in a year to ensure compliance and quality of data reporting by the thermal power plants and coal mines.


(Dr. Manoranjan Rout)
Director

To

- 1 PS to MEF&CC
- 2 PPS to Secretary (EF&CC)
- 3 Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
- 4 Secretary, Ministry of Power, Shram Shakti Bhawan New Delhi
- 5 Secretary, Ministry of Steel, Udyog Bhawan, New Delhi
- 6 PPS to Addl. Secretary (HKP)/AS (SK)/AS (MMK);
- 7 JS (MKS), JS (BS)
- 8 Chairman, CPCB/Member Secretary, CPCB
- 9 Member Secretary, All the SPCBs/PCCs
- ✓ 10 IT Division, MoEF&CC to upload into the website

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

CSMC/TFC/CR-13/2013-14

Phone No 080-26531200
Fax No 080-26531202

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

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

Sir,

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

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

* * *

We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted, etc and has concurred in principle to issue the Site Clearance for the initial clearing for the establishment of super thermal power project for generating electrical power of 2 X 800 MW at Near Kudugi village, Basavana bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions:

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

A.G.M (P.K.S.)
Date 17/10/2013

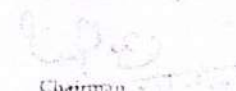
- 8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval.
- 9. The provisions of rule 51 to 251 of Building and Other Construction Workers (Regulation of Employment and condition of service) (Karnataka) Rules, 2006 shall be complied to ensure occupational safety and health of the construction workers involved project. The compliance shall be furnished regularly to jurisdiction officers of our department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions:

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

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

Your's Faithfully,


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

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

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

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

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

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

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

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

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

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

Director of Factories &
Boilers,
Bengaluru

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

for kind information please.

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मेने वरत अनुदित

29/4/16



BY REGD. POST

STATE POLLUTION CONTROL BOARD, ODISHA

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

No. 2755 /

Ind-II-NOC-5592

Date 28-02-14

OFFICE MEMORANDUM

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

GENERAL CONDITIONS.

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

[1]

SPECIAL CONDITIONS :-

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

[2]

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

Boiler Blow Down :

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

[3]

Cooling Tower Blow Down

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

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

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

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

Encl: Approved layout Map & Annexures

[Signature]
MEMBER SECRETARY

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

Memo No. _____ /Dt. _____ /

Copy forwarded to:

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

SR. ENV. ENGINEER (N)

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