Petition No.....

एनटीपीसी
NTPC
A Maharatna Company

SIMHADRI SUPER THERMAL POWER STATION
STAGE-II

(2X500 MW)

PETITION FOR APPROVAL OF TARIFF 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 Simhadri Super Thermal Power Station Stage- II (1000 MW) **for the period from 01.04.2019 to 31.03.2024**.

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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. AP Eastern Power Distribution Company Ltd. (APEPDCL)
Corporate Office
P&T Colony, Seethammadhara,
Visakhapatnam – 530 013 - (AP)

2. AP Southern Power Distribution Company Ltd. (APSPDCL)
Corporate Office
Back Side Srinivasa Kalyana Mandapam
Tiruchhanur Road, Kesavayana Gunta,
Tirupathi – 517 503 (AP)

3. Telangana State Northern Power Distribution Company Ltd. (TSNPDCL)
H.No. 2-5-31/2, Vidyut Bhavan
Nakkalagutta, Hanamkonda
Warangal – 506 001 (AP)

4. Telangana State Southern Power Distribution Company Ltd. (TSPDCL)
Mint Compound
Corporate Office
Hyderabad (AP) – 500 063.

5. Tamil Nadu Generation & Distribution Corporation Ltd. (TANGEDCO) (formerly TNEB)
144, Anna Salai
Chennai – 600 002

6 Bangalore Electricity Supply Company Ltd. (BESCOM)
Krishna Rajendra Circle
Bangalore - 560 009.

7 Mangalore Electricity Supply Company Ltd (MESCOM)
MESCOM bhavana,
Corporate Office,
Bejai, kavoor cross road,mangaluru,
575004, Karnataka

8 CESC (Chamundeshwari Electricity Supply Corp. Ltd.)
Corporate Office, No. 29,
Vijayanagar, 2nd stage, Hinkal,
Mysore – 570 017.

9 Gulbarga Electricity Supply Company Ltd. (GESCOM)
Main road, Gulbarga, Karnataka.
Gulbarga – 585 102.

10 Hubli Electricity Supply Company Ltd. (HESCOM)
Corporate office, P.B.Road, Navanagar
Hubli – 580 025.

11 Kerala State Electricity Board Ltd.(KSEBL)
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram – 695 004.

12 Electricity Department , Puducherry
137, NSC Bose salai
Puducherry- 605001

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. Simhadri Super Thermal Power Station Stage- II (2 X500 MW) (hereinafter referred to as Simhadri-II) is one such station located in the State of Andhra Pradesh . The power generated from Simhadri-II is being supplied to the respondents herein above.

4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter 'Tariff Regulations 2019') which came into force from 01.04.2019, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2019 to 31.03.2024.

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

6) The tariff of the Simhadri-II for the tariff period 1.4.2014 to 31.3.2019 was determined by the Hon'ble Commission vide its order dated 29.07.16 in Petition No. 294/GT/2014 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2014. Further, Hon'ble Commission vide Review Order dated 01.05.2017 in Petition No. 50/RP/2016 has revised the tariff of the station. The Petitioner thereafter has filed an Appeal (being No. 25 of 2017) in Appellate Tribunal of Electricity on certain aspects of the order dated 29.07.16/ 01.05.2017 . The appeal is under consideration of the Hon'ble Appellate Tribunal of Electricity. The petitioner vide affidavit dated 29.11.2019 had filed a separate true up petition for the period 01.04.2014 to 31.03.2019 for revision of tariff in line with the applicable provisions of Tariff Regulations 2014.

7) The Hon'ble Commission vide order dated 01.05.2017 in Petition no 50/RP/2016 has allowed a capital cost of Rs 5410.35 Cr. as on 31.03.2019 based on the admitted projected capital expenditure for the 2014-19 period. However, the actual closing capital cost as on 31.03.2019 has been worked out in the foresaid true-up petition as Rs. 5610.15 Crs based on the actual expenditure after truing up exercise for the period 2014-19. Accordingly, the Petitioner has adjusted an amount of Rs. (+) 199.8 Cr in the admitted capital cost as on 31.03.2019 and the opening capital cost as on 01.04.2019 has been considered as Rs 5610.15 Cr. in the instant petition. The Hon'ble Commission may be pleased to adopt this adjustment in the admitted capital cost as on 31.3.2019 and determine the tariff in the present petition for the period 2019-24.

8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2019 considered as above and projected estimated capital expenditures for the period 2019-24 under Regulation 19 and Regulation 25 and 26 of the Tariff Regulations, 2019.

9) As per Regulation 35(1)(6) of the Tariff Regulations 2019, the water charges, security expenses and capital spares consumed for thermal generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2019-24 have been furnished below. Accordingly, water charges may be allowed in tariff based on the same for the 2019-24. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	**Remarks**
Type of Plant	Coal Based
Type of cooling water system	NDCT
Consumption of Water	Sea water: 45.465 MCM Sweet water: 4.622 MCM
Rate of Water charges	Sea water: 5 Paisa/KL Sweet water: Rs. 16.60/KL for FY 2019-20 with escalation of 5 % every year Other charges may also be payable as per agreement
Total Water Charges	Yearly details as per Form-3A of Appendix-I

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. 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 truing –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."

Petitioner has claimed the additional expenditure towards ash transportation charges for the period 2017-18 and 2018-19 in the true-up petition filed vide affidavit dated 29.11.2019 in respect of the instant station.

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 international competitive bidding. It was not possible for the petitioner to specify the efficiency parameters at the time of finalizing the contracts of the instant station as per the efficiency parameters in subsequent tariff period including specified in Tariff Regulations 2019-24 which are 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 ratethis 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 84.84 % the unit heat rate would be worked out to be 2277.82 kcal/kwh and the operating margin available over the design heat rate would be 3.58 % 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 1932.5 kca/kwh . and boiler efficiency of 84.84 % with a 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.

14) Petitioner respectfully submits that Simhadri –II is a coastal based power station and Sea water is being used for the purpose of cooling in condenser, Auxiliary cooling water and Ash handling system as per design instead of river water (sweet water). The Auxilliary energy consumption norm for 500 MW units is fixed at 5.75% (>85% Loading factor) as per Tariff norms for the period of 2019-24. This norm is applicable to all 500 MW stations with NDCTs for both coastal based and river water based power stations..

Due to usage of sea water APC of Simhadri-II is higher than the norms provided by the Regulations. The following factors contribute in increasing APC for power plants using sea water over and above river water based power plants.

- SP. Gravity of Seawater: (around 2.5% higher than that of River water) – Requires more pumping power
- Cycles of Concentration (COC) : 1.5 (instead of 3.0 for river water based systems) : Requires more blow down and more make up

The system wise additional pumping power (with sea water) required for a 1000 MW Station (2X500 MW) at 85 % load in comparison to river water based stations is tabulated below:

	System	Additional Power (MW)
1	Cooling water System	1.055
2	Ash Handling System	0.0319
3	Auxiliary Cooling water system	0.0102
	TOTAL	1.0971
	IMPACT ON APC (%) at 85% LF	0.13

It can be seen from the above table that the impact of using Sea water on Aux power Consumption per 2 X 500 MW stage comes to 0.13% at 85% loading. This impact at part loads shall be much more than as calculated above.

Further, the recent changes in regime of operation of power sector are influencing the actual AEC/APC of the power station.

- Technical minimum load revised to 55% w.e.f. 15.05.2017
- SCED implementation wef 01.04.2019,

Under the above regime of Operation, Schedule Generation (SG) is being revised around 150 times in a day for Simhadri Station. Almost for the 50% of time Station is running at Tech min loads (55% to 65%). To cope up with the above changes in grid operation, it becomes necessary to keep all 4 CW pumps in operation and also keep one additional mill in spinning at loads less than 85% to meet the immediate revisions of SG. The approximate impact

comes to 0.1% in AEC/APC. This is more evident from the operating data during the FY 19-20 till September'19 as tabulated below:

FY	Loading Factor (%)	APC Actual (%) (A)	APC with Compensation (%) (B)	Gap from Tariff (%) A-B
19-20 till Sep'19	71.17	6.64	6.40	0.24

Para 14.4 of the Statement of Objects and Reasons (SOR) for CERC (terms and Condition of Tariff) regulations 2019 also provides as under:

Quote

14.4 ***Auxiliary Energy Consumption [Regulation 49(E)]***

14.4.1

.....

.....The additional auxiliary consumption of coastal plants for usage of sea water have not been made part of tariff Regulation as the same would vary from station to station depending upon the equipment installed, configuration which will be considered separately on case to case basis.

.....

Unquote

In view of the above, the Petitioner prays for the relaxation in norms for Auxiliary Power Consumption for Simhadri-II based on the actual APC. The Hon'ble Commission may be pleased to allow the same under Regulation 76 & 77.

15) It is submitted that the Petitioner has already paid the requisite filing fee vide UTR No. CMS1106438370 on 22.04.2019 for the year 2019-20 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dtd. 25.04.2019 . For the

subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 70 (1) of Tariff Regulations 2019 provides that the application fee and publication expenses may be allowed to be recovered directly from the beneficiaries at the discretion of the Hon'ble Commission. Accordingly, it is prayed that Hon'ble Commission may be pleased to allow recover filing fee and publication fee directly from the beneficiaries.

16) 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.

17) It is submitted the Petitioner has served the copy of the Petition on to the Respondents mentioned herein above and has posted the Petition on the company website i.e. www.ntpc.co.in

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

Prayers

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

i) Approve tariff of Simhadri Super Thermal Power Station Stage- II (1000 MW) 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) Allow the relaxation in norms for Auxilliary Power Consumption.

v) Consider station heat rate based on design heat rate with applicable operating margin.

vi) 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 Simhadri Super Thermal Power Station Stage- II (1000 MW) **for the period from 01.04.2019 to 31.03.2024**.

AND
IN THE MATTER OF

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

Respondents **1.** AP Eastern Power Distribution Company Ltd.
(APEPDCL)
Corporate Office
P&T Colony, Seethammadhara,
Visakhapatnam – 530 013 - (AP)

AND OTHERS

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.

14

NOTARY
R.V. SINGH
Advocate
Regn.No.2282
Commission
Expire on
24-10-2022
Area-Delhi
GOVT. OF INDIA

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

Simhadri Super Thermal power Station Stage-II

(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	✓
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	NA
FORM- 15	Details of Fuel for Computation of Energy Charges	✓
FORM- 15A	Details of Seconday 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 Forms**

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

PART-I

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

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

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

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	
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	
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	
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.	*
9	Any other relevant information, (Please specify)	
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	*
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

* Shall be submitted at the time of true up

PART-I
FORM- 1

Summary of Tariff

Name of the Petitioner:	**NTPC Limited**
Name of the Generating Station:	**Simhadri Super Thermal power Station Stage-II**
Place (Region/District/State):	**Southern Region/ Visakhapatanam/ Andhra Pradesh**

Amount in Rs. Lakhs

S. No.	Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	28,402.55	28,507.04	28,621.02	28,712.19	28,782.72	28,846.17
1.2	Interest on Loan	Rs Lakh	18,204.04	15,740.79	13,482.52	11,203.32	9,068.72	6,876.81
1.3	Return on Equity	Rs Lakh	33,116.27	31,644.16	31,770.69	31,871.89	31,950.18	32,020.61
1.4	Interest on Working Capital	Rs Lakh	13,568.09	8,716.89	8,735.65	8,750.71	8,769.09	8,783.41
1.5	O&M Expenses	Rs Lakh	19,564.22	24735.36	25635.53	26571.05	27542.60	28539.86
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	**112855.17**	**109344.25**	**108245.42**	**107109.16**	**106113.31**	**105066.86**
2.1	Landed Fuel Cost (coal/gas/RLNG/ liquid)	Rs/Ton	3748.14					
	(%) of Fuel Quantity	(%)	100					
2.2	Landed Fuel Cost Imported Coal		NA					
	(%) of Fuel Quantity							
2.3	Landed Fuel Cost (coal/gas /RLNG/liquid) other than FSA	Rs/Ton	NA					
	(%) of Fuel Quantity	(%)						
2.4	Landed Fuel Cost Imported Coal other than FSA.		NA					
	(%) of Fuel Quantity							
2.5	Secondary fuel oil cost	Rs/Unit	0.021					
	Energy Charge Rate ex-bus (Paise/kWh)	Rs/Unit	2.845					

(Petitioner)

PART-I
FORM- 1(I)

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

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	5,61,015.43	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43
2	Add: Addition during the year/period	1,178.00	3,313.00	279.00	2,500.00	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43	5,68,285.43
7	**Average Capital Cost**	**5,61,604.43**	**5,63,849.93**	**5,65,645.93**	**5,67,035.43**	**5,68,285.43**

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	561015.43	562193.43	565506.43	565785.43	568285.43
2	Add: Addition during the year / period	1178.00	3313.00	279.00	2500.00	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	562193.43	565506.43	565785.43	568285.43	568285.43
7	**Average Capital Cost**	**561604.43**	**563849.93**	**565645.93**	**567035.43**	**568285.43**

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)

PART-I
FORM- 1(I)

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

Amount in Rs. Lakhs

Statement showing claimed capital cost – (A+B)

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	Opening Capital Cost	5,61,015.43	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43
2	Add: Addition during the year/period	1,178.00	3,313.00	279.00	2,500.00	-
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year/ period	-	-	-	-	-
6	Closing Capital Cost	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43	5,68,285.43
7	**Average Capital Cost**	**5,61,604.43**	**5,63,849.93**	**5,65,645.93**	**5,67,035.43**	**5,68,285.43**

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	561015.43	562193.43	565506.43	565785.43	568285.43
2	Add: Addition during the year / period	1178.00	3313.00	279.00	2500.00	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	562193.43	565506.43	565785.43	568285.43	568285.43
7	**Average Capital Cost**	**561604.43**	**563849.93**	**565645.93**	**567035.43**	**568285.43**

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)

PART-I
FORM- 1(IIA)

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

Statement showing Return on Equity at Normal Rate

Amount in Rs. Lakhs

S. No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
	Return on Equity					
1	Gross Opening Equity (Normal)	1,68,304.63	1,68,658.03	1,69,651.93	1,69,735.63	170485.629
2	Less: Adjustment in Opening Equity	-				
3	Adjustment during the year		0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	1,68,304.63	1,68,658.03	1,69,651.93	1,69,735.63	1,70,485.63
5	Add: Increase in equity due to addition during the year / period	353.40	993.90	83.70	750.00	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)	1,68,658.03	1,69,651.93	1,69,735.63	1,70,485.63	1,70,485.63
11	Average Equity (Normal)	1,68,481.33	1,69,154.98	1,69,693.78	1,70,110.63	1,70,485.63
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	**31,644.16**	**31,770.69**	**31,871.89**	**31,950.18**	**32,020.61**

(Petitioner)

PART-I
FORM-2

Plant Characteristics

Name of the Petitioner	**NTPC Ltd**	
Name of the Generating Station	**Simhadri STPS-II**	
Unit(s)/Block(s)/Parameters	Unit-I	Unit-II
Installed Capacity (MW)	500	500
Schedule COD as per Investment Approval	Feb'2011	Aug'2011
Actual COD /Date of Taken Over (as applicable)	16.09.2011	30.09.2012
Pit Head or Non Pit Head	Non pit Head	Non pit Head
Name of the Boiler Manufacture	BHEL	BHEL
Name of Turbine Generator Manufacture	BHEL (Siemens)	BHEL (Siemens)
Main Steams Pressure at Turbine inlet (kg/Cm2) abs1.	170	170
Main Steam Temperature at Turbine inlet (oC) 1	537	537
Reheat Steam Pressure at Turbine inlet (kg/Cm2) 1	40.5	40.5
Reheat Steam Temperature at Turbine inlet (oC)	565	565
Main Steam flow at Turbine inlet under MCR condition (tons /hr)	1457.9	1457.9
Main Steam flow at Turbine inlet under VWO condition (tons /hr)2	1544.9	1544.9
Unit Gross electrical output under MCR /Rated condition (MW)2	500	500
Unit Gross electrical output under VWO condition (MW)2	525	525
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)3	1932.5	1932.5
Conditions on which design turbine cycle heat rate guaranteed	0% make up , condenser back pressure :0.1047 ata	0% make up , condenser back pressure :0.1047 ata
% MCR	100	100
% Makeup Water Consumption	0	0
Design Capacity of Make up Water System (Cu.m/hr)	300	300
Design Capacity of Inlet Cooling System (cu.m/hr)(cooling tower)	60000	60000
Design Cooling Water Temperature (0C)	33	33
Back Pressure	0.1047	0.1047
Steam flow at super heater outlet under BMCR condition (tons/hr)	1590	1590
Steam Pressure at super heater outlet under BMCR condition) **(kg/Cm2)(abs)**	179	179
Steam Temperature at super heater outlet under BMCR condition(oC)	540	540
Steam Temperature at re- heater outlet under BMCR condition(oC)	568	568
Design / Guaranteed Boiler Efficiency (%)4	84.84	84.84
Design Fuel with and without Blending of Domestic/Imported Coal	without	without
Type of Cooling Tower	NDCT	
Type of cooling system	sea water cooled closed circuit cooling with make up	
Type of Boiler Feed Pump	2nos Steam Driven and 1no Motor driven	
Fuel Details7		
-Primary Fuel	Coal	
-Secondary Fuel	HFO/LDO	
-Alternate Fuels		
Special Features/Site Specific Features[8]	**Vicinity to sea and sea water make up pump house on jetty at sea.**	
Special Technological Features[9]		
Environmental Regulation related features[10]	**1.ESP is provided 2.FGD and CM 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.,

PETITIONER

PART-I
FORM- 3

Normative parameters considered for tariff computations

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

(Year Ending March)

Particulars	Unit	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
Base Rate of Return on Equity $$	%	15.50	15.50	15.50	15.50	15.50	15.50
Base Rate of Return on Equity on Add. Capitalization* $$	%	-	8.263	8.246	8.233	8.373	8.556
Effective Tax Rate	%	21.4588	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00	85.00	85.00	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 **	%	5.25	5.99	5.99	5.99	5.99	5.99
Gross Station Heat Rate	kCal/kWh	2380.32	2391.71	2391.71	2391.71	2391.71	2391.71
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	60	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	18.387	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	825000					
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

** Simhadri-II being a coastal based power Station, APC has been considered for 2019-24 as per para 14 of petition

*** Storage Capacity for Simhadri-I & II combined together

Petitioner

Part-I
FORM-3A
ADDITIONAL FORM

Calculation of O&M Expenses

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

Amount in Rs. Lakhs

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7
1	**O&M expenses under Reg.35(1)**					
1a	Normative	22510.00	23300.00	24120.00	24970.00	25840.00
2	**O&M expenses under Reg.35(6)**					
2a	Water Charges ## **	882.00	925.00	970.00	1017.50	1067.00
2b	Security expenses **	1343.36	1410.53	1481.05	1555.10	1632.86
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	**24735.36**	**25635.53**	**26571.05**	**27542.60**	**28539.86**

Notification of water charges rate are Attached at Annex - I

** Subject to true up

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

Petitioner

Form-4

DETAILS OF FOREIGN LOANS

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

Name of the company		**NTPC LIMITED**					
Name of the Power Station		**Simhadri -II**					
Exchange Rate as on	31-03-2019	USD = Rs.	69.77	EUR = Rs.	78.84	JPY	0.6343

2% (Amount in Lacs) (Amount in Lacs) (Amount in Lacs)

Financial Year (Starting from COD)	**2019-20 (01.04.2019 to 31.03.2020)**				**2020-21 (01.04.2020 to 31.03.2021)**				**2021-22 (01.04.2021 to 31.03.2022)**			
1	1	2	3	4	1	2	3	4	1	2	3	4
5.625 % Euro Bonds 2021	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)
Currency 1 USD	14-01-2019											
At the date of drawl	01-04-2019	116.85	69.77	8,152.62		116.85	69.77	8,152.62		116.85	69.77	8,152.62
Loan repayment upto previous period		-	69.77									
Net loan at the Beginning of the period	01-04-2019	116.85	69.77	8,152.62	01-04-2020	116.85	69.77	8,152.62	01-04-2021	116.85	69.77	8,152.62
Schedule repayment date of principal								-	14-07-2021	116.85	69.77	8,152.62
Scheduled payment date of interest	14-07-2019	3.29	69.77	229.29	14-07-2020	3.29	69.77	229.29	14-07-2021	2.78	69.77	193.62
Witholding tax including surcharge on interest	14-07-2019	0.92	69.77	64.07	14-07-2020	0.92	69.77	64.07	14-07-2021	0.78	69.77	54.10
Schedule repayment date of principal								-				-
Scheduled payment date of interest	14-01-2020	3.29	69.77	229.29	14-01-2021	3.29	69.77	229.29	14-01-2021	-	69.77	-
Witholding tax including surcharge on interest	14-01-2020	0.92	69.77	64.07	14-01-2021	0.92	69.77	64.07	14-01-2021	-	69.77	-
At the end of Financial year	31-03-2020	**116.85**	**69.77**	**8,152.62**	31-03-2021	**116.85**	**69.77**	**8,152.62**	31-03-2022	-	**69.77**	-

4% (Amount in Lacs) (Amount in Lacs) (Amount in Lacs)

	Financial Year (Starting from COD)	**2019-20 (01.04.2019 to 31.03.2020)**				**2020-21 (01.04.2020 to 31.03.2021)**				**2021-22 (01.04.2021 to 31.03.2022)**				**2022-23 (01.04.2022 to 31.03.2023)**			
	1	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	4.75% Eurobonds 2022	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)	Date	Amount (FC)	Ex. Rate	Amount (INR)
A.	Currency 1 USD	02-10-2018															
1.	At the date of drawl	01-04-2018	199.74	69.77	13,935.86		199.74	69.77	13,935.86		199.74	69.77	13,935.86		199.74	69.77	13,935.86
	Loan repayment upto previous period		-	0.00	-												
	Net loan at the Beginning of the period	01-04-2019	199.74	69.77	13,935.86	01-04-2020	199.74	69.77	13,935.86	01-04-2021	199.74	69.77	13,935.86	01-04-2022	199.74	69.77	13,935.86
2.	Schedule repayment date of principal								-				-				-
3.	Scheduled payment date of interest	02-04-2019	4.74	69.77	330.98	02-04-2020	4.74	69.77	330.98	02-04-2021	4.74	69.77	330.98	02-04-2022	4.74	69.77	330.98
4.	Witholding tax including surcharge on interest	02-04-2019	0.27	69.77	19.12	02-04-2020	0.27	69.77	19.12	02-04-2021	0.27	69.77	19.12	02-04-2022	0.27	69.77	19.12
5.	Schedule repayment date of principal								-				-	02-10-2022	199.74	69.77	13,935.86
6.	Scheduled payment date of interest	02-10-2019	4.74	69.77	330.98	02-10-2020	4.74	69.77	330.98	02-10-2021	4.74	69.77	330.98	02-10-2022	4.74	69.77	330.98
7.	Witholding tax including surcharge on interest	02-10-2019	0.27	69.77	19.12	02-10-2020	0.27	69.77	19.12	02-10-2021	0.27	69.77	19.12	02-10-2022	0.27	69.77	19.12
	At the end of Financial year	31-03-2020	**199.74**	**69.77**	**13,935.86**	31-03-2021	**199.74**	**69.77**	**13,935.86**	31-03-2022	**199.74**	**69.77**	**13,935.86**	02-10-2022	-	**0.00**	-

PART 1
FORM- 5

Abstract of Admitted Capital Cost for the existing Projects

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

Last date of order of Commission for the project	**Date (DD-MM-YYYY)**	01-05-2017
Reference of petition no. in which the above order was passed	**Petition no.**	50/RP/2016 in Pet No 294/GT/2014
Following details as admitted on 31.03.19 in the above order by the Commission:		
Capital cost	**(Rs. in lakh)**	541035.31
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)		12577.72
Gross Normative Debt		378724.717
Cumulative Repayment		187094.7
Net Normative Debt		191630.017
Normative Equity		162310.593
Cumulative Depreciation		187508.28
Freehold land		0

(Petitioner)

PART I
FORM- 5A

Abstract of Claimed Capital Cost for the existing Projects

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

Reference of Final True-up Tariff Petition	**Affidavit dated**	
Capital Cost as on 31.03.2019 as per Hon'ble Commission's Order dated 01.05.2017 In Pet. No. 50/RP/2016	**Rs. Lakhs**	541035.31
Adjustment as per Para (7) of this petition		19980
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.02019	**(Rs. in lakh)**	561015.31
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)		6811.15
Gross Normative Debt		392710.801
Cumulative Repayment		188381.53
Net Normative Debt		204329.271
Normative Equity		168304.593
Cumulative Depreciation		189612.39
Freehold land		

(Petitioner)

Form 8- Domestic Bonds- Details of Allocation of corporate loans to various projects during the FY 2014-19

Particulars	XXIV 8.6077%	XXX 7.89%	XLII 9%	XLIV9.25%	XLVII8.84%	54	57	60	66	67
Source of Loan1	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS	BONDS
Currency2	INR	INR	INR	INR	INR	INR	INR	INR	INR	INR
Amount of Loan sanctioned	**50000**	**70000**	**50000**	**50000**	**39000**	**1030683**	**50000**	**100000**	**392500**	**400000**
Interest Type6	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Fixed Interest Rate, if applicable	8.6077%	7.890%	9.00%	9.25%	8.84%	8.49%	8.19%	8.05%	7.37%	8.30%
Base Rate, if Floating Interest7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Margin, if Floating Interest8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Are there any Caps/Floor9	No	No	No	No	No	No	No	No	No	No
If above is yes,specify caps/floor						N/A	N/A	N/A	N/A	N/A
Moratorium Period10	4.5 yrs *	10 yrs	10 yrs.	11 yrs	10 yrs	8	10	10	15	10
Moratorium effective from #	09.03.2007	05.05.09	25.01.2012	04.05.12	04.10.12	25-03-2015	15-12-2015	05-05-2016	14-12-2016	15-01-2019
Repayment Period11	9.5 yrs	Bullet Repayment	5 yrs	5 yrs	Bullet Repayment	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment effective from	09.09.11	05.05.19	25.01.2023	04.05.23	04.10.22	25-03-2023	15-12-2025	05-05-2026	14-12-2031	15-01-2029
Repayment Frequency12	Half Yearly	Bullet Repayment	Yearly	Yearly	Bullet Repayment	Installments Due on 25/03/2023, 25/03/2024 & 25/03/2025	Bullet Repayment	Bullet Repayment	Bullet Repayment	Bullet Repayment
Repayment Instalment13,14	2500	70000	10000	10000	39000	Installments 1st - 206,136.61 2nd - 412,273.22 3rd - 412,273.22	50000	100000	392500	400000
Base Exchange Rate16						N/A	N/A	N/A	N/A	N/A
Door to Door Maturity	14 yrs	10 yrs	15 yrs.	15yrs	10 yrs	10	10	10	15	10
Name of the Projects										
Simhadari II	20,000	15,000	3,800	3,600	2,500	26,800	1,000	2,000	2,000	4,804

* Interest rate refinancing retained against bond series 67 - 0.40%

Name of the Company	**NTPC LIMITED**
Name of the Power Station	**SIMHADRI-II**

Particulars		
	1	2
Source of Loan	**5.625% Fixed Rate Notes due 2021***	**4.75% Fixed Rate Notes due 2022****
Drawal	-	-
Currency	USD	USD
Amount of loan sanctioned	50,00,00,000	50,00,00,000
Amount of Gross Loan drawn upto 30.09.2018 / COD	50,00,00,000	50,00,00,000
Interest Type	Fixed	Fixed
Fixed Interest Rate, if applicable	5.625%	4.750%
Base Rate, if floating interest	-	-
Margin, if floating interest rate	-	-
Are there any Caps / Floor	NO	NO
If above is Yes, specify Caps / Floor	-	-
Moratorium Period	10 Years	10 Years
Moratorium effective from	14-Jul-2011	03-Oct-2012
Repayment period	Bullet payment	Bullet payment
Repayment effective from	14-Jul-2021	03-Oct-2022
Repayment frequency	One time	One time
Repayment installment	50,00,00,000	50,00,00,000
Base Exchange Rate (30.09.2018)	73.15	73.15
Are foreign currency loan hedged	NO	NO
If above is Yes, specify details	-	-

Name of the Projects	**%**	**%**
Simhadri-II	2.337000%	3.994800%

Notes:-

* The Interest rate is exclusive of withholding tax currently @ 21.84%(Inclusive of surcharge & education cess)

** The Interest rate is exclusive of withholding tax currently @ 5.46%(Inclusive of surcharge & education cess)

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 :	50,00,00,00,000	
Total Drawn amount :	26,35,00,00,000	
Date of Drawal:	18.02.2019	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.35%	
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	90,00,00,000.00
	FARAKKA-III	24,50,00,000.00
	GADARWARA	90,00,00,000.00
	KORBA-III	25,00,00,000.00
	LARA	1,00,00,00,000.00
	MOUDA-I	21,00,00,000.00
	MOUDA-II	2,25,00,00,000.00
	NCTPP-II	63,50,00,000.00
	NORTH KARANPURA	10,40,00,00,000.00
	PAKRI BARWADIH CMB	1,20,00,00,000.00
	SIMHADRI-II	21,00,00,000.00
	SOLAPUR	2,40,00,00,000.00
	TELANGANA	75,00,00,000.00
	KUDGI	2,00,00,00,000.00
	BARH-I	50,00,00,000.00
	NORTH KARANPURA	80,00,00,000
	TAPOVAN VISHNUGARH	20,00,00,000
	TELANGANA	1,50,00,00,000
Total Allocated Amount		**26,35,00,00,000.00**

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Statement Giving Details of Project Financed through a Combination of loan

Form 8

BP NO 5050000721	**TRANCHE NO T00001**	**D00001**

Unsecured Loan From Corporation Bank-IV

Source of Loan :	**Corporation Bank-IV**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	20,00,00,00,000	
Date of Drawal:	11.01.2019	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.30%	
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 HYDRO	8,75,00,000
	FARIDABAD SOLAR PV	8,75,00,000
	SINGRAULI SOLAR	8,75,00,000
	FARAKKA III	11,42,85,716
	RAJGARH SOLAR	13,12,50,000
	NCTPP-II	14,28,57,139
	GANDHAR R&M	16,60,71,436
	SIMHADRI-II	23,21,42,855
	SIPAT-I	23,43,75,000
	MOUDA-II	50,00,00,000
	VINDHYACHAL-V	1,00,00,00,000
	SIPAT-II	1,01,07,14,287
	MOUDA-I	1,05,44,64,284
	RIHAND-III	1,22,85,71,426
	VINDHYACHAL-IV	2,45,00,00,000
	KOLDAM	2,71,51,78,577
	BARH-II	6,75,75,89,280
	KUDGI	2,00,00,00,000
Total Allocated Amount		**20,00,00,00,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000511 **T00001** **D00001**

Unsecured Loan From Bank of Karnataka Bank		
Source of Loan :	**Jammu & Kashmir Bank-IV**	
Currency :	INR	
Amount of Loan :	7,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl:	31.03.2017	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.30%	
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 :	Nil	
Moratorium effective from :	31.03.2017	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	9 Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	31.03.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	2,10,00,00,000.00
	BONGAIGAON	62,00,00,000.00
	KUDGI	35,00,00,000.00
	MOUDA-II	36,00,00,000.00
	SOLAPUR	40,00,00,000.00
	TAPOVAN VISHNUGAD	46,00,00,000.00
	SIMHADRI-II	52,00,00,000.00
	PAKRI BARWADIH COAL MINE	19,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000501 **T00001**

Unsecured Loan From Bank of Karnataka Bank		
Source of Loan :	**Karnataka Bank-II**	
Currency :	INR	
Amount of Loan :	5,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawal	28.03.2017	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	7.96%	
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 :	Nil	
Moratorium effective from :	28.03.2017	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9f Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	28.03.2021	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-I	93,75,00,000.00
	BARH-II	1,31,25,00,000.00
	BONGAIGAON	17,85,71,427.00
	KORBA-III	36,78,57,143.00
	LARA-I	9,37,50,000.00
	PAKRI BARWADIH	53,75,00,000.00
	RIHAND-III	45,98,21,428.00
	SOLAPUR	46,87,50,000.00
	VINDHYACHAL-IV	35,71,42,855.00
	SIMHADRI-II	28,66,07,147.00
Total Allocated Amount		**5,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000442 **T00001** **D00011**

Unsecured Loan From SBI-VIII		
Source of Loan :	**SBI-VIII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,00,00,00,000	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	6 Years	
Moratorium effective from :	30.10.2015	
Repayment Period (Inc Moratorium) :	15 Years	
Repayment Frequency :	9 Yearly Installments	
Repayment Type :	AVG	
First Repayment Date :	31.01.2022	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	**Project Name**	**Amount**
	BARH-I	31,00,00,000
	BONGAIGOAN	30,00,00,000
	DARLIPALLI	16,00,00,000
	GADARWARA	72,00,00,000
	KHARGONE	5,00,00,000
	LARA-I	33,00,00,000
	MOUDA-II	26,00,00,000
	NORTH KARANPURA	8,00,00,000
	TANDA-II	15,00,00,000
	TAPOVAN VISHNUGARH	21,00,00,000
	UNCHAHAR-IV	7,00,00,000
	PAKRI BARWADIH	4,00,00,000
	CHATTI BARIATU	9,00,00,000
	SIMHADRI-II	12,00,00,000
	RAMAGUNDAM R&M	11,00,00,000
Total Allocated Amount		**3,00,00,00,000**

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 :	1,00,00,00,00,000	
Total Drawn amount :	11,50,00,00,000	
Date of Drawl	14.02.2017	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
Margin, If Floating Interest :	0.00%	
Are there any Caps/ Floor :	Y/N	
Frequency of Intt. Payment	Monthly	
If Above is yes, specify Caps/ Floor :		
Moratorium Period :	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	3,00,00,00,000
	BONGAIGAON	34,28,57,142
	FARAKKA III	14,28,57,141
	GADARWARA	2,50,00,00,000
	KOLDAM	92,85,71,427
	KORBA-III	2,85,71,428
	KUDGI	1,00,00,00,000
	MOUDA-I	40,71,42,856
	NCTPP-II	15,71,42,855
	NORTH KARANPURA	1,00,00,00,000
	RIHAND-III	32,14,28,570
	SIMHADRI-II	53,28,57,141
	SIPAT-I	21,42,85,711
	SIPAT-II	5,71,42,856
	TAPOVAN VISHNUGAD	50,00,00,000
	VINDHYACHAL IV	32,42,85,714
	PAKRI BARWADIH	4,28,57,159
Total Allocated Amount		**11,50,00,00,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000151 **T00001** **D00003**

Unsecured Loan From Bank of Maharashtra - III		
Source of Loan :	**Bank of Maharashtra - III**	
Currency :	INR	
Amount of Loan :	3,00,00,00,000	
Total Drawn amount :	45,00,00,000	
Date of Drawl	27.08.2010	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.70%	
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 :	22.09.2009	
Repayment Period (Inc Moratorium) :	10 Years	
Repayment Frequency :	14 Half Yearly	
Repayment Type :	AVG	
First Repayment Date :	22.03.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SIMHADRI-II	45,00,00,000.00
Total Allocated Amount		**45,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011	**T00001**	**D00001**
Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,00,00,00,000	
Date of Drawl	26.12.2008	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	D00001 - 9.94%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	30,00,00,000.00
	SIMHADRI-II	75,00,00,000.00
	KAHALGAON-II	40,00,00,000.00
	KORBA-III	30,00,00,000.00
	FARAKKA-III	25,00,00,000.00
Total Allocated Amount		**2,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011	**T00001**	**D00002**
Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,00,00,00,000	
Date of Drawl	28.01.2009	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	D00002 - 9.97%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	50,00,00,000.00
	LOHARI NAG-PALA	10,00,00,000.00
	KORBA-III	30,00,00,000.00
	FARAKKA-III	50,00,00,000.00
	TAPOVAN VISHNUGAD	20,00,00,000.00
	SIMHADRI-II	20,00,00,000.00
	MAUDA	1,20,00,00,000.00
Total Allocated Amount		**3,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00003**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,00,00,00,000	
Date of Drawl	28.08.2009	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	9.70%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	70,00,00,000.00
	NCTPP-II	95,00,00,000.00
	KORBA-III	50,00,00,000.00
	VINDHYACHAL-IV	25,00,00,000.00
	SIMHADRI-II	60,00,00,000.00
Total Allocated Amount		**3,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00005**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	1,50,00,00,000	
Date of Drawl	05.10.2009	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	9.50%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	NCTPP-II	55,00,00,000.00
	TAPOVAN VISHNUGAD	35,00,00,000.00
	SIMHADRI-II	60,00,00,000.00
Total Allocated Amount		**1,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00006**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,00,00,00,000	
Date of Drawl	21.11.2009	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	9.32%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	NCTPP-II	1,00,00,00,000.00
	BONGAIGAON	1,00,00,00,000.00
	SIMHADRI-II	1,00,00,00,000.00
Total Allocated Amount		**3,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00008**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,00,00,00,000	
Date of Drawl	21.12.2009	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	9.39%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SIMHADRI-II	1,00,00,00,000.00
	SIPAT-I	1,00,00,00,000.00
	BONGAIGAON	50,00,00,000.00
	RIHAND-III	50,00,00,000.00
Total Allocated Amount		**3,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00012**

Unsecured Loan From PFC-V		
Source of Loan :	PFC-V	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,00,00,00,000	
Date of Drawl	24.02.2010	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.67%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	VINDHYACHAL-IV	45,00,00,000.00
	KORBA-III	15,00,00,000.00
	SIMHADRI-II	10,00,00,000.00
	BONGAIGAON	25,00,00,000.00
	KOLDAM	20,00,00,000.00
	MAUDA	25,00,00,000.00
	RIHAND-III	35,00,00,000.00
	TAPOVAN VISHNUGAD	25,00,00,000.00
Total Allocated Amount		**2,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00013**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	18.03.2010	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.76%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	FARAKKA-III	30,00,00,000.00
	SIMHADRI-II	2,70,00,00,000.00
	BARH-II	2,00,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00019**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,50,00,00,000	
Date of Drawl	21.05.2010	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.35%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KORBA-III	25,00,00,000.00
	KOLDAM	1,00,00,00,000.00
	NCTPP-DADRI-II	25,00,00,000.00
	SIMHADRI-II	50,00,00,000.00
	BONGAIGAON	50,00,00,000.00
	RIHAND-III	50,00,00,000.00
	SIPAT-I	50,00,00,000.00
Total Allocated Amount		**3,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00021**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	1,00,00,00,000	
Date of Drawl	26.10.2010	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.70%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	20,00,00,000.00
	SIMHADRI-II	40,00,00,000.00
	BONGAIGAON	20,00,00,000.00
	VINDHYANCHAL-IV	20,00,00,000.00
Total Allocated Amount		**1,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00022**

Unsecured Loan From PFC-V		
Source of Loan :	PFC-V	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	4,00,00,00,000	
Date of Drawl	22.11.2010	
Interest Type :	Fixed with Reset after every 3 Years	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.62%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KAHALGAON II	20,00,00,000.00
	KOLDAM	10,00,00,000.00
	FARAKKA III	25,00,00,000.00
	NCTPP-DADRI-II	10,00,00,000.00
	SIMHADRI-II	10,00,00,000.00
	BONGAIGAON	20,00,00,000.00
	BARH-II	55,00,00,000.00
	MAUDA	40,00,00,000.00
	VINDHYACHAL IV	20,00,00,000.00
	RIHAND-III	35,00,00,000.00
	TALCHER-II	30,00,00,000.00
	RIHAND-II	15,00,00,000.00
	VINDHYACHAL III	50,00,00,000.00
	UNCHAHAR-III	20,00,00,000.00
	PAKRI BARWADIH	40,00,00,000.00
Total Allocated Amount		**4,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00023**

Unsecured Loan From PFC-V		
Source of Loan :	PFC-V	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	3,50,00,00,000	
Date of Drawl	31.12.2010	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.43%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	

Project Code	Project Name	Amount
	BARH-II	25,00,00,000.00
	MAUDA-I	25,00,00,000.00
	SIMHADRI-II	10,00,00,000.00
	VINDHYACHAL IV	25,00,00,000.00
	RIHAND-III	50,00,00,000.00
	BARH-I	1,00,00,00,000.00
	KOLDAM	10,00,00,000.00
	KORBA-III	25,00,00,000.00
	FARAKKA III	15,00,00,000.00
	NCTPP-DADRI-II	10,00,00,000.00
	TAPOVAN VISHNUGARH	15,00,00,000.00
	BONGAIGAON	40,00,00,000.00
Total Allocated Amount		**3,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00028**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,00,00,00,000	
Date of Drawl	29.03.2011	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.75%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	TAPOVAN VISHNUGARH	25,00,00,000.00
	SIMHADRI-II	50,00,00,000.00
	BONGAIGAON	1,25,00,00,000.00
Total Allocated Amount		**2,00,00,00,000.00**

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Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00030**

Unsecured Loan From PFC-V		
Source of Loan :	PFC-V	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	1,00,00,00,000	
Date of Drawl	20.09.2011	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.43%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SIMHADRI-II	1,00,00,00,000.00
Total Allocated Amount		**1,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00032**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	15.12.2011	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	7.68%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SIMHADRI-II	82,00,00,000.00
	VINDHYACHAL-IV	50,00,00,000.00
	PAKRI BARWADIH	73,00,00,000.00
	FARAKKA-III	42,00,00,000.00
	NCTPP-II	37,00,00,000.00
	TALCHER STPP-II	34,00,00,000.00
	TAPOVAN VISHNUGAD	48,00,00,000.00
	KOLDAM	97,00,00,000.00
	BADARPUR R&M	30,00,00,000.00
	RIHAND R&M	7,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00035**

Unsecured Loan From PFC-V		
Source of Loan :	PFC-V	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,50,00,00,000	
Date of Drawl	28.02.2012	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.22%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	SIMHADRI-II	40,00,00,000.00
	BONGAIGAON	57,00,00,000.00
	VINDHYACHAL-IV	1,53,00,00,000.00
Total Allocated Amount		**2,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000011 **T00001** **D00038**

Unsecured Loan From PFC-V		
Source of Loan :	**PFC-V**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	4,50,00,00,000	
Date of Drawl	29.03.2012	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.23%	
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 :	4 Years	
Moratorium effective from :	26.12.2008	
Repayment Period (Inc Moratorium) :	16 Years	
Repayment Frequency :	48 Quarterly Instalments	
Repayment Type :	FIFO	
First Repayment Date :	15.07.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	RIHAND-III	1,40,00,00,000.00
	PAKRI BARWADIH	35,00,00,000.00
	SIPAT-I	30,00,00,000.00
	SIMHADRI-II	1,15,00,00,000.00
	FARAKKA-III	45,00,00,000.00
	BARH-II	20,00,00,000.00
	BONGAIGAON	65,00,00,000.00
Total Allocated Amount		**4,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5070000021 **T00001** **D00002**

Unsecured Loan From HUDCO LTD.		
Source of Loan :	**HUDCO LTD-I**	
Currency :	INR	
Amount of Loan :	20,00,00,00,000	
Total Drawn amount :	1,50,00,00,000	
Date of drawl	03.12.2010	
Interest Type :	Floating	
Fixed Interest Rate :	-----	
Base Rate, If Floating Interest	8.30%	
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 :	02.12.2010	
Repayment Period (Inc Moratorium) :	14 Years	
Repayment Frequency :	22 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	31.05.2014	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	10,00,00,000
	SIMHADRI-II	50,00,00,000
	VINDHYACHAL IV	45,00,00,000
	RIHAND-III	45,00,00,000
Total Allocated Amount		**1,50,00,00,000**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000261 **T00001** **D00001**

Unsecured Loan From SBI-VII		
Source of Loan :	SBI-VII	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of drawl	08.07.2011	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
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 :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-II	2,00,00,00,000.00
	RIHAND-III	95,00,00,000.00
	VINDHYACHAL IV	45,00,00,000.00
	SIPAT-II	35,00,00,000.00
	SIMHADRI-II	35,00,00,000.00
	MAUDA	90,00,00,000.00
Total Allocated Amount		**5,00,00,00,000.00**

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 :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	28.09.2012	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
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 :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	45,00,00,000
	SIMHADRI-II	50,00,00,000
	VINDHYACHAL-IV	30,00,00,000
	SIPAT-I	75,00,00,000
	BARH-I	15,00,00,000
	MOUDA-I	20,00,00,000
	RIHAND III	20,00,00,000
	KUDGI-I	40,00,00,000
	MOUDA-II	50,00,00,000
	FARAKKA-III	15,00,00,000
	GANDHAR-R&M	40,00,00,000
	BONGAIGAON	1,00,00,00,000
Total Allocated Amount		**5,00,00,00,000.00**

Form 8

TRANCHE NO

BP NO 5050000261 **T00001** **D00008**

Unsecured Loan From SBI-VII		
Source of Loan :	**SBI-VII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	5,00,00,00,000	
Date of Drawl	11.03.2013	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
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 :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	35,00,00,000
	SOLAPUR	30,00,00,000
	VINDHYACHAL-V	38,00,00,000
	TAPOVAN	18,00,00,000
	BARH-I	57,00,00,000
	MOUDA-II	26,00,00,000
	RIHAND III	32,00,00,000
	KUDGI-I	38,00,00,000
	DADRI SOLAR PV	19,00,00,000
	A&N SOLAR PV	20,00,00,000
	LARA-I	20,00,00,000
	BONGAIGAON	34,00,00,000
	FARAKKA-III	27,00,00,000
	SIMHADRI-II	20,00,00,000
	SINGRAULI-R&M	10,00,00,000
	TTPS-R&M	15,00,00,000
	KAWAS-R&M	15,00,00,000
	GANDHAR-R&M	8,00,00,000
	TSTPP-R&M	10,00,00,000
	RAMAGUNDAM-R&M	8,00,00,000
	BADARPUR-R&M	20,00,00,000
Total Allocated Amount		**5,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000261 **T00001** **D00010**

Unsecured Loan From SBI-VII		
Source of Loan :	**SBI-VII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,00,00,00,000	
Date of Drawl	01.05.2013	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
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 :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	KOLDAM	50,00,00,000
	BONGAIGAON	60,00,00,000
	SIMHADRI-II	90,00,00,000
Total Allocated Amount		**2,00,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000261 **T00001** **D00012**

Unsecured Loan From SBI-VII		
Source of Loan :	**SBI-VII**	
Currency :	INR	
Amount of Loan :	1,00,00,00,00,000	
Total Drawn amount :	2,50,00,00,000	
Date of Drawl	22.07.2013	
Interest Type :	Floating	
Fixed Interest Rate :	----------	
Base Rate, If Floating Interest	8.25%	
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 :	4 Years	
Moratorium effective from :	08.07.2011	
Repayment Period (Inc Moratorium) :	12 Years	
Repayment Frequency :	16 Half Yearly Instalments	
Repayment Type :	AVG	
First Repayment Date :	30.09.2015	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	BARH-II	67,00,00,000
	FARAKKA-III	35,00,00,000
	SIMHADRI-II	20,00,00,000
	RAMAGUNDAM SOLAR	10,00,00,000
	FGUTPS R&M	14,00,00,000
	VSTPS R&M	28,00,00,000
	RAMAGUNDAM-R&M	18,00,00,000
	KORBA-R&M	17,00,00,000
	KAWAS-R&M	17,00,00,000
	BADARPUR-R&M	14,00,00,000
	TSTPP-R&M	10,00,00,000
Total Allocated Amount		**2,50,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000192 **T00001** **D00001**

Unsecured Loan From Bank of Syndicate Bank - II		
Source of Loan :	**Syndicate Bank - II**	
Currency :	INR	
Amount of Loan :	5,00,00,00,000	
Total Drawn amount :	10,00,00,000	
Date of Drawl	31.03.2010	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.45%	
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 :	31.03.2010	
Repayment Period (Inc Moratorium) :	10 Years	
Repayment Frequency :	14 Half Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	30.09.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	VINDHYACHAL-IV	10,00,00,000.00
Total Allocated Amount		**10,00,00,000.00**

Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000192 **T00001** **D00002**

Unsecured Loan From Bank of Syndicate Bank - II		
Source of Loan :	**Syndicate Bank - II**	
Currency :	INR	
Amount of Loan :	5,00,00,00,000	
Total Drawn amount :	1,55,00,00,000	
Date of Drawl	01.09.2010	
Interest Type :	Floating	
Fixed Interest Rate :		
Base Rate, If Floating Interest	8.45%	
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 :	31.03.2010	
Repayment Period (Inc Moratorium) :	10 Years	
Repayment Frequency :	14 Half Yearly Instalment	
Repayment Type :	AVG	
First Repayment Date :	30.09.2013	
Base Exchange Rate :	RUPEE	
Date of Base Exchange Rate :	N.A.	
Project Code	Project Name	Amount
	NCTPP-DADRI-II	1,30,00,00,000.00
	SIMHADRI-II	25,00,00,000.00
Total Allocated Amount		**1,55,00,00,000.00**

PART-I
FORM- 9A
Additional Form

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
COD	**30-09-2012**
For Financial Year	**2019-24 (Summary)**

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Actual / Projected)					Regulations under which claimed	Justification	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. eligble for RoE at Normal Rate**								
1	Ash related works	135.00	2,570.00	157.00	2,500.00		Please refer Form -9 of respective year		
2	Fire protection system for CHP	200.00							
3	ZLD WORK for Main Plant and Ash Dyke area	470.00	220.00						
4	Online Coal Analyser	373.00							
5	Electrochlorination /CLO2 for replacement of Chlorine dosing System	-	523.00	122.00					
	Total (A)	**1,178.00**	**3,313.00**	**279.00**	**2,500.00**				
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**								
	Total (B)								
Total Add. Cap. Claimed (A+B)		**1,178.00**	**3,313.00**	**279.00**	**2,500.00**				

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
COD	**30-09-2012**
For Financial Year	**2019-20**

Amount in Rs Lakh

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. eligble for RoE at Normal Rate**							
1	Ash related works	135.00		135.00		25(1) (c) & 25)1)(g)	The projected expenditure is for planned works related to Ash handling/ ash related works , which are of continuous nature during the operational life of the generating station. The claimed works are as per the approved scheme under original scope of work and are planned in phased manner based on the expected quantum of works during 2019-24. Hence the Hon'ble Commission may please allow the same.	
2	Fire detection and protection system for CHP	200.00		200.00		26(1) (b) & 26 (1)(d)	Fire detections and Protection system is required to be installed for saftey and security in compliance to the Cetral Electricity Authority (Technical standards for construction of Electric plants and lines), Regulations, 2010 and Cetral Electricity Authority (safety requirement for Construction, Operation and Maintenance of Electric plants and Electric lines), Regulations, 2011. The system shall cover the stacker reclaimer area of CHP and sprinklers will be istalled for enhanced safety against any hazard in the are. Hence Hon'ble Commission may please allow the work to be capitalised under Regulations 26(1)(b) i.e compliance of existing law and 26(1)(d) i.e. security and safety of the plant. CEA Regulations are attached at Annex-II	
3	ZLD WORK for Main plant and Ash Dyke area	470.00		470.00		26(1) (b)	Simhadri is using sea water in condenser, ash handling system , auxilliary cooling water and sweet water for other purposes. Andhra Pradesh Pollotion Control Board (APPCB) vide communication dated 31.07.2017 has directed to minimise and reduce the water consuption to the extant possible. This work is to necessarily required to reduce the consumption of water at the station through ash water recirculation. Water is a national asset and conservation of water is also required in national interest. Hon'ble Commission may please allow the work to be capitalised under Regulations 26(1)(b) under Change in Law. Communication from APPCB is enlosed at Annex-III	
4	Online Coal Analyser	373.00		373.00		26(1) (b)	Vide OM dated 26.08.2015 (copy attached at Annexure -IV), 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 . As the present station is located at a distance of about 600 - 700 kms from the linked mine and also source coal from other mines under flexible coal utilization scheme, the petitioner has to necessarily incur the expenditure for installation on online coal analyser to comply with the direction of MOEF, GoI. Accordingly Hon'ble Commission may be pleased to allow the same under change in law.	
	Total (A)	**1,178.00**	**-**	**1,178.00**	**-**			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)	**-**	**-**	**-**	**-**			
Total Add. Cap. Claimed (A+B)		**1,178.00**	**-**	**1,178.00**	**-**			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Simhadri Super Thermal power Station Stage-II
COD	30-09-2012
For Financial Year	2020-21

Amount in Rs Lakh

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. eligble for RoE at Normal Rate**							
1	Ash related works	2,570.00		2,570.00		25(1) (c) & 25)1)(g)	Please refer form -9 for FY 2019-20	
2	ZLD WORK for Main Plant and Ash Dyke area	220.00		220.00		26(1) (b)	Please refer form -9 for FY 2019-20	
3	Electrochlorination /CLO2 for replacement of Chlorine dosing System	523.00		523.00		26(1)(b) & 26 (1) (d)	In the instant station, at present Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. Chlorine dosing is carried out from chlorine stored in cylinders/ tonners. Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of it 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 using commercial grade HCl and sodium chlorite. As ClO2 is generated at site, avoids handling and storage risk. Further, Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka at Kudgi NTPC project, 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- V). For safety of public NTPC is replacing the chlorination system with ClO2 system. Accordingly, Hon'ble Commission may be pleased to allow the same under Reg. 26(1) (b) read with Reg. 26(1)(d)	
	Total (A)	**3,313.00**	**-**	**3,313.00**	**-**			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)							
Total Add. Cap. Claimed (A+B)		**3,313.00**	**-**	**3,313.00**	**-**			

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(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
COD	**30-09-2012**
For Financial Year	**2021-22**

Amount in Rs Lakh

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. eligble for RoE at Normal Rate**							
1	Ash related works	157.00		157.00		25(1) (c) & 25)1)(g)	Please refer form -9 for FY 2019-20	
2	Electrochlorination /CLO2 for replacement of Chlorine dosing System	122.00		122.00		26(1)(b) & 26 (1) (d)	Please refer form -9 for FY 2020-21	
	Total (A)	**279.00**	-	**279.00**	-			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
	Total (B)				-			
Total Add. Cap. Claimed (A+B)		**279.00**	-	**279.00**	-			

(Petitioner)

PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
COD	**30-09-2012**
For Financial Year	**2022-23**

Amount in Rs Lakh

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. eligble for RoE at Normal Rate**							
1	Ash related works	2,500.00		2,500.00		25(1) (c) & 25)1)(g)	Please refer form -9 for FY 2019-20	
	Total (A)	**2,500.00**	**-**	**2,500.00**	**-**			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
2								
	Total (B)	**-**	**-**	**-**	**-**			
Total Add. Cap. Claimed (A+B)		**2,500.00**	**-**	**2,500.00**	**-**			

(Petitioner)

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PART-I
FORM- 9

Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
COD	**30-09-2012**
For Financial Year	**2023-24**

Amount in Rs Lakh

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. eligble for RoE at Normal Rate**							
1	NA							
2								
	Total (A)	-	-	-	-			
B.	**Works beyond Original scope exluding add-cap due to Change in Law eligble for RoE at Wtd. Average rate of Interest**							
3	NA							
	Total (B)	-	-	-	-			
Total Add. Cap. Claimed (A+B)		-	-	-	-			

(Petitioner)

PART-I
FORM- 10

Name of the Petitioner	**NTPC Limited**
Name of the Generating Station	**Simhadri Super Thermal power Station Stage-II**
Date of Commercial Operation	**30-09-2012**

Amount in Rs Lakh

Financial Year (Starting from COD)1	Actual					Admitted				
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**
1		3	4	5	6	7	8	9	10	11
Amount capitalised in Work/ Equipment										
Financing Details	**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										

(Petitioner)

PART-I
FORM- 11

Calculation of Depreciation

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

(Amount in Rs Lakh)

Sl.No.	Name of the Assets	Gross Block as on 31.04.2019	Depreciation Rates as per CERC's Depreciation Rate Schedule	Depreciation (%) up to 31.03.24
1	**2**	**3**	**4**	**5= Col.3 X Col.4**
1	Land under full ownership			0
2	Land under lease		3.34%	0
3	Roads,bridges, culverts etc	4778.62	3.34%	159.605774
4	Buildings	61543.09	3.34%	2055.539132
5	Temporary erections	16.73	100%	16.73
6	Water supply, drainage & sewerage system	354.17	5.28%	18.70001491
7	Plant & Machinery	499933.03	5.28%	26396.46388
8	MGR track & signalling system	294.77	5.28%	15.56380478
9	Railway siding	11195.34	5.28%	591.1139996
10	Earth dam reservoir	0.00	5.28%	0
11	Construction equipment	309.98	5.28%	16.3671876
12	Office furniture & furnishing	703.57	6.33%	44.53615235
13	Office equipment	527.38	6.33%	33.38343696
14	Hospital equipments	36.66	5.28%	1.935835086
15	IT equipments	596.21	15.00%	89.43203184
16	Self propelled vehicles (Vehicles including speed boats)	7.84	9.50%	0.74436015
17	Electrical installations	514.66	6.33%	32.57775315
18	Communication equipments	146.37	6.33%	9.26527395
	TOTAL	**580812.05**		**29481.96**
	Weighted Average Rate of Depreciation (%)			**5.0760**

PART-I
FORM- 12

Statement of Depreciation

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

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Opening Capital Cost	557688.54	5,61,015.43	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43
2	Closing Capital Cost	561015.43	5,62,193.43	5,65,506.43	5,65,785.43	5,68,285.43	5,68,285.43
3	Average Capital Cost	559351.99	5,61,604.43	5,63,849.93	5,65,645.93	5,67,035.43	5,68,285.43
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	0.00	0.00	0.00	0.00	0.00
5	Rate of depreciation	5.0778%	5.076	5.076	5.076	5.076	5.076
6	Depreciable value	5,03,416.79	5,05,443.99	5,07,464.94	5,09,081.34	5,10,331.89	5,11,456.89
7.	Balance useful life at the beginning of the period	18.98	17.98	16.98	15.98	14.98	13.98
8	Remaining depreciable value	3,42,052.35	3,15,831.60	2,89,345.51	2,62,340.88	2,34,879.25	2,07,221.53
9	Depreciation (for the period)	0.00	28,507.04	28,621.02	28,712.19	28,782.72	28,846.17
10	Depreciation (annualised)	28,402.55	**28,507.04**	**28,621.02**	**28,712.19**	**28,782.72**	**28,846.17**
11	Cumulative depreciation at the end of the period		2,18,119.43	2,46,740.45	2,75,452.64	3,04,235.36	3,33,081.53
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	154.60	-	-	-	-	-
15	Net Cumulative depreciation at the end of the period after adjustments	1,89,612.39	2,18,119.43	2,46,740.45	2,75,452.64	3,04,235.36	3,33,081.53

^^ Shall be provided at the time of true up

(Petitioner)

FORM-13

Name of the Company : NTPC Ltd
Name of the Power Station: Simhadri-II

Rs Lakh

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
1	SYNDICATE BANK-II T1D2					
	Gross Drawl opening	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
	Cummulative repayment of drawl till prev yr	2,142.86	2,500.00	2,500.00	2,500.00	2,500.00
	Net Loan opening	357.14	-	-	-	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	357.14	-	-	-	-
	Repayment of loan during the year	357.14	-	-	-	-
	Net loan closing	0.00	-	-	-	-
	Average net loan	178.57	-	-	-	-
	Rate of interest on loan	8.4500%	0.0000%	0.0000%	0.0000%	0.0000%
	Interest on loan	15.09	-	-	-	-
2	SBI- VII T1D1					
	Gross Drawl opening	3,500.00	3,500.00	3,500.00	3,500.00	3,500.00
	Cummulative repayment of drawl till prev yr	1,750.00	2,187.50	2,625.00	3,062.50	3,500.00
	Net Loan opening	1,750.00	1,312.50	875.00	437.50	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,750.00	1,312.50	875.00	437.50	-
	Repayment of loan during the year	437.50	437.50	437.50	437.50	-
	Net loan closing	1,312.50	875.00	437.50	-	-
	Average net loan	1,531.25	1,093.75	656.25	218.75	-
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	0.0000%
	Interest on loan	126.33	90.23	54.14	18.05	-
3	SBI- VII T1D6					
	Gross Drawl opening	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	Cummulative repayment of drawl till prev yr	2,500.00	3,125.00	3,750.00	4,375.00	5,000.00
	Net Loan opening	2,500.00	1,875.00	1,250.00	625.00	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,500.00	1,875.00	1,250.00	625.00	-
	Repayment of loan during the year	625.00	625.00	625.00	625.00	-
	Net loan closing	1,875.00	1,250.00	625.00	-	-
	Average net loan	2,187.50	1,562.50	937.50	312.50	-
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	0.0000%
	Interest on loan	180.47	128.91	77.34	25.78	-
4	HUDCO LTD T1D2					
	Gross Drawl opening	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	Cummulative repayment of drawl till prev yr	2,272.75	2,727.30	3,181.85	3,636.40	4,090.95
	Net Loan opening	2,727.25	2,272.70	1,818.15	1,363.60	909.05
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,727.25	2,272.70	1,818.15	1,363.60	909.05
	Repayment of loan during the year	454.55	454.55	454.55	454.55	454.55
	Net loan closing	2,272.70	1,818.15	1,363.60	909.05	454.50
	Average net loan	2,499.98	2,045.43	1,590.88	1,136.33	681.77
	Rate of interest on loan	8.3000%	8.3000%	8.3000%	8.3000%	8.3000%
	Interest on loan	207.50	169.77	132.04	94.31	56.59
5	Power Finance Corporation Ltd-V T1D1					
	Gross Drawl opening	7,500.00	7,500.00	7,500.00	7,500.00	7,500.00
	Cummulative repayment of drawl till prev yr	3,593.75	4,218.75	4,843.75	5,468.75	6,093.75
	Net Loan opening	3,906.25	3,281.25	2,656.25	2,031.25	1,406.25
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	3,906.25	3,281.25	2,656.25	2,031.25	1,406.25
	Repayment of loan during the year	625.00	625.00	625.00	625.00	625.00
	Net loan closing	3,281.25	2,656.25	2,031.25	1,406.25	781.25
	Average net loan	3,593.75	2,968.75	2,343.75	1,718.75	1,093.75
	Rate of interest on loan	9.9400%	9.9400%	9.9400%	9.9400%	9.9400%
	Interest on loan	357.22	295.09	232.97	170.84	108.72
6	Power Finance Corporation Ltd-V T1D2					
	Gross Drawl opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cummulative repayment of drawl till prev yr	958.33	1,125.00	1,291.67	1,458.33	1,625.00
	Net Loan opening	1,041.67	875.00	708.33	541.67	375.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,041.67	875.00	708.33	541.67	375.00
	Repayment of loan during the year	166.67	166.67	166.67	166.67	166.67
	Net loan closing	875.00	708.33	541.67	375.00	208.33
	Average net loan	958.33	791.67	625.00	458.33	291.67
	Rate of interest on loan	9.9700%	9.9700%	9.9700%	9.9700%	9.9700%
	Interest on loan	95.55	78.93	62.31	45.70	29.08

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
7	Power Finance Corporation Ltd-V T1D3					
	Gross Drawl opening	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
	Cummulative repayment of drawl till prev yr	2,875.00	3,375.00	3,875.00	4,375.00	4,875.00
	Net Loan opening	3,125.00	2,625.00	2,125.00	1,625.00	1,125.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	3,125.00	2,625.00	2,125.00	1,625.00	1,125.00
	Repayment of loan during the year	500.00	500.00	500.00	500.00	500.00
	Net loan closing	2,625.00	2,125.00	1,625.00	1,125.00	625.00
	Average net loan	2,875.00	2,375.00	1,875.00	1,375.00	875.00
	Rate of interest on loan	9.7000%	9.7000%	9.7000%	9.7000%	9.7000%
	Interest on loan	278.88	230.38	181.88	133.38	84.88
8	Power Finance Corporation Ltd-V T1D5					
	Gross Drawl opening	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
	Cummulative repayment of drawl till prev yr	2,875.00	3,375.00	3,875.00	4,375.00	4,875.00
	Net Loan opening	3,125.00	2,625.00	2,125.00	1,625.00	1,125.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	3,125.00	2,625.00	2,125.00	1,625.00	1,125.00
	Repayment of loan during the year	500.00	500.00	500.00	500.00	500.00
	Net loan closing	2,625.00	2,125.00	1,625.00	1,125.00	625.00
	Average net loan	2,875.00	2,375.00	1,875.00	1,375.00	875.00
	Rate of interest on loan	9.5000%	9.5000%	9.5000%	9.5000%	9.5000%
	Interest on loan	273.13	225.63	178.13	130.63	83.13
9	Power Finance Corporation Ltd-V T1D6					
	Gross Drawl opening	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	Cummulative repayment of drawl till prev yr	4,791.67	5,625.00	6,458.33	7,291.67	8,125.00
	Net Loan opening	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Repayment of loan during the year	833.33	833.33	833.33	833.33	833.33
	Net loan closing	4,375.00	3,541.67	2,708.33	1,875.00	1,041.67
	Average net loan	4,791.67	3,958.33	3,125.00	2,291.67	1,458.33
	Rate of interest on loan	9.3200%	9.3200%	9.3200%	9.3200%	9.3200%
	Interest on loan	446.58	368.92	291.25	213.58	135.92
10	Power Finance Corporation Ltd-V T1D8					
	Gross Drawl opening	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	Cummulative repayment of drawl till prev yr	4,791.67	5,625.00	6,458.33	7,291.67	8,125.00
	Net Loan opening	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Repayment of loan during the year	833.33	833.33	833.33	833.33	833.33
	Net loan closing	4,375.00	3,541.67	2,708.33	1,875.00	1,041.67
	Average net loan	4,791.67	3,958.33	3,125.00	2,291.67	1,458.33
	Rate of interest on loan	9.3900%	9.3900%	9.3900%	9.3900%	9.3900%
	Interest on loan	449.94	371.69	293.44	215.19	136.94
11	Power Finance Corporation Ltd-V T1D12					
	Gross Drawl opening	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Cummulative repayment of drawl till prev yr	479.17	562.50	645.83	729.17	812.50
	Net Loan opening	520.83	437.50	354.17	270.83	187.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	520.83	437.50	354.17	270.83	187.50
	Repayment of loan during the year	83.33	83.33	83.33	83.33	83.33
	Net loan closing	437.50	354.17	270.83	187.50	104.17
	Average net loan	479.17	395.83	312.50	229.17	145.83
	Rate of interest on loan	8.6700%	8.6700%	8.6700%	8.6700%	8.6700%
	Interest on loan	41.54	34.32	27.09	19.87	12.64
12	Power Finance Corporation Ltd-V T1D13					
	Gross Drawl opening	27,000.00	27,000.00	27,000.00	27,000.00	27,000.00
	Cummulative repayment of drawl till prev yr	12,937.50	15,187.50	17,437.50	19,687.50	21,937.50
	Net Loan opening	14,062.50	11,812.50	9,562.50	7,312.50	5,062.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	14,062.50	11,812.50	9,562.50	7,312.50	5,062.50
	Repayment of loan during the year	2,250.00	2,250.00	2,250.00	2,250.00	2,250.00
	Net loan closing	11,812.50	9,562.50	7,312.50	5,062.50	2,812.50
	Average net loan	12,937.50	10,687.50	8,437.50	6,187.50	3,937.50
	Rate of interest on loan	8.7600%	8.7600%	8.7600%	8.7600%	8.7600%
	Interest on loan	1,133.33	936.23	739.13	542.03	344.93

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
13	Power Finance Corporation Ltd-V T1D19					
	Gross Drawl opening	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	Cummulative repayment of drawl till prev yr	2,395.83	2,812.50	3,229.17	3,645.83	4,062.50
	Net Loan opening	2,604.17	2,187.50	1,770.83	1,354.17	937.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,604.17	2,187.50	1,770.83	1,354.17	937.50
	Repayment of loan during the year	416.67	416.67	416.67	416.67	416.67
	Net loan closing	2,187.50	1,770.83	1,354.17	937.50	520.83
	Average net loan	2,395.83	1,979.17	1,562.50	1,145.83	729.17
	Rate of interest on loan	8.3500%	8.3500%	8.3500%	8.3500%	8.3500%
	Interest on loan	200.05	165.26	130.47	95.68	60.89
14	Power Finance Corporation Ltd-V T1D21					
	Gross Drawl opening	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	Cummulative repayment of drawl till prev yr	1,916.67	2,250.00	2,583.33	2,916.67	3,250.00
	Net Loan opening	2,083.33	1,750.00	1,416.67	1,083.33	750.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,083.33	1,750.00	1,416.67	1,083.33	750.00
	Repayment of loan during the year	333.33	333.33	333.33	333.33	333.33
	Net loan closing	1,750.00	1,416.67	1,083.33	750.00	416.67
	Average net loan	1,916.67	1,583.33	1,250.00	916.67	583.33
	Rate of interest on loan	7.7000%	7.7000%	7.7000%	7.7000%	7.7000%
	Interest on loan	147.58	121.92	96.25	70.58	44.92
15	Power Finance Corporation Ltd-V T1D22					
	Gross Drawl opening	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Cummulative repayment of drawl till prev yr	479.17	562.50	645.83	729.17	812.50
	Net Loan opening	520.83	437.50	354.17	270.83	187.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	520.83	437.50	354.17	270.83	187.50
	Repayment of loan during the year	83.33	83.33	83.33	83.33	83.33
	Net loan closing	437.50	354.17	270.83	187.50	104.17
	Average net loan	479.17	395.83	312.50	229.17	145.83
	Rate of interest on loan	7.6200%	7.6200%	7.6200%	7.6200%	7.6200%
	Interest on loan	36.51	30.16	23.81	17.46	11.11
16	Power Finance Corporation Ltd-V T1D23					
	Gross Drawl opening	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Cummulative repayment of drawl till prev yr	479.17	562.50	645.83	729.17	812.50
	Net Loan opening	520.83	437.50	354.17	270.83	187.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	520.83	437.50	354.17	270.83	187.50
	Repayment of loan during the year	83.33	83.33	83.33	83.33	83.33
	Net loan closing	437.50	354.17	270.83	187.50	104.17
	Average net loan	479.17	395.83	312.50	229.17	145.83
	Rate of interest on loan	7.4300%	7.4300%	7.4300%	7.4300%	7.4300%
	Interest on loan	35.60	29.41	23.22	17.03	10.84
17	Power Finance Corporation Ltd-V T1D28					
	Gross Drawl opening	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	Cummulative repayment of drawl till prev yr	2,395.83	2,812.50	3,229.17	3,645.83	4,062.50
	Net Loan opening	2,604.17	2,187.50	1,770.83	1,354.17	937.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,604.17	2,187.50	1,770.83	1,354.17	937.50
	Repayment of loan during the year	416.67	416.67	416.67	416.67	416.67
	Net loan closing	2,187.50	1,770.83	1,354.17	937.50	520.83
	Average net loan	2,395.83	1,979.17	1,562.50	1,145.83	729.17
	Rate of interest on loan	7.7500%	7.7500%	7.7500%	7.7500%	7.7500%
	Interest on loan	185.68	153.39	121.09	88.80	56.51
18	Power Finance Corporation Ltd-V T1D30					
	Gross Drawl opening	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	Cummulative repayment of drawl till prev yr	4,791.67	5,625.00	6,458.33	7,291.67	8,125.00
	Net Loan opening	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	5,208.33	4,375.00	3,541.67	2,708.33	1,875.00
	Repayment of loan during the year	833.33	833.33	833.33	833.33	833.33
	Net loan closing	4,375.00	3,541.67	2,708.33	1,875.00	1,041.67
	Average net loan	4,791.67	3,958.33	3,125.00	2,291.67	1,458.33
	Rate of interest on loan	7.4300%	7.4300%	7.4300%	7.4300%	7.4300%
	Interest on loan	356.02	294.10	232.19	170.27	108.35

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
19	Power Finance Corporation Ltd-V T1D32					
	Gross Drawl opening	8,200.00	8,200.00	8,200.00	8,200.00	8,200.00
	Cummulative repayment of drawl till prev yr	3,929.17	4,612.50	5,295.83	5,979.17	6,662.50
	Net Loan opening	4,270.83	3,587.50	2,904.17	2,220.83	1,537.50
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,270.83	3,587.50	2,904.17	2,220.83	1,537.50
	Repayment of loan during the year	683.33	683.33	683.33	683.33	683.33
	Net loan closing	3,587.50	2,904.17	2,220.83	1,537.50	854.17
	Average net loan	3,929.17	3,245.83	2,562.50	1,879.17	1,195.83
	Rate of interest on loan	7.6800%	7.6800%	7.6800%	7.6800%	7.6800%
	Interest on loan	301.76	249.28	196.80	144.32	91.84
20	Power Finance Corporation Ltd-V T1D35					
	Gross Drawl opening	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	Cummulative repayment of drawl till prev yr	1,916.67	2,250.00	2,583.33	2,916.67	3,250.00
	Net Loan opening	2,083.33	1,750.00	1,416.67	1,083.33	750.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,083.33	1,750.00	1,416.67	1,083.33	750.00
	Repayment of loan during the year	333.33	333.33	333.33	333.33	333.33
	Net loan closing	1,750.00	1,416.67	1,083.33	750.00	416.67
	Average net loan	1,916.67	1,583.33	1,250.00	916.67	583.33
	Rate of interest on loan	8.2200%	8.2200%	8.2200%	8.2200%	8.2200%
	Interest on loan	157.55	130.15	102.75	75.35	47.95
21	Power Finance Corporation Ltd-V T1D38					
	Gross Drawl opening	11,500.00	11,500.00	11,500.00	11,500.00	11,500.00
	Cummulative repayment of drawl till prev yr	5,510.42	6,468.75	7,427.08	8,385.42	9,343.75
	Net Loan opening	5,989.58	5,031.25	4,072.92	3,114.58	2,156.25
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	5,989.58	5,031.25	4,072.92	3,114.58	2,156.25
	Repayment of loan during the year	958.33	958.33	958.33	958.33	958.33
	Net loan closing	5,031.25	4,072.92	3,114.58	2,156.25	1,197.92
	Average net loan	5,510.42	4,552.08	3,593.75	2,635.42	1,677.08
	Rate of interest on loan	8.2300%	8.2300%	8.2300%	8.2300%	8.2300%
	Interest on loan	453.51	374.64	295.77	216.89	138.02
22	Bank of Maharashtra-III D3 (Refinanced by karnatak bank)					
	Gross Drawl opening	4,500.00	4,500.00	4,500.00	4,500.00	4,500.00
	Cummulative repayment of drawl till prev yr	4,178.57	4,500.00	4,500.00	4,500.00	4,500.00
	Net Loan opening	321.43	0.00	0.00	0.00	0.00
	Increase decrease due to FERV	-	0.00	0.00	0.00	0.00
	Increase decrease due to ACE	-	0.00	0.00	0.00	0.00
	Total	321.43	0.00	0.00	0.00	0.00
	Repayment of loan during the year	321.43	0.00	0.00	0.00	0.00
	Net loan closing	0.00	0.00	0.00	0.00	0.00
	Average net loan	160.71	0.00	0.00	0.00	0.00
	Rate of interest on loan	8.7000%	8.7000%	8.7000%	8.7000%	8.7000%
	Interest on loan	13.98	0.00	0.00	0.00	0.00
23	**5.625% Fixed Rate Notes Due 2021***					
	Gross Drawl opening	6,221.09	6,221.09	6,221.09	6,221.09	6,221.09
	Cummulative repayment of drawl till prev yr	-	-	-	6,221.09	6,221.09
	Net Loan opening	6,221.09	6,221.09	6,221.09	-	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	6,221.09	6,221.09	6,221.09	-	-
	Repayment of loan during the year	-	-	6,221.09		-
	Net loan closing	6,221.09	6,221.09	-	-	-
	Average net loan	6,221.09	6,221.09	3,110.55	-	-
	Rate of interest on loan	7.1968%	7.1968%	7.1968%	7.1968%	7.1968%
	Interest on loan	447.72	447.72	223.86	-	-
24	**BONDS XXIV Series**					
	Gross Drawl opening	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
	Cummulative repayment of drawl till prev yr	16,000.00	18,000.00	20,000.00	20,000.00	20,000.00
	Net Loan opening	4,000.00	2,000.00	-	-	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,000.00	2,000.00	-	-	-
	Repayment of loan during the year	2,000.00	2,000.00	-	-	-
	Net loan closing	2,000.00	-	-	-	-
	Average net loan	3,000.00	1,000.00	-	-	-
	Rate of interest on loan	8.6377%	8.6377%	8.6377%	8.6377%	8.6377%

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Interest on loan	259.13	86.38	-	-	-
25	**BONDS XXX Series**					
	Gross Drawl opening	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
	Cummulative repayment of drawl till prev yr	-	15,000.00	15,000.00	15,000.00	15,000.00
	Net Loan opening	15,000.00	-	-	-	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	15,000.00	-	-	-	-
	Repayment of loan during the year	15,000.00				
	Net loan closing	-	-	-	-	-
	Average net loan	7,500.00	-	-	-	-
	Rate of interest on loan	7.9200%	0.0000%	0.0000%	0.0000%	0.0000%
	Interest on loan	594.00	-	-	-	-
26	**BONDS XLII Series**					
	Gross Drawl opening	3,800.00	3,800.00	3,800.00	3,800.00	3,800.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	760.00
	Net Loan opening	3,800.00	3,800.00	3,800.00	3,800.00	3,040.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	3,800.00	3,800.00	3,800.00	3,800.00	3,040.00
	Repayment of loan during the year				760.00	760.00
	Net loan closing	3,800.00	3,800.00	3,800.00	3,040.00	2,280.00
	Average net loan	3,800.00	3,800.00	3,800.00	3,420.00	2,660.00
	Rate of interest on loan	9.0300%	9.0300%	9.0300%	9.0300%	9.0300%
	Interest on loan	343.14	343.14	343.14	308.83	240.20
27	**BONDS XLIV Series**					
	Gross Drawl opening	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	3,600.00	3,600.00	3,600.00	3,600.00	3,600.00
	Repayment of loan during the year					720.00
	Net loan closing	3,600.00	3,600.00	3,600.00	3,600.00	2,880.00
	Average net loan	3,600.00	3,600.00	3,600.00	3,600.00	3,240.00
	Rate of interest on loan	9.2800%	9.2800%	9.2800%	9.2800%	9.2800%
	Interest on loan	334.08	334.08	334.08	334.08	300.67
28	**BONDS XLVII Series**					
	Gross Drawl opening	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	2,500.00
	Net Loan opening	2,500.00	2,500.00	2,500.00	2,500.00	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,500.00	2,500.00	2,500.00	2,500.00	-
	Repayment of loan during the year				2,500.00	
	Net loan closing	2,500.00	2,500.00	2,500.00	-	-
	Average net loan	2,500.00	2,500.00	2,500.00	1,250.00	-
	Rate of interest on loan	8.8700%	8.8700%	8.8700%	8.8700%	8.8700%
	Interest on loan	221.75	221.75	221.75	110.88	-
29	**4.75% Fixed Rate Notes Due 2022***					
	Gross Drawl opening	10,368.50	10,368.50	10,368.50	10,368.50	10,368.50
	Cummulative repayment of drawl till prev yr	0.00	0.00	0.00	0.00	10,368.50
	Net Loan opening	10,368.50	10,368.50	10,368.50	10,368.50	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	10,368.50	10,368.50	10,368.50	10,368.50	-
	Repayment of loan during the year	-	-	-	10,368.50	-
	Net loan closing	10,368.50	10,368.50	10,368.50	-	-
	Average net loan	10,368.50	10,368.50	10,368.50	5,184.25	-
	Rate of interest on loan	5.0243%	5.0243%	5.0243%	5.0243%	5.0243%
	Interest on loan	520.94	520.94	520.94	260.47	-
30	SBI- VII D-8					
	Gross Drawl opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cummulative repayment of drawl till prev yr	1,000.00	1,250.00	1,500.00	1,750.00	2,000.00
	Net Loan opening	1,000.00	750.00	500.00	250.00	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,000.00	750.00	500.00	250.00	-
	Repayment of loan during the year	250.00	250.00	250.00	250.00	-
	Net loan closing	750.00	500.00	250.00	-	-
	Average net loan	875.00	625.00	375.00	125.00	-
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	0.0000%
	Interest on loan	72.19	51.56	30.94	10.31	-
31	SBI- VII D-10					
	Gross Drawl opening	9,000.00	9,000.00	9,000.00	9,000.00	9,000.00
	Cummulative repayment of drawl till prev yr	4,500.00	5,625.00	6,750.00	7,875.00	9,000.00
	Net Loan opening	4,500.00	3,375.00	2,250.00	1,125.00	-
	Increase decrease due to FERV	-	-	-	-	-

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,500.00	3,375.00	2,250.00	1,125.00	-
	Repayment of loan during the year	1,125.00	1,125.00	1,125.00	1,125.00	-
	Net loan closing	3,375.00	2,250.00	1,125.00	-	-
	Average net loan	3,937.50	2,812.50	1,687.50	562.50	-
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	0.0000%
	Interest on loan	324.84	232.03	139.22	46.41	-
32	SBI- VII D-12					
	Gross Drawl opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cummulative repayment of drawl till prev yr	1,000.00	1,250.00	1,500.00	1,750.00	2,000.00
	Net Loan opening	1,000.00	750.00	500.00	250.00	-
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,000.00	750.00	500.00	250.00	-
	Repayment of loan during the year	250.00	250.00	250.00	250.00	-
	Net loan closing	750.00	500.00	250.00	-	-
	Average net loan	875.00	625.00	375.00	125.00	-
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	0.0000%
	Interest on loan	72.19	51.56	30.94	10.31	-
33	Bond Series 54th repayment from 25-03-2023 (3Y)					
	Gross Drawl opening	26,800.00	26,800.00	26,800.00	26,800.00	26,800.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	5,360.00
	Net Loan opening	26,800.00	26,800.00	26,800.00	26,800.00	21,440.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE					
	Total	26,800.00	26,800.00	26,800.00	26,800.00	21,440.00
	Repayment of loan during the year				5,360.00	10,720.00
	Net loan closing	26,800.00	26,800.00	26,800.00	21,440.00	10,720.00
	Average net loan	26,800.00	26,800.00	26,800.00	24,120.00	16,080.00
	Rate of interest on loan	8.5200%	8.5200%	8.5200%	8.5200%	8.5200%
	Interest on loan	2,283.36	2,283.36	2,283.36	2,055.02	1,370.02
34	Bond Series 57th repayment on 15-12-2025 (Bullet)					
	Gross Drawl opening	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE					
	Total	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Repayment of loan during the year	-	-	-	-	-
	Net loan closing	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Average net loan	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	Rate of interest on loan	8.2200%	8.2200%	8.2200%	8.2200%	8.2200%
	Interest on loan	82.20	82.20	82.20	82.20	82.20
35	Bond Series 60th repayment on 05-05-2026 (Bullet)					
	Gross Drawl opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE					
	Total	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Repayment of loan during the year	-	-	-	-	-
	Net loan closing	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Average net loan	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Rate of interest on loan	8.0800%	8.0800%	8.0800%	8.0800%	8.0800%
	Interest on loan	161.60	161.60	161.60	161.60	161.60
36	Bond Series 66th repayment on 14-12-2031 (Bullet)					
	Gross Drawl opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE					
	Total	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Repayment of loan during the year	-	-	-	-	-
	Net loan closing	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Average net loan	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Rate of interest on loan	7.4000%	7.4000%	7.4000%	7.4000%	7.4000%
	Interest on loan	148.00	148.00	148.00	148.00	148.00
37	Bond Series 67th repayment on 15-01-2029 (Bullet)					
	Gross Drawl opening	4,804.00	4,804.00	4,804.00	4,804.00	4,804.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	4,804.00	4,804.00	4,804.00	4,804.00	4,804.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,804.00	4,804.00	4,804.00	4,804.00	4,804.00
	Repayment of loan during the year		-	-	-	-
	Net loan closing	4,804.00	4,804.00	4,804.00	4,804.00	4,804.00

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
	Average net loan	4,804.00	4,804.00	4,804.00	4,804.00	4,804.00
	Rate of interest on loan	8.4300%	8.4300%	8.4300%	8.4300%	8.4300%
	Interest on loan	404.98	404.98	404.98	404.98	404.98
38	SBI VIII D11 repayment start from 31.01.2022 (9Y)					
	Gross Drawl opening	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
	Cummulative repayment of drawl till prev yr	-	-	-	133.33	266.67
	Net Loan opening	1,200.00	1,200.00	1,200.00	1,066.67	933.33
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,200.00	1,200.00	1,200.00	1,066.67	933.33
	Repayment of loan during the year	-	-	133.33	133.33	133.33
	Net loan closing	1,200.00	1,200.00	1,066.67	933.33	800.00
	Average net loan	1,200.00	1,200.00	1,133.33	1,000.00	866.67
	Rate of interest on loan	8.2500%	8.2500%	8.2500%	8.2500%	8.2500%
	Interest on loan	99.00	99.00	93.50	82.50	71.50
39	SBI VIII D24 repayment start from 31.01.2022 (9Y) refinancing the Punjab & Sindh Bank D1 & D3 (refinanced as on 14.02.2017)					
	Gross Drawl opening	4,757.14	4,757.14	4,757.14	4,757.14	4,757.14
	Cummulative repayment of drawl till prev yr	-	-	-	528.57	1,057.14
	Net Loan opening	4,757.14	4,757.14	4,757.14	4,228.57	3,700.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,757.14	4,757.14	4,757.14	4,228.57	3,700.00
	Repayment of loan during the year	-	-	528.57	528.57	528.57
	Net loan closing	4,757.14	4,757.14	4,228.57	3,700.00	3,171.43
	Average net loan	4,757.14	4,757.14	4,492.85	3,964.28	3,435.71
	Rate of interest on loan	8.783333%	8.783333%	8.783333%	8.783333%	8.783333%
	Interest on loan	417.84	417.84	394.62	348.20	301.77
40	SBI VIII D24 repayment start from 31.01.2022 (9Y) refinancing the OBC 1 (refinanced as on 14.02.2017)					
	Gross Drawl opening	571.43	571.43	571.43	571.43	571.43
	Cummulative repayment of drawl till prev yr	-	-	-	63.49	126.98
	Net Loan opening	571.43	571.43	571.43	507.94	444.45
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	571.43	571.43	571.43	507.94	444.45
	Repayment of loan during the year	-	-	63.49	63.49	63.49
	Net loan closing	571.43	571.43	507.94	444.45	380.95
	Average net loan	571.43	571.43	539.69	476.19	412.70
	Rate of interest on loan	8.450000%	8.450000%	8.450000%	8.450000%	8.450000%
	Interest on loan	48.29	48.29	45.60	40.24	34.87
41	Karnataka Bank-II repayment start from 23.08.2021 (9Y) refinancing the Maharashtra III (refinanced as on 28.03.2017)					
	Gross Drawl opening	2,714.29	2,714.29	2,714.29	2,714.29	2,714.29
	Cummulative repayment of drawl till prev yr	-	-	-	301.59	603.17
	Net Loan opening	2,714.29	2,714.29	2,714.29	2,412.70	2,111.11
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,714.29	2,714.29	2,714.29	2,412.70	2,111.11
	Repayment of loan during the year	-		301.59	301.59	301.59
	Net loan closing	2,714.29	2,714.29	2,412.70	2,111.11	1,809.52
	Average net loan	2,714.29	2,714.29	2,563.49	2,261.90	1,960.32
	Rate of interest on loan	8.293%	8.293%	8.293%	8.293%	8.293%
	Interest on loan	225.10	225.10	212.60	187.59	162.58
42	Karnataka Bank-II repayment start from 23.08.2021 (9Y)					
	Gross Drawl opening	151.79	151.79	151.79	151.79	151.79
	Cummulative repayment of drawl till prev yr	-	-	-	16.87	33.73
	Net Loan opening	151.79	151.79	151.79	134.92	118.06
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	151.79	151.79	151.79	134.92	118.06
	Repayment of loan during the year	-		16.87	16.87	16.87
	Net loan closing	151.79	151.79	134.92	118.06	101.19
	Average net loan	151.79	151.79	143.35	126.49	109.62
	Rate of interest on loan	7.960%	7.960%	7.960%	7.960%	7.960%
	Interest on loan	12.08	12.08	11.41	10.07	8.73

S.No.	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
43	Jammu & Kashmir Bank-IV repayment start from 31.03.2021 (9Y) refinancing the Maharashtra V (refinanced as on 31.03.2017)					
	Gross Drawl opening	4,687.50	4,687.50	4,687.50	4,687.50	4,687.50
	Cummulative repayment of drawl till prev yr	-	-	520.83	1,041.67	1,562.50
	Net Loan opening	4,687.50	4,687.50	4,166.67	3,645.83	3,125.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	4,687.50	4,687.50	4,166.67	3,645.83	3,125.00
	Repayment of loan during the year	-	520.83	520.83	520.83	520.83
	Net loan closing	4,687.50	4,166.67	3,645.83	3,125.00	2,604.17
	Average net loan	4,687.50	4,427.08	3,906.25	3,385.42	2,864.58
	Rate of interest on loan	8.583%	8.583%	8.583%	8.583%	8.583%
	Interest on loan	402.34	379.99	335.29	290.58	245.88
44	Jammu & Kashmir Bank-IV repayment start from 31.03.2021 (9Y)					
	Gross Drawl opening	512.50	512.50	512.50	512.50	512.50
	Cummulative repayment of drawl till prev yr	-	-	56.94	113.89	170.83
	Net Loan opening	512.50	512.50	455.56	398.61	341.67
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	512.50	512.50	455.56	398.61	341.67
	Repayment of loan during the year	-	56.94	56.94	56.94	56.94
	Net loan closing	512.50	455.56	398.61	341.67	284.72
	Average net loan	512.50	484.03	427.08	370.14	313.19
	Rate of interest on loan	8.300%	8.300%	8.300%	8.300%	8.300%
	Interest on loan	42.54	40.17	35.45	30.72	26.00
46	**Corporation IV repayment start from 11.01.2023 (9Y) refinancing the ICICI V (refinanced as on 11.01.2019)**					
	Gross Drawl opening	2,321.43	2,321.43	2,321.43	2,321.43	2,321.43
	Cummulative repayment of drawl till prev yr	-	-	-	-	257.94
	Net Loan opening	2,321.43	2,321.43	2,321.43	2,321.43	2,063.49
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,321.43	2,321.43	2,321.43	2,321.43	2,063.49
	Repayment of loan during the year	-	-	-	257.94	257.94
	Net loan closing	2,321.43	2,321.43	2,321.43	2,063.49	1,805.56
	Average net loan	2,321.43	2,321.43	2,321.43	2,192.46	1,934.52
	Rate of interest on loan	8.433%	8.433%	8.433%	8.433%	8.433%
	Interest on loan	195.77	195.77	195.77	184.90	163.14
47	**SBI XII repayment start from 31.03.2026 (9Y) refinancing the IDFC II (refinanced as on 18.02.2019)**					
	Gross Drawl opening	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Cummulative repayment of drawl till prev yr	-	-	-	-	-
	Net Loan opening	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Repayment of loan during the year	-	-	-	-	-
	Net loan closing	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Average net loan	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Rate of interest on loan	8.450%	8.450%	8.450%	8.450%	8.450%
	Interest on loan	177.45	177.45	177.45	177.45	177.45
	Total Loan-Commulative					
	Gross Drawl opening	2,69,809.67	2,69,809.67	2,69,809.67	2,69,809.67	2,69,809.67
	Cummulative repayment of drawl till prev yr	92,460.85	1,23,214.80	1,38,867.96	1,59,786.07	1,93,729.52
	Net Loan opening	1,77,348.82	1,46,594.87	1,30,941.71	1,10,023.60	76,080.15
	Increase decrease due to FERV	-	-	-	-	-
	Increase decrease due to ACE	-	-	-	-	-
	Total	1,77,348.82	1,46,594.87	1,30,941.71	1,10,023.60	76,080.15
	Repayment of loan during the year	30,753.96	15,653.16	20,918.10	33,943.45	24,467.45
	Net loan closing	1,46,594.87	1,30,941.71	1,10,023.60	76,080.15	51,612.70
	Average net loan	1,61,971.85	1,38,768.29	1,20,482.65	93,051.88	63,846.43
	Rate of interest on loan(%)	**8.2634%**	**8.2464%**	**8.2325%**	**8.3728%**	**8.5562%**
	Interest on loan	13,384.32	11,443.39	9,918.76	7,791.06	5,462.81

Statement No I

FORM-15

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- October - 2018

Stage-II

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)		748178.51	7,158.62	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)		-	-	-
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)		748178.51	7,158.62	0.00
4	Normative transit & handling losses (for coal based projects)	(MT)		5527.56	29.39	0.00
5	Net coal suplied inclusive of opening stock of coal (3-4)	(MT)		742650.95	7,129.23	0.00
6	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)		1510921276	3,17,32,806.40	0
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)		-	-	-
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)		1510921276	3,17,32,806	0
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		1039914126	48,13,780	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		-	-	-
11	Demurrage charges, if any	(Rs.)		-	-	-
12	Cost of diesel in transporting coal through MGR system	(Rs.)		-	-	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)		1039914126	48,13,780	0
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		1,50,15,342	1,16,538	-
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)		2565850743	3,66,63,124	0
15	Landed cost of coal	(Rs./MT)		3,454.99	5,142.65	-
16	Blending ratio		100.00%			0.00%
17	Weighted average cost of coal	(Rs./MT)	3471.04			
18	GCV of Domestic Coal as per bill of Coal Company on Equilibrated basis (except washery coal)*	(kCal/Kg)	3812			
19	GCV of Imported Coal as per bill of Coal Company on Air dried basis	(kCal/Kg)				NA
20	Weighted average GCV of coal as Billed except washed coal*	(kCal/Kg)	3812			
21	GCV of Domestic Coal as received at Station on total moisture basis	(kCal/Kg)	3346			
22	GCV of Imported Coal as received at Station, on total moisture basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)	3346			

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बी. रामा राव / B. RAMA RAO
महाप्रबंधक (वित्त) / General Manager (Finance)
एस एस बी. (एस डब्ल्यू), दक्षिणी भाग / SSC (SR) - Admn. Building
एनटीपीसी लिमिटेड-सिम्हाद्रि / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020

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VARMA & VARMA CHARTERED ACCOUNTANTS HYDERABAD

Statement No 1.

FORM-15

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- November - 2018

Stage-II

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)		726469.60	-	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)		0.00	-	0.00
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)		726469.60	0.00	0.00
4	Normative transit & handling losses (for coal based projects)	(MT)		5803.39	-	0.00
5	Net coal suplied inclusive of opening stock of coal (3-4)	(MT)		720666.22	0.00	0.00
	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)		1568666441	0	0
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)		0	0	0
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)		1568666441	0	0
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		1098622176	0	0
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		0	0	0
11	Demurrage charges, if any	(Rs.)		0	0	0
12	Cost of diesel in transporting coal through MGR system	(Rs.)		-	-	-
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)		1098622176	0	0
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		17109672	0	-
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)		2684398288	0	0
	Landed cost of coal	(Rs./MT)		3,724.88	-	-
16	Blending ratio		100.00%			0.00%
17	Weighted average cost of coal	(Rs./MT)	3724.88			
18	GCV of Domestic Coal as per bill of Coal Company on Equilibrated basis (except washery coal)*	(kCal/Kg)	3765			
19	GCV of Imported Coal as per bill of Coal Company on Air dried basis	(kCal/Kg)				NA
20	Weighted average GCV of coal as Billed except washed coal*	(kCal/Kg)	3765			
21	GCV of Domestic Coal as received at Station on total moisture basis	(kCal/Kg)	3437			
22	GCV of Imported Coal as received at Station, on total moisture basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)	3437			

बी. रामा राव / B. RAMA RAO
महाप्रबंधक (वित्त) / General Manager (Finance)
एस एस सी. (एस एस), प्रशासनिक भवन / SSC (SR) - Admn. Building
एनटीपीसी लिमिटेड सिम्हाद्री / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020

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Statement No 1.

FORM-15

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- December - 2018

Stage-II

S.No.	Particulars	Unit	Domestic Coal			Imported Coal
			Supplied by MGR	Supplied by Rail	E-Auction coal	
			(i)	(ii)	(iii)	(iv)
1	Quantity of coal supplied by the coal Company inclusive of opening stock of coal	(MT)		844778.94	10,215.59	0.00
2	Adjustment (+/-) in quantity supplied by the coal Company	(MT)		-	-	-
3	Coal supplied by the Coal Company inclusive of opening stock of coal (1+2)	(MT)		844778.94	10,215.59	0.00
4	Normative transit & handling losses (for coal based projects)	(MT)		6367.51	81.72	0.00
5	Net coal suplied inclusive of opening stock of coal (3-4)	(MT)		838411.42	10,133.87	0.00
6	Amount charged by the coal company inclusive of value of opening stock of coal	(Rs.)		2038325372	6,18,90,125.00	0
7	Adjustment (+/-) in amount charged by the coal Company	(Rs.)		-	-	-
8	Total amount charged inclusive of opening stock of coal (6+7)	(Rs.)		2038325372	6,18,90,125	0
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)		1258686481	2,04,16,501	-
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)		-	-	-
11	Demurrage charges, if any	(Rs.)		-	-	-
12	Cost of diesel in transporting coal through MGR system	(Rs.)		-	-	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)		1258686481	2,04,16,501	0
13A	Others (Stone picking charges, Loco driver's salary, Sampling Charges etc)	(Rs.)		2,54,86,541	1,88,750	-
14	Total amount charged for coal supplied including transportation (8+13+13A)	(Rs.)		3322498394	8,24,95,376	0
15	Landed cost of coal	(Rs./MT)		3,962.85	8,140.56	-
16	Blending ratio		100.00%			0.00%
17	Weighted average cost of coal	(Rs./MT)	4012.74			
18	GCV of Domestic Coal as per bill of Coal Company on Equilibrated basis (except washery coal)*	(kCal/Kg)	3984			
19	GCV of Imported Coal as per bill of Coal Company on Air dried basis	(kCal/Kg)				NA
20	Weighted average GCV of coal as Billed except washed coal*	(kCal/Kg)	3984			
21	GCV of Domestic Coal as received at Station on total moisture basis	(kCal/Kg)	3585			
22	GCV of Imported Coal as received at Station, on total moisture basis	(kCal/Kg)				0
23	Weighted average GCV of coal as received at station	(kCal/Kg)	3585			
	0					

बी. रामा राव / B. RAMA RAO
महाप्रबंधक (वित्त) / General Manager (Finance)
एस एस बी. (एस ओ), प्रशासनिक भवन / SSC (SR) - Admn. Building
एनटीपीसी लिमिटेड - सिम्हाद्रि / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020

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VARMA & VARMA HYDERABAD REGISTERED ACCOUNTANTS

Statement no 2,

FORM-15 A

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- October- 2018

Stage-II

S.No.	Particulars	Unit	HFO	LDO
			(ii)	(iii)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	1945.02	632.67
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)	0.00	0.00
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	1945.02	632.67
4	Normative transit & handling losses	(MT)	0.00	0.00
5	Net oil suplied inclusive of opening stock of oil (3-4)	(MT)	1945.02	632.67
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	81899119	34409331
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)	0	0
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	81899119	34409331
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	160135	53999
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0
11	Demurrage charges, if any	(Rs.)	0	0
12	Cost of diesel in transporting oil through MGR system	(Rs.)	0	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	160135	53999
14	Total amount charged for oil supplied including transportation (8+13)	(Rs.)	82059254	34463330
15	Landed cost of oil	(Rs./KL)	42,189	54,472
16	Blending ratio		77.50%	22.50%
17	Weighted average cost of oil	(Rs./KL)	44952.97	
21	Weighted average GCV of HFO as received at 60 C	(Kcal/L)	9850	
22	Weighted average GCV of LDO as received at 30 C	(Kcal/L)		9216
23	Weighted average GCV of oil as received at station (on consumption basis of GCVs from Sl No. 21 and Sl No.22 above)	(kCal/Kg)	9707	

Pd 1.

Statement No 2.

FORM-15 A

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- November- 2018

Stage-II

S.No.	Particulars	Unit	HFO	LDO
			(ii)	(iii)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	1309.16	429.61
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)	0.00	0.00
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	1309.16	429.61
4	Normative transit & handling losses	(MT)	0.00	0.00
5	Net oil suplied inclusive of opening stock of oil (3-4)	(MT)	1309.16	429.61
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	55232821	23402145
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)	0	0
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	55232821	23402145
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	0	0
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0
11	Demurrage charges, if any	(Rs.)	0	0
12	Cost of diesel in transporting oil through MGR system	(Rs.)	0	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	0	0
14	Total amount charged for oil supplied including transportation (8+13)	(Rs.)	55232821	23402145
15	Landed cost of oil	(Rs./KL)	42,189	54,472
16	Blending ratio		80.08%	19.92%
17	Weighted average cost of oil	(Rs./KL)	44636.87	
21	Weighted average GCV of HFO as received at 60 C	(Kcal/L)	9854	
22	Weighted average GCV of LDO as received at 30 C	(Kcal/L)		9220
23	Weighted average GCV of oil as received at station (on consumption basis of GCVs from Sl No. 21 and Sl No.22 above)	(kCal/Kg)	9728	

बी. रामा राव / B. RAMA RAO
महाप्रबंधक (वित्त) / General Manager (Finance)
एस एस बी (एस आर), प्रशासनिक भवन / SSC (SR) - Admn. Building
एनटीपीसी लिमिटेड-सिम्हाद्रि / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020

Statement No 2.

FORM-15 A

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

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

Name of the Company:- NTPC Ltd.

Name of Power Station:- Simhadri Super Thermal Power Station

Month:- December- 2018

Stage-II

S.No.	Particulars	Unit	HFO	LDO
			(ii)	(iii)
1	Quantity of oil supplied by the oil Company inclusive of opening stock of oil	(MT)	1105.05	386.34
2	Adjustment (+/-) in quantity supplied by the oil Company	(MT)	0.00	0.00
3	oil supplied by the oil Company inclusive of opening stock of oil (1+2)	(MT)	1105.05	386.34
4	Normative transit & handling losses	(MT)	0.00	0.00
5	Net oil suplied inclusive of opening stock of oil (3-4)	(MT)	1105.05	386.34
6	Amount charged by the oil company inclusive of value of opening stock of oil	(Rs.)	46621273	21044848
7	Adjustment (+/-) in amount charged by the oil Company	(Rs.)	0	0
8	Total amount charged inclusive of opening stock of oil (6+7)	(Rs.)	46621273	21044848
9	Transportation charges by Rail / Ship / Road Transport	(Rs.)	0	0
10	Adjustment (+/-) in amount charged by Railways / transport Company	(Rs.)	0	0
11	Demurrage charges, if any	(Rs.)	0	0
12	Cost of diesel in transporting oil through MGR system	(Rs.)	0	0
13	Total Transportation Charges (9+/-10-11+12)	(Rs.)	0	0
14	Total amount charged for oil supplied including transportation (8+13)	(Rs.)	46621273	21044848
15	Landed cost of oil	(Rs./KL)	42,189	54,472
16	Blending ratio		100.00%	0.00%
17	Weighted average cost of oil	(Rs./KL)	42189.48	
21	Weighted average GCV of HFO as received at 60 C	(Kcal/L)	9847	
22	Weighted average GCV of LDO as received at 30 C	(Kcal/L)		9189
23	Weighted average GCV of oil as received at station (on consumption basis of GCVs from Sl No. 21 and Sl No.22 above)	(kCal/Kg)	9847	

बी. रामा राव / B. RAMA RAO
महाप्रबंधक (वित्त) / General Manager (Finance)
एन टी पी सी, (एस आर), सिंहाद्रि परियोजना / SSC (SR) - Admn. Building
एनटीपीसी लिमिटेड-सिंहाद्रि / NTPC Limited - Simhadri
विशाखपट्टणम - VISAKHAPATNAM - 531 020

Computation of Energy Charges

Form-15B
ADDITIONAL FORM

Name of the Company	**NTPC Limited**
Name of the Power Station	**Simhadri Super Thermal power Station Stage-II**

Computation of Energy Charges

1	Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) $(REC)_s$	$= (Q_s)_n \times P_s$	2.109
2	Heat Contribution from SFO / Alternate Fuel (H_s)	$= (Qs)_n \times (GCV)_s$	4.925
3	Heat Contribution from coal $(H_p)_s$	$= GHR - H_s$	2386.78
4	Specific Primary Fuel Consumption $(Qp)_n$	$= H_p / (GCV)_p$	0.708
5	Rate of Energy charge from Primary Fuel (p/kwh) $(REC)_p$		265.381
6	Rate of Energy charge ex-bus (p/kWh) (REC)	$= ((REC)_s + (REC)_p / (1-(AUX))$	284.534

		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	%	5.99	5.99	5.99	5.99	5.99
Heat Rate	Kcal/Kwh	2,391.71	2,391.71	2,391.71	2,391.71	2391.71
Computation of Variable Charges						
Variable Charge (Coal)	p/kwh	282.291	282.291	282.291	282.291	282.291
Variable Charge (Oil)	p/kwh	2.244	2.244	2.244	2.244	2.244
Total	p/kwh	284.534	284.534	284.534	284.534	284.534
Price of fuel from Form-15/15A						
Coal Cost	(Rs./MT)	3748.14	3748.14	3748.14	3748.14	3748.14
Oil Cost	(Rs./KL)	42189.41	42189.41	42189.41	42189.41	42189.41
Computation of Fuel Expenses for Calculation of IWC:						
ESO in a year	(MUs)	7019.16	6999.98	6999.98	6999.98	7019.163
ESO for 50 days	(MUs)	958.902	958.902	958.90	958.90	958.902
Cost of coal for 45 Days	(Rs. Lakh)	27068.89	27068.89	27068.89	27068.89	27068.89
Cost of oil for 2 months	(Rs. Lakh)	262.50	261.79	261.79	261.79	262.50
Energy Expenses for 45 days	(Rs. Lakh)	24555.65	24555.65	24555.65	24555.65	24555.65

Coal		**3rd month**	**2nd month**	**1st month**	**Wtd. Avg.**
Wtd. Avg. Price of Coal	Rs./MT	3471.04	3724.88	4012.74	**3748.14**
Wtd. Avg. GCV of Coal as received	kCal/Kg	3346	3437	3585	**3456.00**
Wtd. Avg. GCV of Coal as received after adjustement of 85 kcal/kg					**3371.00**
Sec. Oil					
Wtd. Avg. Price of Secondary Fuel	Rs/KL	42189.00	42189.00	42189.00	**42189.41**
Wtd. Avg. GCV of Secondary Fuel	kCal/L	9850.00	9854.00	9847.00	**9850.33**

PETITIONER

PART 1
FORM- L

Name of the Petitioner NTPC Ltd
Name of the Generating Station Simhadri STPS Stgae- II(2X500 MW)

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

(Amount in Rs. Lakh)

S. No.	Particulars	As on 01.04.19		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening Gross Block Amount as per books	580959.98	8014.3	
	b) Amount of IDC in A(a) above	70994.06		
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above	11836.64		
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above	15633.16		
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			

(Petitioner)

PART 1
FORM- M

Name of the Petitioner NTPC Ltd
Name of the Generating Station Simhadri STPS Stgae- II(2X500 MW)

Statement of Capital Woks in Progress

(To be given for relevant dates and year wise)

(Amount in Rs. Lakh)

S. No.	Particulars	As on 01.04.19		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	1025.68	1009.09	
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

(Petitioner)

PART-I
FORM- N

Calculation of Interest on Normative Loan

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

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Gross Normative loan – Opening	3,90,381.98	3,92,710.80	3,93,535.40	3,95,854.50	3,96,049.80	3,97,799.80
2	Cumulative repayment of Normative loan up to previous year	1,60,283.69	1,88,381.53	2,16,888.57	2,45,509.59	2,74,221.78	3,03,004.50
3	**Net Normative loan – Opening**	2,30,098.30	2,04,329.27	1,76,646.83	1,50,344.91	1,21,828.02	94,795.30
4	Add: Increase due to addition during the year / period	2328.82	824.60	2,319.10	195.30	1,750.00	-
5	Less: Decrease due to de-capitalisation during the year / period	-304.71	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	0.00	0.00	0.00	0.00	0.00	0.00
8	Less: Repayment of Loan	28097.84	28,507.04	28,621.02	28,712.19	28,782.72	28,846.17
9	**Net Normative loan - Closing**	2,04,329.28	1,76,646.83	1,50,344.91	1,21,828.02	94,795.30	65,949.13
10	**Average Normative loan**	2,17,213.79	1,90,488.05	1,63,495.87	1,36,086.46	1,08,311.66	80,372.22
11	Weighted average rate of interest	8.3807	8.2634	8.2464	8.2325	8.3728	8.5562
12	**Interest on Loan**	**18204.04**	**15740.79**	**13482.52**	**11203.32**	**9068.72**	**6876.81**

(Petitioner)

PART 1
FORM- O

Calculation of Interest on Working Capital

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

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
1	2	3	4	5	6	7	8
1	Cost of Coal/Lignite	36,387.08	27068.89	27068.89	27068.89	27068.89	27068.89
2	Cost of Main Secondary Fuel Oil	333.38	262.50	261.79	261.79	261.79	262.50
3	Fuel Cost						
4	Liquid Fuel Stock						
5	O & M Expenses	2,037.65	2061.28	2136.29	2214.25	2295.22	2378.32
6	Maintenance Spares	4,890.36	4947.07	5127.11	5314.21	5508.52	5707.97
7	Receivables	56,855.93	37999.62	37900.98	37760.89	37638.12	37473.71
8	Total Working Capital	100504.40	72339.37	72495.06	72620.04	72772.53	72891.40
9	Rate of Interest	13.5000	12.0500	12.0500	12.0500	12.0500	12.0500
10	**Interest on Working Capital**	**13568.09**	**8716.89**	**8735.65**	**8750.71**	**8769.09**	**8783.41**

Petitioner

FORM-S

Liabilities as on 31.03.19 (Rs)

SIMHADRI-II

Name of the Party	Name of the work	Undischarged liabilities relating to GB 31.03.2019
BHEL DELHI	TG	21,87,41,911
PITTAVANIPALEM VILLAGE LLSTPP	STEAM GENERATOR U#4	36,495
1027613 SRI KRISHNA ENGG & C	STEAM GENERATOR U#4	10,87,260
1033400 ABHI CONSTRUCTION	TURBINE GENERATOR U#4	62,113
1027633 SRI SAI LAKSHMI CONS	SG/TG/ESP	3,29,240
1033165 NATIONAL PROJECTS	SG/TG/ESP	11,75,744
1000873 BHEL DELHI	TURBINE GENERATOR UNIT 3	4,70,71,032
1002788 JINDAL ELECTRONICS PVT LTD	TURBINE GENERATOR UNIT 3	45,000
1026520 SREE COASTAL CABS	TURBINE GENERATOR UNIT 3	16,000
1026530 COMMISSIONER, GREATE	TURBINE GENERATOR UNIT 3	2,13,527
1006492/ 1070978 ELCOME TECHNOLOGIES PVT LTD	STEAM GENERATOR UNIT 3	96,425
1053082 MARATHON ELECTRIC MOTORS INDIA LTD	STEAM GENERATOR UNIT 3	6,20,000
1004972 THE INDURE PVT LTD	Ash Handling Package	5,39,44,709
1003188 LARSEN & TOUBRO LTD	Coal Handling Plant	63,54,425
1010278 UNITECH MACHINES LTD	Fire fighting System	1,49,43,963
2000704 NOHMI BOSAI LTD	Fire fighting System	31,04,071
1067134 Subhash Projects & Marketing Ltd	HP/LP Piping	68,08,747
1067134 Subhash Projects & Marketing Ltd	HP/LP Piping	1,11,47,206
1027844 VENKATA RAMANA ERECTORS	400 KV AC SWICHYARD U4	2,51,656
1021152 C&S ELECTRIC LTD	Cables & Switchgear package	15,837
1026615 ELBE ENGINEERING SERVICES	Construction Power System	74,857
1000686 BAJAJ ELECTRICALS LTD	ELECTRICAL & AUXILIARY EQUIPMENTS U4	50
1001811 FINOLEX CABLES LTD	ELECTRICAL & AUXILIARY EQUIPMENTS U4	767
1027131 MUKUND ENGINEERING SERVICES	ELECTRICAL & AUXILIARY EQUIPMENTS U4	22,121
1007174 EMERSON PROCESS MANAGEMENT (INDIA)	C & I Package	83,07,741
1000828 BHARAT HEAVY ELECTRI	C & I Package	52,270
1007174 EMERSON PROCESS MANAGEMENT (INDIA)	C & I Package	23,69,839
1003643 MIL CONTROLS LTD	C & I Package	25,990

1007174 EMERSON PROCESS MANAGEMENT (INDIA)	Capital Spares	18,05,122
1010453 ENERGO ENGINEERING PROJECTS LTD	Capital Spares	1,21,600
1106762 FLOW TECH INDUSTRIES	Capital Spares	1,78,000
1000873 BHEL DELHI	Capital Spares	14,420
1000873 BHEL DELHI	Capital Spares	90,110
1000873 BHEL DELHI	Capital Spares	18,022
1000873 BHEL DELHI	Capital Spares	11,14,377
1000873 BHEL DELHI	Capital Spares	9,40,828
1000873 BHEL DELHI	Capital Spares	19,38,000
2000028 CCI AG	Capital Spares	125
1003188 LARSEN & TOUBRO LTD	Capital Spares	3,00,000
1035215 HD FIRE PROTECT PVT.	Capital Spares	824
1000082 ABB INDIA LTD/ 1063672 JARVIS SYSTEMS	Capital Spares	11,130
1000082 ABB INDIA LTD/ 1063672 JARVIS SYSTEMS	Capital Spares	9,754
1077089 KKL ALLIED MARKETING SERVICES	OFFSITE BUILDINGS U4	55,586
1003356 THE RAMCO CEMENTS LTD.	MAIN PLANT BUILDINGS U4	1,02,262
1006225 STEEL AUTHORITY OF INDIA LTD	MAIN PLANT BUILDINGS U4	17,75,155
1033182 R.V.V.NAGESH	MAIN PLANT BUILDINGS U4	23,355
1008791 Gammon India Ltd.	CW system incl MUW System	1,50,04,824
1103647 SRI SAI DURGA CONSTRUCTIONS	MAKE UP WATER SYSTEM U4	47,322
1008791 Gammon India Ltd.	Cooling Towers	17,34,66,312
1003184 LARSEN & TOUBRO LTD	Coal Handling Plant & Capital Spares	10,59,175
1004972 THE INDURE PVT LTD	Ash Handling Package	5,24,41,200
1028761 GANGOTRI ENTERPRISES LTD	ASH DYKE - STARTER (UNIT # 3)	14,10,188
1072597 LOTUS CONSTRUCTION COMPANY	ASH DYKE - STARTER (UNIT # 3)	58,74,817
1106294 SRI SHIRIDI SAIRAM ENTERPRISES	ASH WATER RECIRCULATING SYSTEM U#4	4,207
1077358 P MURALIDHAR/ 1033182 R.V.V.NAGESH/	PLANT ROADS (STAGE 2)	22,06,565
1027382 RITES LTD	PLANT ROADS (STAGE 2)	1,50,000
1098789 GRG PROJECTS	APPROACH ROADS (STAGE 2)	18,21,584
1078677 GANESH ENTERPRISES/ 1033145 K CHINNAM NAIDU	BOUNDARY WALL OF SEA WATER SWITCHGEAR BUILDING	7,63,571
1027635 SRI SAI SRINIVASA CONSTRUCTIONS	APPROACH ROADS (STAGE 2)	2,20,373
1027726 T MURALI REDDY	DRINKING WATER SUPPLY LINE	10,707

1003188 LARSEN & TOUBRO LTD	COAL HANDLING PLANT U#4	2,63,44,224
1026981 KHAITAN ELECTRICALS LTD	MBOA	13,000
1024311 DETECH DEVICES PVT LTD	MBOA	32,100
Sohm Hi-tech Systems India & others	MBOA	83,056
1080420 Jyoti Audio Visual Pvt Ltd	MBOA	19,099
1026764 GODREJ & BOYCE MFG CO LTD	MBOA	55,529
1031447 ORBIT TECHNOLOGIES PVT LTD	MBOA	763
1051450 PLANET DISH	MBOA	48,335
2002159 Emerson Process Management Asia	MBOA	6,68,211
1079250 Link Well Electronics Pvt Ltd	MBOA	20,000
1097374 AMKETTE ANALYTICS LTD	MBOA	13,100
1021986 MTEKPRO ENGINEERING PVT LTD	D.C. HIGH VOLTAGE TEST KIT	56,925
1026981 KHAITAN ELECTRICALS LTD	M3562106010 CEILING FAN 1400 MM	4,002
1078423 EVENTUAL ELECTRONIC ENTERPRISES	M6618106000 1.5 TON WINDOW AIRCONDITIONER	14,400
1105159 CRAVATEX LTD	M2930760063 MULTI GYM FOUR STATION	1,000
1086869 SRI NIDHI ENGINEERING	M2936090807 COOLER-WATER:COMPLETE CAP 150LTR	13,000
1033305 MICROCARE COMPUTERS PVT. LTD.,	M9630050605 LAN SWITCH WITH Fx PORTS AND GBIC PORT	67,186
1106062 NOVATEUR ELECTRICAL & DIGITAL	M9243140009 UPS LINE INTERACTIVE 600VA	60,060
1067041 OMEGA CONSTRUCTION EQUIPMENT	M6300000022 HYDRA CRANE-14T:HYDRA CRANE-14T	22,000
1005564 WIPRO GE HEALTHCARE PVT LTD	M1490481001 VENTILATOR FOR ICU	41,500
1005843 SHIVA HI-TECH SERVICES PVT LTD	T2290700851N HYDRAULIC PULLER WITH PUMP CAP-30T	500
1027813 UNITECH SYSTEMS	LAN NETWORKING SYSTEM	43,618
1022503 TRANSAFE SERVICES LTD	M2741010058 PORTABLE OFFICE CABIN	25,000
1068242 BLOW-TECH ENGINEERS/ 1001546 EAST WEST ENGINEERING &	M9491046001N NON CONTACT THERMOMETER (-50)-1200 DE	3,150
1026764 GODREJ & BOYCE MFG CO LTD	M6321056001 DIESEL FORKLIFT TRUCK WITH ACCESSORIES	30,370
1026922 JAYEM MANUFACTURING COMPANY	M6200000068 SECTION FORMING/BENDING MACHINE	12,150
1004174 PARAMOUNT CONDUCTORS LTD	M9406496011N MOTOR CHECKER TEST BENCH,FOR UP TO 18	77,500
1087918 GODREJ & BOYCE MFG CO LTD	M2720655078 CONFERENCE TABLE SENATE MODLE GODREJ	2,26,711
1001274 CROMPTON GREAVES LTD	M2936260304 FAN PEDASTAL SWEEP DIA-600-650MM	382
1073408 Tech Connect Services Pvt Ltd	M9665300610 HIGH-DEFNITION VIDEO CONFERENCING SYST	1,64,899
1040642 SAI BALAJI ENTERPRISES	M9722104531 DIGITAL CAMERA	23,900
1080420 Jyoti Audio Visual Pvt Ltd	HIGH DEFINITION LCD PROJECTOR	36,500

1003892 NEW BHARAT FIRE PROTECTION SYSTEM	MECH FOAM FIRE EXTING OF 50 LT	25,000
1086869 SRI NIDHI ENGINEERING/ 1026665 EUREKA FORBES LTD	M2936897001 Water Purifier	29,750
1067183 GODREJ & BOYCE MFG CO PVT LTD	AIR CONDITIONERS 1.5 TON SPLIT TYPE	8,422
1103210 NOVATEUR ELECTRICAL AND DIGITAL	M9243100100 UPS-200/250V, 1.0 KVA	8,340
1107055 OMEGA PERIPHERALS	M9717251424 LASERJET MULTIFUNCTION PRINTER-A4 SIZE	500
1025865 Mobile Communications (India)	M9605509990 WALKIE TALKIE	26,979
1051236 PAN COMMUNICATIONS PVT LTD	M9665300610 HIGH-DEFNITION VIDEO CONFERENCING SYST	1,24,916
1005740 S V NETWORK TECHNOLOGIES	M9722053004N IP CAMERA FOR VIDEO SURVEILLANC WITH	73,674
1027161 NEO WEIGH TECH PVT LTD	M1493800115 DIGITAL BABY WEIGHING MACHINE	5,800
1033305 MICROCARE COMPUTERS PVT. LTD.,	M9740070713 WINDOWS-2012, SERVER, STANDARD	1,13,792
1002209 HCL INFOSYSTEMS LTD	M9742285717 AUTOCAD SOFTWARE - MECH.	10,192
1062299 AKADEMY OF DESIGN & ARCHITECTURE / 1091372 ADCC INFOCAD	M9742285717 AUTOCAD SOFTWARE - MECH.	6,067
1071031 INDUSTRIAL SOLUTIONS/ 1037600 WEARRESIST TECHNOLOGIES	M6200000128 EXOTHERMIC CUTTING M/C	500
1091372 ADCC INFOCAD PVT LTD	M9742285717 AUTOCAD SOFTWARE - MECH.	10,000
1036255 MACNEILL ENGINEERING	BATTERY OPERATED TRUCK WITH BAT. 2 MT	62,362
1000873 BHEL DELHI (Package ERV)	Package ERV	13,51,518
1032847 ERA INFRA ENGINEERING LIMITED	Main plant/Adm. Building	42,71,864
1005948SIRI CONSTRUCTIONS	Main plant/Adm. Building	4,18,034
1033025ANAND ADS	Main plant/Adm. Building	2,83,750
1085977 SRINIVASA INDUSTRIES	Workshop building	31,17,536
1033476 UTILITY POWERTECH LTD.	Service building -II	2,24,125
1033431 P.VENKATARAJU	OFFSITE BUILDINGS U4	2,83,720
1026903 J D CONSTRUCTIONS	Residential Quarters	4,43,000
1098789 GRG PROJECTS	APPROACH ROADS (STAGE 2)	90,626
1000873 BHEL DELHI	TURBINE GENERATOR UNIT 3	1,14,34,323
1071729 BVSR CONSTRUCTIONS	ASH DYKE - STARTER (UNIT # 3)	46,20,000
1073388 Power Tech Engineering Services	POWER SUPPLY SYSTEM (STAGE 2)	5,06,058
1034593 ABB LTD	AIR CONDITIONING SYSTEM STAGE 2	137
1003406 MAHINDRA STILLER AUTO TRUCKS LTD	Other misc Works	34,200
1019097 HMT MACHINE TOOLS LTD	Other misc Works	13,72,450
1035361 JCB INDIA LIMITED/1098332 VARUN MOTORS	Other misc Works	2,76,200
1059364 APJ ENTERPRISES	Other misc Works	1,44,000

1073248 IMPEX TOOLS	Other misc Works	8,000
PROCORP ENERTECH PVT LTD & 1117914 R K SOLAR POWER SYSTEMS PVT LTD	M8225260841N SOLAR OPERATED STREET LIGHT for railway siding	1,38,052
1026644 EMERSON PROCESS MANAGEMENT INDIA	Capital Spares	2,12,592
1000873 BHEL DELHI	Capital Spares	2,89,27,638
1006802 INSTRUMENTATION LTD	Capital Spares	19,468
1003188 LARSEN & TOUBRO LTD	Capital Spares	3,25,333
1005843 SHIVA HI-TECH SERVICES PVT LTD	Capital Spares	83,311
1001274 CROMPTON GREAVES LTD	Capital Spares	1,80,000
1026981 KHAITAN ELECTRICALS LTD	MBOA	1,045
1080420 Jyoti Audio Visual Pvt Ltd	MBOA	500
1033305 MICROCARE COMPUTERS PVT. LTD.,	MBOA	1,65,165
1000509 ASHOKA ENGINEERING CO	MBOA	16,385
1010840 FIRE SHIELD ENGINEERING EQUIPMENTS	MBOA	50,557
1017774 KARTHIK ENGINEERS & CONSULTANTS PVT	MBOA	8,000
1016387 SUNNET SOLUTIONS PVT. LTD.	MBOA	36,000
1069965 VSL COMMUNICATIONS & SERVICES	MBOA	46,440
1000873 BHEL DELHI (Package ERV)	Package ERV	49,60,382
ERA INFRA ENGINEERING LIMITED	Main plant/Adm. Building	6,12,556
SRINIVASA INDUSTRIES	Workshop building	24,92,550
SRINIVASA INDUSTRIES	MAIN PLANT BUILDINGS U4	1,24,860
SRI RAMA SATYA SAI ENTERPRISES	MAIN PLANT BUILDINGS U4	4,558
RAMADEVI CONSTRUCTION COMPANY	MAIN PLANT BUILDINGS U4	3,03,098
T MURALI REDDY	SCRAP YARD IN CHP	2,79,084
B.SUDHAKAR REDDY	D 1 TYPE QUARTERS	1,01,250
SRI SAI SRINIVASA CONSTRUCTIONS	OPEN STAGE FUNCTION HALL	2,66,862
P MURALIDHAR ENGINEERS &	ROADS IN TOWNSHIP STG II	1,89,464
BHEL DELHI	Steam Generator	41,46,122
BHEL DELHI	ESP	13,12,500
BHEL DELHI	TURBINE GENERATOR UNIT 3	30,62,961
BVSR CONSTRUCTIONS	ASH DYKE - STARTER (UNIT # 3)	2,00,000
LOTUS CONSTRUCTION COMPANY	ASH DYKE - STARTER (UNIT # 3)	10,93,766
Power Tech Engineering Services	POWER SUPPLY SYSTEM (STAGE 2)	2,53,028

BHARAT HEAVY ELECTRI	Capital spares	59,252
BHEL DELHI	Capital spares	1,19,600
BHEL DELHI	Capital spares	94,683
BHEL DELHI	Capital spares	30,600
ODIN CONTROLS PVT LTD	Capital spares	-
BRIGHTECH VALVES & CONTR0LS PVT LTD	Capital spares	10,573
CUBIC TRANSMISSIONS PVT LTD	Capital spares	-
FOURESS ENGINEERING (INDIA) PVT LTD	Capital spares	76,000
VIJAY FIRE VEHICLES AND PUMPS LTD	WATER TENDER,CAP 5000 LT	9,440
FERRARI VIDEO	MBOA	9,600
BHEL DELHI (Package ERV)	Package ERV	(25,14,654)
GRG PROJECTS	Roads, Bridges, Drains & Culverts	32,90,532
V R PRASAD	MAIN PLANT BUILDINGS U4	19,058
P.SRINIVASA RAO	MAIN PLANT BUILDINGS U4	41,076
P.SRINIVASA RAO	MAIN PLANT BUILDINGS U4	-
RAMADEVI CONSTRUCTION COMPANY	MAIN PLANT BUILDINGS U4	73,863
SRI RAMA SATYA SAI ENTERPRISES	MAIN PLANT BUILDINGS U4	1,84,768
SREE RATNA CONSTRUCTIONS	MAIN PLANT BUILDINGS U4	81,819
SRINIVASA INDUSTRIES	MAIN PLANT BUILDINGS U4	1,87,704
Power Tech Engineering Services	30 MTR., HIGH MAST LIGHTING AT STADIUM AREA	3,77,602
P INDRASENA REDDY CIVIL CONTRACTORS	Sewerage System	1,89,227
SABBI KRISHNA	Service Building-Civil Works	63,890
RICE LAKE WEIGHING SYSTEMS	IN-MOTION WEIGH BRIDGE - CAPACITY: 12	38,000
RITES LTD	RAILWAY SIDING - UNIT # 3	75,85,047
NAMITHA CONSTRUCTIONS	ASH HANDLING PLANT U4	4,36,782
BVSR CONSTRUCTIONS	ASH DYKE - STARTER (UNIT # 3)	(0)
SCRUM SYSTEM PVT LTD	SAFETY:KIOSK WITH STANDARD FEATURES	30,000
1000828BHARAT HEAVY ELECTRICALS LTD	Capital Spares -	79,817
1000873BHEL DELHI	Capital Spares -	2,34,43,513
AARTI SWITCHGEARS PVT LTD	Capital Spares -	-
1005578 - WPIL LTD	Capital Spares -	4,155
NANDY ENGINEERING CONCERN	Capital Spares -	349

FLOWTECH FLUID SYSTEMS PVT LTD	Capital Spares -	3,723
LARSEN & TOUBRO LIMITED-ELECTR	Capital Spares -	6,000
PERPETUAL POWER SERVICES PVT. LTD.	MBOA	22,350
APT ENGINEERING	MBOA	1,27,191
BHEL DELHI (Package ERV)	Package ERV	31,74,293
C DOCTOR & COMPANY	Air conditioning & Ventilation	39,45,386
SIEMENS LTD	AUTOMATIC GENERATION CONTROL	2,26,724
INTERVALVE POONAWALLA LTD	Capital Spares -	62,400
BERCO UNDERCARRIAGES(INDIA) PVT LTD/ SURAT GOODS TRANSPORT PVT LTD	Capital Spares - Transport	45,549
CONTROL COMPONENT INDIA PVT LTD	Capital Spares -	36,894
PENTAIR VALVES & CONTROLS INDIA P LTD	Capital Spares -	2,37,001
V S L N CONSTRUCTIONS	CIVIL WORKS	44,402
S J CONSTRUCTIONS	CIVIL WORKS	3,74,476
SAM TURBO INDUSTRY PVT LTD/ TAP TURBO ENGINEERS PVT LTD	Capital Spares -	1,60,827
Subhash Infra Engineers Pvt Ltd	Ash dyke Raising from 10.5 RL to 15.5 RL	23,728
MAHALAXMI CONSTRUCTIONS	Fire Detection and Protection System:	31,350
UNITECH MACHINES LTD	Fire fighting System	68,44,823
CROMPTON GREAVES LTD	capital Spares	7,500
WPIL LTD	Capital Spares	2,93,400
LARSEN & TOUBRO LTD	Capital Spares	8,99,988
THE INDURE PVT LTD	Ash Handling Package	1,67,096
THE INDURE PVT LTD	Capital Spares	1,89,500
J D CONSTRUCTIONS	Residential Quarters	62,540
ELECON ENGINEERING CO LTD	Capital Spares	32,41,518
LOTUS CONSTRUCTION COMPANY	ASH DYKE - STARTER	28,532
BHEL DELHI	Capital spares	10,84,225
BHEL DELHI (Package ERV)	Package ERV	(10,53,363)
Total		**80,14,30,393**

PART 1
FORM-T

Summary of issue involved in the petition

Name of the Company :		**NTPC Limited**
Name of the Power Station :		**Simhadri Super Thermal power Station Stage-II**
1	**Petitioner:**	**NTPC Limited**
2	**Subject**	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 Simhadri Super Thermal Power Station Stage- II (1000 MW) for the period from 01.04.2019 to 31.03.2024
3	Prayer: i) Approve tariff of Simhadri Super Thermal Power Station Stage- II (1000 MW) 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) Allow the relaxation in norms for Auxilliary Power Consumption. v) Consider station heat rate based on design heat rate with applicable operating margin. vi) Pass any other order as it may deem fit in the circumstances mentioned above.	
4	**Respondents**	
	Name of Respondents As per petition	
	a.	As per Petition
	b.	
	c.	
5	**Project Scope**	
	Cost	
	Commissioning	
	Claim	
	AFC	
	Capital cost	
	Initial spare	
	NAPAF (Gen)	85%
	Any Specific	

Annex-1

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

भारत INDIA

INDIA NON JUDICIAL

ఆంధ్రప్రదేశ్ आन्ध्र प्रदेश ANDHRA PRADESH

S.No. 1472 Date 24-10-2017

Rs. 100/-

Sold To Arup Ratan Maiti S/o (Late) Susanta kumar Maiti,

For whom SLK Deepanjalinagar, VSP.

BV 429646

POLAVARAPU VARALAKSHMI
Licenced Stamp Vendor
L.No. 03-16-008/2013
R.L. No. 03-16-07/2016
D.No. 2-56, Chinapurupalli (West)
Parawada M., Visakha Dist.
Cell No. ...553090

SUPPLEMENTARY AGREEMENT TO BULK WATER SUPPLY AGREEMENT

This Supplementary Agreement to Bulk Water Supply Agreement dated 27th September 2006 (BWSA) is made at Visakhapatnam on 06th May 2018

BETWEEN

THE GOVERNOR OF THE STATE OF ANDHRA PRADESH for and on behalf of the Government of the State of Andhra Pradesh, Hyderabad, India (hereinafter called the "GoAP" which expression shall, unless the context otherwise requires, include its permitted successors and assigns) acting through the Vice Chairman and Managing Director of APIIC vide GO MS No. 55, dated June 18, 2004 issued by Irrigation and Command Area Development Department of the GoAP.

AND

VISAKHAPATNAM INDUSTRIAL WATER SUPPLY COMPANY LIMITED, a Company incorporated under The Companies Act, 1956, having its Registered Office at c/o Greater Visakhapatnam Municipal Corporation, Room No.204, Tenneti Bhawanam, Asselmetta JN, Visakhapatnam 530002 (hereinafter called the "Operator", which expression shall include its permitted successors and assigns).

AND

NTPC LIMITED, a Company incorporated under The Companies Act, 1956, having its Registered Office at Core-7, Scope Complex, Lodi Road, New Delhi (hereinafter called the "User", which expression shall include its permitted successors and assigns).

1.0 BACKGROUND

WHEREAS

(i) In order to augment water supply to other consumers including NTPC in and around Visakhapatnam the GoAP has decided to implement the Visakhapatnam Industrial Water Supply (the Project) under Build Own Operate and Transfer (BOOT) scheme by GoAP entering in to a Concession Agreement dated March 12, 2004 with the Operator.

(ii) The GoAP which has been supplying water through VIWSCO to NTPC will continue to supply water for the established 4 x 500 MW (2000 MW) units of NTPC Simhadri.

(iii) The GOAP, Operator and User entered into the Bulk Water Supply Agreement dated 27th September 2006 to record the terms and conditions upon which Bulk Water will be supplied to User by the Operator.

(iv) The rates for water supply and debt service restructuring for payment of the outstanding loan amount and Funded Interest amount, inter alia, had been discussed and mutually agreed by and between all the concerned participants viz., RINL, GVMC, NTPC, APIIC & VIWSCO in the meeting held on 19.11.2012 vide Minutes of the Meeting (MoM) of the even date.

(v) The Government of Andhra Pradesh in the Irrigation and CAD Department, pursuant to the applicable provisions of the Concession Agreement between the GoAP and VIWSCO and taking into consideration the MoM of 19-11-2012, enhanced and fixed special rate for water supply to RINL, NTPC and GVMC by VIWSCO and accorded approval to the terms and conditions of the debt service restructuring as mutually agreed and advised entering in to supplementary agreements to give due effect and for implementation of the rate for water supply and debt service restructuring vide its G.O. MS No.24 dated 25.02.2015 by Irrigation and CAD Department, Government of Andhra Pradesh.

NOW This Supplementary Agreement to BWSA witnesses as follows:

MODIFICATION OF RELEVANT PROVISIONS OF BWASA

The parties to this agreement hereby agree to modify the said Bulk Water Supply Agreement for the purpose of giving effect and to implement the decisions vide above cited Minutes of Meeting dated 19-11-2012 and G.O. Ms.No.24. dated 25.02.2015 by substituting and/or modifying the relevant paragraphs of the BWSA as below:

5.0 CONVEYANCE AND CHARGES

5.1 Conveyance and Payment for Raw Water

(A) Upon the terms and subject to the conditions this Agreement and during the term hereof, the Operator undertakes to Deliver the quantity of Raw Water at the Delivery Point as per Contract Volume and at the Charges in accordance with

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Appendix 2 and Appendix 1 respectively, during the Supply Period and the User undertakes to take and pay for the quantity of Raw Water as per Contract Volume in the Supply Period, as agreed to by the User in writing before commencement of the Supply Period as per the terms and conditions mentioned below:

(a) The User will pay for contract volume at Special Charges of Rs. 11.80 (Rupees eleven and eighty paise only) per Kiloliter from 01.04.2012. The Special Charges shall be escalated in accordance with the provisions given in Appendix 1 of this Agreement.

(b) In case, if any additional Raw Water is required by the User beyond 32 MLD and up to 48 MLD then the User will indicate the Triennial Demand in writing to the Operator at least one month before the Water Drawl Committee meeting. The Operator Deliver such additional Raw Water up to 48 MLD at Special Charges in accordance with Appendix 1 of this Agreement. The revised requirement so indicated will be considered as the Contract Volume.

(D) The Special Charges, subject to maximum of Rs. 23.36 (Rupees twenty three and Paisa thirty six only) per Kiloliter or Charges fixed by Charge Review Committee, whichever is lower, shall be applicable to the Contract Volume and up to 48 MLD. Beyond 48 MLD the charges shall be as fixed by the Charge Review Committee.

(E) (ii) The monthly billing shall be as per the actual water quantity Delivered.

(iii) The monthly billing shall be as per the actual water quantity Delivered

(iv) The monthly billing shall be as per the actual water quantity Delivered

(v) In the month following the final month of the Supply Period the take or pay for Contract Volume for shall not be applied.

(G) If during any Supply Period the total Volume of Raw Water taken by the User falls short of the obligations described in Appendix – 2 then the User shall pay as per actuals .

16. GENERAL

16.5 Notices

The Address of the Operators is changed as below:

For the Operator:

Chairman & Managing Director,
Visakhapatnam Industrial Water Supply Company Limited
C/o Greater Visakhapatnam Municipal Corporation
Room No. 204, Tenneti Bhavanam, Asseelmetta Jn.
VISAKHAPATNAM. Phone No. +91 0891-

VIWS Co.

OTHER TERMS & CONDITIONS OF AGREEMENT

The recitals and other paragraphs of the Bulk Water Supply Agreement with the respective side headings are applicable except to the extent and as modified by this supplementary agreement and are not inconsistent with the modifications.

1. Appendix1 to BWSA dated 27-9-2006 is applicable subject to modifications in the form of substitution of paras 1, 2 and 3 with the following as paras A, B and C respectively:

   A) "The User shall pay to the Operator the Special Charges of Rs. 11.80 (Rupees Eleven and Paisa Eighty only) per kilolitre of Raw Water Delivered at the Delivery Point from the Effective date i.e. from 01.04.2012 till 31-3-2013.

   B) The special Charges of Rs. 11.80 (Rupees Eleven and Paisa Eighty only) per kiloliter shall continue till 31-3-2013. Thereafter the special charge as on 31st March of every Financial Year shall be escalated by 5% (five percent) annually as special charge for next financial year up to a maximum of Rs. 23.36 (Rupees Twenty Three and Paisa Thirty Six only) per kiloliter.

   The yearly escalated annual charges applicable are as under:

Year	13-14	14-15	15-16	16-17	17-18	18-19	19-20
Special charges (`)	12.39	13.01	13.66	14.34	15.06	15.81	16.60

Year	20-21	21-22	22-23	23-24	24-25	25-26	26-27
Special charges (`)	17.43	18.31	19.22	20.18	21.19	22.25	23.36

   C) Such Special Charges, subject to a maximum of Rs. 23.36 (Rupees twenty three and paisa thirty six only) per kiloliter or Charges fixed by Charge Review Committee, whichever is lower, shall be applicable to the Contract Volume and up to 48 MLD. Beyond 48 MLD, the Charges shall be as fixed by the Charge Review Committee."

   Other contents of Appendix 1 remain unchanged

2. Appendix 2 to BWSA dated 27-9-2006 is applicable subject to modifications in the form of substitution of para 1 with the following para:

   The Operator undertakes to supply and the User undertakes to accept a take and pay quantity of Raw Water at the charges in accordance with Appendix 1 to this Agreement before commencement of each Supply Period. The Contract Volume for the Supply period commencing from 1-4-2013 shall be 26 MLD and up to 32 MLD. For the additional raw water requirement above 32 MLD and up to 48 MLD the user shall intimate the operator six months in advance. Such additional quantity

HNO

VISAKHAPATNAM INDUSTRIAL WATER SUPPLY COMPANY LTD. VIWS Co

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shall form part of contract volume from the supply period onwards. MLD denotes Million Liters per Day.

Other contents of Appendix 2 remain unchanged.

3. Appendix 4 to BWSA dated 27-9-2006 is applicable subject to modifications in the form of substitution of clause 1 with the following paras:

   Extreme hydrological condition shall mean hydrological condition in Yeleru Reservoir due to severe prolonged shortage of inflows from the catchment area by which reservoir water level falls below the minimum level at which water can be discharged by gravity to the YLBC Canal.

   Procedure: In the unlikely event of the occurrence of hydrological conditions so severe that, despite the correct application by the GoAP the water availability throughout a Lean Period, the water availability in the YLBC canal deteriorate such that the reservoir water level approaches or falls below the minimum level at which water can be discharged by gravity through the head works into the YLBC, the Operator and the GoAP shall discuss possible exceptional mitigation measures which could be undertaken. These measures could include the granting of permission by the GoAP for the Operator to abstract water from the reservoir by pumping into the YLBC. The GoAP would be obliged to grant any such permission solely on a best effort basis, where such a course of action would be commensurate with responsible management of the Yeleru Reservoir water resources and having considered the other release requirements within the allocation of the GoAP. In the event that the GoAP grants the Operator permission, under whatever conditions the GoAP considers it necessary to impose, to abstract Raw Water from the reservoir by pumping, the Operator shall make all necessary arrangements for pumping including the provision of a retention structure within the reservoir, if required by the GoAP, and the removal of all obstructions to or works which may influence normal gravity operation of the head works once the need for pumped abstraction is past. In such case, the operator shall be entitled to all additional capital and operational costs which may be associated with such pumping and shall be charged among all users of dead storage pumping water in proportion to their drawl of dead storage pumping water.

   Other contents of Appendix 4 remain unchanged

4. Appendix 3 and 5 are applicable except to the extent and as stands modified by this supplementary agreement and are not inconsistent with the modifications.

5. This Agreement constitutes as supplementary agreement to Bulk Water Supply Agreement (BWSA) entered into between GoAP, Operator and User and forms part of the said BWSA.

6. This agreement shall remain in force and effect from 01.04.2012 till the validity of the said BWSA with enhanced period if any in the supplementary agreement. However, the payments / adjustments for the year 2012-13 shall based on actual drawal quantity of water.

VIWS Co.

In witness whereof, the Parties through their authorized representatives have executed these presents and to a duplicate hereof on the day and month and year first mentioned above.

FOR AND ON BEHALF OF THE NTPC

Authorized Signatory

Contact Address:
NTPC Limited
NTPC – Simhadri
Parawada Mandal
Visakhapatnam – 531 020

Telephone : +91 (8924)-243436
Fax No. +91 (8924) - 243581

In presence of:

1. Y.M. Murthy
HOD (BEMC) Simhadri STPS
NTPC, VIZAG

2. K. Babu
K. Suresh Babu
DGM (BEMC)
NTPC Simhadri

FOR AND ON BEHALF OF VIWSCO

VISAKHAPATNAM INDUSTRIAL WATER SUPPLY COMPANY LTD. VIWSCo

Authorized Signatory

Contact Address:
Visakhapatnam Industrial Water Supply Company Limited
C/o. Greater Visakhapatnam Municipal Corporation, Room No. 204,
Tenneti Bhavan, Aseelmetta Jn.
VISAKHAPATNAM – 530002
Telephone : +91(891)-2746301 (Extn.132)

In presence of:

1. (G. VRS MURTHY)
Director, VIWSCO

2. C. Suman
C.F.O
VIWSCO, VIZAG

FOR AND ON BEHALF OF GoAP

Authorized Signatory
Andhra Pradesh Industrial Infrastructure Corporation Limited
5-9-58/B, 6th Floor, Parisrama Bhavanam, Fateh Maidan Road
Basheerbagh, Hyderabad – 500 004

In presence of:

1. (V. Nageswara Rao)
Zonal Manager, APIIC

ZONAL MANAGER
APIIC LIMITED
SPECIAL PROJECTS ZONE
ONE STOP SERVICE CENTRE
APSEZ ATCHUTAPURAM
VISAKHAPATNAM - 531 011

2. (C. YATHEENDRA)

ZONAL MANAGER
APIIC Limited
Visakhapatnam-07

18 A6

GOVERNMENT OF ANDHRA PRADESH
INFRASTRUCTURE & INVESTMENT (Ports-I) DEPARTMENT

Memo No. 732-A/Ports.I (1)/2009-1, dated 13 -8-2009

Sub: Ports Department – Permission for drawl of Sea Water for Power Projects / Industries – Certain Guidelines – Issued.

***

The attention of the Director of Ports, Kakinada is invited to the subject matter and is informed that Government have framed the following guidelines for according permission for drawl and use of Sea Water for the purposes of Power Projects and other Industries:

1) Initially only in-principle approval / permission shall be granted;

2) Before recommending to Government for such permission, the Director of Ports shall

   a) confirm that the firm has obtained No Objection Certificate from the appropriate Local Authority / State Govt Authority for setting up of such Power Plant / Industry, etc.

   b) verify all necessary documents along with the DPR which the Firm has submitted to relevant Agencies / Ministries of Government of India / GoAP.

   c) depute suitable officer to the site and obtain a report to the effect that the activity of drawl and use of Sea water shall not interfere / hinder the present / future port / jetty development / operation activities

Based on the above details, Director of Ports shall make his recommendations to the Government of Andhra Pradesh. Government while granting such approval shall impose following conditions:-

1) that the Company shall pay an amount of Rs.0.05 paise per cum to the Director of Ports as charges and obtain statutory clearance such as environmental clearance etc, from the concerned departments for drawing the Sea water and pumping the same after use into Sea. The revision of charges, if any takes place at the instance of GoI / GoAP, shall be applicable.

2) The firm will give an undertaking that the activity of drawl and use of Sea water by the firm shall not hinder the present / future developmental / operational activities of the nearby Port / Jetty and in such event the firm agrees for withdrawal of permission at no costs to the Government.

3) that after using the Sea water, the same shall be treated / diluted to meet CPCB norms and other statutory environment norms before discharging to the Sea;

4) that necessary water measuring devices shall be fixed by the Consumer;

5) that the scheme of drawing of water from the intake point shall be got approved by the Director of Ports, prior to execution;

6) within 15 days after obtaining necessary permission for establishment of the Power Project / Industry, the Firm shall furnish a Bank Guarantee equivalent for 1 year water drawl from Sea and a DD for the same amount in advance towards water charges for one year and after completion of the first year, every year the DD in advance has to be submitted at the rate prevailing that time. In case of failure on the part of the Firm, the BG shall be encashed.

7) that in the event of misrepresentation of fact or the Firm not observing any of the statutory / regulatory provisions of GoI / State Government, the Government reserves the right to cancel such permission.

The Director of Ports, Kakinada is, therefore, requested to keep the above guidelines in view while submit his report / recommendation to Government for according permission for drawl of Sea water for the use in the Power Plant / Industry etc.

MANMOHAN SINGH
SECRETARY TO GOVERNMENT

To
The Director of Ports,
AP, Kakinada.

// forwarded by order //

ASST.SECRETARY TO GOVERNMENT (PORTS)

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ANNEX - II

रजिस्ट्री सं० डी० एल०-33004/99

REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग III—खण्ड 4
PART III—Section 4
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

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No. 211] NEW DELHI, FRIDAY, AUGUST 20, 2010/SHRAVANA 29, 1932

CENTRAL ELECTRICITY AUTHORITY

NOTIFICATION

New Delhi, the 20th August, 2010

No. CEA/TETD/MP/R/01/2010.—In exercise of the powers conferred by sub-section (2) of Section 177 of the Electricity Act, 2003, the Central Electricity Authority hereby makes the following regulations namely :—

1. **Short Title and Commencement.**—(1) These regulations may be called the Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010.

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

2. **Definitions.**—(1) In these regulations, unless the context otherwise requires,—

(a) "Act" means the Electricity Act, 2003;

(b) "Authority" means the Central Electricity Authority established under sub-section (2) of Section 70 of the Act;

(c) "Base Load Operation" means operation at maximum continuous rating (MCR) or its high fraction;

(d) "Basic Insulation Level (BIL)" means reference voltage level expressed in peak (crest) voltage with standard 1.2/50 μs lightning impulse wave. Apparatus should be capable of withstanding test wave of basic insulation level or higher;

(e) "Black Start" means the start up of a generating unit or gas turbine or internal combustion (IC) engine based generating set without use of external power following grid failure;

(f) "Boiler Maximum Continuous Rating (BMCR)" means the maximum steam output, the steam generator (boiler) can deliver continuously at rated parameters;

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(g) "Break Time" means interval of time between the beginning of the opening of a switching device and the end of the arcing;

(h) "Cold Start", in relation to steam turbine, means start up after a shut down period exceeding 72 hours (turbine metal temperatures below approximately 40% of their full load values);

(i) "Combined Cycle Gas Turbine (CCGT) module" means gas turbine generator(s), associated heat recovery steam generator (s) and steam turbine generator;

(j) "Control Load", in relation to coal or lignite based thermal generating units, means the lowest load at which the rated steam temperature can be maintained under auto control system;

(k) "Design Head" means the net head at which peak efficiency of hydraulic turbine is attained while operating at rated output;

(l) "Gross Head" means the difference in elevation between the water levels of upstream reservoir and the centor line of the turbine runner in case of Pelton turbine and tail race water level at the exit end of the draft tube in case of Francis and Kaplan turbine;

(m) "Gross Heat Rate", in relation to gas turbine based and IC engine based thermal generating stations, means the external heat energy input required to generate one kWh (kilo Watt hour) of electrical energy at generator terminals;

(n) "Gross Turbine Cycle Heat Rate", in relation to coal or lignite based thermal generating station, means the external heat energy input to the turbine cycle required to generate one kWh of electrical energy at generator terminals;

(o) "High Heat Value (HHV)" means the heat produced by complete combustion of one kilogram of solid fuel or liquid fuel or one standard cubic metre (Sm^3) of gaseous fuel as determined as per relevant Indian Standard (IS);

(p) "Highest System Voltage" means the highest root mean square (r.m.s.) line to line value of voltage which can be sustained under normal operating conditions at any time and at any point in the system. It excludes temporary voltage variation due to fault conditions and the sudden disconnection of the large load;

(q) "Hot Start", in relation to steam turbine, means start up after a shut down period of less than 10 hours (turbine metal temperatures approximately 80% of their full load values);

(r) "House Load" means the unit is operating in isolation to the grid and generating electric power to cater to its own auxiliaries;

(ii) The demineralized water shall be stored in minimum 2 nos. DM water storage tanks of total storage capacity equal to 24 hour Station requirement.

(e) *Waste Water Treatment System*

The waste water generated at various locations shall be segregated at the source of generation according to its type. Similar type of waste water shall be collected at one point and treated. The treated water shall be collected in central monitoring basin and recycled for plant use or disposed off complying with the requirements of MOE&F and any other stipulation of the CPCB and SPCB in this regard.

(5) **Fire detection, alarm and protection system**

(a) A comprehensive fire detection, alarm as well as fire protection system shall be installed for the Station in conformity with relevant IS. In addition, all buildings shall conform to National Building Code. Fire protection system shall be designed as per the guidelines of Tariff Advisory Committee (TAC) established under Insurance Act 1938 and /or NFPA.

(b) Automatic fire detection and alarm system shall be intelligent and addressable type and shall be provided to facilitate detection of fire at the incipient stage and give warning to the fire fighting staff.

(c) Major equipment to be used for fire detection and protection system shall be in accordance with Indian Standards or UL (Underwriters Laboratories, USA) or FM (Factory Mutuals, USA) or LPCB (Loss Prevention Certification Board, UK) or VDS (Germany).

(d) Dedicated fire water storage and pumping facilities shall be provided for the fire fighting system as per TAC guidelines. Main fire water pumps shall be electrically driven and standby pumps shall be diesel engine driven.

(e) Hydrant system, complying with TAC guidelines, shall be provided at various locations to cover the entire Station.

(f) All major and minor fire risks in the Station shall be protected against fire by suitable automatic fire protection systems. Following systems shall be generally adopted for various fire risks:

(i) Automatic high velocity water spray system, complying with TAC guidelines, shall be provided for the following areas:

(A) Transformers of rating 10 MVA and above or oil filled transformers with oil capacity of more than 2000 litres;

(B) Alternatively, these transformers may be provided with Nitrogen injection based fire protection system. The transformers of 220kV or higher voltage may preferably be provided with Nitrogen injection based fire protection system in addition to automatic high velocity water spray system;

(C) Lubricating oil systems including storage tanks, purifier units, coolers, turbine oil canal pipelines;

(D) Generator seal oil system tanks, coolers;

(E) Steam generator burner fronts.

(ii) Steam turbine bearing housing and air pre-heater shall be provided with manually actuated high velocity water spray system.

(iii) Automatic medium velocity water spray system, complying with TAC guidelines, shall be provided for the areas relating to:

(A) Cable galleries, cable vaults, cable spreader rooms, cable risers, cable shafts etc.;

(B) Coal conveyors, transfer points, crusher houses etc.;

(C) Fuel oil pumping stations;

(D) LDO and day oil tanks;

(E) DG set building.

(iv) Automatic foam system shall be provided for fuel oil storage tanks as per NFPA guidelines.

(v) Automatic inert gas flooding system, comprising of 2x100% inert gas cylinder batteries and conforming to NFPA, shall be provided for Unit control rooms, control equipment rooms and area above false ceiling of these rooms.

(g) Portable fire extinguishers as per TAC guidelines shall be provided for each room/area of power station in addition to fixed fire protection system to extinguish fire in its early phase to prevent its spread.

(h) Fire station and fire tenders alongwith trained staff shall also be provided for the Station.

(i) Passive fire protection measures such as fire barriers for cable galleries and shafts etc., fire retardant coatings, fire resistant penetration sealing for all openings in floors, ceilings, walls etc., fire proof doors etc. shall be provided to prevent spreading and for containment of fire.

CENTRAL ELECTRICITY AUTHORITY

NOTIFICATION

New Delhi, the 24th, January, 2010

F.No. CEA/TETD/MP/R/02/2011.—In exercise of the powers conferred by section 177 read with clause (c) of section 73 of the Electricity Act, 2003 (36 of 2003), the Central Electricity Authority hereby makes the following regulations, namely:-

1. Short title and commencement.- (1) These regulations may be called the Central Electricity Authority (Safety Requirements for Construction, Operation and Maintenance of Electrical Plants and Electric Lines) Regulations, 2011.

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

2. Definitions.- (1) In these regulations, unless the context otherwise requires,-

(a) "Act" means the Electricity Act, 2003;

(b) "contractor" means a person or an agency who undertakes to produce a given result, not merely supply of goods or articles of manufacture but including civil works or erection of equipment or testing and commissioning of equipment or operation and maintenance of equipment and includes a sub-contractor;

(c) "Owner" means a company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person, which owns or operates or maintains electrical plants or electric lines and includes,-

(i) "Occupier" as defined in the Factories Act, 1948 (63 of 1948);

(ii) "Employer" as defined in the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 (27 of 1996).

(2) Words and expressions used herein and not defined but defined in the Act shall have the meanings respectively assigned to them in the Act.

3. Regulations not in derogation of any other law.- The provisions of these regulations shall be in addition to and not in derogation of the provisions of any other law for the time being in force.

4. Safety provisions relating to Owner.- (1) The Owner shall make safety an integral part of work processes to ensure safety for employees including employees of contractor, sub-contractor as well as visitors.

(2) The Owner shall obtain accreditation of electric plants and electric lines with IS-18001 certification.

(3) The Owner shall obtain above mentioned certification for all the existing electrical plants and electric lines and those under construction within two years from the date of coming into force of these regulations and for new installations within two years from the date of commencement of construction.

(4) The Owner shall set up a sound and scientific safety management system which shall include,-

(a) formulation of a written statement of policy in respect of safety and health of employees;

(b) defining and documenting responsibilities for all levels of functionaries to carry out safety related activities including responsibilities of the contractors;

(c) preparing detailed safety manual complying with the statutory requirements and manufacturers' recommendations;

(d) establishing procedures to identify hazards that could give rise to the potential of injury, health impairment or death and measures to control impact of such hazards;

(e) providing adequate human, physical and financial resources to implement the safety management system;

5. Tower top patrolling;

6. Thermo vision scanning;

7. Punctured insulator detection;

8. Off-line fault location, signature analysis;

9. Maintenance schedule of electric lines;

10. Safety in washing of live insulators and testing of insulators on live lines;

11. Hot line maintenance;

12. Safety in working in underground systems.

Schedule- III
[See regulation 9(2)]

Elements of on-site emergency management plan for electrical plants and electric lines

1. On-site emergency management plan shall be developed to deal with all probable emergencies which can occur at the premises such as:

(A) Common to all electrical plants:

(a) Major fire in cable gallery;

(b) Major fire in transformer yard.

(B) Specific to thermal generating stations:

(a) Fire in coal handling and conveyor system;

(b) Toxic gas dispersion caused by uncontrolled chlorine toner leakage;

(c) Major leakage in natural gas pipelines (e.g. full bore rupture of gas pipe line) resulting in unconfined natural gas leakage leading to vapour cloud explosion and fire;

(d) Major hydrogen gas leakage from generator leading emergency situation that can lead to fire and explosion;

(e) Boiler drum burst;

(f) Implosion or explosion of boiler furnace;

(g) Large scale fire in fuel oil area, coal storage, naphtha or liquefied natural gas storage area.

(C) Specific to hydro-electric generating stations:

(a) Flooding of powerhouse;

(b) Landslides.

2. On-site emergency management plan shall include the following:-

(a) Name and address of the Chief Incident Controller;

(b) Alarm system and method of reporting and declaring emergency;

(c) Emergency response procedure including response to off-site emergency management plan and crisis and disaster management plan;

(d) Details of the key employees of the emergency team and their responsibilities;

(e) Addresses and contact numbers of local administration, police, hospitals, involved in assisting during emergency;

(f) Risk assessment information giving possible nature of incidents and events giving rise to emergency conditions, risk analysis and impact assessment;

(g) Details about the site:

(i) Locations where emergency may arise;

(ii) Emergency control room and alternate emergency control room;

(iii) Demarcation of safe assembly zone relevant to each type of emergency condition;

(h) Description of hazardous chemicals and fuels at plant site:

(i) Chemicals (quantities and toxicological data);

(ii) Fuels (quantities and storage type);

(iii) Material safety data sheets;

(i) Internal and external communication plan during emergency;

(j) Details of fire fighting and other facilities available to deal with emergency conditions;

(k) Details of first aid and hospital services available and their adequacy;

(l) Post emergency activities:

(i) Collection of records;

(ii) Conducting enquiries and concluding preventive measures;

(iii) Making insurance claims;

(iv) Preparation of enquiry report and suggestion scheme;

(v) Implementation of enquiry report recommendations;

(vi) Rehabilitation of affected persons within plant;

(vii) To re-start the plant.

AMARJEET SINGH, Secy.

[ADVT. III/4/150/10/Exty.]

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ANDHRA PRADESH POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN, A-3, INDUSTRIAL ESTATE,
SANATHNAGAR, HYDERABAD - 500 018

Phone: 040-23887500
Fax: 040- 23815631
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Website :appcb.ap.nic.in

ANNEX-III

RED CATEGORY
RENEWAL OF CONSENT & AUTHORISATION ORDER
BY REGISTERED POST WITH ACKNOWLEDGEMENT DUE

Consent Order No : APPCB/VSP/VSP/12334/HO/CFO/2017- Date: 31.07.2017

CONSENT is hereby granted for Operation under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof and Authorisation under Rule 6 of the Hazardous & Other Wastes (Management and Transboundary, Movement) Rules, 2016 and the rules and orders made there under (hereinafter referred to as 'the Acts', `the Rules') to:

M/s. Simhadri Super Thermal Power Project (Stage-I&II),
NTPC Limited, Parawada,
Visakhapatnam District - 531 020
E-mail: ssrao01@ntpc.co.in / jithinabraham@ntpc.co.in

(Hereinafter referred to as 'the Applicant') authorizing to operate the industrial plant to discharge the effluents from the outlets and the quantity of emissions per hour from the chimneys as detailed below:

i) Out lets for discharge of effluents:
Stage - I (Unit -1&2)- 1000 MW.

Outlet No.	Outlet Description	Max Daily Discharge (KLD)	Point of disposal
1.	D.M. Plant Regeneration effluent	3400	Reused for Ash Slurry preparation
2.	Boiler Blow Down and once through Cooling Water after treatment	1,03,900	Into Sea
3.	Ash Pond Effluent	9600	Reused for Ash Pumping
4.	Domestic	1790	After treatment in STP, onland for Plantation / Gardening.
	Total	1,18,690	

Stage - II (Unit -3&4)- 1000 MW

Existing Outlet No.	Outlet Description	Max Daily Discharge (KLD)	Point of disposal
1.	Filter Back wash	240	Recycled to clarifier inlet
	CHP effluent	4800	Sedimentation, Treatment & Recycle
2.	DM Plant Regeneration Waste	240	Neutralization and disposal through Central Monitoring Basin (CMB) and excess treated effluents to Sea.
	Cooling Tower blow down	106320	Partial use and disposal through CMB and excess treated effluents to Sea.
	Boiler Blow down	1080	Disposal through CMB and excess treated effluents to Sea.
	Ash water Blow down	34320	Disposal through CMB and excess treated effluents to Sea.
3.	Clarifier Sludge	720	Disposed in ash pond
4.	Domestic	2400	Biological treatment & Onland for Plantation / Gardening
	Total	1,50,120 (6255 m^3/hr)	

ii) Emissions from chimneys:

Chimney No.	Description of Chimney	Quantity of Emissions in m3/hr. at peak flow
1.	Attached to 2 x1,675 TPH Coal Fired Boilers (Stage-I: 1000 MW)	28,51,560
2.	Attached to 2 x1,675 TPH Coal Fired Boilers	28,99,800

	(Stage-II: 1000 MW)	
3.	Attached to 6 x 1500 KVA D.G Sets	--

iii) HAZARDOUS WASTE AUTHORISATION (FORM - II) [See Rule 6 (2)]:

M/s. Simhadri Super Thermal Power Project, NTPC Limited, Stage-I&II, Parawada, Visakhapatnam District., is hereby granted an authorization to operate a facility for collection, reception, storage, treatment, transport and disposal of Hazardous Wastes namely:

- **HAZARDOUS WASTES WITH RECYCLING OPTION:**

S.No	Name of the Hazardous waste	Stream	Quantity of Hazardous waste	Disposal Option
1.	Used / Waste Lubricating oil	5.1 of Schedule - I	90 KL/Annum	Authorized Re-processors / Re-cyclers.

This consent order is valid for power generation with quantities indicated below:

S.No.	Product	Quantity
1	Electricity (Coal with maximum sulphur content of 0.6% and ash content of 45%)	2000 MW (Existing: Stage - I(Unit-1&2) - 1000 MW, Existing: Stage - II(Unit-3&4) - 1000 MW)

This order is subject to the provisions of 'the Acts' and the Rules' and orders made thereunder and further subject to the terms and conditions incorporated in the schedule A, B & C enclosed to this order.

This combined order of consent & Hazardous Waste Authorization shall be valid for a period ending with the **31st day of August, 2022.**

Sd/-
MEMBER SECRETARY

To
M/s. Simhadri Super Thermal Power Project (Stage-I & II),
NTPC Limited, Parawada,
Visakhapatnam District - 531 020

// T.C.F.B.O. //

1/8/17

Joint Chief Environmental Engineer
Unit Head-IV

SCHEDULE-A

1. Any up-set condition in any industrial plant / activity of the industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.
2. The industry should carryout analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.
3. All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.
4. The industry should put up two sign boards (6x4 ft. each) at publicly visible places at the main gate indicating the products, effluent discharge standards, air emission standards, hazardous waste quantities and validity of CFO and exhibit the CFO order at a prominent place in the factory premises.
5. Not withstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.
6. The industry shall file the water cess returns in Form-I as required under section (5) of Water (Prevention and Control of Pollution) Cess Act, 1977 on or before the 5th of every calendar month, showing the quantity of water consumed in the previous month along

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with water meter readings. The industry shall remit water cess as per the assessment orders as and when issued by Board.

7. The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E(P) Rules, 1986 & amendments thereof.
8. The applicant should make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board. The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions. Any change in the management shall be informed to the Board. The person authorized should not let out the premises / lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.
9. Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.

SCHEDULE - B

WATER POLLUTION:

1. The effluent discharged shall not contain constituents in excess of the tolerance limits mentioned below.

Outlet	Parameter	Limiting Standards
2.	pH	6.50 - 8.50
	Temperature not more than 5°C higher than intake water.	
	Total Suspended Solids (at 103 - 105^0 C)	100 mg/l
	Oil and Grease	20 mg/l
	Free chlorine	0.5 mg/l
	Phosphate as PO4	20 mg/l
	Chromium (Total)	0.2 mg/l
	Copper (Total)	1mg/l
	Iron	1 mg/l
	Zinc	1 mg/l
4.	pH	5.5 - 9.0
	Total Suspended Solids (at 103 - 105^0 C)	200 mg/l
	Bio Chemical Oxygen Demand (BOD 3 at 27 ^{0}C)	100 mg/l
	Total Dissolved Solids	2100 mg/l

2. The industry shall take steps to reduce water consumption to the extent possible and consumption shall NOT exceed the quantities mentioned below:

Stage - I (Unit -1&2)- 1000 MW

S. No.	Purpose	Quantity in KLD
1.	Industrial Cooling (Makeup) - Sea water	2,16,000 KLD
2.	DM Plant	4,320 KLD
3.	Domestic (including Gardening / Irrigation)	4,080 KLD
	Total	**2,24,400 KLD**

Stage - II (Unit -3&4)- 1000 MW

S. No.	Purpose	Quantity in KLD
1.	Industrial Cooling (Makeup) - Sea water	2,13,240 KLD
2.	DM Plant	13,200 KLD
3.	Domestic (including Gardening / Irrigation)	
	Total	**2,26,440 KLD**

The industry shall maintain separate water meters for the above areas and maintain records. The source of water is Sea water (8885 cum/hr) from Bay of Bengal and 550 cum/hr from Yeleru left bank canal.

AIR POLLUTION:

3. The emissions shall not contain constituents in excess of the prescribed limits mentioned below.

Chimney No.	Parameter	Emission Standards
1	Particulate matter	115 mg/Nm^3
2	Particulate matter	100 mg/Nm^3

4. The industry shall comply with emission limits for DG sets of capacity upto 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment Rules, 2004. In case of DG sets of capacity more than 800 KW shall comply with emission limits as per the Notification G.S.R.489 (E), dated 09.07.2002 at serial No.96, under the Environment (Protection) Act, 1986.
5. The industry shall comply with ambient air quality standards of PM_{10} (Particulate Matter size less than 10μm) - 100 μg/ m^3; $PM_{2.5}$ (Particulate Matter size less than 2.5 μm) - 60 μg/ m^3; SO_2 - 80 μg/ m^3; NO_x - 80 μg/m^3 outside the factory premises at the periphery of the industry.
   Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009
   Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A)
   Night time (10 PM to 6 AM) - 70 dB (A).

GENERAL:

6. The industry shall not increase the capacity beyond the permitted capacity mentioned in this order without obtaining CFE & CFO of the Board.
7. **The industry shall submit detailed action plan within one month for fly ash utilization as per the Fly Ash Notification on MoEF to the Board to achieve 100% utilisation of fly ash.**
8. The industry shall explore possibilities for disposal of 100 % fly ash generated to outside parties instead of dyke wall rising.
9. The industry shall maintain proper water curtains in the Ash ponds to avoid dust nuisance to the nearby villagers.
10. The industry shall maintain permanent mechanical sprinklers for suppression of dust on the haul roads in between the villages and report the compliance to RO-Visakhapatnam.
11. Refurbished Environment Management Team with dedicated man power shall be maintained for continuous monitoring of Plant environment to ensure compliance of CFO conditions.
12. The industry shall maintain 3 CAAQM stations connected to APPCB website and report the compliance to RO-Visakhapatnam.
13. The industry shall maintain online Stack and ambient monitoring systems with connection to the Board's website.
14. The industry shall maintain duly compacted soil cover of requisite thickness as per norms for the ash ponds to avoid dust pollution and report the compliance to RO-Visakhapatnam.
15. The industry shall submit Isotopic study final report of M/s. NEERI on impacts on ground water due to ash ponds and report the compliance to RO-Visakhapatnam. Continuous monitoring of the ground water quality in all sides of the plant shall be carried out.
16. The industry shall take necessary measures like Ammonia dosing to maintain ESPs attached to the Boilers so as to meet SPM standards all the time.
17. The industry maintain the data logging facility provided for storing online stack emission data properly, for retrieval as and when necessary. Industry shall submit monthly report to the RO Visakhapatnam.
18. The industry shall maintain water meters for recording consumption of Sea water / water from Yeleru canal and maintain proper records for daily water consumption and shall submit monthly reports to the RO, Visakhapatnam.
19. The industry shall maintain proper arrangements for collection of seepage from ash pond and pumped back into the ash water system, so as to avoid ground water pollution in the surrounding area.
20. The industry shall maintain water cover in the ash pond area to prevent fly ash from getting air borne and air pollution in the surrounding area especially to the residents of Pittavanipalem.
21. Efforts shall be taken to dispose all fly ash in dry form as much as possible instead of diverting it to wet ash pond due to paucity of land available and due to lack of secured landfill arrangement in the ash pond. Dry ash collection systems of Stage-I & Stage - II shall be maintained properly.
22. The industry shall monitor all ground water peizo wells and submit report to RO-Visakhapatnam every three months indicating trends.

23. Garland canal shall be maintained around the fly ash pond to collect water that is expected to leach out and monitoring of such leachates shall be carried out.

24. After increase in the bund level and increase in the storage capacities due to the lateral pressures, the aquifer may be influenced due to the leachates. The industry shall maintain sufficient fresh water in the borrow pits to counter the lateral pressures and contain the leachates if any percolate into strata.

25. The industry shall act on pollution problems that arise out of the ash pond and shall take measures to contain by taking time to time action to dispel apprehensions by the residents of the villagers. If it is required, the industry shall take up the corrective measures like introducing geo-textiles vertically in the sub-surface levels in the detected areas of leaching.

26. The industry shall not use any fuels other than those permitted in this order without prior consent from the Board. They shall maintain log registers on type of fuels & daily consumption, ash content, sulphur content etc., and shall furnish consolidated records to R.O., Visakhapatnam for every three months.

27. The industry shall maintain interlocking facility between APC equipment (ESP) and fuel feeding system for all the units, so that the feeding of the fuel will be stopped automatically, in case, the ESP fails/ tripping's are occurred.

28. The industry shall maintain separate water meters to assess the quantity of water consumed at various sections. The industry shall provide separate water meters with necessary pipeline for assessing the quantity of water used for each of the purposes mentioned below:

    a. Industrial cooling, boiler feed.
    b. Domestic purposes.
    c. Processing, whereby water gets polluted and pollutants are easily biodegradable.
    d. Processing, whereby water gets polluted and pollutants are not easily biodegradable.

29. The industry shall maintain the following records and the same shall be made available to the Board Officials during the inspection.

    a. Daily power generation details.
    b. Quantity of Effluents generated and disposed.
    c. Log Books for pollution control systems.
    d. Daily Fly ash generated and disposed.

30. Green belt of adequate width and density shall be maintained along the boundary of the industry and around ash ponds with minimum area of 33% of total area and to protect surrounding Villages from fugitive dust.

31. The industry shall comply with directions issued by Board from time to time.

32. The industry shall comply with the MoEF,GoI notification dt.14.09.1999 and other directions issued time to time with regard to utilization of ash.

33. The industry shall take measures around the ash pond area to avoid entry of animals in order to prevent accidents, breakage of emergency ponds and protection of greenbelt.

SCHEDULE - C

[see rule 6(2)]

[CONDITIONS OF AUTHORISATION FOR OCCUPIER OR OPERATOR HANDLING HAZARDOUS WASTES]

1. All the rules and regulations notified by Ministry of Environment and Forests, Government of India under the E(P) Act, 1986 in respect of management, handling, transportation and storage of the Hazardous wastes should be followed.

2. The industry shall not store hazardous waste for more than 90 days as per the Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.

3. The industry shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.

4. The industry shall maintain 6 copy manifest system for transportation of waste generated and a copy shall be submitted to concerned Regional Office of APPCB. The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card.

5. The industry shall maintain proper records for Hazardous & other wastes stated in Authorization in FORM-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form- 4 as per Rule 6 (5) of the

Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 and amendments thereof.

6. The industry shall submit the condition wise compliance report of the conditions stipulated in Schedule A, B & C of this Order on half yearly basis to Board Office, Hyderabad and concerned Regional Office.

Sd/-
MEMBER SECRETARY

To
M/s. Simhadri Super Thermal Power Project,
NTPC Limited, Parawada,
Visakhapatnam District - 531 020

// T.C.F.B.O. //
11/Aug/8/17
Joint Chief Environmental Engineer
Unit Head-IV

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ANNEX- IV (8)

No. Q-15013/30/2007-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 beneficiatedcoal 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 showsvariation 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.

26 Aug 2015

(Dr. Manoranjan Hota)
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, MoEFCC to upload into the website

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ANNEX-V

BY REGD POST

STATE POLLUTION CONTROL BOARD, ODISHA

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

No. 2755 / Ind-II-NOC-5592 Date 28.02.14

OFFICE MEMORANDUM

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

GENERAL CONDITIONS.

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

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 SO_2 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.

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, NOx, CO and other important parameters as given in as per Annexure – II above within at least to the distance in down wind direction and where maximum ground level concentration is anticipated. The exact location of the monitoring stations shall be finalized in consultation with the State Pollution Control Board. **The proponent shall install continuous online ambient air quality monitoring and stack monitoring system with display facility at the gate. A detail proposal to this effect shall be submitted.**

19. Pneumatic conveyor system shall be provided as dust collection system for ESP dust. Silos shall be provided for collection of bottom ash and fly ash. Conveyor belt shall be closed and bag filter shall be provided at transfer points of conveyor system to control fugitive emission.

20. Air pollution Control devices shall be maintained properly. Fabric bags and cages in bag house shall be checked regularly and replaced whenever required. Adequate availability of spares shall be ensured for immediate replacement.

21. All the wastewater generated shall be discharged to a common monitoring basin before it is reused in the plant for various process.

22. The Blow down shall meet the following standards before it is discharged to the common basin.

Boiler Blow Down :		
Suspended solids	-	100.0mg/l (max)
Oil & Grease	-	20.0 mg/l (max)
Copper (Total)	-	1.0 mg/l (max)
Iron (total)	-	1.0mg/l (max)

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Cooling Tower Blow Down

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

23. The wastewater generated from leakages, blow downs and DM plant shall be treated individually to meet the prescribed standard of effluent discharge to inland surface water and stored in a common basin (i.e. guard pond) for utilization for plantation, dust suppression ash handling and green belt purpose inside the factory premises. Lining shall be provided in guard pond to prevent any seepage into ground to avoid ground water contamination. The proponent shall submit detail drawing with specification of ETP within 6 months.

24. The proponent shall provide garland drains around coal storage area followed by series of settling tanks to retain the solids, if any, in order to reduce the load on common monitoring basin.

25. The unit shall furnish details of the control measures at coal loading and unloading points.

26. The acidic water generated during boiler cleaning shall be properly neutralized so that the pH of cleaning water remains within the range of 6.0 – 9.0. After neutralization this water can be discharged to the common monitoring basin.

27. Oil catch pits shall be provided in oil handling area of power plant for collection of spillage

28. The unit shall provide treatment system such as Reverse osmosis plant to treat the waste water generated from cooling tower blow down and reuse the same in the process.

29. The storm water drains shall be maintained separately without being mixed up with the industrial effluent or sewage effluent. The domestic effluent from the industry as well as the colony shall be treated in proper sewage treatment plant to meet the prescribed BIS standard (SS – 30mg/l, BOD – 20mg/l) before being discharged or utilized for green belt development.

30. **The industry shall adopt High Concentration Slurry Disposal (HCSD) method for ash disposal. A detail design of the ash disposal area, the dykes, run off and seepage collection system etc shall be made and submitted within 3 months from the date of issue of this consent to establish.** ✓

31. **A comprehensive ash utilization plan shall be prepared within the frame work of Fly Ash Notification, 2009 and its amendment thereof. The plan should explore all possible means of utilization with realistic timelines and utilization options. The ash utilization plan submitted by the proponent is not adequate. A detailed ash utilization plan is to be submitted keeping in view of less ash at the time of consent to operate application.** ✓

32. **The proponent shall take precautionary measures to prevent surface run off from ash disposal area during torrential rain. A detailed proposal to this effect is to be submitted within 3 months.** ?

33. Rain water harvesting structure shall be developed inside the plant premises as per concept and practices made by CPCB and maximum efforts shall be made to reuse harvested rain water, with a definite plan and programme to reduce the drawal of fresh water from water bodies.

34. The unit shall explore the possibility of disposal of fly ash in abandoned mine pit for complete utilization of fly ash. ?

35. The unit shall submit details of hazardous chemicals and storage facility and risk assessment to the Board.

36. **The industry shall comply with all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in.**

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

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

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

38. Regular monitoring of runoff water from the disposal area and excess ash water shall be carried out with respect to pH, SS, O&G and fluoride content and monitoring report shall be submitted to the Board every quarter.

39. Ash pond shall be lined with HDPE or any other suitable impermeable lining such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.

40. The Project Proponent shall carry out detail hydrogeological study of the ash pond site incorporating soil analysis, ground water quality(fluoride& heavy metals), surface water quality(fluoride & heavy metals) and drainage network of the area and the change in hydrological status shall be monitored annually.

41. Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (F, Cd, Hg, Cr, As, Pb) and records shall be maintained and submitted to the Board. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.

42. The entire upstream face of the dyke shall be provided with stone pitching or brick lining or precast tile lining to prevent erosion of the slope by wave action during heavy wind.

43. The entire area of the ash dyke shall be provided with fencing and unauthorized entry within this ash pond area shall be strictly prohibited. Security guards shall be posted for vigilance of the ash dyke area round the clock. This is very important as there are chances of sabotage. The entire dyke perimeter shall have accessible roads. The entire dyke area shall be provided with street lights or flood lights for inspection during night time. A site office shall be constructed with a full time engineer responsible for inspection and monitoring of the ash dyke.

44. The industry shall construct a Sewage Treatment Plant (STP) for treatment of wastewater to be generated from domestic source and the treated sewage shall be discharged to the common monitoring basin.

45. The unit shall explore the possibility to use chlorine di-oxide for treatment of water instead of chlorine gas.

46. Plantation activity shall be planned in such a way so that trees will have better growth by the time the unit starts operation.

47. The proponent shall deploy vehicles which conform to the latest BIS emission specification. The proponent shall also to give a detail proposal to control noise pollution during construction phase. The proponent shall prepare pollution prevention and environment management plan for construction phase and operation phase separately and should submit to the Board three months prior to commencement of construction and operation respectively.

48. The rising temperature during summer in the area is a major concern. The unit shall conduct a detailed study on contribution of thermal heat to atmosphere due to the proposed project and its impact on ambient temperature during different season. The study should also investigate the heat island effect due to the project.

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 carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board every year for record.

52. The land on which the unit is proposed to be established the power plant shall be converted to industrial use Kisam by the competent authority. The copy of said land conversion document shall be submitted to the Board along with consent to operate application.

53. **A green belt of adequate width and density preferably with local species along the periphery of the power plant shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover, in such a manner that, atleast plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years.**

54. **No production activity shall commence prior to installation of the pollution control devices. In case, it is found that the plant is operating without installation of appropriate pollution control equipment(s) and without permission for trial operation from the Board, a direction of closure shall be issued u/s 31-A of Air (PCP) Act, 1981 and /or u/s 33-A of Water (PCP) Act, 1974 without any further notice in this regard.**

55. The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

Encl: Approved layout Map & Annexures

MEMBER SECRETARY

To

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

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, Bannergatta road, Bengaluru-29, Dated 23.09.2013.

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

Sir,

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

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

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We are pleased to inform you that the Task Force Committee in its meeting held on 12.09.2013 has reviewed the presentation, documents, details of the safety systems adopted, etc and has concurred in principle to issue the Site Clearance for the initial location for the establishment of super thermal power project for generating electrical power of 3 X 800 MW at Near Kudugi village, Basavana bagewadi Taluk, Bijapur District.

The site clearance is issued subject to the following conditions;

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

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8. The mitigation measures as submitted in the presentation and as suggested by committee shall be incorporated in the on-site emergency plan. The same shall be submitted for scrutiny and approval

9. The provisions of rule 50 to 251 of Building and Other Construction Workers (Regulation of Employment and condition of service) (Karnataka) Rules 2006 shall be complied to ensure occupational safety and health of the construction workers involved project. The compliance shall be furnished regularly to jurisdiction officers of our department and to the Director of Factories, Boilers, Industrial Safety and Health.

Suggestions:

1. The industry shall adopt the rain – harvesting system to harvest atleast 80% 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.