



एन.टी.पी.सी-सेल पावर कम्पनी प्राइवेट लिमिटेड  
(एन.टी.पी.सी. और सेल का संयुक्त उद्यम)

**NTPC-SAIL Power Company Private Limited**

(A Joint Venture of NTPC & SAIL)

केन्द्रीय कार्यालय  
CORPORATE CENTRE

Ref. No.: 01: Comml.:121H

Date: 19<sup>th</sup> Aug, 2014

To,

The Bench Officer  
Central Electricity Regulatory Commission  
3<sup>rd</sup> & 4<sup>th</sup> Floor, Chanderlok Building,  
36, Janpath,  
New Delhi-110001.

**Subject: Petition for determination of tariff of Bhilai Expansion Power Plant  
(2 x 250 MW) for the period from 01.04.2014 to 31.03.2019**

Dear Sir,

Please find enclosed herewith the subject petition, filed 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 for approval of tariff of Bhilai Expansion Power Plant (2 x 250 MW) for the period from 01.04.2014 to 31.03.2019 in original along with 9 copies and a CD (soft copy).

A copy of this petition has been forwarded to all the respondents and speed post receipt of the same is enclosed as proof of service.

Kindly acknowledge receipt of the same.

Thanking you,

Yours faithfully,

(Arvind Jhalani)  
AGM (Commercial)

Encl.: As above

Corp. Office :

चौथा तल, 15, एनबीसीसी टावर, भीकाजी कामा प्लेस, नई दिल्ली - 110066 टेल. / Tel. : (0) 011-26717361 QSDI / Fax : 011-26717363, 26717366  
4th Floor, 15, NBCC Tower, Bhikaji Cama Place, New Delhi - 110066 Website : WWW.nspcl.com

भारतीय डाक



India Post

GP R K PUNAM-MAIN <110044>  
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DARAH, PIN:349210

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M: 5100000000

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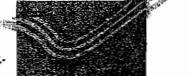
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India Post

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From: NTPC, NH  
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Text: <Rc: 5 0000/Track on www.indiapost.gov.in>

(BY SPEED POST)

**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 for approval of tariff of Bhilai Expansion Power Plant (2 x 250 MW) for the period from 01.04.2014 to 31.03.2019.

**Respondent**

1. DNH Power Distribution Corporation Ltd.  
First Floor, Vidhyut Bhavan,  
Opp. Secretariat,  
SILVASSA-396230.  
(erstwhile Electricity Department  
UT of Dadra & Nagar Haveli)
2. Electricity Department  
UT of Daman & Diu  
Plot No. 35, OI DC Corporate Office,  
Near Fire Station,  
Somnath, Daman – 369210
3. Chhattisgarh State Power Distribution Co. Ltd.  
(erstwhile CSEB),  
Dangania  
P.O. Sunder Nagar,  
RAIPUR - 492013.
4. Steel Authority of India Limited (SAIL),  
Ispat Bhawan,  
Lodhi Road,  
New Delhi-110003



(Arvind Jhalani)  
AGM (Commercial)  
NSPCL

**ARVIND JHALANI**  
Addl. General Manager (Commercial)  
NTPC SAIL Power Company Private Ltd.  
4th Floor, NBCC Tower, 15, Bhikaji Cama Place  
New Delhi-110066

**PETITION NO. : .....**

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 for approval of tariff of Bhilai Expansion Power Plant (2 x 250 MW) for the period from 01.04.2014 to 31.03.2019.

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**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
**NEW DELHI**

**PETITION NO.: .....OF 2014**

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 for approval of tariff **of Bhilai Expansion Power Plant (2 x 250 MW)** for the period from 01.04.2014 to 31.03.2019.

AND  
IN THE MATTER OF

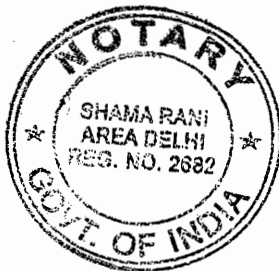
**Petitioner**

NTPC SAIL Power Company Private Limited  
NBCC Tower (4<sup>th</sup> Floor),  
15, Bhikaji Cama Place  
New Delhi – 110066

**Versus**

**Respondent**

1. DNH Power Distribution Corporation Ltd.  
First Floor, Vidhyut Bhavan,  
Opp. Secretariat,  
SILVASSA-396230.  
(erstwhile Electricity Department  
UT of Dadra & Nagar Haveli)
2. Electricity Department  
UT of Daman & Diu,  
OIDC Building, Somnath  
Nani Daman-396 210.
3. Chhattisgarh State Power Distribution Co.  
Ltd. (erstwhile CSEB),  
Dangania  
P.O. Sunder Nagar,  
RAIPUR-492013.
4. Steel Authority of India Limited (SAIL),  
Ispat Bhawan,  
Lodhi Road,  
New Delhi-110003



**ATTESTED**

NOTARY PUBLIC INDIA

*Anil Kumar*  
18 AUG 2014

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## AFFIDAVIT SUPPORTING THE PETITION

I, Arvind Jhalani, son of Shri G L Jhalani, aged about 53 years residing at Flat No. B-44, Parwana Apartments, Mayur Vihar, Phase-I, Delhi-91 do hereby solemnly affirm and state as follows:

I am working as Additional General Manager (Commercial) with NTPC SAIL Power Company Private Limited (NSPCL), the Petitioner in the above matter and I am conversant with and duly authorised by the said Petitioner to make this affidavit.

The statements made in the Petition are based on official records maintained during the course of business and I believe them to be true to the best of my knowledge.

*Arvind Jhalani*  
(DEPONENT)

### Verification

Solemnly affirm at New Delhi on this 18<sup>th</sup> day of August, 2014 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

*Arvind Jhalani*  
(DEPONENT)



**ATTESTED**  
*[Signature]*  
NOTARY PUBLIC INDIA

**ARVIND JHALANI**  
Addl. General Manager (Commercial)  
NTPC SAIL Power Company Private Ltd.  
4th Floor, NBCC Tower, 15, Bhikaji Cama Place  
New Delhi-110066

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18 AUG 2014

**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
**NEW DELHI**

**PETITION NO.: .....OF 2014**

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 for approval of tariff **of Bhilai Expansion Power Plant (2 x 250 MW)** for the period from 01.04.2014 to 31.03.2019.

AND  
IN THE MATTER OF

**Petitioner**

NTPC SAIL Power Company Private Limited  
NBCC Tower (4<sup>th</sup> Floor),  
15, Bhikaji Cama Place  
New Delhi – 110066

**Versus**

**Respondent**

1. DNH Power Distribution Corporation Ltd.  
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P.O. Sunder Nagar,  
RAIPUR-492013.
4. Steel Authority of India Limited (SAIL),  
Ispat Bhawan,  
Lodhi Road,  
New Delhi-110003

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**The Petitioner humbly states that :**

1. The Petitioner herein is NTPC SAIL Power Company Private Limited (hereinafter referred to as '**NSPCL**'), a company incorporated under the Companies Act, 1956, with registered office at NBCC Tower (4<sup>th</sup> Floor), 15, Bhikaji Cama Place, New Delhi -110066. NSPCL is a Joint Venture formed by NTPC Limited (NTPC) and Steel Authority of India Limited, Respondent No. 4 (hereinafter referred to as SAIL), each having equity participation on 50: 50 basis. Further, NSPCL is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
2. NSPCL is a Special Purpose Vehicle established, inter-alia, to take over thermal power generating units mainly for the Captive Power requirements of SAIL. NSPCL took over Power Plants (CPPs-II) of total capacity 314 MW from SAIL to meet such captive requirements namely located at Durgapur Steel Plant (2 x 60 MW) in the State of West Bengal, at Rourkela Steel Plant (2 x 60 MW) in the State of Odisha and at Bhilai Steel Plant (2 x 30 MW + 1 x 14 MW) in the State of Chhattisgarh which meet the captive requirements of SAIL engaged in manufacture of steel located in the above three States.
3. Bhilai Expansion Power Plant (2 X 250 MW) of the Petitioner is a Central generating station in terms of section 2 (k) of CERC (IEGC) Regulations, 2010. The power generated from the Bhilai Expansion Power Plant is sold to SAIL/BSP and its other units and Respondents 1 to 3 which are distribution licensees in the respective States/Union Territories within the meaning of Section 14 of the Electricity Act, 2003. Supply of power from the generating units of the Bhilai Expansion Power Plant is governed as per terms and conditions of Power Purchase Agreements signed between Petitioner and Respondents.
4. That Section 62 of Electricity Act, 2003 provides for determination of tariff by the Appropriate Commission for supply of electricity by generating company to distribution licensees. That the Hon'ble Commission is vested with the powers to regulate the tariff of the Generating Companies owned or controlled by the Central Government for generation and sale of electricity to distribution licensees as envisaged under Section 79 of Electricity Act, 2003 and in the case of other generating companies having a composite arrangement for generation and sale of power in two or more states.

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5. The tariff for Bhilai Expansion Power Plant (2 x 250 MW) for the period 21.10.2009 to 31.3.2014 was determined by the Hon'ble Commission vide order dated 29.07.2010 in Petition No. 308/2009 in accordance with the CERC (Terms & Conditions of Tariff) Regulations, 2009.
6. Further, the Petitioner would like to mention that the Petitioner vide Petition no. 151/MP/2012 dated 22.06.2012 made a prayer before the Hon'ble Commission for relaxation for one year time extension beyond the cut-off date for additional capitalisation of around Rs. 71 Crore upto 31.03.2013 in respect of tariff of Bhilai Expansion Power Plant (2 X 250 MW). CERC vide order dated 04.07.13 has allowed extension of cut-off date for additional capitalization for a period of one year from 31.03.2012 to 31.03.2013 as prayed for by NSPCL. However, the additional capital expenditure actually incurred would be considered at the time of true up exercise to be undertaken by CERC for the Station in terms of Regulation 6 of the 2009 Regulations.
7. The Petitioner, NSPCL had filed a mid-term true-up petition No. D-110/GT/2012 dated 30.11.2012 for carrying out revision and determination of tariff for the period from 21.10.2009 to 31.3.2014 based on the admitted capital cost as on 21.10.2009 and the actual capital expenditure incurred during the years 2009-10 (21.10.2009 to 31.03.2010), 2010-11 & 2011-12 and projected capital expenditure for the years 2012-13 & 2013-14. The above said petition No. D-110/GT/2012 dated 30.11.2012 is yet to be disposed of by the Hon'ble Commission.
8. The petitioner has thereafter on 30.06.2014 filed final true-up petition No. GT/132/2014 for revision of year wise fixed charges and determination of tariff for the period from 21.10.2009 to 31.3.2014 on account of actual capital expenditures for the period duly considering the liabilities discharged for the period 2009-13 against the admitted items.
9. The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014 (hereinafter 'Tariff Regulations 2014') which have come into force from 1.4.2014, specifying the terms & conditions and methodology of tariff determination under Section 62 & 79 of the Electricity Act, 2003. The Petitioner is filing the

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present petition for determination of tariff for Bhilai Expansion Power Plant (2 X 250 MW) for the period from 1.4.2014 to 31.3.2019 as per the Tariff Regulations, 2014.

10. In terms of the Tariff Regulations, 2014, the Petitioner has filled the formats in regard to the estimated capital expenditure for the tariff years 2014-15 to 2018-19. The Petitioner wishes to place before the Hon'ble Commission the consideration of the following aspects which are relevant for the determination of the tariff for the Bhilai Expansion Power Plant (2 x 250 MW).
11. The capital expenditure claims have been projected by the Petitioner based on the Regulation 14 of the Tariff Regulations, 2014. Further, the Hon'ble Commission in its various tariff orders for 2009-14 period have allowed additional capitalization in respect of certain works.
12. The clause 8 of Regulation 7 of CERC (Terms and Conditions of Tariff) Regulations 2014 has specified that in case of existing projects, the tariff may be allowed based on the admitted capital cost upto 31.3.2014 and projected capital expenditure for the respective years during 2014-19 period. The petitioner respectfully submits that it has already filed a petition (Petition No. GT/132/2014) in respect of true up exercise for the tariff period upto 31.3.2014 on 30.06.2014 in accordance with the Clause 2 and 3 of the Regulation 6 of CERC (Terms and Conditions of Tariff) Regulations 2009. Therefore, the admitted capital cost of Rs. 2655.73 Cr., in respect of the instant station as per order dated 29.07.2010 of the Hon'ble Commission in Petition No 308/2009, has been adjusted by an amount of Rs. 101.70 Cr. in accordance with the closing capital cost as on 31.3.2014 which has been worked out to Rs. 2757.63 Cr. in the aforesaid petition filed for true up exercise. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2014 and determine the tariff in the present petition.
13. The Petitioner further respectfully submits that as per Regulation 29 (2) of the Regulations 2014, the water charges 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 2013-14 have been

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furnished below. The water charges may be allowed in tariff based on actuals of 2013-14. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actuals for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment. It would be relevant to mention that the expenditures of these natures are necessarily to be incurred by the generating station on a continuous basis. Accordingly, these need to be provided in the Annual Fixed Charges as well as Working Capital so as to enable the generator to recover such expenses and pay for them on continuous basis.

Description	Remarks
Type of Plant	Coal Based Power Plant
Type of cooling water system	Closed Circuit cooling water system.....
Total Water Charges	Rs. 1613.45 Lakhs.

14. The Petitioner further respectfully submits that the salary/ wage revision of the employees of the Petitioner will be due with effect from 1.1.2017. The O&M expenses in the instant Petition have been claimed by the Petitioner based on the CERC (Terms and Conditions of Tariff) Regulations, 2014. The escalation of 6.35% provided in the O&M expenses would not cover the enhanced employee cost w.e.f. 1.1.2017. The Petitioner therefore craves liberty of the Hon'ble Commission to seek enhancement in O&M expenses with effect from 1.1.2017 towards the increased salary on account of salary revision due from 1.1.2017, based on the actual payments whenever paid by it. The Hon'ble Commission may be pleased to allow the same.

#### **TAXES ETC.**

15. It is further submitted that levies, taxes, duties etc. levied by the various authorities on Petitioner in accordance with law shall be recovered from the beneficiaries additionally.
16. It is submitted that the Petitioner has already paid the requisite filing fee vide UTR No. SBINH14115327748 on 25.4.2014 only for the year 2014-15 and the details of the same have been duly furnished to the Hon'ble Commission vide our letter dated 24.04.2014. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012.

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- 17) The petitioner has accordingly calculated the tariff for 2014-19 period based on the above and the same is enclosed as **Appendix-I** to this petition.
- 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 NSPCL 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.

### **Prayer**

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

- i) Approve tariff of Bhilai Expansion Power Plant (2 x 250 MW) for the tariff period 01.04.2014 to 31.03.2019.
- ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.
- iii) Allow the recovery of water charges (under O&M expenses) based on actuals of 2013-14 as part of Annual Fixed Charges (AFC) and to include the same in the Working Capital.
- iv) Allow revision of O&M charges including the revised salary of Employees w.e.f. 01.01.2017 as and when it is finalized.
- v) Pass any other order as it may deem fit in the circumstances mentioned above.

*Aravind*

**NSPCL**

**PETITIONER**

**New Delhi**

**Dated: 18<sup>th</sup> August, 2014**

**ARVIND JHALANI**  
Addl. General Manager (Commercial)  
NTPC SAIL Power Company Private Ltd.  
4th Floor, NBCC Tower, 15, Bhikaji Cama Place  
New Delhi-110066

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**TARIFF FILING FORMS (THERMAL)**

**FOR DETERMINATION OF TARIFF**

**PART-I**

**Annexure- I**

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**Checklist of Forms and other information/ documents for tariff filing for Thermal Stations**

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-I	Summary Sheet	✓
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*	Calculation of O & M Expenses	✓
FORM-4	Details of Foreign loans	✓
FORM-4A	Details of Foreign equity	✓
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5 (I) *	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM-5A	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects	✓
FORM-5B	Break-up of Capital Cost for New Coal/Lignite based projects	✓
FORM-5C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	✓
FORM-5D	Break-up of Construction/Supply/Service packages	✓
FORM-5E	Details of variables , parameters , optional package etc. for New Project	✓
FORM-5Ei	In case there is cost over run	✓
FORM-5Eii	In case there is time over run	✓
FORM-5F	In case there is claim of additional RoE	✓
FORM-6	Financial Package upto COD	✓
FORM-7	Details of Project Specific Loans	✓
FORM-8	Details of Allocation of corporate loans to various projects	✓
FORM 9A	Statement of Additional Capitalisation after COD	✓
FORM 9B	Statement of Additional Capitalisation during fag end of the useful life of Project	✓
FORM – 9Bi	Details of Assets De-capitalised during the period	✓
FORM – 9C	Statement showing reconciliation of ACE claimed with the capital additions as per books	✓
FORM – 9D	Statement showing items/assets/works claimed under Exclusions	✓
FORM – 9E	Statement of Capital cost	✓
FORM – 9F	Statement of Capital Woks in Progress	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Calculation of Depreciation	✓
FORM-12	Statement of Depreciation	✓
FORM-13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM-13A	Calculation of Interest on Normative Loan	✓
FORM- 13 B	Calculation of Interest of Working Capital	✓
FORM- 13 C	Other Income as on COD	✓
FORM- 13 D	Incidental Expenditure during Construction up to Scheduled COD and up to Actual COD	✓
FORM- 13 E	Expenditure under different packages up to Scheduled COD and up to Actual COD	✓
FORM- 14	Draw Down Schedule for Calculation of IDC & Financing Charges	✓
FORM- 14A	Actual cash expenditure	✓
FORM-15	Details/Information to be Submitted in respect of Fuel for Computation of Energy Charges	✓
FORM-15A *	Details/Information to be Submitted in respect of Oil (HFO) for Computation of Energy Charges	✓
FORM-16	Details/Information to be Submitted in respect of Limestone for Computation of Energy Charge Rate	✓
FORM-17	Details/Information to be Submitted in respect of Capital Spares	✓
FORM-18	Liability Flow Statement	✓
FORM-19	Station wise Cost Audit Report	x
Appendix -III*	Computation of Energy Charges	✓
<b>*Additional Form</b>		
<b>Other Information/Documents</b>		
Sl 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)	x
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years. B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	x
3	Copies of relevant loan Agreements	x
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	x
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	x
6	Copies of the BPSA/PPA with the beneficiaries, if any	x
7	Detailed note giving reasons of cost and time over run, if applicable. List of supporting documents to be submitted: a. Detailed Project Report b. CPM Analysis c. PERT Chart and Bar Chart d. Justification for cost and time Overrun	x x x x x
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. 2014-15 and 2015-16 at the time of mid-term true-up in 2016-17 and for balance period of tariff period 2014-19 at the time of final true-up in 2019-20. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	x
9	Any other relevant information, (Please specify)	x
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	x

Note1: Electronic copy of the petition (in words format) and detailed calculation as per these formats (in excel format) and any other information submitted shall also be furnished in the form of CD/Floppy disc.

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**Summary Sheet**

**Name of the Petitioner :**

NTPC SAIL POWER COMPANY PRIVATE LIMITED

**Name of the Generating Station :**

BHILAI EXPANSION POWER PROJECT (2X250MW)

**Place (Region/District/State) : Western Region/ Durg/Chattisgarh**

Sr.No.	Particulars	Unit	Existing 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	2		3	4	6	7	8	9
1.1	Depreciation	Rs. Lakhs	14104	14175	14275	14359	14387	14412
1.2	Interest on Loan	Rs. Lakhs	12443	11234	10067	8879	7631	6446
1.3	Return on Equity	Rs. Lakhs	19374	16256	16370	16467	16500	16528
1.4	Interest on Working Capital	Rs. Lakhs	3516	4693	4733	4760	4793	4832
1.5	O & M Expenses	Rs. Lakhs	11259	13415	14282	15206	16187	17231
1.6	Compensation Allowance (If applicable)	Rs. Lakhs				N/A		
1.7	Special allowance (if applicable)	Rs. Lakhs				N/A		
	<b>Total</b>	Rs. Lakhs		<b>59773</b>	<b>59728</b>	<b>59670</b>	<b>59498</b>	<b>59449</b>
2.1	Landed Fuel Cost ( Domestic coal)	Rs/Ton		<b>This information shall be furnished at the time of filing of true up petition</b>				
	(%) of Fuel Quantity	(%)						
2.2	Landed Fuel Cost ( Imported Coal)	Rs/Ton						
	(%) of Fuel Quantity	(%)						
2.3	Secondary fuel oil cost	Paise/KWh				<b>2.626</b>		
	Energy Charge Rate ex-bus( Paise/kWh)	Paise/kwh				<b>190.456</b>		

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**PETITIONER**

Name of the Petitioner :  
Name of the Generating Station :

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT (2X250MW)

PART-I  
Form- I(i)

Form-1(I) – Statement showing claimed capital cost:

Rs. in Lakhs

Sl.No.	Particulars	2014-15*	2015-16	2016-17	2017-18	2018-19
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<b>Opening Capital Cost</b>	<b>275,763.15</b>	<b>276,859.42</b>	<b>279,660.58</b>	<b>280,144.58</b>	<b>280,769.58</b>
	Add: Addition during the year / period	1,096.27	2,801.16	484.00	625.00	340.00
	Less: Decapitalisation during the year / period	-	-	-	-	-
	Less: Reversal during the year / period	-	-	-	-	-
	Add: Discharges during the year / period	-	-	-	-	-
	<b>Closing Capital Cost</b>	<b>276,859.42</b>	<b>279,660.58</b>	<b>280,144.58</b>	<b>280,769.58</b>	<b>281,109.58</b>
	<b>Average Capital Cost</b>	<b>276,311.29</b>	<b>278,260.00</b>	<b>279,902.58</b>	<b>280,457.08</b>	<b>280,939.58</b>

\*Opening Capital Cost for 2014-15 inclusive of add. Cap. For 2013-14

*Anilani*  
PETITIONER

12/99



Name of the Petitioner :  
Name of the Generating Station :

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT (2X250MW)

Form-I(II)

**Form-1(II) – Statement showing Return on Equity:**

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Opening Equity	82,728.95	83,057.83	83,898.17	84,043.37	84,230.87
	Add: Increase due to addition during the year / period	328.88	840.35	145.20	187.50	102.00
	Less: Decrease due to de-capitalisation during the year / period	-	-	-	-	-
	Less: Decrease due to reversal during the year / period	-	-	-	-	-
	Add: Increase due to discharges during the year / period	-	-	-	-	-
	<b>Closing Equity</b>	<b>83,057.83</b>	<b>83,898.17</b>	<b>84,043.37</b>	<b>84,230.87</b>	<b>84,332.87</b>
	<b>Average Equity</b>	<b>82,893.39</b>	<b>83,478.00</b>	<b>83,970.77</b>	<b>84,137.12</b>	<b>84,281.87</b>
	Rate of ROE (%)	19.61	19.61	19.61	19.61	19.61
	<b>Return on Equity</b>	<b>16,255.76</b>	<b>16,370.41</b>	<b>16,467.05</b>	<b>16,499.67</b>	<b>16,528.05</b>

*Anil*  
PETITIONER

13/99


**Plant Characteristics**

Name of the Petitioner :

NTPC SAIL POWER COMPANY PRIVATE LIMITED

Name of the Generating Station :

BHILAI EXPANSION POWER PROJECT (2X250MW)

Unit(s)/ Block(s) Parameters	Unit-I	Unit-II
Installed Capacity ( MW)		
Schedule COD as per Investment Approval		
Actual COD		
Pit Head or Non Pit Head		
Name of the Boiler Manufacture		
Name of Turbine Generator Manufacture		
Main Steams Pressure at Turbine inlet (kg/Cm2) abs		
Main Steam Temperature at Turbine inlet (oC)		
Reheat Steam Pressure at Turbine inlet (kg/Cm2)		
Reheat Steam Temperature at Turbine inlet (oC)		
Main Steam flow at Turbine inlet under MCR condition (tons /hr)		
Main Steam flow at Turbine inlet under VWO condition (tons /hr)		
Unit Gross electrical output under MCR /Rated condition (MW)		
Unit Gross electrical output under VWO condition (MW)		
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh)		
Boiler Efficiency specified by Manufacturer (%)		
<b>Conditions on which design turbine cycle heat rate guaranteed</b>		
% MCR		
% Makeup Water Consumption		
Design Capacity of Make up Water System		
Design Capacity of Inlet Cooling System		
Design Cooling Water Temperature (0C)		
Back Pressure		
Steam flow at super heater outlet under BMCR condition (tons/hr)		
Steam Pressure at super heater outlet under BMCR condition) (kg/Cm2)		
Steam Temperature at super heater outlet under BMCR condition (0C)		
Steam Temperature at Reheater outlet at BMCR condition (0C)		
<b>Design / Guaranteed Boiler Efficiency (%)</b>		
Design Fuel with and without Blending of domestic/imported coal		
Type of Cooling Tower		
Type of cooling system		
Type of Boiler Feed Pump		
Fuel Details		
- Primary Fuel		
-Secondary Fuel		
-Alternate Fuels		
Special Features/Site Specific Features		
Special Technological Features		
Environmental Regulation related features		
Any other special features		
 <b>PETITIONER</b>		

NOT APPLICABLE

14/99

**Normative Parameters considered for Tariff Computation**

Name of the Petitioner :

NTPC SAIL POWER COMPANY PRIVATE LIMITED

Name of the Generating Station :

BHILAI EXPANSION POWER PROJECT (2X250MW)

Particulars	Unit	Existing 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)
Base Rate of Return on Equity	%	15.50	15.5	15.5	15.5	15.5	15.5
Effective Tax Rate	%	33.99	20.9605	20.9605	20.9605	20.9605	20.9605
Target Availability	%	85.00	83	83	83	83	83
Auxiliary Energy Consumption	%	9.00	9.00	9.00	9.00	9.00	9.00
Gross Station Heat Rate	kCal/kWh	2450.00	2450.00	2450.00	2450.00	2450.00	2450.00
Cost of Coal/Lignite for WC**	in Months	2.00	2	2	2	2	2
Cost of Main Secondary Fuel Oil for WC	in Months	2.00	2	2	2	2	2
Fuel Cost for WC	in Months		N/A				
Liquid Fuel Stock for WC	in Months		N/A				
O & M expenses	Rs lakh / MW	22.74	23.9	25.4	27	28.7	30.51
Maintenance Spares for WC	% of O&M	20% O&M Exp	20% O&M Exp	20% O&M Exp	20% O&M Exp	20% O&M Exp	20% O&M Exp
Receivables for WC	in Months	2	2	2	2	2	2
Storage capacity of Primary fuel	MT		The existing storage capacity of primary fuel is approx. 30 days with both units operating at normative availability factor.				
SBI Base Rate + 350 basis points as on 01.04.2014	%	12.25	13.5	13.5	13.5	13.5	13.5
Blending ratio of domestic coal/imported coal	%		N/A				

Note: Effective tax rate is based on estimated income tax for the year 2014-15

\*\* 1 (one) months towards coal stock as per Reg 28 (a) (i) and 1 (one) month towards generation as per Reg 28 (a) (ii)

*Anilani*

PETITIONER

15/99

Calculation of O&M Expenses

Name of the Company : NTPC SAIL POWER COMPANY PRIVATE LIMITED  
Name of the Power Station : BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW )

Rs. Lakh

S.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	2	3	4	5	6	7
1	O&M expenses under Reg.29(1)	11950.00	12700.00	13500.00	14350.00	15255.00
2	O&M expenses under Reg.29(3)					
	No. of KM of Double Circuit Line for Associated Transmission System	13.794	13.794	13.794	13.794	13.794
	Norm for O & M expenses in Rs. Lakh per Km for Associated Transmission System	0.707	0.731	0.755	0.78	0.806
a	O&M Expense for 13.794 KM Double ckt Line for Associated Transmission System	9.75	10.08	10.41	10.76	11.12
	Norm for O & M expenses per Bay for Associated Transmission System	60.30	62.30	64.37	66.51	68.71
b	O&M Expense for 07(Seven) nos of Bays for Associated Transmission System	422.10	436.10	450.59	465.57	480.97
3	Water charge deducted @1.16Rs.Lakh/MW)	580.00	580.00	580.00	580.00	580.00
4	O&M expenses under Reg.29(2)					
4a	Water Charges for 13-14	1613.45	1715.90	1824.86	1940.74	2063.98
5	Total O&M Expenses	13415.30	14282.09	15205.87	16187.07	17231.07

*Anilani*  
Petitioner

16/99

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

Name of the Petitioner : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
Name of the Generating Station : **BHILAI EXPANSION POWER PROJECT (2X250MW)**

Exchange Rate at COD or 31.03.2014, whichever is later :  
Exchange Rate as on 31.03.2014

(Amount in lacs)

Sl. No	Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
		1	2	3	4	5	6	7	8	9	10	11	12
		Date	Amount (Foreign Currency)	Relevant Exchange Rate	Amount (Rs. Lakh)	Date	Amount (Foreign Currency)	Relevant Exchange Rate	Amount (Rs. Lakh)	Date	Amount (Foreign Currency)	Relevant Exchange Rate	Amount (Rs. Lakh)
	<b>Currency11</b>												
A.1	At the date of Drawl or at the beginning to the year of the period <sup>2</sup>												
2	Scheduled repayment date of principal												
3	Scheduled payment date of interest												
4	At the end of Financial year												
B	In case of Hedging <sup>3</sup>												
1	At the date of hedging												
2	Period of hedging												
3	Cost of hedging												
	<b>Currency21</b>												
A.1	At the date of Drawl <sup>2</sup>												
2	Scheduled repayment date of principal												
3	Scheduled payment date of interest												
4	At the end of Financial year												
B	In case of Hedging <sup>3</sup>												
1	At the date of hedging												
2	Period of hedging												
3	Cost of hedging												
	<b>Currency31 &amp; so on</b>												
A.1	At the date of Drawl <sup>2</sup>												
2	Scheduled repayment date of principal												
3	Scheduled payment date of interest												
4	At the end of Financial year												
B	In case of Hedging <sup>3</sup>												
1	At the date of hedging												
2	Period of hedging												
3	Cost of hedging												

NOT APPLICABLE

<sup>1</sup> Name of the currency to be mentioned e.g. US \$, DM, etc. etc.  
<sup>2</sup> In case of more than one drawl during the year, Exchange rate at the date of each drawl to be given.  
<sup>3</sup> Furnish details of hedging, in case of more than one hedging during the year or part hedging, details of each hedging are to be given.  
<sup>4</sup> Tax (such as withholding tax) details as applicable including change in rates, date from which effective etc. must be clearly indicated.

*Anilam*  
PETITIONER

17/99

**Details of Foreign Equity**

(Details only in respect of Equity infusion, if any applicable to the project under petition)

**Name of the Petitioner :** NTPC SAIL POWER COMPANY PRIVATE LIMITED  
**Name of the Generating Station :** BHILAI EXPANSION POWER PROJECT (2X250MW)  
**Exchange Rate on date/s of infusion :**

(Amount in lacs)

Sl.N	Financial Year (Starting from COD)	Year 1				Year 2				Year 3 and so on			
		1	2	3	4	5	6	7	8	9	10	11	12
		Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)	Date	Amount (Foreign Currency)	Exchange Rate	Amount (Rs.)
	Currency1 <sup>1</sup>												
A.1	At the date of infusion <sup>2</sup>												
2													
3													
A.1													
2	Currency2 <sup>1</sup>												
3													
A.1													
2													
3													
A.1													
2	Currency3 <sup>1</sup>												
3	At the date of Infusion <sup>2</sup>												
2													
3													
4													
B	Currency 4 and so on												
1	At the date of Infusion <sup>2</sup>												
2													
3													

NOT APPLICABLE

1. Name of the currency to be mentioned e.g. US\$, DM, etc.  
 2. In case of equity infusion more than once during the year, Exchange rate at the date of each infusion to be given

*Analan*  
 PETITIONER

18/99

**Abstract of Admitted Capital Cost for the existing Projects****Name of the Company**

NTPC SAIL POWER COMPANY PRIVATE LIMITED

**Name of the Power Station**

BHILAI EXPANSION POWER PROJECT (2X250MW)


**(Rs.Lakhs)**

Last date of order of Commission for the project	Date (DD-MM-YYYY)	<b>29.07.2010</b>
Reference of petition no. in which the above order was passed	Petition no.	<b>Petition No. 308/2009</b>
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:		
Capital cost	<b>(Rs. in Lakhs)</b>	265572.67
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)		19904.08
Gross Normative Debt		185900.87
Cumulative Repayment		64118.05
Net Normative Debt		121782.82
Normative Equity		79,671.80
Cumulative Depreciation		64118.05
Freehold land		<b>NIL</b>

*Anil***PETITIONER**

19/99

**Abstract of Claimed Capital Cost for the existing Projects**

<b>Name of the Company</b>	<b>NTPC SAIL POWER COMPANY PRIVATE LIMITED</b>	
<b>Name of the Power Station</b>	<b>BHILAI EXPANSION POWER PROJECT (2X250MW)</b>	
<b>Reference of Final True-up Tariff Petition</b>	<b>Filed on</b>	<b>30.06.2014</b>
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 claimed as on 1.4.2014	(Rs. in lakh)	275763.15
Amount of un-discharged liabilities included in above (& forming part of claimed capital cost)		NIL
Amount of un-discharged liabilities corresponding to above claimed capital cost (but not forming part of claimed capital cost being allowed on cash basis)		NIL
Gross Normative Debt		193034.21
Cumulative Repayment		64388.16
Net Normative Debt		128646.05
Normative Equity		82728.95
Cumulative Depreciation		64388.16
Freehold land		NIL
		 <b>(Petitioner)</b>



**Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects**

**Name of the Company :** NTPC SAIL POWER COMPANY PRIVATE LIMITED  
**Name of the Generating Station :** BHILAI EXPANSION POWER PROJECT (2X250MW)

**New Projects****Capital Cost Estimates**

Board of Director/ Agency approving the Capital cost estimates:	NSPCL BOARD OF DIRECTORS		
Date of approval of the Capital cost estimates:			
	<b>Present Day Cost</b>	<b>Completed Cost</b>	
Price level of approved estimates			
Foreign Exchange rate considered for the Capital cost estimates	-	-	
<b>Capital Cost excluding IDC &amp; FC</b>			
Foreign Component, if any (In Million US \$ )		<b>NOT APPLICABLE</b>	
Domestic Component (Rs. Crs)			
<b>Capital cost excluding IDC, FC, FERV &amp; Hedging cost (Rs. Cr)</b>			
<b>IDC &amp; FC</b>			
Foreign Component, if any (In Million US \$ )			
Domestic Component (Rs.Crs)			
<b>Total IDC &amp; FC (Rs.Crs)</b>			
Rate of taxes & duties considered	-		
<b>Capital cost Including IDC &amp; FC</b>			
Foreign Component, if any (In Million US \$ )			
Domestic Component (Rs.Crs)			
<b>Capital cost Including IDC &amp; FC</b>			
<b>Schedule of Commissioning (COD)</b>			
Scheduled COD of Unit-I as per Investment Approval			
Scheduled COD of Unit-II as per Investment Approval (last unit)			

*Anil Kumar*

PETITIONER

21/99

Break-up of Capital Cost for New Coal/Lignite based projects

Name of the Petitioner : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
 Name of the Generating Station : **BHILAI EXPANSION POWER PROJECT (2X250MW)**

Amount in Rs. Lakh

Sl No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-IV, 30.06.2014 ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Anticipated Capital Expenditure as on anticipated COD of Unit-V 30.06.2015 ( Cash Basis)	Liabilities/ Provisions corresponding to (6)	Variation	Specific Reasons for Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)= (3-6-7)	(9)
1.00	<b>Cost of Land &amp; Site development</b>							
1.1A	Free Hold Land							
1.1B	Lease Hold Land							
1.2	Rehabilitation and Resettlement (R&R)							
1.3	Preliminary Investigation & Site development							
	<b>Total Land &amp; Site Development</b>							
2	<b>Plant &amp; Equipment</b>							
2.1	Steam Generator Island							
2.2	Turbine Generator Island							
2.3	<b>BOP Mechanical</b>							
2.3.1	External water system/Make Up System							
2.3.2	CW System							
2.3.3	DM Water Plant/ Chemical Treatment Plant							
2.3.4	WTP							
2.3.5	Clarification Plant							
2.3.6	Chlorification Plant							
2.3.7	Fuel handling & Storage System							
2.3.8	Station Piping							
2.3.9	Ash Handling System							
2.3.10	Ash Water Recirculation System							
2.3.11	Coal Handling System							
2.3.12	Rolling Stock and Locomotives							
2.3.13	Air Condition & Ventilation System							
2.3.14	Fire fighting System							
2.3.15	Misc Pumps & workshop & lab Equip							
	<b>TOTAL BOP Mechanical</b>							

NOT APPLICABLE

As per Form - 5E(i)

22/99

*Amalan*

SI No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-IV, 30.06.2014 ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Anticipated Capital Expenditure as on anticipated COD of Unit-V 30.06.2015 ( Cash Basis)	Liabilities/ Provisions corresponding to (6)	Variation	Specific Reasons for Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)= (3-6-7)	(9)
2.4	<b>BOP Electrical</b>							
2.4.1	Switch Yard Package ( 400kV & 132 kV)							
2.4.2	LT Outdoor Transformers							
2.4.3	Power Transformer							
2.4.4	Generator Bus ducts & HT Bus Ducts							
2.4.5	33 KV & 6.6 KV S/gear							
2.4.6	LT S/gear & LT BusDucts Package							
2.4.7	HT power Cables							
2.4.8	LT power, control & instrumentation Cables							
2.4.9	Cabling, Earthing & station Lighting System, Lighting Protection Diesel Generator, DC Battery & Charger, LT indoor transformer incl construction & T ship power							
	<b>TOTAL BOP Electrical</b>							
2.5	<b>Control &amp; Instrumentation (C &amp; I) Package</b>							
	<b>Computer &amp; Satellite</b>							
	<b>Total Plant &amp; Equipment excluding taxes &amp; Duties</b>							
2.6	<b>Taxes &amp; Duties</b>							
3.0	<b>Initial Spares</b>							
4.0	<b>Civil works</b>							
4.1	Main Plant/ Admn. Bldg.							
4.2	CW System							
4.3	Cooling Towers							
4.4	DM Plant							
4.5	Clarification Plant							
4.6	Chlorification Plant							
4.7	Fuel handling & Storage System							
4.8	Coal Handling System							
4.9	MGR & Marshalling Plant							
4.10	Ash Handling System							
4.11	Ash disposal area development							
4.12	Fire fighting system							
4.13	Township & Colony							
4.14	Temp. Construction and enabling works							
4.15	Road & Drainage							
4.16	Chimney							
4.17	Railway Siding and S&T system pkg							
	<b>Total Civil works</b>							
	<b>Total plant &amp; equipment excluding taxes &amp; Duties</b>							

NOT APPLICABLE

As per Form - 5E(i)

23/99

*Amalau*

Sl No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-IV, 30.06.2014 ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Anticipated Capital Expenditure as on anticipated COD of Unit-V 30.06.2015 ( Cash Basis)	Liabilities/ Provisions corresponding to (6)	Variation	Specific Reasons for Variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)= (3-6-7)	(9)
5.0	<b>Construction &amp; Pre- Commissioning Expenses</b>							As per Form - 5E(i)
5.1	Erection Testing & Commissioning							
5.2	Site Supervision							
5.3	Operator's training							
5.4	Construction Insurance							
5.5	Tools & Plant							
5.6	Start up fuel							
	<b>Total Construction &amp; Pre- Commissioning Expenses</b>							
6.0	<b>Overheads</b>							
6.1	Establishment							
6.2	Design & Engineering							
6.3	Audit & Accounts							
6.4	Contingency							
	<b>Total Overheads</b>							
7.0	<b>Total Capital Cost Excluding IDC &amp; FC</b>							
8.0	<b>IDC, FC, FERV &amp; Hedging Cost</b>							
8.1	Interest During Construction (IDC)							
8.2	Financing Charges (FC)							
8.3	Foreign Exchange Rate Variation (FERV)							
8.4	Hedging Cost							
9.0	<b>Total IDC, FC, FERV &amp; Hedging Cost</b>							
10.0	<b>Working Capital Margin</b>							
11.0	<b>Capital cost including IDC, FC, FERV &amp; Hedging Cost</b>							

\* Provide details of Freehold land and Lease hold land separately

24/99

*Amalun*

PETITIONER

Break-up of Capital Cost for New Coal/Lignite based projects

Name of the Petitioner : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
 Name of the Generating Station : **BHILAI EXPANSION POWER PROJECT (2X250MW)**

Amount in Rs. Lakh

Sl No.	Breakdown	As per Original Estimates as per Investment Approval	Actual Capital Expenditure as on COD/anticipated COD	Liabilities/Provisions	Variation	Specific Reasons for Variation	Estimated Capital expenditure upto Cut-off date
(1)	(2)	(3)	(4)	(5)	(6)= (3-4-5)	(7)	(8)
<b>1.00</b>	<b>Cost of Land &amp; Site development</b>						
1.1	Land*						
1.2							
1.3	Preliminary Investigation & Site development						
	<b>Total Land &amp; Site Development</b>						
<b>2</b>	<b>Plant &amp; Equipment</b>						
2.1	Steam Generator Island						
2.2	Turbine Generator Island						
2.3	WHRB Island						
2.4	BOP Mechanical						
2.4.1	Fuel Handling & Storage system						
2.4.2	External water supply system						
2.4.3	CW system						
2.4.4	Cooling Towers						
2.4.5	DM water Plant						
2.4.6	Clarification plant						
2.4.7	Chlorination Plant						
2.4.8	Air condition & Ventilation System						
2.4.9	Fire Fighting system						
2.4.10	HP/LP Piping						
	<b>Total BOP Mechanical</b>						
<b>2.5</b>	<b>BOP Electrical</b>						
2.5.1	Switch Yard Package						
2.5.2	Transformers package						
2.5.3	Switch gear Package						
2.5.4	Cable , Cable Facilities & grounding						
2.5.5	Lighting						
2.5.6	Emergency D.G. set						
	<b>Total BOP Electrical</b>						
<b>2.6</b>	<b>C &amp; I Package</b>						
	Total Plant & Equipment excluding taxes & Duties						
<b>2.7</b>	<b>Taxes and Duties</b>						
<b>3.0</b>	<b>Initial spares</b>						
<b>4.0</b>	<b>Civil Works</b>						
4.1	Main plant/Adm. Building						
4.2	External water supply system						
4.3	CW system						
4.4	Cooling Towers						
4.5	DM water Plant						
4.6	Clarification plant						
4.7	Fuel Handling & Storage system						
4.8	Township & Colony						
4.9	Temp. construction & enabling works						
4.10	Road & Drainage						
4.11	Fire Fighting system						
	<b>Total Civil works</b>						
<b>5.0</b>	<b>Construction &amp; Pre- Commissioning Expences</b>						
5.1	Erection Testing and commissioning						
5.2	Site supervision						
5.3	Operator's Training						
5.4	Construction insurance						
5.5	Tools & Plant						
5.6	Start up fuel						
	<b>Total Construction &amp; Pre- Commissioning Expences</b>						
<b>6.0</b>	<b>Overheads</b>						
6.1	Establishment						
6.2	Design & Engineering						
6.3	Audit & Accounts						
6.4	Contingency						
	<b>Total Overheads</b>						
<b>7.0</b>	<b>Capital cost excluding IDC &amp; FC</b>						
<b>8.0</b>	<b>IDC, FC, FERV &amp; Hedging Cost</b>						
8.1	Interest During Construction (IDC)						
8.2	Financing Charges (FC)						
8.3	Foreign Exchange Rate Variation (FERV)						
8.4	Hedging Cost						
	<b>Total IDC, FC, FERV &amp; Hedging Cost</b>						
<b>9.0</b>	<b>Capital cost including IDC, FC, FERV &amp; Hedging Cost</b>						

NOT APPLICABLE

*Anil Kumar*  
Petitioner

25/99

Name of the Company : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**

Name of the Power Station : **BHILAI EXPANSION POWER PROJECT (X250MW)**

Sl.No.	Name/No. of Construction / Supply /Service Package	Scope of work(s) (to be filled with head of cost break up as applicable)	Whether awarded through ICB/OTC/ Directly/ Deposit Work	No. of bids received	Date of Award	Date of start of work	Date of Completion of Work Anticipated/ actual	(Rs.)	USD (\$)	INR (INR POUNDS)	EURO	USD (Value in Rs.)	Euro/ UK Pound (Value in Rs.)	Value of USD & EURO at the time of award	Value of Award in (Rs. Cr.)	Price or With escalation of prices	Anticipated expenditure upto 30.06.2015 (Rs. Lakh)	Total anticipated IEDC upto 30.06.2015 (Rs. Lakh)	Total anticipated ITC upto 30.06.2015 (Rs. Lakh)	Anticipated total capital expenditure as on anticipated CDD of 30.06.2015 (Rs. Lakh)	TOTAL anticipated Expenditure upto 30.06.2015 in (Rs. Lakh)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	SITE LEVELLING-TOWNSHIP																				
2	SITE LEVELLING-PLANT																				
3	SITE LEVELLING-PLANT																				
4	Site Clearance & Levelling																				
5	Electrostatic Precipitator																				
6	Steam Generator																				
7	Turbine Generator& Auxiliaries.																				
8	CW Systems-Equipments																				
9	DM Water & Chemical Treatment Plant																				
10	Water Pre-Treatment Plant																				
11	Cooling Tower																				
12	Ash Handling-Turkey																				
13	Ash Water Recirculation System																				
14	Coal Handling - Turkey																				
15	Ventilation																				
16	Air Conditioning																				
17	Fire Detection & Protection System (Stage-1)																				
18	Fire Detection & Protection System																				
19	Fuel Oil Handling - Equipment (Stage-1)																				
20	Station Piping																				
21	Locomotives																				
22	Locomotives (Stage-1)																				
24	Generator Bus Duct & MV Bus Ducts																				
25	LT Outdoor Transformers																				
26	Generator Transformer																				
27	11 KV & 3.3 KV Switchgear																				
28	LT Switchgear & LT Busduct																				
29	Power Cables-132 KV																				
30	Power Cables-11KV & 3.3KV																				
31	Power Cables-LT																				
32	Control Cable																				
33	Instrumentation Cable																				
34	Electrical Eqt Supply & Erection																				
35	400/132 KV Switch yard Package (Stage - 1)																				
36	400/132 KV Switch yard Package																				
37	Station Control & Instrumentation																				
38	Main Plant Buildings- Civil																				
39	CW & Makeupwater System- Civil Work																				
40	Chimney - Civil																				
41	RLY SIDING WORKS																				
42	Ash Dykes																				
43	Boundary Wall																				
44	Bridges & Culverts																				
45	Inter Connection ECR																				
46	Temp. erection including woodenworks																				
47	Drains																				
48	Pipeline																				
49	Soil Investigation																				
50	Technical Consultancy																				
51	Initial Spares																				
52	ERV																				
53	Freehold Land Upto 31.03.2014																				
54	Leasehold Land Upto 31.03.2014																				
55	Pre Commissioning																				
56	Township																				
57	Capex Not Owned																				
58	Carpet Coal																				
59	Construction Power Supply																				
60	Other Enabling Work																				
61	Approach Roads																				
62	Other Asset (IT, Tools & plant, Lab equipment, Furniture, Office, Store etc)																				
	<b>Total</b>																				

NOT APPLICABLE

Note: i.e. escalation shall be subject to price adjustment based upon contract date of execution or actual date of execution whichever is earlier  
Note: Anticipated Capitalization includes free materials issued by NTPC to contractor wherever applicable

*Amalavi*  
Petitioner

26/99

**Details of variables, parameters, optional package etc. for New Project**

<b>Name of the Petitioner :</b>	<b>NTPC SAIL POWER COMPANY PRIVATE LIMITED</b>
<b>Name of the Generating Station :</b>	<b>BHILAI EXPANSION POWER PROJECT (2X250MW)</b>

<b>UNIT SIZE</b>	<b>250MW</b>
<b>NUMBER OF UNITS</b>	<b>2</b>
<b>GREENFIELD/EXTENSION</b>	<b>EXPANSION PROJECT</b>

S.NO.	Variables	(Design Operation Range) Values
1	Coal Quality- Calorific Value	
2	Ash Content	
3	Moisture Content	
4	Boiler Efficiency	
5	Suspended Particulate Matter	
6	Ash Utilization	
7	Boiler Configuration	
8	Turbine Heat Rate	
9	CW Temperature	
10	Water Source	
11	Distance of Water Source	
12	Clarifier	
13	Mode of Unloading Oil	
14	Coal Unloading Mechanism	
15	Type of Fly Ash Disposal and distance	
16	Type of Bottom Ash Disposal and distance	
17	Type of Soil	
18	Foundation Type (Chimney)	
19	Water Table	
20	Seismic and Wind Zone	<b>NOT APPLICABLE</b>
21	Condensate Cooling Method	
22	Desalination/RO Plant	
23	Evacuation Voltage Level	
24	Type of Coal (domestic/Imported)	
<b>Parameter/ Variables</b>		
25	<b>Completion Schedule (Trial Operation)</b>	
26	<b>Terms of Payment</b>	
	Main Plant Package-TG	
	Performance Guarantee Liability	
	Basis of Price (Firm/ Escalation Linked)	
<b>Equipment Supplier (Country of Origin)</b>		
	Main Plant Package	
<b>Optional Packages</b>		
	Desalination plant/RO plant	
	MGR	
	Railway Siding	
	Unloading Equipment at Jetty	
	Rolling stock / Locomotive	
	FGD Plant	
	Length of Transmission Line till Tie Point ( in km)	

*Anilani*  
PETITIONER

27/99

In case there is cost over run

Name of the Petitioner :  
Name of the Generating Station :

**NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**BHILAI EXPANSION POWER PROJECT (2X250MW)**

Amount in Rs. Lakh

Sl No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-V ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Total Estimated Cost as anticipated to be incurred as on anticipated COD of Unit-V ( including liabilities)	Difference	Reasons for Variation ( please submit supporting computations and documents wherever applicable	Increase in soft cost due to increase in hard cost
(1)	(2)	(3)	(4)	(5)	(6)=(4)+(5)	(7)=(3)-(6)	(6)	(7)
1.00	<b>Cost of Land &amp; Site development</b>							
1.1A	Free Hold Land							
1.1B	Lease Hold Land							
1.2	Rehabilitation and Resettlement (R&R)							
1.3	Preliminary Investigation & Site development							
	<b>Total Land &amp; Site Development</b>							
2	<b>Plant &amp; Equipment</b>							
2.1	<b>Steam Generator Island</b>							
2.2	<b>Turbine Generator Island</b>							
2.3	<b>BOP Mechanical</b>							
2.3.1	External water system/Make Up System							
2.3.2	CW System							
2.3.3	DM Water Plant/ Chemical Treatment Plant							
2.3.4	WTP							
2.3.5	Clarification Plant							
2.3.6	Chlorification Plant							
2.3.7	Fuel handling & Storage System							
2.3.8	Station Piping							
2.3.9	Ash Handling System							
2.3.10	Ash Water Recirculaton System							
2.3.11	Coal Handling System							
2.3.12	Rolling Stock and Locomotives							
2.3.13	Air Condition & Ventilation System							
2.3.14	Fire fighting System							
2.3.15	Misc Pumps & workshop & lab Equip							
	<b>TOTAL BOP Mechanical</b>							
2.4	<b>BOP Electrical</b>							
2.4.1	Switch Yard Package ( 400kV & 132 kV)							
2.4.2	LT Outdoor Transformers							

28/99

NOT APPLICABLE

*Amalavi*



SI No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-V ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Total Estimated Cost as anticipated to be incurred as on anticipated COD of Unit-V ( including liabilities)	Difference	Reasons for Variation ( please submit supporting computations and documents wherever applicable)	Increase in soft cost due to increase in hard cost
(1)	(2)	(3)	(4)	(5)	(6)=(4)+(5)	(7)=(3)-(6)	(6)	(7)
2.4.3	Power Transformer							
2.4.4	Generator Bus ducts & HT Bus Ducts							
2.4.5	33 KV & 6.6 KV S/gear							
2.4.6	LT S/gear & LT BusDucts Package							
2.4.7	HT power Cables							
2.4.8	LT power, control & instrumentation cables cable supply etc.							
2.4.9	Cabling,Earthing& station Lighting System,Lighting ProtectionDiesel Generator,DC Battery & Charger,LT indoor transformer incl construction & T ship power							
	<b>TOTAL BOP Electrical</b>							
<b>2.5</b>	<b>Control &amp; Instrumentation (C &amp; I) Package</b>							
	Computer & Satellite							
	<b>Total Plant &amp; Equipment excluding taxes &amp; Duties</b>							
<b>2.6</b>	<b>Taxes &amp; Duties</b>							
<b>3.0</b>	<b>Initial Spares</b>							
<b>4.0</b>	<b>Civil works</b>							
4.1	Main Plant/ Admn. Bldg.							
4.2	CW System							
4.3	Cooling Towers							
4.4	DM Plant							
4.5	Clarification Plant							
4.6	Chlorification Plant							
4.7	Fuel handling & Storage System							
4.8	Coal Handling System							
4.9	MGR & Marshalling Plant							
4.10	Ash Handling System							
4.11	Ash disposal area development							
4.12	Fire fighting system							
4.13	Township & Colony							
4.14	Temp. Construction and enabling works							
4.15	Road & Drainage							
4.16	Chimney							
4.17	Railway Siding and S&T system pkg							
	<b>Total Civil works</b>							
	<b>Total plant &amp; equipment excluding taxes &amp; Duties</b>							

29/99

NOT APPLICABLE

*Anilani*

SI No.	Breakdown	As per Original Estimates as per Investment Approval	Anticipated Capital Expenditure as on anticipated COD of Unit-V ( Cash Basis)	Liabilities/ Provisions corresponding to (4)	Total Estimated Cost as anticipated to be incurred as on anticipated COD of Unit-V ( including liabilities)	Difference	Reasons for Variation ( please submit supporting computations and documents wherever applicable	Increase in soft cost due to increase in hard cost
(1)	(2)	(3)	(4)	(5)	(6)=(4)+(5)	(7)=(3)-(6)	(6)	(7)
<b>5.0</b>	<b>Construction &amp; Pre- Commissioning Expenses</b>							
5.1	Erection Testing & Commissioning							
5.2	Site Supervision							
5.3	Operator's training							
5.4	Construction Insurance							
5.5	Tools & Plant							
5.6	Start up fuel							
	<b>Total Construction &amp; Pre- Commissioning Expenses</b>							
<b>6.0</b>	<b>Overheads</b>							
6.1	Establishment							
6.2	Design & Engineering							
6.3	Audit & Accounts							
6.4	Contingency							
	<b>Total Overheads</b>							
<b>7.0</b>	<b>Total Capital Cost Excluding IDC &amp; FC</b>							
<b>8.0</b>	<b>IDC, FC, FERV &amp; Hedging Cost</b>							
8.1	Interest During Construction (IDC)							
8.2	Financing Charges (FC)							
8.3	Foreign Exchange Rate Variation (FERV)							
8.4	Hedging Cost							
<b>9.0</b>	<b>Total IDC, FC, FERV &amp; Hedging Cost</b>							
<b>10.0</b>	<b>Working Capital Margin</b>							
<b>11.0</b>	<b>Capital cost including IDC, FC, FERV &amp; Hedging Cost</b>							
							NOT APPLICABLE	

30/99

*Amalan*  
PETITIONER

**In case there is timeover run**

Name of the Petitioner : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
 Name of the Generating Station : **BHILAI EXPANSION POWER PROJECT (2X250MW)**

SN	Description of Activity / works service	Original Schedule (As per Planning)	Actual Schedule (As per Actual)	Time Over- Run U#4 (Days)	Reasons for delay	Supporting Documents attached	Other Activity affected (Mention Sr. No of activity affected)
(1)	(2)	(4)	(5)	(7)=(5)-(4)	(8)	(9)	(9)
1	<u>Commencement of Boiler Erection</u>				NOT APPLICABLE		
2	Boiler Hydraulic Test						
3	Boiler Light up						
4	<u>Steam Blowing</u>						
5	Commencement of Condenser Erection						
6	<u>Commencement of T.G.</u>						
7	T.G. Box up						
8	Oil Flushing Completion						
9	Synchronization						
11	AHP						
12	CHP						
10	Full Load						
11	COD						

31/99

*Amalan*  
PETITIONER

In case there is claim of additional RoE

Name of the Petitioner : **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
 Name of the Generating Station : **BHILAI EXPANSION POWER PROJECT (2X250MW)**

Project	Completion Time as per Investment approval (Months)				Actual Completion time				Qualifying time schedule(as per regulation)
	Start Date	Scheduled COD (Date)	Completion time in Months	Installed Capacity	Start Date	Actual COD (Date)	Actual Completion time in Months	Tested Capacity	Months
Unit 1	NOT APPLICABLE								
Unit 2									
Unit 3									
Unit 4									

*Amalau*  
(Petitioner)

32/99

### Financial package upto COD

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Power Station BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)  
 Project Cost as on COD 224,012.74 in Rs Lacs  
 Date of Commercial Operation of the Station<sup>2</sup> 21-Oct-09  
 Debt : Equity Ratio 70:30

(Amount in Rs Lacs)

	Financial Package as approved *		Financial Package as on 21 October 2009		As Admitted on COD	
	Currency and Amount <sup>3</sup>		Currency and Amount <sup>3</sup>		Currency and Amount <sup>3</sup>	
1	2	3	4	5	6	7
Loans-						
Central Bank Of India	INR	10,000.00	INR	10,000.00	INR	10000
Union Bank Of India	INR	44,500.00	INR	44,500.00	INR	44500
Rural Electrification Corporation Ltd.(REC)	INR	128,500.00	INR	118,500.00	INR	118500
Loan II-Union Bank of India	INR	11,000.00	INR	11,000.00	INR	11000
Total loan		194,000.00		184,000.00		184000
Equity-						
Foreign		NIL		NIL		NIL
Domestic	INR	90466	INR	80,000.00	INR	80000
Total Equity		90466		80,000.00		80000
Debt Equity ratio *		70:30				

\*The proposed debt equity ratio for the project is 70 :30 . While equity of the project on estimate basis has been completely tied up, balance loan shall be tied up shortly for the additional capitalisation.

<sup>2</sup> Date of Commercial operation means Commercial Operation of Last unit

<sup>3</sup> For Example : US\$,200M etc

33/99

*Anilani*

PETITIONER

## Details Of Project Specific Loans

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
Name of the Power Station BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)

(Amount in Rs Lacs)

Source of Loan	Union Bank of India	Central Bank of India	REC	Union Bank of India Loan-II
Currency <sup>1</sup>	INR	INR	INR	INR
Amount of Loan Sanctioned	44500	10000	128500	11000
Amount of Gross loan drawn till date	44500	10000	128500	11000
Interest Type	FIXED WITH RESET AFTER EVERY 5 YEAR	FIXED WITH RESET AFTER EVERY 5 YEAR	FIXED	Floating
Fixed Interest Rate, If applicable	7.02% (upto 30.03.2010) 9.43% (w.e.f. 31.03.2010)	7.02% (upto 12.03.2011) 10.07% (w.e.f. 13.03.2011)	8% on 21500 lacs 9% on balance loan	NA
Base Rate, If Floating Interest	N/A	N/A	N/A	presently 10.25% **
Margin, if floating Interest	No	No	No	(+)1%
Are there any Caps/Floor	N/A	N/A	N/A	NA
Moratorium Period	4 years	12 mths	*	1 year
Moratorium effective from	Date of 1st disbursement	Date Of Commercial operation ^	*	Date of 1st disbursement
Repayment Period	44 quarterly installments	44 quarterly installments	10 annual instalments	40 quarterly installments
Repayment effective from	1-Jul-09	1-Jan-11	15-Mar-10	1-Oct-10
Repayment Frequency	Quarterly	Quarterly	Annually	Quarterly
Last 1 (one) repayment Installment	1,011.36	227.00		
Last Installment	1,011.37	239.00	13,278.57	275.00
Base Exchange Rate	N/A	N/A	N/A	N/A

<sup>1</sup> Fixed for first five years from the date of first drawal and to be reset thereafter, after every 5 years at 200 bps above 5-year G-sec paper prevailing then

\*Moratorium period ending at the earlier of

- (i) four year from the date of first disbursement or  
(ii) six months from the date of commissioning of the project

Details for the total project given in this form i.e. both the units, as project funding is on total project basis and not unit wise

Date of drawal of each loan till date given in Annexure 7(a)

\*\* Upto 06.03.2012, the rate of interest was BPLR-0.75%. The present rate of Base Rate+1% is wef 07.03.2012

<sup>1</sup> Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.

<sup>2</sup> Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.

<sup>3</sup> Details are to be submitted as on 31.03.2009 for existing assets and as on COD for the remaining assets.

<sup>4</sup> Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the original loan is to be given

<sup>5</sup> If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.

<sup>6</sup> Interest type means whether the interest is fixed or floating.

<sup>7</sup> Base rate means the base as PLR, LIBOR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl

<sup>8</sup> Margin means the points over and above the floating rate.

<sup>9</sup> At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.

<sup>10</sup> Moratorium period refers to the period during which loan servicing liability is not required.

<sup>11</sup> Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

<sup>12</sup> Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.

<sup>13</sup> Where there is more than one drawal/repayment for a loan, the date & amount of each drawal/repayment may also be given separately

<sup>14</sup> If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.

<sup>15</sup> In case of Foreign loan, date of each drawal & repayment alongwith exchange rate at that date may be given.

<sup>16</sup> Base exchange rate means the exchange rate prevailing as on 31.03.2009 for existing assets and as on COD for the remaining assets.

<sup>17</sup> In case of Hedging, specify details like type of hedging, period of hedging, cost of hedging, etc.

<sup>18</sup> At the time of truing up of rate of interest with relevant reset date (if any) to be furnished separately.

<sup>19</sup> At the time of truing up provide details of refinancing of loans considered earlier. Details such as date on which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, financing and other charges incurred for refinancing etc.

*Amalan*

PETITIONER

34/99

**Details of Allocation of corporate loans to various projects**

**Name of the Petitioner**

**NTPC SAIL POWER COMPANY PRIVATE LIMITED**

**Name of the Generating Station**

**BHILAI EXPANSION POWER PROJECT (2X250MW)**

(Amount in lacs)

Particulars	Package1	Package2	Package3	Package4	Package5	Remarks
1	2	3	4	5	6	7
Source of Loan <sup>1</sup>	<b>NOT APPLICABLE</b>					
Currency <sup>2</sup>						
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto 31.03.2009/COD <sup>3,4,5,13,15</sup>						
Interest Type <sup>6</sup>						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest <sup>7</sup>						
Margin, if Floating Interest <sup>8</sup>						
Are there any Caps/Floor <sup>9</sup>						
If above is yes,specify caps/floor						
Moratorium Period <sup>10</sup>						
Moratorium effective from						
Repayment Period <sup>11</sup>						
Repayment effective from						
Repayment Frequency <sup>12</sup>						
Repayment Instalment <sup>13,14</sup>						
Base Exchange Rate <sup>16</sup>						
Are foreign currency loan hedged?						
If above is yes, specify details <sup>17</sup>						
Distribution of loan packages to various projects						
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

<sup>1</sup> Source of loan means the agency from whom the loan has been taken such as WB, ADB, WMB, PNB, SBI, ICICI, IFC, PFC etc.  
<sup>2</sup> Currency refers to currency of loan such as US\$, DM, Yen, Indian Rupee etc.  
<sup>3</sup> Details are to be submitted as on 31.03.2004 for existing assets and as on COD for the remaining assets.  
<sup>4</sup> Where the loan has been refinanced, details in the Form is to be given for the loan refinanced. However, the details of the original loan is to be given separately in the same form.  
<sup>5</sup> If the Tariff in the petition is claimed separately for various units, details in the Form is to be given separately for all the units in the same form.  
<sup>6</sup> Interest type means whether the interest is fixed or floating.  
<sup>7</sup> Base rate means the base as PLR, LIBOR etc. over which the margin is to be added. Applicable base rate on different dates from the date of drawl may also be enclosed.  
<sup>8</sup> Margin means the points over and above the floating rate.  
<sup>9</sup> At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.  
<sup>10</sup> Moratorium period refers to the period during which loan servicing liability is not required.  
<sup>11</sup> Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.  
<sup>12</sup> Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly, half yearly, annual, etc.  
<sup>13</sup> Where there is more than one drawl/repayment for a loan, the date & amount of each drawl/repayment and its allocation may also be given separately  
<sup>14</sup> If the repayment instalment amount and repayment date can not be worked out from the data furnished above, the repayment schedule to be furnished separately.  
<sup>15</sup> In case of Foreign loan, date of each drawl & repayment alongwith exchange rate at that date may be given.  
<sup>16</sup> Base exchange rate means the exchange rate prevailing as on 31.03.2009 for existing assets and as on COD for the remaining assets.  
<sup>17</sup> In case of hedging, specify details like type of hedging, period of hedging, cost of hedging etc.  
<sup>18</sup> At the time of truing up rate of interest with relevant reset date (if any) to be furnished separately  
<sup>19</sup> At the time of truing up provide details of refinancing of loans considered earlier. Details such as date on which refinancing done, amount of refinanced loan, terms and conditions of refinanced loan, financing and other charges incurred for financing etc.

*Amalau*  
Petitioner

35/99

## Year wise Statement of Projected Additional Capitalisation after COD

Name of the Company  
Name of the Power Station  
COD  
For Financial Year

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)  
21.10.2009  
2014-15

Form 9A

Rs. Lakhs

Sl. No.	Party	Head of WorkWork	2014-15					Admitted Cost by the Commission vide tariff order dated 29.07.2010 in 308/2009	
			Accrual Basis	Un-discharged Liability included	Cash Basis	IDC Included	Regulations under which claimed		Justification
1	KOYA	Make up Water	64	0	64		14 (3)(v)	Balance works included in the original scope of work for the package. The same may please be allowed by Hon'ble Commission.	265572.67
2		Ash Dyke raising	100	0	100		14 (3)(iv)	The projected expenditure is for planned work related to Ash Handling and Ash Pond related Works which are of continous nature during the operational life of the generating station. Ash pond management is dynamic in nature and needs capacity enhancement and strenghtening periodically. Accordingly, activities like Ash Dyke raising etc are needed periodically. The same may please be allowed by Hon'ble Commission.	
3	EPIL/C & S/Kulkarni	Civil Construction	202.6	0	202.6		14 (3)(v)	Balance works included in the original scope of work for the package. The same may please be allowed by Hon'ble Commission.	
4	Other Packages	Civil/Mechanical Works/Pollution and safety control measures	730	0	729.7		14 (3)(iii)	Critical equipment / works required for safety and security of the plant. The same may please be allowed by Hon'ble Commission.	
	Total		1096	0	1096				
	Total of Exclusions	-	0	0	0		-		
	<b>Total Add. Cap.</b>	-	<b>1096</b>	<b>0</b>	<b>1096</b>		-		

*Anilani*  
PETITIONER

36/99



**Year wise Statement of Projected Additional Capitalisation after COD**

PART- I

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Power Station BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)  
 COD 21.10.2009  
 For Financial Year 2015-16

Form 9A

Rs. Lakhs

Sl. No.	Party	Asset / Work	2015-16					Admitted Cost by the Commission vide tariff order dated 29.07.2010 in 308/2009
			Accrual Basis	Un-discharged Liability included	Cash Basis	IDC included	Regulations under which claimed	
1		Ash Dyke raising	450	0	450		14 (3)/(iv)	The projected expenditure is for planned work related to Ash Handling and Ash Pond related Works which are of continuous nature during the operational life of the generating station. Ash pond management is dynamic in nature and needs capacity enhancement and strengthening periodically. Accordingly, activities like Ash Dyke raising etc are needed periodically. The same may please be allowed by Hon'ble Commission.
2	EPIL/C & S/Kulkarni	Civil Construction	143	0	143		14 (3)/(v)	Balance works included in the original scope of work for the package. The same may please be allowed by Hon'ble Commission.
3	Other Packages	Works/Pollution and safety control measures	2208		2208		14 (3)/(iii)	Critical equipment / works required for safety and security of the plant. The same may please be allowed by Hon'ble Commission.
	<b>Total</b>		<b>2801</b>	<b>0</b>	<b>2801</b>			
	<b>Total of Exclusions</b>	-	<b>0</b>	<b>0</b>	<b>0</b>		-	
	<b>Total Add. Cap.</b>	-	<b>2801</b>	<b>0</b>	<b>2801</b>		-	

*Amalan*  
 PETITIONER

37/99

		Year wise Statement of Projected Additional Capitalisation after COD						PART-I	
Name of the Company		NTPC SAIL POWER COMPANY PRIVATE LIMITED						Form 9A	
Name of the Power Station		BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)							
COD		21.10.2009							
For Financial Year		2016-17						Rs. Lakhs	
		2016-17							
Sl. No.	Party	Asset / Work	Accrual Basis	Un-discharged Liability included in 2016-17	Cash Basis	IDC Included	Regulations under which claimed	Justification	Admitted Cost by the Commission vide tariff order dated 29.07.2010 in 308/2009
1		Ash Dyke raising	250	0	250		14 (3)(iv)	The projected expenditure is for planned work related to Ash Handling and Ash Pond related Works which are of continuous nature during the operational life of the generating station. Ash pond management is dynamic in nature and needs capacity enhancement and strengthening periodically. Accordingly, activities like Ash Dyke raising etc are needed periodically. The same may please be allowed by Hon'ble Commission.	265572.67
2	Other Packages	Civil/Mechanical Works/Pollution and safety control measures	234	0	234		14 (3)(iii)	Critical equipment / works required for safety and security of the plant. The same may please be allowed by Hon'ble Commission.	
Total			484	0	484				
Total of Exclusions			-	0	0		-		-
Total Add. Cap.			484	0	484		-		-

*Anil Kumar*  
PETITIONER

38/99

## Year wise Statement of Projected Additional Capitalisation after COD

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Power Station BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)  
 COD 21.10.2009  
 For Financial Year 2017-18

Form 9A  
 Rs Lakhs

		2017-18						Justification	Admitted Cost by the Commission vide tariff order dated 29.07.2010 in 308/2009
Sl. No.	Party	Asset / Work	Accrual Basis	Un-discharged Liability included in 2017-18	Cash Basis	IDC included	Regulations under which claimed		
1		Ash Dyke raising	350	0	350		14 (3)(iv)	The projected expenditure is for planned work related to Ash Handling and Ash Pond related Works which are of continuous nature during the operational life of the generating station. Ash pond management is dynamic in nature and needs capacity enhancement and strengthening periodically. Accordingly, activities like Ash Dyke raising etc are needed periodically. The same may please be allowed by Hon'ble Commission.	265572.67
2	Other Packages	Civil/Mechanical Works/Pollution and safety control measures	275	0	275		14 (3)(iii)	Critical equipment / works required for safety and security of the plant. The same may please be allowed by Hon'ble Commission.	
	Total		625	0	625				
	Total of Exclusions	-	0	0	0		-		
	Total Add. Cap.	-	625	0	625		-		

*Anulani*  
 PETITIONER

39/99

PART-I

## Year wise Statement of Projected Additional Capitalisation after COD

Form 9A

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Power Station BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)  
 COD 21.10.2009  
 For Financial Year 2018-19

Rs. Lakhs

			2018-19						
Sl. No.	Party	Asset / Work	Accrual Basis	Un-discharged Liability included in 2018-19	Cash Basis	IDC included	Regulations under which claimed	Justification	Admitted Cost by the Commission vide tariff order dated 29.07.2010 in 308/2009
1	Other Packages	Civil/Mechanical Works/Pollution and safety control measures	340	0	340		14 (3)(iii)	Critical equipment / works required for safety and security of the plant. The same may please be allowed	265572.67
	Total		340	0	340				
	Total of Exclusions	-	0	0	0		-		
	Total Add. Cap.	-	340	0	340		-		

  
 PETITIONER

66/07

Statement of Additional Capitalisation during fag end of useful life of the Project

**Name of the Company**  
**Name of the Generating Station**  
**COD**

**NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**BHILAI EXPANSION POWER PROJECT (2X250MW)**

Amount in Rs.

<b>A</b>	a) Opening CWIP Amount as per books	<b>NOT APPLICABLE</b>
	b) Amount of capital liabilities in a above	
	c) Amount of IDC, FC, FERV & Hedging cost included	
<b>B</b>	a) Addition of CWIP Amount during the period	
	b) Amount of capital liabilities in a above	
	c) Amount of IDC, FC, FERV & Hedging cost included	
<b>C</b>	a)Capitalization/Transfer to fixed asset of CWIP amount during the period	
	b)Amount of capital liabilities in a above	
	c) Amount of IDC, FC, FERV & Hedging cost included	
<b>D</b>	a) Closing CWIP Amount as per books	
	b) Amount of capital liabilities in a above	
	c) Amount of IDC, FC, FERV & Hedging cost included	

Note:

1. Cost Benefit analysis for capital additions done should be submitted along with petition for approval of such schemes
2. Justification for additional capital expenditure claim for each asset should be relevant to regulations under which claim has been made and the necessity of capitalization of the asset.

*(Signature)*  
(Petitioner)

41/99

**PART-I  
FORM-9Bi**

Details of Assets De-capitalized during the period

**Name of the Company** | **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**Name of the Generating Station** | **BHILAI EXPANSION POWER PROJECT (2X250MW)**  
**Region** | **Western** | **State** | **Chattisgarh**

Amount in Rs.

Sr. No.	Name of the Asset	Nature of de-capitalization (whether claimed under exclusion or as additional capital expenditure)	Original Value of the Asset Capitalised	Year Put to use	Depreciation recovered till date of de-capitalization
1	2	3	4	5	6
1					
2					
3					
4					
5					
6					
7					
8					

NOT APPLICABLE

*M. Lalani*  
(Petitioner)

42/99

**PART-I  
FORM-9C**

Statement showing reconciliation of ACE claimed with the capital additions as per books

**Name of the Company**  
**Name of the Generating Station**  
**COD 22.10.2009**

**NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**BHILAI EXPANSION POWER PROJECT (2X250MW)**

Amount in Rs.

Sl. No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	Closing Gross Block	<b>SHALL BE SUBMITTED AT THE TIME OF TRUE UP PETITION</b>				
2	Less: Opening Gross Block					
3	Total Additions as per books					
4	Less: Additions pertaining to other Stages (give Stage wise breakup)					
5	Net Additions pertaining to instant project/Unit/Stage					
6	Less: Exclusions (items not allowable / not claimed)					
7	Net Additional Capital Expenditure Claimed					

expenditure shall be given in Clear terms

*Anil Kumar*

(Petitioner)

43/99

Statement showing items/assets/works claimed under Exclusions:

**Name of the Company** | **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**Name of the Generating Station** | **BHILAI EXPANSION POWER PROJECT (2X250MW)**  
**COD** 22.10.2009

Amount in Rs.

Sl. No.	Head of Work / Equipment	ACE Claimed under Exclusion			IDC included in col. 3	Justification
		Accrual basis	Un-discharged Liability included in col. 3	Cash basis		
1	2	3	4	(5=3-4)	6	7

**SHALL BE SUBMITTED AT THE TIME OF TRUE UP PETITION**

Note: 1. Exclusions claimed on assets not allowed in Tariff should be supported by the specific reference of Commission Order date, Petition No., amount disallowed, etc..

2. For inter unit transfer, nature of transfer i.e. temporary or permanent should be mentioned. It is to be certified that exclusion sought in receiving station only and not in sending station or in both the station.

*Analan*  
(Petitioner)

66/47



Name of the Company  
Name of the Generating Station

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT (2X250MW)

## Statement of Capital Cost

Amount in Rs. Lakhs

<b>A</b>	a) Opening Gross Block Amount as per books
	b) Amount of capital liabilities in A(a) above
	c) Amount of IDC in A(a) above
	d) Amount of FC in A(a) above
	e) Amount of FERV in A(a) above
	f) Amount of Hedging Cost in A(a) above
	g) Amount of IEDC in A(a) above
<b>B</b>	a) Addition in Gross Block Amount during the period (Direct purchases)
	b) Amount of capital liabilities in B(a) above
	c) Amount of IDC in B(a) above
	d) Amount of FC in B(a) above
	e) Amount of FERV in B(a) above
	f) Amount of Hedging Cost in B(a) above
	g) Amount of IEDC in B(a) above
<b>C</b>	a) Addition in Gross Block Amount during the period (Transferred from CWIP)
	b) Amount of capital liabilities in C(a) above
	c) Amount of IDC in C(a) above
	d) Amount of FC in C(a) above
	e) Amount of FERV in C(a) above
	f) Amount of Hedging Cost in C(a) above
	g) Amount of IEDC in C(a) above
<b>D</b>	a) Deletion in Gross Block Amount during the period
	b) Amount of capital liabilities in D(a) above
	c) Amount of IDC in D(a) above
	d) Amount of FC in D(a) above
	e) Amount of FERV in D(a) above
	f) Amount of Hedging Cost in D(a) above
	g) Amount of IEDC in D(a) above
<b>E</b>	a) Closing Gross Block Amount as per books
	b) Amount of capital liabilities in E(a) above
	c) Amount of IDC in E(a) above
	d) Amount of FC in E(a) above
	e) Amount of FERV in E(a) above
	f) Amount of Hedging Cost in E(a) above
	g) Amount of IEDC in E(a) above

**SHALL BE SUBMITTED AT  
THE TIME OF TRUE UP  
PETITION**

*Amalau*

Petitioner

45/99

Name of the Company  
Name of the Generating Station

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT (2X250MW)

Statement of Capital Woks in Progress

Amount in Rs. Lakhs

<b>A</b>	a) Opening CWIP as per books
	b) Amount of capital liabilities in A(a) above
	c) Amount of IDC in A(a) above
	d) Amount of FC in A(a) above
	e) Amount of FERV in A(a) above
	f) Amount of Hedging Cost in A(a) above
	g) Amount of IEDC in A(a) above
<b>B</b>	a) Addition in CWIP during the period
	b) Amount of capital liabilities in B(a) above
	c) Amount of IDC in B(a) above
	d) Amount of FC in B(a) above
	e) Amount of FERV in B(a) above
	f) Amount of Hedging Cost in B(a) above
	g) Amount of IEDC in B(a) above
<b>C</b>	a) Transferred to Gross Block Amount during the period
	b) Amount of capital liabilities in C(a) above
	c) Amount of IDC in C(a) above
	d) Amount of FC in C(a) above
	e) Amount of FERV in C(a) above
	f) Amount of Hedging Cost in C(a) above
	g) Amount of IEDC in C(a) above
<b>D</b>	a) Deletion in CWIP during the period
	b) Amount of capital liabilities in D(a) above
	c) Amount of IDC in D(a) above
	d) Amount of FC in D(a) above
	e) Amount of FERV in D(a) above
	f) Amount of Hedging Cost in D(a) above
	g) Amount of IEDC in D(a) above
<b>E</b>	a) Closing CWIP as per books
	b) Amount of capital liabilities in E(a) above
	c) Amount of IDC in E(a) above
	d) Amount of FC in E(a) above
	e) Amount of FERV in E(a) above
	f) Amount of Hedging Cost in E(a) above
	g) Amount of IEDC in E(a) above

**SHALL BE SUBMITTED AT  
THE TIME OF TRUE UP  
PETITION**

*Anil Kumar*

Petitioner

46/93

**Financing of Additional Capitalisation**

**Name of the Company** | **NTPC SAIL POWER COMPANY PRIVATE LIMITED**  
**Name of the Power Station** | **BHILAI EXPANSION POWER PROJECT (2X250MW)**  
**Date of Commercial Operation** | 21.10.2009

(Amount in lacs)

Financial Year (Starting from COD)	Actual					Admitted				
	Year1	Year2	Year3	Year4	Year 5 & So on	Year1	Year2	Year3	Year4	Year 5 & So on
1	2	3	4	5	6	7	8	9	10	11
<b>Amount capitalised in Work/Equipment</b>										
<b>Financing Details</b>										
<b>Loan-1</b>										
<b>Loan-2</b>										
<b>Loan-3 and so on</b>										
<b>Total Loan<sup>2</sup></b>										
<b>Equity</b>	To be financed in the debt equity ratio of 70:30									
<b>Internal Resources</b>										
<b>Others</b>										
<b>Total</b>										

<sup>1</sup> Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.

<sup>2</sup> Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

*Amalau*

PETITIONER

47/99

## DETAILS OF DEPRECIATION CALCULATION AS ON 31.03.2014

Name of the Company  
Name of the Power StationNTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW)

(Amount in Rs. Lacs)

## DETAILS OF ASSETS CAPITALISED IN EXPANSION PROJECT

ACD	NAME	Dep %	G. Block as on 31.03.14	Dep
510101	Leasehold Land-Plant/Office	3.34	7,113.20	238.00
510102	Leasehold Land-Town Ship	3.34	1,803.38	60.00
510701	Permanent Roads-Plant Area	3.34	1,617.12	54.00
510702	Permanent Roads-Township	3.34	463.66	15.00
510711	Bridges & Culverts Plant Area	3.34	11.46	-
510901	Main Plant Buildings Projects	3.34	5,606.41	187.00
510902	Off Site Buildings	3.34	1,576.40	53.00
510903	Service Buildings Including MGR Wor	3.34	2,105.30	70.00
510909	Miscellaneous Steel Structures Incl	3.34	10,845.70	362.00
510942	Building Temporary Construction-	18.00	265.67	48.00
510951	INTERNAL ELEC MAIN PLANT	6.33	851.97	54.00
510952	INTERNAL ELEC OFFSITE	6.33	51.46	3.00
510953	INTER.ELE.WORK SERV.BUIL.MGR W.SHOP	6.33	215.29	14.00
510992	I/E Of Temporary Construction-Auxi Build	18.00	22.53	4.00
511021	Administrative Building-Freehold	3.34	719.53	24.00
511031	Residential Buildings Township	3.34	5,255.03	176.00
511032	Service Buildings - Township	3.34	874.07	29.00
511044	Buildings Temporary Construction	18.00	14.35	3.00
511045	Boundary Wall	3.34	1,047.78	35.00
511071	INT.ELEC.WORK ADM BUIL FREEHOLD	6.33	91.08	6.00
511081	INTER.ELECTR. WORK RESI.BUIL T.SHIP	6.33	343.36	22.00
511082	INTER.ELECTR. WORK SERV.BUIL T.SHIP	6.33	51.07	3.00
511102	Temporary Erections including Wooden Structures - Township	100.00	3.17	3.00
511103	Temporary Fencing-Plant	100.00	19.71	20.00
511104	Temporary Fencing-Township	100.00	20.42	20.00
511202	Sewerage & Effluent Disposal Sys -Plant	5.28	765.72	40.00
511205	Sewerage And Drainage System-Township	5.28	70.33	4.00
511210	Temporary Construction Water Supply	18.00	15.50	3.00
511301	Water Supply & Drains-Plant Area	5.28	1.38	-
511302	Sewerage & Effluent Disposal-Plant	3.34	859.35	29.00
511304	Water Supply System -Township	5.28	221.84	12.00
511305	Sewerage & Drainage System - Townsh	3.34	318.75	11.00
511501	MGR Track & Signalling System	5.28	5,569.92	294.00
512101	Steam Generator	5.28	62,005.58	3,274.00
512102	Turbine Generator - Including EOT C	5.28	46,704.42	2,466.00
512104	Coal Handling System	5.28	18,976.13	1,002.00
512105	Fuel Oil Handling System	5.28	877.81	46.00
512106	Ash Handling System	5.28	7,849.36	414.00
512107	Cooling Water System Inculding Cool	5.28	16,722.91	883.00
512108	Control And Instrumentation Equipme	5.28	11,926.24	630.00
512109	Service And General Station Equipme	5.28	4,509.55	238.00
512110	Electrical And Auxilliary Equipment	5.28	12,903.90	681.00
512111	Chimney	5.28	4,196.01	222.00
512112	Water Treatment Plant	5.28	2,376.14	125.00
512113	Power Station Switchyard	5.28	6,212.91	328.00
512114	Main Electrical Equipments	5.28	4,842.49	256.00
512116	Mechanical & Auxilliary Equipments	5.28	570.81	30.00
512118	Compressed Air System	5.28	1,206.62	64.00
512121	MGR Locos & Shunting Locos	5.28	878.84	46.00

Anilani 48/99

512124	Fire Fighting Engines & Tenders	9.50	109.77	10.00
512126	Stores Equipments (Material Handlin	5.28	135.36	7.00
512127	Workshop Equipments	5.28	525.09	28.00
512128	Laboratory Equipments	5.28	700.64	37.00
512151	Towers	5.28	5,631.50	297.00
512158	400/220/132 KV Switchyards At NTPC	5.28	3,789.28	200.00
512201	Earthmoving Equipments	9.50	413.55	39.00
512207	Cranes	5.28	21.23	1.00
512301	Construction Power Supply System -	5.28	300.36	16.00
512302	Township Power Supply System	5.28	576.00	30.00
512309	Other Electrical Installations	5.28	175.81	9.00
512310	Permanent Power Supply System - Pla	5.28	3.14	-
512501	Buses & Trucks -Plant/Office	9.50	24.65	2.00
512507	Motor Cycles, Scooters-Plant/Office	9.50	2.51	-
512510	Cycles-Plant/Office	9.50	0.15	-
513001	Furniture-Township	6.33	38.58	2.00
513002	Furniture-Canteen	6.33	1.32	-
513003	Furniture-Office & Others	6.33	332.88	21.00
513004	Fixture Partition In Own Buldg	6.33	2.13	-
513012	Fixture-Fans-Plant/Office	6.33	4.12	-
513013	Fixture-Fans-Township	6.33	0.21	-
513014	Fixture-Other Elect. Fittings Plant	6.33	0.91	-
513015	Fixture-Other Electrical Fittings -	6.33	0.47	-
513102	Satellite Communication System	6.33	0.63	-
513103	PERSONAL COMPUTER WITH ACESSORIES	18.00	121.44	22.00
513110	Other EDP Machines	15.00	92.94	14.00
513202	Typewriters,Calculators & Other Off	6.33	10.33	1.00
513203	Refrigerators,Aircoolers,Watercoole	7.50	44.45	3.00
513204	Refrigerators,Aircoolers,Watercoole	7.50	38.99	3.00
513205	Printroom Machines	18.00	14.67	3.00
513206	Hospital Equipments	5.28	4.14	-
513208	Other Township Equipments	6.33	6.80	-
513209	Community Centre Equipments	6.33	7.93	1.00
513210	Guest House,Transit Hostel Equipmen	6.33	5.07	-
513211	Canteen Equipments	6.33	1.36	-
513212	Interior Communication Equipments -	6.33	77.83	5.00
513213	Unserviceable/Obsolete Assets	6.33	230.07	15.00
513601	Unserviceable/Obsolete Assets	25.00	979.17	245.00
515101	Unserviceable/Obsolete Assets		0.05	-
516201	INTANGIBLE ASSET	33.34	44.21	15.00
	Mohad Reservoir-Industrial Water	5.27	11,000.00	580.00
			<b>277041</b>	<b>14207</b>
				<b>5.13%</b>

*Amalavi*  
**PETITIONER**

49/99

**Statement of Depreciation**

**Name of the Company :**

**NTPC SAIL POWER COMPANY PRIVATE LIMITED**

**Name of the Power Station :**

**BHILAI EXPANSION POWER PROJECT (2X250MW)**

Rs. Lakhs

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
1	2	4	6	7	8	9
	Opening Capital Cost	275763.15	276859.42	279660.58	280144.58	280769.58
	Closing Capital Cost	276859.42	279660.58	280144.58	280769.58	281109.58
	<b>Average Capital Cost</b>	<b>276311.29</b>	<b>278260.00</b>	<b>279902.58</b>	<b>280457.08</b>	<b>280939.58</b>
	Freehold land (Cash Basis)	0.00	0.00	0.00	0.00	0.00
	<b>Rate of depreciation</b>	5.1300%	5.1300%	5.1300%	5.1300%	5.1300%
	Depreciable value	248680.16	250434.00	251912.32	252411.37	252845.62
	Balance useful life at the beginning of the period					
	Remaining depreciable value	170117.23	157596.34	144715.65	130827.26	116849.31
	<b>Depreciation (for the period)</b>					
	<b>Depreciation (annualised)</b>	<b>14174.77</b>	<b>14274.74</b>	<b>14359.00</b>	<b>14387.45</b>	<b>14412.20</b>
	Cumulative depreciation at the end of the period	78562.93	92837.67	107196.67	121584.12	135996.32
	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009/Station COD	0.00	0.00	0.00	0.00	0.00
	Less: Cumulative depreciation adjustment on account of de-capitalisation	0.00	0.00	0.00	0.00	0.00
	Net Cumulative depreciation at the end of the period	78562.93	92837.67	107196.67	121584.12	135996.32

*Amalan*

**PETITIONER**

50/99

Calculation of Interest on Actual loan

PART-I  
FORM-13

Name of the Company  
Name of the Power Station

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

(Amount in lacs)

Sl.No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>1</b>	<b>Central Bank Of India</b>					
	Gross loan-Opening *	10,000	10,000	10,000	10,000	10,000
	Cumulative repayments of Loans upto previous year	3,178	4,086	4,994	5,902	6,810
	Net Loan-Opening	6,822	5,914	5,006	4,098	3,190
	Increase/Decrease due to FERV					
	Increase/Decrease due to ACE					
	<b>Total</b>	<b>6,822</b>	<b>5,914</b>	<b>5,006</b>	<b>4,098</b>	<b>3,190</b>
	Add: Drawl's) during the Year					
	Less :Repayments of loans during the year	908	908	908	908	908
	Net Loan-Closing	5,914	5,006	4,098	3,190	2,282
	Average Net Loan	6,368	5,460	4,552	3,644	2,736
	Rate of Interest on Loan with quarterly rest	10.07%	10.07%	10.07%	10.07%	10.07%
	Interest on Loan	641.26	549.82	458.39	366.95	275.52
<b>2</b>	<b>Union Bank Of India</b>					
	Gross loan-Opening *	44,500	44,500	44,500	44,500	44,500
	Cumulative repayments of Loans upto previous year	20,227	24,273	28,318	32,364	36,409
	Net Loan-Opening	24,273	20,227	16,182	12,136	8,091
	Increase/Decrease due to FERV					
	Increase/Decrease due to ACE					
	<b>Total</b>	<b>24,273</b>	<b>20,227</b>	<b>16,182</b>	<b>12,136</b>	<b>8,091</b>
	Add: Drawl's) during the Year					
	Less :Repayments of loans during the year	4,045	4,045	4,045	4,045	4,045
	Net Loan-Closing	20,227	16,182	12,136	8,091	4,045
	Average Net Loan	22,250	18,205	14,159	10,114	6,068
	Rate of Interest on Loan with quarterly rest	9.43%	9.43%	9.43%	9.43%	9.43%
	Interest on Loan	2,098	1,717	1,335	954	572
<b>3</b>	<b>Rural Electrification Corporation Ltd.</b>					
	Gross loan-Opening *	128,500	128,500	128,500	128,500	128,500
	Cumulative repayments of Loans upto previous year	62,107	75,386	88,664	101,943	115,221
	Net Loan-Opening	66,393	53,114	39,836	26,557	13,279
	Increase/Decrease due to FERV					
	Increase/Decrease due to ACE					
	<b>Total</b>	<b>66,393</b>	<b>53,114</b>	<b>39,836</b>	<b>26,557</b>	<b>13,279</b>
	Add: Drawl's) during the Year					
	Less :Repayments of loans during the year	13,279	13,279	13,279	13,279	13,279
	Net Loan-Closing	53,114	39,836	26,557	13,279	(0)
	Average Net Loan	59,754	46,475	33,196	19,918	6,639
	Rate of Interest on Loan **	8.829%	8.829%	8.829%	8.829%	8.829%
	Interest on Loan	5,275	4,103	2,931	1,758	586
<b>4</b>	<b>Loan II-Union Bank of India</b>					
	Gross loan-Opening *	11,000	11,000	11,000	11,000	11,000
	Cumulative repayments of Loans upto previous year	4,125	5,225	6,325	7,425	8,525
	Net Loan-Opening	6,875	5,775	4,675	3,575	2,475
	Increase/Decrease due to FERV					
	Increase/Decrease due to ACE					
	<b>Total</b>	<b>6,875</b>	<b>5,775</b>	<b>4,675</b>	<b>3,575</b>	<b>2,475</b>

Anilani

51/99

Add: Drawl(s) during the Year					
Less :Repayments of loans during the year	1,100	1,100	1,100	1,100	1,100
Net Loan-Closing	5,775	4,675	3,575	2,475	1,375
Average Net Loan	6,325	5,225	4,125	3,025	1,925
Rate of Interest on Loan **	11.21%	11.21%	11.21%	11.21%	11.21%
Interest on Loan	709	586	462	339	216
<b>Total Loan</b>					
Gross loan-Opening	194,000	194,000	194,000	194,000	194,000
Cumulative repayments of Loans upto previous year	89,637	108,969	128,301	147,633	166,966
Net Loan-Opening	104,363	85,031	65,699	46,367	27,034
Add : Drawl (s) during the year	-	-	-	-	-
Less : Repayment (s) of loans during the year	19,332	19,332	19,332	19,332	19,332
Net Loan-Closing	85,031	65,699	46,367	27,034	7,702
Average net loan	94,697	75,365	56,033	36,700	17,368
Total interest paid	8,724	6,955	5,187	3,418	1,650
<b>Total Repayments of loans During the year</b>	19,332	19,332	19,332	19,332	19,332
Weighted average int rate	9.212%	9.229%	9.257%	9.314%	9.498%

In case of Foreign Loans, the calculations in Indian Rupees is to be furnished. However, the calculations in

\* As on 1st April 2008

\*\* On weighted average basis

*Anil Kumar*

PETITIONER

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## Calculation of Interest on Normative Loan

Name of the Company -  
Name of the Power Station -NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

Rs. Lakhs

Particulars	Existing 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
2	3	4	5	7	8	9
Gross Normative loan – Opening	192522	193,034.21	193,801.60	195,762.41	196,101.21	196,538.71
Cumulative repayment of Normative loan upto previous year	50284.3	64,388.16	78,562.93	92,837.67	107,196.67	121,584.12
Net Normative loan – Opening	142237	128,646.05	115,238.67	102,924.74	88,904.54	74,954.59
Normative repayment of loan During the year	14103.9	14,174.77	14,274.74	14,359.00	14,387.45	14,412.20
Add: Increase due to addition during the year / period	0.0	767.39	1960.81	338.80	437.50	238.00
Less: Decrease due to de-capitalisation during the year / period	0.0	0.00	0.00	0.00	0.00	0.00
Less: Decrease due to reversal during the year / period	0.0	0.00	0.00	0.00	0.00	0.00
Add: Increase due to discharges during the year / period	0.0	0.00	0.00	0.00	0.00	0.00
Net Normative loan - Closing	128134	115238.67	102924.74	88904.54	74954.59	60780.39
Average Normative loan	135185	121942.36	109081.70	95914.64	81929.56	67867.49
Weighted average rate of interest (%)	9.20%	9.2124%	9.2289%	9.2567%	9.3138%	9.4981%
Interest on Loan	12442.6	11233.85	10067.03	8878.53	7630.78	6446.14

*Amalan*

PETITIONER

**Calculation of Interest on Working Capital**

**Name of the Company -**  
**Name of the Power Station -**

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT (2 X 250 MW)

Rs Lakhs

Sr.No.	Particulars	Existing 2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	2	3	4	6	7	8	9
1A	Cost of Coal/Lignite towards stock	7534	5171.02	5185.19	5171.02	5171.02	5171.02
1B	Cost of Coal/Lignite towards generation		5171.02	5185.19	5171.02	5171.02	5171.02
2	Cost of Main Secondary Fuel Oil1	165	159.13	159.57	159.13	159.13	159.13
3	Fuel Cost2						
4	Liquid Fuel Stock2						
5	O & M Expenses	938	1117.94	1190.17	1267.16	1348.92	1435.92
6	Maintenance Spares	2252	2683.06	2856.42	3041.17	3237.41	3446.21
7	Receivables	17815	20463.34	20484.53	20446.17	20417.53	20409.42
8	Total Working Capital	28704	34765.52	35061.06	35255.67	35505.04	35792.72
9	Rate of Interest	12.25%	13.50%	13.50%	13.50%	13.50%	13.50%
10	Interest on Working Capital	3516.23	4693.34	4733.24	4759.51	4793.18	4832.02

*Anshu*

**PETITIONER**

54/99

**PART-I  
FORM- 13C**

**Other Income as on COD**

Name of the Petitioner : NTPC Ltd.

NTPC SAIL POWER COMPANY PRIVATE LIMITED

Name of the Generating Station :-

BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

(Amount in Rs. Lakh)

Sl. No.	Parameters	Existing as on 31.03.2014	2014-15	2015-16	2016-17	2017-18	2018-19
1	Contribution from Retired NTPC Employee						
2	Interest from Loan to Employee						
3	Provisional Write Back Shortage In Construction Store						
4	Interest Others						
5	Hire Charges						
6	Miscellaneous Income						
7	Interest from Contractor						
8	Power charges recovered						
9	Water charges recovered						
10	Sale of tender form						
11	Transit Hostel recoveries						
<b>Total</b>							

**NOT APPLICABLE**

i) Other Incomes indicated above is as on 31.03.2014 (audited) w.r.t Stage - II and actual income as on actual COD shall be provided as on actual

Note: CODs of respective Units.

ii) Other Incomes indicated above have already been adjusted against IEDC expenditures indicated in Form - 13D

*[Signature]*

(Petitioner)

**Incidental Expenditure during Construction up to Scheduled COD and up to anticipated COD**

Name of the Petitioner : NTPC Ltd.  
Name of the Generating Station :-

NTPC SAIL POWER COMPANY PRIVATE LIMITED  
BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

(Amount in Rs. Lakh)

Sl. No.	Parameters	As on Scheduled COD	As on actual COD/anticipated COD
<b>A</b>	<b>Head of Expenses:</b>		
1	Salaries		
2	Contribution to PF		
3	Welfare exp		
4	Power Charges		
5	Water charges		
6	Rent		
7	Repair & Maintenance - Building		
8	Repair & Maintenance -Construction Equipment		
9	Repair & Maintenance - Others		
10	Insurance		
11	Rates & taxes		
12	Communication expenses		
13	Travel expenses		
14	Tender Expenses		
15	Advertisement & publicity		
16	Security expenses		
17	Entertainment exp		
18	Guest house expenses		
19	Brokerage & Commission		
20	Education exp		
21	Community development Exp		
22	Professional charges		
23	Legal Expenses		
24	EDP charges		
25	Printing expenses		
26	Workshop Expenses		
27	Veh hiring		
28	Transport vehicle running Exp		
29	Waste land development Exp		
30	Misc Expenses Cr		
31	Depreciation (Tangible Assets)		
32	Bank Charges		
33	Others		
34	Books and Periodicals		
35	Prior Period Expenses - ERV-Other thab loans		
36	FBT		
37	Allocated by CC (Capital)		
<b>B.</b>	<b>Total Expenses</b>		
1	Less Interest Others		
2	Less Hire Charges		
3	Less scrap sale		
4	Less Misc Income		
5	Less Interest from Contractors		
6	Less Power charges recovered		
7	Less Water charges recovered		
8	Less sale of tender		
9	Less Transit Hostel recoveries		
	<b>Grand total</b>		

NOT APPLICABLE

(Petitioner)

*Analan*

**Expenditure under different packages up to Scheduled COD and up to Actual/anticipated COD**

Name of the Petitioner : NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Generating Station :- BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

Sl. No.	Parameters	As on Scheduled COD	As on actual COD/anticipated COD
1			
2			
3			
4			
5			
6			
7			
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9			
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11			
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NOT APPLICABLE

Petitioner

*Anil Kumar*

57/99

Draw Down Schedule for Calculation of IDC & Financing Charges

(Amount in Lacs)

Sl. No.	Draw Down Particulars	Quarter 1			Quarter 2			Quarter n (COD)		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	<b>Loans</b>									
1.1	<b>Foreign Loans</b>									
1.1.1	<b>Foreign Loan 1</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.1.2	<b>Foreign Loan 2</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.1.3	<b>Foreign Loan 3</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.1.4	--									
	--									
	--									
1.1	<b>Total Foreign Loans</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.2	<b>Indian Loans</b>									
1.2.1	<b>Indian Loan 1</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.2	<b>Indian Loan 2</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.3	<b>Indian Loan 3</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1.2.4	--									
	--									
	--									
1.2	<b>Total Indian Loans</b>									
	Draw down Amount									
	IDC									
	Financing charges									
1	<b>Total of Loans drawn</b>									
	IDC									
	Financing charges									
2	<b>Equity</b>									
2.1	<b>Foreign equity drawn</b>									
2.2	<b>Indian equity drawn</b>									
	<b>Total equity deployed</b>									

NOT APPLICABLE

Note: 1 Drawal of debt and equity shall be on paripassu basis to meet the commissioning schedule. Drawal of higher equity in the beginning is permissible.  
2 Applicable interest rates including reset dates used for above computation may be furnished separately  
3 In case of multi unit project, details of capitalization ratio used to be furnished

*W. Malavi*

PETITIONER

58/99

**PART-I**  
**FORM- 14A**

**Actual cash expenditure**

Name of the Petitioner \_\_\_\_\_  
Name of the Generating Station \_\_\_\_\_

(Amount in Rs. Lakh)

Particulars	Quarter-I	Quarter-II	Quarter-III	Quarter-n (COD)
Expenditure towards Gross Block				
Add: Expenditure towards CWIP				
Add: Capital Advances, if any				
Less: Un-discharged liabilities (included above)				
Add/Less: Others				
<b>Payment to contractors / suppliers towards capital assets</b>				
<b>Cumulative payments</b>				

NOT APPLICABLE

Note:

If there is variation between payment and fund deployment justification need to be furnished

59/99

*Arundhan*  
(Petitioner)

## Details/Information to be submitted in respect of fuel for computation of Energy Charges

Name of the Company -

NTPC SAIL POWER COMPANY PRIVATE LIMITED

Name of the Power Station -

BHILAI EXPANSION POWER PROJECT ( 2 X 250 MW)

S.N.	Month	Unit	For Preceding		For preceding		For Preceding	
			3rd Month (From COD or from 01.04.14 as the case may be)		2nd Month (From COD or from 01.04.14 as the case may be)		1st Month (From COD or from 01.04.14 as the case may be)	
			Jan-14		Feb-14		Mar-14	
			Domestic including eacution	Imp	Domestic including eacution	Imp	Domestic including eacution	Imp
1	Quantity of Coal***/Lignite supplied by Coal/Lignite Company	MT	445,183.66	75057.009	400513.181	64746.955	437266.780	46145.051
2	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company	MT	-	-	-	-	-	-
3	Coal supplied by Coal/Lignite Company (1+2)	MT	445,183.66	75,057.01	400,513.18	64,746.96	437,266.78	46,145.05
4	Normative Transit & Handling Losses (For coal/Lignite based Projects)	MT	1,433.80	300.035	1139.491	121.904	1635.201	0.000
5	Net coal / Lignite Supplied (3-4)	MT	443,749.86	74,756.97	399,373.69	64,625.05	435,631.58	46,145.05
6	Amount charged by the Coal /Lignite Company	Rs.	722,893,200	499886805	652684056	414514656	656624559	313740216
7	Adjustment (+/-) in amount charged made by Coal/Lignite Company	Rs.	-	-	-	-	1549876	-618146
8	Total amount Charged (6+7)	Rs.	722,893,200	499,886,805	652,684,056	414,514,656	658,174,435	313,122,070
9	Transportation charges by rail/ship/road transport	Rs.	88,867,744	-	77561834	759896	98367407	0
10	Adjustment (+/-) in amount charged made by Railways/Transport Company	Rs.	-	-	-	-	-	-
11	Demur-rage Charges, if any	Rs.	-	-	7103095	759896	1178819	0
12	Cost of diesel in transporting coal through MGR system, if applicable	Rs.	7,480,904	3750777	17296394	2452027	19861535	160084
13	Total Transportation Charges (9+/-10- 11+12)	Rs.	96,348,648.00	3,750,777.00	87,755,133.00	2,452,027.00	117,050,123.00	160,084.00
14	Total Amount Charged for coal/Lignite supplied including transportation (8+13)	Rs.	819,241,848.00	503,637,582.00	740,439,188.00	416,966,683.00	775,224,558.00	313,282,154.00
15	Landed Cost of Coal/Lignite	Rs./MT	1846.179	6736.998	1854.001	6452.091	1779.542	6789.074
16	Blending Ratio (Domestic/Imported)		88.03	11.97	90.01	9.99	89.68	10.32
17	Weighted average cost of coal/ Lignite for preceding three months	Rs./MT						2,437.23
18	GCV of Domestic Coal as per bill of Coal Company	Kcal/Kg	4,039.05	-	3,998.75		4,040.69	
19	GCV of Imported Coal as per bill Coal Company	Kcal/Kg	-	6,179.06		6,149.52		-
20	Weighted average GCV of coal/ Lignite as Billed**	Kcal/Kg	4,295.21		4,213.61		3,623.54	
21	Weighted average GCV of coal/ Lignite as fired^^	Kcal/Kg		3,612.13		3,514.83		3,338.38

\*\*\* Inclusive of Opening Stock of Coal

Imported Coal GCV on as received basis is on Air Dried basis\*\*

^^ NSPCL does not have infrastructure for measuring the representative figures of "As received" GCV for the above months.

*Anil*

Petitioner

60/99



**Details / information to be submitted in respect of Fuel for computation of Energy Charges****Name of the Company**

NTPC SAIL POWER COMPANY PRIVATE LIMITED

**Name of the Power Station**

BHILAI EXPANSION POWER PROJECT (2 X 250 MW)

Sl.No.	Particulars	Unit	Jan-14	Feb-14	Mar-14
1	Quantity of HFO supplied by Oil company	(KL)	18	72	0
2	Adjustment(+/-) in qty. supplied made by Oil Company	(KL)	0	0	0
3	HFO supplied by Oil company (1+2)	(KL)	18	72	0
4	Normative transit & Handling losses	(KL)	0	0	0
5	Net Oil supplied (3-4)	(KL)	18	72	0
6	Amount charged by Oil Company	(Rs.)	941345	3786152	0
7	Adjustment in amount charged made by Oil Company	(Rs.)	0	0	0
8	Total amount charged (6+7)	(Rs.)	941345	3786152	0
9	Transportation charges by rail/ship/road	(Rs.)	0	0	0
10	Adjustment(+/-) in amount made by Railways/ Transport Company	(Rs.)	0	0	0
11	Demurrage Charges, if any	(Rs.)	0	0	0
12	Cost of Diesel in transporting HFO, if applicable	(Rs.)	0	0	0
13	Total Transportation Charges (9+/-10+11+12)	(Rs.)	941345	3786152	0
14	Others/E.TAX	(Rs.)	0	0	0
15	Total amount charged for HFO (8+13+14)	(Rs.)	941345	3786152	0
16	GCV of HFO	(Kcal/Ltr)	9923	9910	9917
17	Rate of HFO		52296.94444	52585.44444	
18	Wtd. Avg. GCV of Secondary Fuel for the month		9887.2	9887.2	9887.2
19	Wtd. Avg. Price of Secondary Fuel for the month		52528	52528	52528
20	Wtd. Avg. GCV of Secondary Fuel for the period			9887.2	
21	Wtd. Avg. Price of Secondary Fuel for the period			52528	

Note: No HFO is procured in Month of March'14

*Anilani*

PETITIONER

61/99

Details/Information to be Submitted in respect of Limestone for Computation of Energy Charge Rate

Name of the Company

NTPC SAIL POWER COMPANY PRIVATE LIMITED

Name of the Power Station

BHILAI EXPANSION POWER PROJECT

Sl. No.	Month	Unit	For preceeding 3rd Month	For preceeding 2nd Month	For preceeding 1st Month
1		(MMT)	<b>NOT APPLICABLE</b>		
2		(MMT)			
3		(MMT)			
4		(MMT)			
5		(Rs.)			
6		(Rs.)			
7		(Rs.)			
8		(Rs.)			
9		(Rs.)			
10		(Rs.)			
11		(Rs.)			
12		(Rs.)			

*Amalaw*

PETITIONER

62/99

**Details/Information to be Submitted in respect of Capital Spares**

**Name of the Petitioner**

NTPC SAIL POWER COMPANY PRIVATE LIMITED

**Name of the Generating Station**

BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW )

Sl. No.	Details of Capital Spares and Expenses		Claimed as a part of additional Capitalisation	Funded through Compensatory Allowance	Funded through Special Allowance (If Applicable)	Claimed as a part of stores and spares
	Name of Spare	Amount				
1						
2	<b>To be submitted at the time of Truing up.</b>					
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

*Anil Kumar*  
(Petitioner)

63/99

**PART-I  
FORM- 18**

**Liability Flow Statement**

**Name of the Petitioner** NTPC SAIL POWER COMPANY PRIVATE LIMITED

**Name of the Generating Station** BHILAI EXPANSION POWER PROJECT ( 2 x 250 MW )

Party	Asset / Work	Year of actual capitalisation	Original Liability	Liability as on 31.03.2014	Discharge 2014-15	Reversal 2014-15
	NOT APPLICABLE					
	NOT APPLICABLE					
	NOT APPLICABLE					
	NOT APPLICABLE					
	NOT APPLICABLE					

*Amalan*  
PETITIONER

64/99

Computation of Energy Charges

Appendix-III

Name of the Company NTPC SAIL POWER COMPANY PRIVATE LIMITED  
 Name of the Power Station BHILAI EXPANSION POWER PROJECT (2 X 250 MW)

Sr.No.	Description	Formula	
1	Rate of Energy Charge from Sec. Fuel Oil/ Alternate Fuel (p/kwh) (REC) <sub>s</sub>	= (Q <sub>s</sub> ) <sub>n</sub> X P <sub>p</sub> / (1-AUX)	2.89
2	Heat Contribution from SFO / Alternate Fuel (H <sub>s</sub> )	= (Q <sub>s</sub> ) <sub>n</sub> X (GCV) <sub>s</sub>	4.96
3	Heat contribution from Primary Fuel (H <sub>p</sub> )	= GHR- H <sub>s</sub>	2445.0
4	Specific Primary Fuel Consumption (Q <sub>p</sub> ) <sub>n</sub>	= H <sub>p</sub> / (GCV) <sub>p</sub>	0.7003
5	Rate of Energy charge from Primary Fuel (p/kwh) (REC) <sub>p</sub>	= (Q <sub>p</sub> ) <sub>n</sub> X P <sub>p</sub>	170.69
6	Rate of Energy charge ex-bus (p/kWh) (REC)	= (REC) <sub>p</sub> / (1-(AUX))	187.570 190.456

		2014-15	2015-16	2016-17	2017-18	2018-19
Sp. Oil consumption	ml/kwh	0.5	0.5	0.5	0.5	0.5
Auxiliary consumption	%	9.00	9.00	9.00	9.00	9.00
Heat Rate	Kcal/Kwh	2450.00	2450.00	2450.00	2450.00	2450.00
NAPAF	%	83	83	83	83	83
Capacity	MW	500	500	500	500	500

Price of fuel from Form-15/15A		2014-15	2015-16	2016-17	2017-18	2018-19
Coal Cost	(Rs./MT)	2437.23	2437.23	2437.23	2437.23	2437.23
Oil Cost	(Rs./KL)	52528	52528	52528	52528	52528

Computation of Fuel Expenses for Calculation of IWC:						
ESO in one month	(MU)	275.685	276.440	275.685	275.685	275.685
Cost of coal for 1 month	(Rs.Cr.)	51.71	51.85	51.71	51.71	51.71
Cost of coal for 2 months	(Rs.Cr.)	103.42	103.70	103.42	103.42	103.42
Cost of oil for 1 month	(Rs.Cr.)	0.80	0.80	0.80	0.80	0.80
Cost of oil for 2 months	(Rs.Cr.)	1.59	1.60	1.59	1.59	1.59

Coal	Jan-14	Feb-14	Mar-14	Avg.
Total Amount (Rs)	1322879430	1157405871	1088506712	2,437.23
Total Qnty (MT)	518507	463999	481777	
Wtd. GCV of Coal as Recd.	3512	3515	3338	3491
Sec. Oil	Jan-14	Feb-14	Mar-14	
Total Amount (Rs/KL)	941345	3786152	0	52528
Total Qnty (KL)	18.00	72.00	0.00	
GCV (KCal/L)	9923.00	9910.00	9916.50	9913

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*Anilani*

PETITIONER

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 308/2009**

1. Dr. Pramod Deo, Chairperson
2. Shri S. Jayaraman, Member
3. Shri V.S. Verma, Member
4. Shri M. Deena Dayalan, Member

**Date of hearing: 11.3.2010**

**Date of order: 29.7.2010**

**In the matter of**

Approval of tariff of Unit – I (250 MW) for the period 22.4.2009 to 20.10.2009 and for the Station (Unit-I and Unit-II) (2x 250 MW) for the period from 21.10.2009 to 31.03.2014 of Bhilai Expansion Power Project of NTPC-SAIL Power Company Ltd

**And in the matter of**

NTPC-SAIL Power Company Ltd, New Delhi

.....Petitioner

Vs

1. Electricity Department, UT of Dadra & Nagar Haveli, Silvassa
2. Electricity Department, UT of Daman & Diu, Daman
3. Chhattisgarh State Power Distribution Company Ltd, Raipur
4. Steel Authority of India Ltd, (Bhilai Steel Plant), New Delhi ....Respondents.

**The following were present**

1. Shri R.N.Sen, NTPC-SAIL
2. Shri G.Basu, NTPC-SAIL
3. Shri S.D.Jha, NTPC-SAIL
4. Shri A.Pal, NTPC-SAIL
5. Shri P.V.Sanjeev, CSPDCL
6. Shri R.G.Gupta, SAIL (BSP)

**ORDER**

This petition has been filed by the petitioner, NTPC-SAIL Power Company Ltd, for approval of tariff for Unit-I (250 MW) for the period 22.4.2009 to 20.10.2009 and for Unit-I and Unit-II (2x 250 MW) for the period from 21.10.2009 to 31.3.2014 of the Bhilai Expansion Power Project (hereinafter referred to as the "generating station") based on the Central Electricity Regulatory Commission (Terms and

Conditions of Tariff) Regulations, 2009 (hereinafter referred as "the 2009 regulations").

2. The petitioner is a joint venture company of NTPC Ltd and Steel Authority of India Ltd (SAIL) having equal equity participation in the ratio of 50:50. The petitioner has acquired certain captive power plants owned by SAIL, which includes the captive power plant at Bhilai with capacity of 74 MW (2x30 MW + 1 x 14 MW), which is expanded by addition of 2 units of 250 MW each. The power generated from the generating station will be consumed to the extent of 51% for captive requirements of SAIL and the balance power is to be supplied to the respondents 1 to 3 in terms of the Power Purchase Agreements entered into between them.

3. Out of total capacity of 500 MW, only 170 MW of power is utilized for the captive requirements of SAIL and the remaining 330 MW is to be supplied to beneficiaries as under:

<b>Beneficiaries</b>	<b>Capacity allocated (MW)</b>
UT of Dadra & Nagar Haveli (Respondent No.1)	135
UT of Daman & Diu (Respondent No.2)	95
CSEB(Respondent No.3)	100
SAIL/BSP (Respondent No.4)	170

4. The actual date of commercial operation is as under:

<b>Units</b>	<b>Original schedule as per MoP / Gol</b>	<b>Actual date of commercial operation</b>
Unit No. I	February, 2008	22.4.2009
Unit No. II	August, 2008	21.10.2009

5. It is observed from the above, that there has been a delay of about 14 months in the commercial operation of Unit-I and Unit-II of the generating station from the original date of commercial operation.

6. As regards the delay in the Commissioning of the units of the generating

station, the petitioner during the proceedings held on 11.3.2010 has submitted that the Unit-I was synchronized on 20.4.2008 on oil and coal fired on 5.1.2009. However, despite the allocation, due to inadequate supply of coal to the generating station, the declaration of the date of commercial operation of Unit-I was postponed to 22.4.2009 and that of Unit-II to 21.10.2009. The petitioner further submitted that it had signed the fuel supply agreement (FSA) with South Eastern Coalfields Ltd. (SECL) on 3.1.2009 for annual coal linkage of 2.4 million MT, but SECL had revised the coal linkage to 50% of FSA committed, as per the new Govt. of India policy in respect of captive power plants. As coal to captive power plants falls under category-3 of coal supply sector as per the supply preference of Coal India Ltd, the actual coal supply from SECL was about 70% of the revised coal allocation and hence the generating station could be operated only to 60-65% of full load capacity. The petitioner also submitted that at present both the units of the generating station were running with full load after procurement of 0.5 million MT of coal through e-auction with much higher price and after entering into an agreement with Singareni Collieries Co. Ltd. for 1.0 million MT supply of coal. The petitioner submitted that the date of commercial operation of the generating station was delayed on account of the reasons stated above which was beyond their control.

7. However, the petitioner was directed to furnish additional information as under :

- (a) Detailed note elaborating reasons for delay beyond the contracted schedule and the steps taken to avoid the delay in order to substantiate that the delay was beyond its control;
- (b) The actual completion time of important mile stones of the project as per the original schedule /contractual agreement and details to establish that the generating station was in a position to run at full load as per the original contracted commissioning schedule from the date of placement of order for main plant package;



(c) Details of cost implications if any, for the delay in date of commercial operation including any implications in IDC & FC from the original estimates prior to taking up the project, with clear explanation;

8. The petitioner vide its affidavit dated 15.4.2010, has submitted the additional information as above. The third respondent, CSPDCL has filed its reply and the petitioner has filed its rejoinder to the same. The matter has been examined in the light of the submissions, both oral and written, made by the parties and the additional information submitted by the petitioner.

9. The justification submitted by the petitioner for the delay in the commissioning of the units of the generating station has been examined in the subsequent paragraphs:

**Delay on account of non availability of coal from SECL/CIL**

10. From the documents submitted by the petitioner, it is observed that the Standing Committee for Coal Linkage approved a long-term coal linkage for the generating station vide its order dated 7.10.2003 for 2.5 million MT/annum from SECL. It is also observed that the coal linkage was approved with a specific condition that the Fuel Supply Agreement (FSA) should be concluded within a period of six (6) months from the date of issue of order, failing which, the linkage would automatically be cancelled. However, despite repeated persuasion with SECL at various levels, and with Coal India Ltd (CIL), SECL declined to sign the FSA with the petitioner. The petitioner also raised this issue with the Ministry of Power and the Ministry of Coal, Govt. of India, with a plea to direct SECL/ CIL to sign FSA and for commencement of coal supply as the coal firing of the generating station was targeted by the petitioner during September, 2008. Finally, on 1.3.2009, the FSA with the SECL was signed by the petitioner, for an annual linkage of 2.4 million

MT/annum of coal. In the meantime, the synchronization of Unit-I of the generating station, on oil, was also delayed from the original date of commercial operation in February, 2008. However, Unit-I of the generating station was synchronized on oil, on 20.4.2008.

11. While it is noticed that the petitioner has taken sincere efforts to persuade and sign FSA with SECL, the condition imposed by the State Govt. of Chhattisgarh linking the supply of water to the generating station to the allocation of additional power to the State over and above the allocation of 50 MW of power, compounded the problems faced by the petitioner to operationalise the generating station. In order to resolve the matter, the fourth respondent, SAIL (BSP) agreed vide its letter dated 19.5.2007 to supply 25 MW of power to the third respondent, from its allocated capacity of 280 MW for a period of one year. Subsequently, the petitioner vide its letter dated 24.4.2008 offered to supply power at 12.5 MW each from Unit-I and Unit-II of the generating station, for a period of one year which was followed by a supplementary Power Purchase Agreement dated 16.12.2008.

12. Pursuant to the FSA with SECL on 3.1.2009, the commercial operation of Unit-I of the generating station was declared on 22.4.2009, which is within three months from the establishment of coal linkage. This is reasonable. However, it is noted that despite the FSA, SECL had insisted for a separate MOU, under which, SECL unilaterally restricted the coal linkage supply to 50% of FSA. We find that the restriction imposed by SECL was in contravention to the provisions of the FSA and the New Coal Distribution Policy of the Ministry of Coal dated 18.10.2007. In addition, the actual coal supply from SECL was about 75% of the restricted coal linkage, as coal to captive power generating station falls under category-3 of the

coal supply sector, as per the supply preference of the Coal India Ltd. With the short quantum of supply of coal, Unit-I of the generating station could only be operated to 60-65% of the full load capacity on regular basis. The petitioner has also been forced to postpone the declaration of the commercial operation of Unit-II of the generating station, till the issue of coal shortage was resolved.

13. In view of the above, we are of the view that the time taken and the costs incurred on account of the delay of 14 months from the original date of commercial operation of both the units of generating station, was on account of circumstances which were beyond the control of the petitioner, for which the petitioner could not be made responsible. Hence, accepted.

#### **Capital Cost**

14. The capital cost as on 22.4.2009 (date of commercial operation of Unit-I) and 21.10.2009 (date of commercial operation of Unit-II and generating station) claimed by the petitioner for the purpose of tariff, is as under:

	<b>Unit-I</b>	<b>Unit-II and generating station</b>
	As on 22.4.2009	As on 21.10.2009
Capital cost	<b>166079.39</b>	<b>244397.90</b>

15. The petitioner has submitted auditor's certificate dated 23.11.2009 in support of its claim for capital cost for Rs. 166079.39 lakh as on 22.4.2009 and Rs. 244397.90 lakh as on 21.10.2009.

#### **Capital Work-in- Progress (CWIP)**

16. The capital cost for the generating station as on 21.10.2009 includes Rs. 483.52 lakh as Capital Work-in- Progress (CWIP), which has not been considered as part of the capital cost, for the purpose of tariff. However, no CWIP has been claimed in the capital cost for Unit-I, as on 22.4.2009.

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17. It is also noticed that the contract for main plant package was awarded to BHEL through International Competitive Bidding (ICB) and the price component consists of US dollar portion and Euro portion, amounting to Rs. 22800 lakh towards FERV, IDC and FC. The expenditure on main plant supply and erection package as on the date of commercial operation is Rs.177633 lakh which includes Rs.13360 lakh towards IEDC, IDC, taxes and duties. The generating station has not been accorded 'mega power project' status, being less than 1000 MW and therefore, the inclusion of taxes and duties in the capital cost is in order and allowed.

18. The capital cost of the generating station amounting to Rs. 284876.00 lakh includes the projected additional capital expenditure claim for Rs. 40960 lakh, excluding CWIP, which works out to Rs.5.70 crore/MW. This is on account of an excess amount of Rs. 263 crore, which includes water charges of Rs. 110 crore, land cost of Rs. 106 crore and the transmission cost of Rs. 47.42 crore, the details of which have been discussed in the subsequent paragraphs:

#### **Water Charges**

19. The petitioner has submitted that an advance amount of Rs. 110 crore was paid to Water Resources Department, State Govt. of Chhattisgarh for building of Mahad Reservoir for availability of water for the entire life of the generating station. The petitioner has submitted that it had received in-principle approval for 1 TMC water per year from the State Govt. of Chhattisgarh during August, 2003 out of the proposed saving of 1.8 TMC, after lining of Tandula main canal. Accordingly, the petitioner had paid commitment charges of Rs.7.13 lakh to the State Govt. of Chhattisgarh. However, during September, 2005, the State Govt. of Chhattisgarh proposed to the petitioner for building the Mohad reservoir, due to inadequate water savings in the Tandula Canal during the period of low rain fall

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and also to bear the entire construction cost for the same. Keeping in view the approval for 1TMC water per year by the State Govt. of Chhattisgarh, the petitioner requested the State Govt. not to charge it for the construction cost of the proposed Mohad reservoir. However, the petitioner's request was rejected by the State Govt. of Chhattisgarh and it reiterated that the entire construction cost for the reservoir was to be borne by the petitioner. Subsequently, on account of acute water crisis, the State Govt. of Chhattisgarh reduced the water consumption for the generating station from 1 TMC/year to 0.6 TMC/year and the State Govt. by a revised proposal dated 2.11.2007 called upon the petitioner to share an amount of Rs.110 crore being the proportionate cost for 0.82 TMC water (including 0.22 TMC as evaporation & transmission loss through canal) for Mohad reservoir, against the current estimated cost of Rs. 205 crore, adjustable against the water charges payable in future as per prevailing rates for water supplied by the State Govt.

20. Since water forms a major ingredient for operation of the generating station, the petitioner agreed for the payment of the estimated cost of Rs. 110 crore as proposed by the State Govt. of Chhattisgarh. It was also made clear by the State Govt. that the estimated construction cost of Rs.205 crore was provisional and was subject to any upward or downward revision. In case of upward revision, the petitioner was liable to bear the same.

21. As per policy laid down by the State Govt. of Chhattisgarh, the ownership/proprietary right of the Mohad reservoir would remain with the State Government and do not encourage the category of self-made asset for industrial water use. However, it was clarified by the State Govt. that the requirement of water for the generating station would be made available from alternate sources,

till the construction of the reservoir was complete.

22. The advance amount of Rs.110 crore has been shown in the books of accounts of the petitioner, under the head "part of loans and advances" and this amount has been considered by the petitioner as part of the capital cost of the generating station for the purpose of tariff, in view of the following:

(a) considering the prevailing rate for industrial water, and without considering any interest burden implications, Rs. 110 crore shall be fully adjusted against annual water charges for a period of about 18 to 19 years and thereafter, water charges are payable to the State Govt. as per prevailing rates.

(b) While the ownership of the reservoir rests with the State Govt, water shall be made available to the generating station for a period of thirty years as per the agreement.

(c) The project cannot function without industrial water and such water is to be made available only from the State Govt. Hence, the petitioner had no options but to agree to pay the sum as demanded by the authorities.

(d) The beneficiaries have also agreed to share the additional cost in respect of this adjustable advance of Rs.110 crore as per the PPA executed with them.

23. There is no denying of the fact that the generating station requires industrial water, without which it cannot function and water is to be made available only from the State Govt. Also, the efforts made by the petitioner to prevail upon the State Govt. not to impose on it the construction cost of Rs.110 crore proved futile, as the State Govt. declined the request of the petitioner. Under these circumstances, the petitioner had no other alternative except to deposit the said advance amount, which was raised from the lenders/promoters of the project. The cost of loan needs to be serviced by the petitioner, as it has confirmed that no interest was being received for the amount deposited to the State Govt. The petitioner has thus prayed that the amount paid to the State Govt. of Chhattisgarh, be considered as part of the capital cost of the generating

station. In view of the above discussions, the water charge for Rs.110 crore is allowed and has been considered for the purposes of tariff.

#### **Land Cost**

24. The land acquired was a city land which belonged to the Steel Authority of India Ltd (SAIL). The price of Rs.106 crore for the land sold to the petitioner was decided by the Board of Director's of SAIL and the petitioner had no other alternative except to make the payment of such high cost for the land. As fixation of land price was beyond the control of the petitioner, the cost of land has been considered in the capital cost of the generating station.

#### **Dedicated Transmission Line**

25. The petitioner has submitted that the generating station established in terms of Section 2(8) read with Section 2(28) and Section 2(49) of the Electricity Act, 2003 (the Act) had constructed dedicated transmission lines as defined under Section 2(16) read with Sections 9 and 10 of the Act, which are operated and maintained for smooth operation and transfer of power to various beneficiaries. Accordingly, the petitioner has submitted that the capital cost incurred for the construction of dedicated transmission lines for evacuation of power from the generating station to the CTU grid should also be included in the capital cost.

26. The petitioner has submitted that the dedicated transmission line from Ex-bus to the grid was originally conceived with 220 kV switchyard, which has been upgraded to 400 kV. While supply of power to the first and second respondent was being made through 400 kV line, the supply to the fourth respondent was being stepped down to 220 kV. Also, adequate space has been provided for transmission system considering the future expansion of the generating station, as

per recommendations of PGCIL (CTU) and CEA.

27. Based on the directions of the Commission, during the proceedings on 11.3.2010, the petitioner has submitted the detailed break-up of the capital cost of Rs. 47.16 crore along with the scope of work for turnkey execution of 400 kV D/C transmission line and sub-station bays awarded to PGCIL. The petitioner has submitted that the transmission line cost of Rs. 47.00 crore for 13.79 km includes the cost for 7 bays (3 bays at Bhilai and 4 bays at PGCIL Raipur sub-station). The petitioner has confirmed that the assets included in the 4 bays at Raipur 400 kV sub-station of PGCIL belonged to the petitioner. It has also been submitted that the transmission charges is to be shared by the fourth respondent along with the other beneficiaries of the generating station. Since, the dedicated transmission line for supply of power from the generating station has been constructed in terms of the provisions of the Act, the cost incurred for the same, including the cost for 7 bays, is allowed to be capitalized for the purpose of tariff.

**Infirm Power**

28. The petitioner has submitted that it has adjusted an amount of Rs. 8152 lakh as on the date of commercial operation of the generating station based on the estimated amount of sale of infirm power and has to this extent reduced the capital cost. However, based on the provisional energy accounts issued by SLDC Bhilai, the adjustments on account of infirm power as on the date of commercial operation of the generating station is Rs.8034 lakh. As the energy accounting in respect of energy injected into the State Grid is maintained by the concerned SLDC (in terms of the statutory responsibility under the Electricity Act, 2003), and since SLDC has been equipped to maintain the exact amount of energy transacted, it is considered prudent to consider the provisional account of the

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infirm power of Rs. 8034 lakh, certified by the SLDC, for the purpose of tariff. However, any adjustments in the amount of infirm power, based on the final certification by SLDC would be carried out at the time of truing up of capital cost, at the end of the tariff period. Thus, the capital expenditure as on 21.10.2009 (the date of commercial operation of the generating station) is to be considered after the addition of Rs.118.85 lakh (Rs.8152 lakh- Rs.8034 lakh).This additional amount of Rs 118.85 lakh has been allowed on a provisional basis and would be subject to truing up.

#### **Interest During Construction (IDC)**

29. The petitioner's claim for Rs.15711.77 lakh as on the date of commercial operation of Unit-I and Rs.26779.13 lakh as on the date of commercial operation of Unit-II towards IDC, has been examined and is found to be in order.

#### **Undischarged Liabilities**

30. It is observed that undischarged liabilities amounting to Rs.13869.69 lakh as on the date of commercial operation of Unit-I and Rs.19904.08 lakh as on the date of commercial operation of Unit-II have been included in the capital cost claimed by the petitioner. In terms of Regulation 3(2) of the 2009 regulations, the term 'expenditure incurred' should not include commitments/liabilities and hence, the above amounts have been deducted to arrive at the capital cost for the purpose of tariff. The outstanding liability of Rs.19904.08 lakh as on 21.10.2009 would however, be considered at the time of truing up, based on the amounts discharged for the purpose of tariff.

31. Taking into consideration the above, the capital cost for the purpose of tariff as on the date of commercial operation of the Units I and II of the generating station, is worked out as under:

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Particulars	(Rs in lakh)	
	Date of commercial operation of Unit-I (22.4.2009)	Date of commercial operation of Unit-II (21.10.2009)
Capital cost claimed	166079.39	244397.90
<b>Less:</b> IDC included	15711.77	26779.13
<b>Less:</b> Liabilities included	13869.69	19904.08
	<b>136497.93</b>	<b>197714.69</b>
<b>Add:</b> IDC allowed	15711.77	26779.13
Adjustment towards sale of infirm power (certified by SLDC on provisional)	-	118.85
<b>Capital cost allowed</b>	<b>152209.70</b>	<b>224612.67</b>

**Projected Additional Capital Expenditure:**

32. The estimated additional capital expenditure claimed by the petitioner is as under:

(Rs. in lakh)					
2009-10 (21.10.2009 to 31.3.2010)	2010-11	2011-12	2012-13	2013-14	Total
10665.12	15681.85	14613.03	-	-	40960.00

33. The claim of the petitioner as estimated additional capital expenditure is Rs. 40960 lakh for the period 2009-12 i.e. up to the cut-off date of the generating station. The additional capitalization relate mainly to the works of main plant package of Rs.18240.00 lakh deferred for execution, initial spares for Rs. 7000.00 lakh, switchyard work of Rs. 1500.00 lakh, coal handling plant including MGR for Rs. 2600.00 lakh, ash related works for Rs. 607.00 lakh, township expenditure for Rs. 8187 lakh, works relating to other packages for Rs.5199 lakh and land cost for Rs. 1720 lakh within the original scope of work.

34. The deferred works are the left over works of the different packages within the original scope of approved project cost and which are to be completed within the cut-off-date. It is observed that these works are essential for the generating station and hence allowed. The petitioner has not capitalized any

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amount of initial spares up to the date of commercial operation of the generating station and is hence expected to capitalize initial spares to the tune of Rs. 7000 lakh. This amount is within the ceiling limit of 2.5 % of the capital cost upto the cut-off date of the generating station and hence allowed. It is of normal practice to undertake the work relating to ash dykes in stages. The township expenditure of Rs. 8187 lakh which has been projected to be incurred during the year 2011-12, would lessen the burden on the beneficiaries during the initial tariff period and hence allowed to be capitalized. The expenditure of Rs.5199 lakh claimed in respect of other packages for the generating station is found to be in order, for a new station. Accordingly, the estimated additional capitalization of Rs.40960 lakh claimed by the petitioner, for the period 2009-12 is allowed for completion of the balance works of the generating station and would be subject to truing-up at the end of the tariff period (2012-13) with respect to the expenditure actually incurred.

35. Based on above, the capital cost approved for the purpose of tariff for the period 2009-14, is as under:

Particulars	(Rs. in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Opening capital cost	152209.70	224612.67	235277.79	250959.63	265572.67	265572.67
<b>Add:</b> Projected additional capital expenditure	0.00	10665.12	15681.85	14613.03	0.00	0.00
<b>Closing capital cost</b>	<b>152209.70</b>	<b>235277.79</b>	<b>250959.63</b>	<b>265572.67</b>	<b>265572.67</b>	<b>265572.67</b>
<b>Average capital cost</b>	<b>152209.70</b>	<b>229945.23</b>	<b>243118.71</b>	<b>258266.15</b>	<b>265572.67</b>	<b>265572.67</b>

#### Debt-Equity Ratio

36. Regulation 12 of the 2009 Regulations provides that:

" (1) For a project declared under commercial operation on or after 1.4.2009, if the

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equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff.

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

**Explanation.-** The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

37. The actual equity deployed by the petitioner as on the date of commercial operation of each unit is marginally more than 30%. As such, tariff has been computed considering the debt equity ratio of 70:30. In addition, the debt-equity ratio of 70:30 has been considered towards the financing of the projected additional capital expenditure, which would be trued-up based on actual funding.

#### **Return on Equity**

38. Regulation 15 of the 2009 Regulations provides that:

(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation.

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in Appendix-II.

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with

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the normal tax rate for the year 2008-09 applicable to the concerned generating company or the transmission licensee, as the case may be.

Provided that return on equity with respect to the actual tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be tried up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where  $t$  is the applicable tax rate in accordance with clause (3) of this regulation.

39. Return on equity has been worked out @17.481% per annum on the normative equity after accounting for the additional capital expenditure, considering the base rate of 15.5% and MAT rate of 11.33%. Return on equity has been worked out as under:

	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	45662.91	67383.80	70583.34	75287.89	79671.80	79671.80
Addition due to Additional Capitalization	-	3199.54	4704.55	4383.91	-	-
Closing Equity	45662.91	70583.34	75287.89	79671.80	79671.80	79671.80
Average Equity	45662.91	68983.57	72935.61	77479.84	79671.80	79671.80
Return on Equity (Base Rate )	15.500%	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year 2008-09 (MAT)	11.330%	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity (Pre-Tax )	17.481%	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)- Annualized	<b>7982.13</b>	<b>12058.70</b>	<b>12749.54</b>	<b>13543.90</b>	<b>13927.07</b>	<b>13927.07</b>

#### Interest on loan

40. Regulation 16 of the 2009 Regulations provides that:

“(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.

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(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered.

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.

41. The interest on loan has been computed as under:

(a) The gross normative loan corresponding to 70% of the admitted capital cost works out to Rs.106546.79 lakh as on 22.4.2009 (date of commercial operation of Unit-I and Rs.157228.87 lakh as on 21.10.2009 (date of commercial operation of Unit-II and generating station)

(b) The net loan opening as on 22.4.2009 is same as the gross loan as cumulative repayment of loan up to this date is 'nil'.

(c) The rate of interest considered in case of all loans is on annual rest basis.

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(d) Actual loan portfolio considering actual repayments and additions has been taken into consideration to arrive at the weighted average rate of interest to be applied on the average normative loan during the each year of the tariff period. As the drawl for financing the additional capital expenditure is to be made at a later stage, the same would be considered at the time of truing-up.

(e) Depreciation allowed for the period has been considered as repayment.

42. The necessary calculations in support of weighted average rate of interest are appended below:

(Rs in lakh)

Sl. no.	Name of Bank	Particulars	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	1.4.2010 to 31.3.2011	1.4.2011 to 31.3.2012	1.4.2012 to 31.3.2013	1.4.2013 to 31.3.2014
1	Union Bank	Gross Loan - Opening	44500.00	44500.00	44500.00	44500.00	44500.00	44500.00
		Cumulative repayment of loan upto Previous Qtr	0.00	2022.73	4045.45	8090.91	12136.36	16181.82
		Net Loan - Opening	44500.00	42477.27	40454.55	36409.09	32363.64	28318.18
		Add: Drawl during the period	0.00	0.00				
		Less: Repayment during the period	2022.73	2022.73	4045.45	4045.45	4045.45	4045.45
		Net Loan - Closing	42477.27	40454.55	36409.09	32363.64	28318.18	24272.73
		Average Loan	43488.64	41465.91	38431.82	34386.36	30340.91	26295.46
		Rate of Interest on Loan	7.0200%	7.0200%	9.1000%	9.1000%	9.1000%	9.1000%
		Interest on Loan	3052.90	2910.91	3497.30	3129.16	2761.02	2392.89
2	Central Bank	Gross Loan - Opening	10000.00	10000.00	10000.00	10000.00	10000.00	10000.00
		Cumulative repayment of loan upto Previous Qtr	0.00	0.00	0.00	454.00	1362.00	2270.00
		Net Loan - Opening	10000.00	10000.00	10000.00	9546.00	8638.00	7730.00
		Add: Drawl during the period	0.00	0.00				
		Less: Repayment during the period	0.00	0.00	454.00	908.00	908.00	908.00
		Net Loan - Closing	10000.00	10000.00	9546.00	8638.00	7730.00	6822.00
		Average Loan	10000.00	10000.00	9773.00	9092.00	8184.00	7276.00
		Rate of Interest on Loan	7.0200%	7.0200%	7.0200%	9.1000%	9.1000%	9.1000%
		Interest on Loan	702.00	702.00	686.06	827.37	744.74	662.12
3	REC-I	Gross Loan - Opening	21500.00	21500.00	21500.00	21500.00	21500.00	21500.00
		Cumulative	0.00	0.00	2150.00	4300.00	6450.00	8600.00

		repayment of loan upto Previous Qtr						
		Net Loan - Opening	21500.00	21500.00	19350.00	17200.00	15050.00	12900.00
		Add: Drawl during the period	0.00	0.00				
		Less: Repayment during the period	0.00	2150.00	2150.00	2150.00	2150.00	2150.00
		Net Loan - Closing	21500.00	19350.00	17200.00	15050.00	12900.00	10750.00
		Average Loan	21500.00	20425.00	18275.00	16125.00	13975.00	11825.00
		Rate of Interest on Loan	8.0000%	8.0000%	8.0000%	8.0000%	8.0000%	8.0000%
		Interest on Loan	1720.00	1634.00	1462.00	1290.00	1118.00	946.00
<b>4</b>	<b>REC-II</b>	Gross Loan - Opening	97000.00	97000.00	107000.00	107000.00	107000.00	107000.00
		Cumulative repayment of loan upto Previous Qtr	0.00	0.00	10700.00	21400.00	32100.00	42800.00
		Net Loan - Opening	97000.00	97000.00	96300.00	85600.00	74900.00	64200.00
		Add: Drawl during the period	0.00	10000.00				
		Less: Repayment during the period	0.00	10700.00	10700.00	10700.00	10700.00	10700.00
		Net Loan - Closing	97000.00	96300.00	85600.00	74900.00	64200.00	53500.00
		Average Loan	97000.00	96650.00	90950.00	80250.00	69550.00	58850.00
		Rate of Interest on Loan	9.0000%	9.0000%	9.0000%	9.0000%	9.0000%	9.0000%
		Interest on Loan	8730.00	8698.50	8185.50	7222.50	6259.50	5296.50
<b>5</b>	<b>UBI-II (Unsecured Loan)</b>	Gross Loan - Opening	0.00	11000.00	11000.00	11000.00	11000.00	11000.00
		Cumulative repayment of loan upto Previous Qtr	0.00	0.00	0.00	825.00	1925.00	3025.00
		Net Loan - Opening	0.00	11000.00	11000.00	10175.00	9075.00	7975.00
		Add: Drawl during the period	11000.00	0.00				
		Less: Repayment during the period	0.00	0.00	825.00	1100.00	1100.00	1100.00
		Net Loan - Closing	11000.00	11000.00	10175.00	9075.00	7975.00	6875.00
		Average Loan	5500.00	11000.00	10587.50	9625.00	8525.00	7425.00
		Rate of Interest on Loan	11.0000%	11.0000%	11.0000%	11.0000%	11.0000%	11.0000%
		Interest on Loan	605.00	1210.00	1164.63	1058.75	937.75	816.75
<b>6</b>	<b>G. Total</b>	Gross Loan - Opening	173000.00	184000.00	194000.00	194000.00	194000.00	194000.00
		Cumulative repayment of loan upto Previous Qtr	0.00	2022.73	16895.45	35069.91	53973.36	72876.82
		Net Loan - Opening	173000.00	181977.27	177104.55	158930.09	140026.64	121123.18
		Add: Drawl during the period	11000.00	10000.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	2022.73	14872.73	18174.45	18903.45	18903.45	18903.45
		Net Loan - Closing	181977.27	177104.55	158930.09	140026.64	121123.18	102219.73
		Average Loan	177488.64	179540.91	168017.32	149478.36	130574.91	111671.46
		Weighted Average Rate of Interest	8.3441%	8.4412%	8.9250%	9.0500%	9.0531%	9.0572%
		Interest on Loan	14809.90	15155.41	14995.49	13527.78	11821.02	10114.25

43. The computation of interest on loan by applying weighted average



interest rate is appended herein below:

**COMPUTATION OF INTEREST ON LOAN**

(Rs in lakh)

Interest on loan	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Gross Notional Loan	106546.79	157228.87	64694.45	175671.74	185900.87	185900.87
Cumulative Repayment of Loan upto previous year	-	4139.80	9534.93	22387.03	36039.87	50078.96
Net Opening Loan	106546.79	153089.07	155159.52	153284.71	149861.00	135821.91
Addition due to Additional Capitalization	-	7465.58	10977.29	10229.12	-	-
Repayment of Loan during the period	4139.80	5395.13	12,852.09	13652.84	14039.09	14039.09
Net Closing Loan	102406.99	155159.52	153284.71	149861.00	135821.91	121782.82
Average Loan	104476.89	154124.29	154222.12	151572.86	142841.45	128802.37
Weighted Average Rate of Interest on Loan	8.3441%	8.4412%	8.9250%	9.0500%	9.0531%	9.0572%
<b>Interest on Loan</b>	<b>8717.70</b>	<b>13009.94</b>	<b>13764.27</b>	<b>13717.33</b>	<b>12931.51</b>	<b>11665.82</b>

**Depreciation**

44. Regulation 17 of the 2009 regulations provides that:

(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site.

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system.

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting 3[the cumulative depreciation including

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Advance against Depreciation] as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

45. In terms of the above, depreciation has been calculated considering the weighted average rate of depreciation of 5.4545% for the period upto 20.10.2009 and the weighted average rate of depreciation of 5.2863% from the date of commercial operation, on the admitted average capital cost during the respective years of the tariff period. The rate of depreciation used for individual assets has been considered as per appendix-III of the 2009 regulations based on the information furnished in respect of the individual assets, in the petition. Accordingly, depreciation has been worked out as under:

	(Rs in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Opening capital cost	152209.70	224612.67	235277.79	250959.63	265572.67	265572.67
<b>Add:</b> Projected additional capital expenditure	0.00	10665.12	15681.85	14613.03	0.00	0.00
Closing capital cost	152209.70	235277.79	250959.63	265572.67	265572.67	265572.67
Average capital cost	152209.70	229945.23	243118.71	258266.15	265572.67	265572.67
Rate of Depreciation	5.4545%	5.2863%	5.2863%	5.2863%	5.2863%	5.2863%
Depreciable value @ 90% including amortization of lease land in 25 yrs.	136988.73	206950.70	218806.84	232439.53	239015.40	239015.40
Remaining Depreciable Value	136988.73	202810.90	209271.91	210052.51	202975.53	188936.44
Depreciation (for the period)	4139.80	5395.13	12852.09	13652.84	14039.09	14039.09
<b>Depreciation (Annualized)</b>	<b>8302.35</b>	<b>12155.70</b>	<b>12852.09</b>	<b>13652.84</b>	<b>14039.09</b>	<b>14039.09</b>

#### O&M Expenses

46. The 2009 regulations lay down the following O&M expense norms for 250 MW units:

Year	(Rs. lakh/ MW)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	18.20	19.24	20.34	21.51	22.74

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47. Based on above table, the year wise O&M expenses for the generating station of 500 MW capacity (2 x 250 MW) as claimed by the petitioner is as under:

Year	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	(Rs. in lakh) 2013-14
O&M expenses	4550 ( Annualised)	9100 ( Annualised)	9620	10170	10755	11370

48. The normalized O&M expenses as specified in the 2009 regulations include water charges also. As stated earlier, the petitioner has been allowed to capitalize for the purpose of tariff, the amount of Rs.110 crore paid as advance to the Water Resources Department, State Govt. of Chhattisgarh. The petitioner has submitted that considering the prevailing rate for industrial water, the amount of Rs. 110 crore should be adjusted against the annual water charges for a period of about 18-19 years, by the State Govt. of Chhattisgarh, which works out to Rs.5.78 crore/year (Rs.110 crore/19 yrs.). The petitioner has also clarified that the standard rate of water charges claimed by the Water Resources Department, State Govt. of Chhattisgarh was Rs.3.60 / cubic meter, effective from 1.4.2006. The water requirement for the generating station was 0.6 TMC/year which works out to 16.2 million cubic meters. Water charges at the rate of Rs.3.60/cubic meter works out to Rs. 5.80 crore/year which is similar to the rate worked out on the basis of adjustment of the advance payment of Rs.110 crore for 19 years. The petitioner has further clarified that the Water Resources Department has not granted any concession in the water charges, despite the advance deposit of Rs. 110 crore.

49. Considering the fact that the deposit of Rs. 110 crore was to be adjusted against the water charges payable by the petitioner, the water charges per MW/year considering the adjustment of Rs.110 crore for a period of 19 years, works out to Rs.1.16 lakh/MW. Hence, it is proposed to deduct the amount of Rs.

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1.16 lakh /MW from the O&M expense norms specified for the period 2009-10 to 2013-14 for arriving at the O&M expenses for the generating station. Accordingly, the O&M expense norms applicable for the generating station is as under:

Year	(Rs lakh/MW)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	17.04	18.08	19.18	20.35	21.58

50. In view of the above, the O&M expenses allowed for the generating station for the period 2009-14 is as under:

Year	(Rs. in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
O&M expenses	4260 (Annualised)	8520 (Annualised)	9040	9590	10175	10790

51. The petitioner has submitted that O&M charges for dedicated transmission lines and sub-stations /bays for captive power generating station has not been provided in the O&M expenses for thermal power generating stations under the 2009 regulations specified by the Commission. Hence, the petitioner has claimed the following O&M expenses for the dedicated transmission line:

Particulars	(Rs in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
No. of km. of double circuit line	13.794	13.794	13.794	13.794	13.794
Norms/km for transmission line	0.627	0.663	0.701	0.741	0.783
O&M expenses for Transmission line (Rs in lakh)	8.60	9.10	9.70	10.20	10.80
No. of Bays	7	7	7	7	7
Norms/bay	52.40	55.40	58.57	61.92	65.46
<b>O&amp;M expenses for Bays</b>	<b>367</b>	<b>388</b>	<b>410</b>	<b>433</b>	<b>458</b>

52. The petitioner has submitted that out of the 7 no. of bays for associated transmission system, 3 no. of bays fall within the side of the petitioner and the rest 4 no. of bays fall within the Raipur sub-station of Power Grid Corporation of India (PGCIL) for connection to the double bus scheme. The petitioner has also submitted that the assets included in the 4 bays at Raipur sub-station belonged to the petitioner and it has awarded the O&M contract to PGCIL for O&M of these 4 bays. The submission of the petitioner is found to be in order and the O&M

expenses claimed is allowed. Accordingly, the total O&M expenses allowed for the generating station and transmission system is as under :

(Rs in lakh)

Particulars/Year	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Generating station	4260 (annualized)	8520 (annualized)	9040	9590	10175	10790
Sub-station (400 kV)	366.80	366.80	387.80	409.99	433.44	458.22
AC lines D/C (Twin Conductor)	8.65	8.65	9.15	9.67	10.22	10.80
<b>Annualized O&amp;M expenses</b>	<b>4635</b>	<b>8895</b>	<b>9437</b>	<b>10010</b>	<b>10619</b>	<b>11259</b>

### Interest on Working Capital

53. In accordance with sub-clause (a) of clause(1) of Regulation 18 of the 2009 regulations, working capital in case of Coal based/Lignite fired generating stations shall cover:

- (i) Cost of coal or lignite and limestone, if applicable for one and half months for pit-head generating stations and two months for non pit-head generating stations, for generation corresponding to the normative annual plant availability factor;
- (ii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
- (iii) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 19;
- (iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor, and
- (v) Operation and maintenance expenses for one month.

54. Clause (2) of Regulation 18 of the 2009 regulations provides that the cost of fuel covered under sub-clause (a) of clause (1) above shall be based on the

landed cost incurred (taking into account the normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

55. Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the rate of interest on working capital shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1<sup>st</sup> April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

56. Working capital has been calculated considering the following elements:

**(a) Fuel component in working capital**

57. The petitioner has claimed the cost for fuel component in working capital, based on the Price and GCV of coal and secondary fuel oil (HFO & LDO) procured and burnt for preceding three months from the date of commercial operation of the generating station (21.10.2009) i.e. July, 2009 August, 2009 and September, 2009, as under:

Description/ Year	(Rs.in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12 (leap year)	2012-13	2013-14
Cost of coal for 2 months	2682	7534	7534	7555	7534	7534
Cost of secondary fuel oil for 2 months	62	165	165	165	165	165

58. The fuel component of the working capital claimed for the period from 22.4.2009 to 20.10.2009 for Unit –I of the generating station is based on the Price and GCV of fuels for the succeeding three months i.e. April, 2009 to June, 2009.

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The petitioner was directed to furnish the Price and GCV of fuels for the preceding three months i.e. from February 2009 to April, 2009. The petitioner by its affidavit dated 15.2.2009 has submitted that the actual measurement of GCV of fuels for the generating station has been effected only from April, 2009.

59. Clause (2) of Regulation 20 of the 2009 regulations provides as under:

"Initially, the landed cost incurred by the generating company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the year.

The secondary fuel oil expenses shall be subject to fuel price adjustment at the end of the each year of tariff period as per following formula:

$$\text{SFC} \times \text{NAPAF} \times 24 \times \text{NDY} \times \text{IC} \times 10 \times (\text{LPSFy} - \text{LPSFi})$$

Where,

LPSFy = The weighted average landed price of secondary fuel oil for the year in Rs. /ml

60. In the absence of the details of the landed cost of secondary fuel oil for the preceding three months in the present case, the latest procurement price as on April 2009, (the date of commercial operation of the generating station) has been considered for computing the liquid fuel and for calculating the expenses on Secondary oil. Though the petitioner has not specified the GCV of oil (HFO) for the month of April, 2009 in the petition, it has subsequently, by letter dated 12.7.2010 clarified that the GCV of oil (HFO) was 10700 Kcal/ litre.

61. Similarly, in the absence of details of the Price and GCV of coal for the preceding three months, the price and GCV of coal for the month of April, 2009 has been considered for computing the coal component in the working capital. In terms of the 2009 regulations, the provisional energy charges are to be calculated monthly as per the formula for Energy Charge Rate (ECR) provided

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under sub-clause (a) of clause (6) of Regulation 21, based on the weighted landed cost and GCV of coal during the month. Hence, Energy Charge Rate is not dependant on the weighted Price and GCV of coal for the preceding three months, either from 1.4.2009 or from the date of commercial operation of the generating unit/station.

62. The petitioner has considered the cost of secondary fuel oil based on HFO and LDO stock. HSD/LDO is used only during cold boiler start up. Hot start ups and flame stability during low load conditions are taken care of by HFO which is the main secondary fuel oil. Since HFO is the main secondary fuel oil, it should only be considered for the computation of working capital requirement and base rate of energy charge. Therefore, HFO has been allowed as secondary fuel oil for the purpose of base rate of energy charge.

63. Accordingly, the weighted average prices and GCVs of fuels adopted in our calculations for the fuel component of working capital and energy charges is as under:

<b>Description</b>	<b>22.4.2009 to 20.10.2009</b>	<b>21.10.2009 to 31.3.2010</b>
Coal Price (Rs./MT)	1165.158	1775.740
Coal GCV (Kcal/kg.)	2986.89	3566.50
Price of Secondary fuel oil (Rs./KL)	18105.48 (HFO only)	26453.30 (HFO only)
GCV of Secondary fuel oil (Kcal./KL)	10700 (HFO )	10713 (HFO )

64. The design heat rate submitted by the petitioner in Form-2 of the petition is 2300 kCal/kWh. Considering this, the Station Heat Rate has been worked out to 2449.50kCal/kWh, in terms of sub-clause (b) of clause (ii) of the 2009 regulations.



65. Based on the weighted average of GCV as above and Station Heat Rate (SHR) of 2449.50 kCal/kWh, the cost of coal and secondary fuel oil for two months works out as under:

Particulars	(Rs. in lakh)					
	22.4.2009	21.10.2009	2010-11	2011-12	2012-13	2013-14
Cost of coal for 2 months	2952.43	7534.47	7534.47	7555.11	7534.47	7534.47
Cost of secondary fuel oil for 2 months	56.17	164.14	164.14	164.59	164.14	164.14

**(b) Maintenance Spares**

**(i) Generating Station:**

66. In terms of Regulation 18(1)(a)(iii), working capital shall cover maintenance spares @ 20% of the operation & maintenance expenses specified in regulation 19. Accordingly, the maintenance spares is worked out as under:

Year	(Rs in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Maintenance spares	852	1704	1808	1918	2035	2158

**(ii) Transmission system:**

67. In terms of Regulation 18(1)(c)(ii), working capital shall cover maintenance spares @ 15% of the operation and maintenance expenses specified in Regulation 19. Accordingly, the maintenance spare for transmission system is worked out as under:

Year	(Rs in lakh)					
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Maintenance spares	56.32	56.32	59.54	62.95	66.55	70.35

68. Based on the above, the total maintenance spares allowed is as under:

(Rs in lakh)

Year	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Total maintenance spares	908	1760	1868	1981	2102	2228

**(c) Receivables:** Receivables equivalent to two months of capacity charge and energy charge for sale of electricity has been calculated on normative plant availability factor. Accordingly, receivables on the basis of two months of fixed and energy charges (based on primary fuel only) are worked out as under:

(Rs in lakh)

Receivables	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	2952.43	7534.47	7534.47	7555.11	7534.47	7534.47
Fixed Charges - 2 months	5251.12	8384.03	8843.70	9209.24	9312.31	9209.67
<b>Total</b>	<b>8203.55</b>	<b>15918.50</b>	<b>16378.18</b>	<b>16764.35</b>	<b>16846.78</b>	<b>16744.14</b>

**(d) O&M Expenses:** Regulation 18(1)(a)(v) and Regulation 18(1)(c)(iii) of the 2009 regulations provides for Operation & Maintenance expenses for 1 month as part of working capital for coal based generating station and transmission system respectively. Accordingly, the operation & maintenance expenses for 1 month in respect of the generating station and the transmission system, works out as under:

(Rs in lakh)

Year	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
O & M expenses	386	741	786	834	885	938

69. SBI PLR of 12.25% has been considered in the computation of the interest on working capital.

70. Necessary computations in support of calculation of interest on working capital is as under:

(Rs. in lakh)

	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Coal Stock- 2 months	2952.43	7534.47	7534.47	7555.11	7534.47	7534.47
Oil stock -2 months	56.17	164.14	164.14	164.59	164.14	164.14
O & M expenses	386.29	741.29	786.41	834.14	884.89	938.25
Spares	927.09	1779.09	1887.39	2001.93	2123.73	2251.80
Receivables	8203.55	15918.50	16378.18	16764.35	16846.78	16744.14
Total Working Capital	12506.76	26118.72	26730.74	27299.15	27531.83	27609.36
Rate of Interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Total Interest on Working capital	<b>1532.08</b>	<b>3199.54</b>	<b>3274.52</b>	<b>3344.15</b>	<b>3372.65</b>	<b>3382.15</b>

### Cost of secondary fuel oil

71. Clause (1) of Regulation 20 of the 2009 regulations provides as under:

"20. Expenses on secondary fuel oil consumption for coal-based and lignite-fired generating station. (1) Expenses on secondary fuel oil in Rupees shall be computed corresponding to normative secondary fuel oil consumption (SFC) specified in clause (iii) of regulation 26, in accordance with the following formula:

SFC – Normative Specific Fuel Oil consumption in ml/kWh

= SFC x LPSFi x NAPAF x 24 x NDY x IC x 10

Where,

LPSFi – Weighted Average Landed Price of Secondary Fuel in Rs/ml considered initially.

NAPAF – Normative Annual Plant Availability Factor in percentage

NDY – Number of days in a year

IC - Installed Capacity in MW.

72. Accordingly, the cost of secondary fuel oil has been calculated on the normative specific fuel oil consumption, the weighted average landed price of secondary fuel oil price and NAPF of 85% (in terms of Regulation 26) as under:

(Rs in lakh)

Year	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010	2010-11	2011-12	2012-13	2013-14
Cost of secondary fuel oil (coal-based generating stations)	337.03	984.86	984.86	987.55	984.86	984.86

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73. The cost of secondary fuel oil arrived at as above shall be subject to fuel price adjustment at the end of each year of tariff period in terms of the proviso to Regulation 20(2) as per the following formula:

$$\text{SFC} \times \text{NAPAF} \times 24 \times \text{NDY} \times \text{IC} \times 10 \times (\text{LPSFy} - \text{LPSFi})$$

Where,

LPSFy = The weighted average landed price of secondary fuel oil for the year in Rs./ml

#### Compensation Allowance

74. In terms of Regulation 19 (e) of the 2009 regulations, no compensation allowance is admissible, as the generating station has come into operation during April 2009.

#### Target Availability

75. The Target Availability of the generating station, considered for the period 1.4.2009 to 31.3.2014 is 85%.

#### Annual fixed charges

76. The annual fixed charges approved in respect of the generating station for the period 2009-14, is as under:

Particulars	(Rs. in lakh)					
	2009-10		2010-11	2011-12	2012-13	2013-14
	22.4.2009 to 20.10.2009	21.10.2009 to 31.3.2010				
Return on Equity	7982.13	12058.70	12749.54	13543.90	13927.07	13927.07
Interest on Loan	8717.70	13009.94	13764.27	13717.33	12931.51	11665.82
Depreciation	8302.35	12155.70	12852.09	13652.84	14039.09	14039.09
O&M Expenses	4635.45	8895.45	9436.95	10009.66	10618.66	11259.02
Interest on Working Capital	1532.08	3199.54	3274.52	3344.15	3372.65	3382.15
Cost of secondary fuel oil	337.03	984.86	984.86	987.55	984.86	984.86
Compensation allowance	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>31506.73</b>	<b>50304.19</b>	<b>53062.22</b>	<b>55255.43</b>	<b>55873.83</b>	<b>55258.00</b>

**Note:** (1) All figures are on annualized basis.  
(2) All the figures under each and the figure in total column in each year has been rounded.

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77. Annual fixed charges as calculated above shall be trued up at the end of the tariff period as per the provisions of Regulation 6 of the 2009 regulations.

**Energy /Variable Charge**

78. Sub-clause (a) of clause (6) of Regulation 21 of the 2009 regulations provides that the Energy Charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the formulae as under:

**(a) For coal based and lignite fired stations**

$$ECR = \{[(GHR - SFC \times CVSF) \times LPPF / CVPF + LC \times LPL] \times 100 / (100 - AUX)\}$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC = Specific fuel oil consumption, in ml per kWh.

79. For calculating the Energy Charge Rate, the following norms are approved and applied:

Description	Unit	Norm
Gross Station Heat Rate of the generating station	Kcal/kWh	2450
Auxiliary Energy Consumption	%	9

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### Base Rate of Energy Charge

80. The base rate of energy charge for the generating station for the period from 22.4.2009 to 31.3.2014, has been worked out based on the following computations:

Description	Unit	2009-10 ( from 22.4.2009 to 20.10.2009)	2009-10 to 2014 (21.10.2009 to 31.3.2014)
Capacity	MW	250	500
Gross Station Heat Rate	kCal/kWh	2450.00	2450.00
Aux. Energy Consumption	%	9.00	9.00
Weighted Average GCV of Oil	kCal/l	10700	10713
Weighted Average GCV of Coal	kCal/Kg	2986.89	3567
Weighted Average Price of Oil	Rs./KL	18105.48	26453.30
Weighted Average Price of Coal	Rs./MT	1165.158	1775.74
Rate of Energy Charge ex-bus per kWh Sent	Paise/kWh	104.566	133.444

81. However, energy charge on month to month basis will be billed by the petitioner as per Regulation 21 (5) of the 2009 regulations which is extracted below:

*"21 (5) The energy charge shall cover the primary fuel cost and limestone consumption cost (where applicable), and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). Total Energy charge payable to the generating company for a month shall be:*

*{Energy charge rate in Rs /kWh} x {Scheduled energy (ex-bus) for the month in kWh.}*"

82. The petitioner shall be entitled to compute and recover the annual fixed charges and energy charges in accordance with Regulation 21 of the 2009 regulations.

### Application fee and the publication expenses

83. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition and for the expenses incurred for publication of notices in connection with the petition.

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84. Regulation 42 of the 2009 regulations provides as under:

*"The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the transmission customers, as the case may be."*

85. The Commission in its order dated 11.1.2010 in Petition No.109/2009 (pertaining to approval of tariff for SUGEN power plant for the period from DOCO to 31.3.2014) had decided that filing fees in respect of main petitions for determination of tariff and the expenses on publication of notices are to be reimbursed.

86. Accordingly, the expenses incurred by the petitioner on application filing fees for the years 2009-10 and 2010-11 and publication of notices in connection with the present petition shall be directly recovered from the beneficiaries, on pro rata basis, on production of documentary proof.

87. This order disposes of Petition No.308/2009.

Sd/-  
**(M. DEENA DAYALAN)**  
MEMBER

sd/-  
**(V.S.VERMA)**  
MEMBER

sd/-  
**(S.JAYARAMAN)**  
MEMBER

sd/-  
**(DR.PRAMOD DEO)**  
CHAIRPERSON