

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 280/TT/2015

Coram:

**Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

**Date of Hearing : 14.03.2016
Date of Order : 31.03.2016**

In the matter of:

Determination of transmission tariff of **Asset-I:** Balance portion of 400 kV D/C Maithan Gaya transmission line CKT II including multi circuit, **Asset-II:** Balance portion of 400 kV D/C Maithan Gaya transmission line CKT I including multi circuit, **Asset-III:** 1 no. 400 kV Line Bay at 765/400 kV Gaya Sub-station (Koderma II Bay) and **Asset IV:** 765 kV Line Bay at 765/400 kV Gaya Sub-station associated with 765 kV S/C Gaya Balia transmission line under common scheme for 765 kV pooling stations and network for NR, import by NR from ER and from NER/SR/WR via ER and common scheme for network for WR and import by WR from ER and from NER/SR/WR via ER in Eastern Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited
Vidyut Bhawan, Vidyut Marg,
Jaipur – 302 005
2. Ajmer Vidyut Vitran Nigam Limited
400 KV GSS Building (Ground floor), Ajmer Road,
Heerapura, Jaipur



3. Jaipur Vidyut Vitran Nigam Limited
400 KV GSS Building (Ground floor), Ajmer Road,
Heerapura, Jaipur
 4. Jodhpur Vidyut Vitran Nigam Limited
400 KV GSS Building (Ground floor), Ajmer Road,
Heerapura, Jaipur
 5. Himachal Pradesh State Electricity Board
Vidyut Bhawan, Kumar House Complex Building II
Shimla – 171 004
 6. Punjab State Electricity Board
Thermal Shed TIA, Near 22 Phatak,
Patiala – 147 001
 7. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6
Panchkula (Haryana) – 134 109
 8. Power Development Department
Govt. of Jammu & Kashmir,
Mini Secretariat, Jammu
 9. Uttar Pradesh Power Corporation Limited
(Formerly Uttar Pradesh State Electricity Board)
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226 001
 10. Delhi Transco Limited
Shakti Sadan, Kotla Road,
New Delhi – 110 002
 11. BSES Yamuna Power Limited
BSES Bhawan, Nehru Place,
New Delhi
 12. BSES Rajdhani Power Limited
BSES Bhawan, Nehru Place,
New Delhi
 13. North Delhi Power Limited
Power Trading & Load Dispatch group
Cennet Building, Adjacent to 66/11 KV Pitampura-3
Grid Building, Near PP Jewellers,
Pitampura, New Delhi – 110 034
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14. Chandigarh Administration
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Limited
Urja Bhawan, Kanwali Road,
Dehradun
16. North Central Railway
Allahabad
17. New Delhi Municipal Council
Palika Kendra, Sansad Marg,
New Delhi – 110 002
18. Bihar State Power (Holding) Company Ltd.,
(Formerly Bihar State Electricity Board), Vidyut Bhawan,
Bailey Road, Patna-800001
19. West Bengal State Electricity Distribution Company
Bidyut Bhawan, Bidhan Nagar, Block DJ, Sector-II,
Salt Lake City, Calcutta-700091
20. Grid Corporation of Orissa Ltd.,
Shahid Nagar, Bhubaneshwar-751007
21. Damodar Valley Corporation, DVC Tower,
Maniktala, Civic Centre, VIPO Road,
Calcutta-700054
22. Power Department, Govt. of Sikkim,
Gangtok-737101
23. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834002

.....Respondents

The following were present:

For Petitioner: Shri S.S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri Aryaman Saxena, PGCIL
 Shri M.M. Mondal, PGCIL



For Respondent: Shri Manoj Kumar Sharma, Advocate, Rajasthan Discoms
Shri Pradeep Mishra, Advocate, Rajasthan Discoms

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. (“the petitioner”) for determination of tariff for Balance portion of 400 kV D/C Maithan Gaya transmission line CKT II including multi circuit (referred as “**Asset I**”), Balance portion of 400 kV D/C Maithan Gaya transmission line CKT I including multi circuit (referred as “**Asset II**”), 1 no. 400 kV Line Bay at 765/400 kV Gaya Sub-station (Koderma II Bay) (referred as “**Asset III**”) and 765 kV Line Bay at 765/400 kV Gaya Sub-station associated with 765 kV S/C Gaya Balia transmission line (referred as “**Asset IV**”) under common scheme for 765 kV pooling stations and network for NR, import by NR from ER and from NER/SR/WR via ER and common scheme for network for WR and import by WR from ER and from NER/SR/WR via ER in Eastern Region (hereinafter referred as “transmission asset”) under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from COD of respective assets to 31.3.2019.

2. The respondents are distribution licensees or electricity departments or power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Eastern Region and Northern Region.



3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). The petitioner in original petition had submitted the Auditor’s Certificate and tariff forms for Asset-IV. For Asset-I, II and III, the tariff forms were submitted on the basis of Management Certificate. Accordingly, the petitioner was directed to submit Auditor’s Certificate, revised tariff forms for Asset-I, II & III. Further, the petitioner was directed to submit the RLDC certificates in support of trial operation or commercial operation date for Asset-I, II, III and IV. In response, the petitioner, vide its affidavit dated 21.3.2016, has submitted the revised tariff forms along with Auditor’s Certificates dated 11.3.2016 for Asset-I, II & III. The petitioner has also submitted the RLDC certificates for Asset-I&II. No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 14.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

4. The brief facts of the case are as follows:-

- (a) Investment approval was accorded by Board of Directors of the petitioner vide the Memorandum No. C/CP/DVC and Maithon RB Project dated 29.8.2008 at an estimated cost of ₹707533 lakh, which included IDC of ₹71360 lakh. Subsequently, Revised Cost Estimate (RCE) was approved by Board of Directors of the petitioner, vide Memorandum No. C/CP/RCE-



DVC and Maithon RB Project dated 11.3.2016 at an estimated cost of ₹657044 lakh, which included IDC of ₹67714 lakh (based on December 2015 price level).

(b) The scope of work covered under the project is as follows:-

Transmission Lines:

- 1) Maithon-Gaya 400 kV Quad D/C line along with multi ckt portion in common forest stretch
- 2) Gaya — Sasaram 765 kV S/C line
- 3) Gaya- Balia 765 kV S/C line
- 4) Balia- Lucknow 765 kV S/C line
- 5) Ranchi- WR Pooling Station {Sipat} 765 kV S/C line
- 6) Lucknow 765 / 400 kV new Sub-station - Lucknow 400/220 kV existing Sub-station 400 kV quad D/C line
- 7) Ranchi 765/400 kV new Sub-station — Ranchi 400/220 kV existing sub-station 400 kV Quad 2 x D/C line
- 8) LILO of both circuits of Allahabad- Mainpuri 400 kV D/C line at Fatehpur 765/400 kV Sub-station of POWERGRID
- 9) LILO of Barh- Balia 400 kV Quad D/C line at Patna

Substations:-

- 1) Augmentation of Maithon 400/220 kV Sub-station
 - 2 nos. of 400 kV line bays (for terminating Maithon-Gaya D/C line)
 - 2 nos. of 400 kV line bays (for terminating Mejia-Maithon D/C line)
- 2) New 765/400 kV Sub-station at Gaya
 - 3 x 1500 MVA, 765/400 kV Transformer along with associated bays
 - 2 nos. of 765 kV line bays (for Gaya-Sasaram/Fatehpur & Gaya-Balia 765 kV lines)
 - 4 nos. of 400 kV line bays (for Maithon-Gaya line & Kodarma-Gaya line)
- 3) New 765/400 kV Sub-station at Sasaram
 - 2x1500 MVA, 765/400 kV Transformer along with associated bays
 - 2 nos. of 400 kV bays (for Biharsharif- Sasaram 400 kV quad D/C line)
- 4) Augmentation of Biharsharif 400/220 kV Sub-station
 - 2 nos. of 400 kV bays (for Biharsharif - Sasaram 400 kV Quad D/C line)
- 5) New 765/400 kV Sub-station at Fatehpur
 - 2x1500 MVA, 765/400 kV Transformer along with associated bays



- 2 nos. of 765 kV line bays (for Sasaram- Fatehpur & Fatehpur-Agra 765 kV lines)
- 4 nos. of 400 kV line bays (for LILO of Allahabad-Mainpuri 400 kV D/C line)
- 6) Augmentation of 400 kV Agra Sub-station to 765 kV
 - 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 1 no. of 765 kV line bay (for Fatehpur-Agra 765 kV line)
- 7) Augmentation of 400 kV Balia Sub-station to 765 kV
 - 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 2 nos. of 765 kV line bay (for Gaya-Balia & Balia-Lucknow 765 kV lines)
- 8) New 765/400 kV Sub-station at Lucknow
 - 2x1500 MVA, 765/400 kV transformer along with associated bays
 - 1 nos. of 765 kV line bay (for Balia-Lucknow 765 kV line)
 - 2 nos. of 400 kV bays (for Lucknow 765/400 kV new Sub-station - Lucknow 400/220 kV existing Sub-station 400 kV quad D/C line)
- 9) Augmentation of existing Lucknow 400/220 kV Sub-station
 - 2 nos. of 400 kV bays (for Lucknow 765/400 kV new Sub-station —Lucknow 400/220 kV existing Sub-station 400 kV quad D/C line)
- 10) New 2x1500 MVA, 765/400 kV Sub-station at Ranchi
 - 1 no. of 765 kV line bays (for Ranchi-WR Pooling 765 kV S/C line)
 - 4 nos. of 400 kV bays (for Ranchi 400 kV new Sub-station — Ranchi 400/220 kV existing Sub-station 400 kV quad 2 x D/C line)
- 11) Augmentation of Ranchi 400/220 kV Sub-station
 - 6 nos. of 400 kV bays (4 nos. for Ranchi 765/400 kV new Sub-station — Ranchi 400/220 kV existing Sub-station 400 kV (quad) 2 x D/C line and 2 nos. for Raghunathpur TPS Ranchi line)
- 12) 765/400 kV WR Pooling Sub-station
 - 1 no. of 765 kV line bays (for Ranchi - WR Pooling 765 kV S/C line)
- 13) Augmentation of Patna 400/220 kV Sub-station
 - 4 nos. of 400 kV line bay (for LILO of Barh-Balia 400 kV Quad line)

(c) The transmission asset was scheduled to be commissioned within 48 months from the date of investment approval i.e. 29.8.2008. Therefore, the scheduled date of commissioning (SCOD) of the transmission system



works out to 1.9.2012 against which the Asset-I, II, III and IV were put under commercial operation with effect from 8.9.2014, 30.12.2014, 30.12.2014 and 8.1.2015, respectively. Accordingly, there is time over-run of 24 months, 28 months, 28 months and 28 months for Asset-I, II, III and IV, respectively. The petitioner vide its affidavit dated 11.3.2016 has submitted the RCE for the project. Further, the petitioner, vide its affidavit dated 21.3.2016, has submitted the apportioned approved cost of the assets. The details are as given below:-

(₹ in lakh)

Asset	COD	Apportioned cost as per FR as submitted in original petition	Revised apportioned cost as per RCE
Asset-I	8.9.2014	4380.21	13468.90
Asset-II	30.12.2014	1978.18	4948.23
Asset-III	30.12.2014	488.45	792.17
Asset-IV	8.1.2015	2428.27	2249.13

(d) Provisional tariff from COD to 31.3.2016 for the assets for 2014-19 tariff period was allowed vide order dated 17.12.2015.

5. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

6. The petitioner has claimed the transmission charges as under:-



(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	355.49	649.15	660.63	665.18	665.18
Interest on Loan	422.15	725.82	679.08	623.16	562.34
Return on equity	396.09	726.79	739.64	744.74	744.74
Interest on Working Capital	28.01	48.38	47.86	46.80	45.40
O & M Expenses	18.06	0.00	0.00	0.00	0.00
Total	1219.80	2150.14	2127.21	2079.88	2017.66

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	56.57	228.93	240.41	244.96	244.96
Interest on Loan	67.02	258.38	250.73	234.02	211.91
Return on equity	63.03	256.31	269.16	274.26	274.26
Interest on Working Capital	5.74	22.98	23.55	23.59	23.29
O & M Expenses	26.21	106.05	109.56	113.21	116.96
Total	218.57	872.65	893.41	890.04	871.38

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	9.65	38.25	39.50	40.32	40.32
Interest on Loan	10.90	41.14	39.20	36.64	33.09
Return on equity	10.52	41.91	43.31	44.22	44.22
Interest on Working Capital	1.57	6.23	6.36	6.46	6.50
O & M Expenses	15.40	62.30	64.37	66.51	68.71
Total	48.04	189.83	192.74	194.15	192.84

(₹ in lakh)

Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	18.42	99.13	107.79	109.95	109.95
Interest on Loan	21.50	109.39	110.34	103.36	93.80
Return on equity	20.73	111.30	120.91	123.31	123.31
Interest on Working Capital	2.47	12.18	12.78	12.89	12.84
O & M Expenses	19.52	87.22	90.12	93.11	96.20
Total	82.64	419.22	441.94	442.62	436.10



7. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	4.80	0.00	0.00	0.00	0.00
O & M Expenses	2.67	0.00	0.00	0.00	0.00
Receivables	360.53	358.36	354.54	346.65	336.28
Total	368.00	358.36	354.54	346.65	336.28
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	49.68	48.38	47.86	46.80	45.40
Pro-rata Interest	28.01	48.38	47.86	46.80	45.40

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	15.39	15.91	16.43	16.98	17.54
O & M Expenses	8.55	8.84	9.13	9.43	9.75
Receivables	142.65	145.44	148.90	148.34	145.23
Total	166.59	170.19	174.46	174.75	172.52
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	22.49	22.98	23.55	23.59	23.29
Pro-rata Interest	5.74	22.98	23.55	23.59	23.29

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M Expenses	5.03	5.19	5.36	5.54	5.73
Receivables	31.35	31.64	32.12	32.36	32.14
Total	45.43	46.18	47.14	47.88	48.18
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	6.13	6.23	6.36	6.46	6.50
Pro-rata Interest	1.57	6.23	6.36	6.46	6.50

(₹ in lakh)

Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	12.67	13.08	13.52	13.97	14.43
O & M Expenses	7.04	7.27	7.51	7.76	8.02
Receivables	59.58	69.87	73.66	73.77	72.68



Total	79.29	90.22	94.69	95.50	95.13
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest	10.70	12.18	12.78	12.89	12.84
Pro-rata Interest	2.47	12.18	12.78	12.89	12.84

Commercial Operation Date (COD)

8. The petitioner has claimed the date of the commercial operation of the Asset-I, II, III and IV as 8.9.2014, 30.12.2014, 30.12.2014 and 8.1.2015, respectively. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

“4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

Xxx]

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations :

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

9. The petitioner vide has submitted RLDC certificate issued by ERLDC, POSOCO for Assets I to IV in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation.



10. The commercial operation date of the transmission asset has been considered as 8.9.2014, 30.12.2014, 30.12.2014 and 8.1.2015 for Asset-I, Asset-II and Asset-III and Asset-IV, respectively and the tariff is worked out from COD to 31.3.2019.

11. The petitioner was further directed to provide the Single Line Diagram (SLD) of the assets. In response, the petitioner vide its affidavit dated 10.3.2016 submitted the colored SLD of all the assets.

Capital Cost

12. The petitioner has revised capital cost vide affidavit dated 21.3.2016 as on COD as ₹11716.58 lakh for Asset-I, ₹4186.53 (=₹4204.57 lakh – accrued IDC of ₹18.04 lakh to be discharged in 2014-15) for Asset-II, ₹699.13 lakh (=₹700.66 lakh – accrued IDC of ₹1.53 lakh to be discharged in 2014-15) for Asset-III and ₹1279.59 for Asset- IV. The petitioner has also submitted Auditor's Certificates for all the assets in support of capital cost incurred up to COD.

13. Regulations 9 and 10 of the 2014 Tariff Regulations specify as follows:-

“9. Capital Cost: (1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

(2) The Capital Cost of a new project shall include the following:

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;



- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

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(6) The following shall be excluded or removed from the capital cost of the existing and new project:

- a) The assets forming part of the project, but not in use;
- b) Decapitalisation of Asset;
- c) In case of hydro generating station any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two stage transparent process of bidding; and
- d) the proportionate cost of land which is being used for generating power from generating station based on renewable energy:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

10. Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

14. As per the Auditor’s Certificates dated 11.3.2016 for Asset-I to III and 26.10.2015 for Asset-IV, the capital cost (including total IDC and IEDC and initial



spares) as on COD is ₹11716.58 lakh, ₹4204.57 lakh, ₹700.66 and ₹1279.59 lakh as on COD for Asset-I, Asset-II, Asset-III and Asset-IV, respectively.

TIME OVER-RUN

15. As per the investment approval dated 29.8.2008, the project was scheduled to be commissioned within 48 months from the date of investment approval. Hence, the assets were to be commissioned progressively upto 1.9.2012. The Asset-I, II, III and IV has been commissioned on 8.9.2014, 30.12.2014, 30.12.2014 and 8.1.2015, respectively. Hence, there is over-run of 24 months and 7 days in case of Asset-I and 28 months each in case of Assets-II to IV.

16. With regard to Asset-I to Asset-III, the petitioner in instant petition has submitted the following reasons for delay:-

- a) The total forest land involvement for contingency arrangement portion was to the tune of 138 Hectare in the Maithon-Gaya line. Preliminary and detailed survey was included in the scope of main transmission line contract which is a pre-requisite for preparation of forest proposal.
- b) Carrying out survey in the forest areas was quite challenging due to Maoist threat prevailing in the area. However, with utmost caution and care the work of survey of line could be completed.
- c) In the mean time vide order dated 3.8.2009, Ministry of Environment and Forest, directed all State Governments to ensure compliance of Forest Rights Act 2006 which inter-alia required NOC and written consent from



each Gram Sabha (in which at least 50% of the members were present) and certification of the same by the respective State Governments. This had been made mandatory prerequisite for submission of forest proposal.

d) Instant forest proposal involved 3 DFOs in the State of Jharkhand and 1 DFO in the state of Bihar. Holding Gram-Sabha in each village was quite a cumbersome and time consuming exercise. Compliance of this condition, which came into force only from 3.8.2009, considerably delayed the submission of proposal for forest clearance. However, with extensive mobilization of manpower, this exercise could be completed in May–August, 2010 and forest proposal was submitted by the petitioner to various DFOs between May to September, 2010. There had been delay in obtaining forest clearance of this line. Final clearance in respect of Bihar was received on 16.1.2012 and that of Jharkhand on 8.11.2012. i.e 16 months after submission of proposal in the state of Bihar and 26 months in the state of Jharkhand. Since, most of the works associated with Maithon–Gaya line falls in the forest area that too mostly in Jharkhand, the work could be extensively taken up only after final approval of forest clearance.

e) Break-up of the delay as submitted by the petitioner is as under:-

Activities	Jharkhand	Bihar
Submission of Forest proposal	May/ September, 2010	September,2010
Forwarded to MoEF	1.6.2011	5.4.2011
Stage I clearance by MoEF,	22.3.2012	30.8.2011
Stage II clearance by MoEF,	8.8.2012	16.1.2012
Final clearance issued	8.11.2012	16.1.2012
Total time taken	26 months	16 months

f) The multi ckt portion of the line passes through dense forest areas and



hilly terrains of Gaya and Chatra forest divisions of Bihar and Jharkhand, respectively. Both these forest areas are disturbed due to naxalite activities. The foundation work of this line was started on 8.11.2011 in non-forest areas of Bihar. However, there were regular and frequent disturbances by naxalites. The foundation work commenced on 8.11.2011 in non-forest areas of Bihar section. On 10.11.2011, one village school was blasted near inaugurated location. Police took away the agency excavator of the contractor and kept it under their custody. This can be substantiated by copy of letter dated 14.12.2011 to the Senior Superintendent of Police, Gaya for release of JCB machine along with driver/helper at location No. 11/0 of multi ckt line at Gaya. The petitioner has submitted comprehensive list of actions and correspondences made by the petitioner from 512.2011 to 18.1.2014. Further, the petitioner has also submitted the copy of letters with the District Magistrate and Senior Superintendent of Police of Gaya (Bihar) , Deputy commissioner of Chatra (Jharkhand), Newspaper cuttings substantiating the interruption of works at site by naxalites and Maoists. Thus, construction work was hindered by naxalite activities from November 2012 to February 2014 for 15 months.

- g) Even after obtaining clearance from Officers Training Institute (OTI), Gaya, request for diversion of route in multi ckt portion near village deori dumari was received from OTI, Gaya. Work remained suspended in this stretch for 3-4 months. To substantiate the same, the petitioner has submitted the copy of letter dated 4.3.2013 by officers training institute, Gaya.



17. The petitioner has submitted the following reasons for time over-run in case of Asset-IV:-

- a) Time over-run for the asset is mainly due to delay in charging of 765 kV Gaya- Balia S/C line, which could not be completed due to the corresponding delay in completion of 400 kV D/C Maithan Gaya line and 400 kV DC Koderma Gaya line. Both the lines (400 kV D/C Maithan Gaya line and 400 kV DC Koderma Gaya line) were passing through the dense forest area in Jharkhand and Bihar. In order to mitigate the ROW issues, the construction of these two D/C lines in the forest stretch has been made on one tower by using multi-ckt tower configuration. The multi ckt portion of the line passes through dense forest which is also naxal affected area creating serious law and order and ROW problems. Since, commissioning of these lines was getting delayed due to pending forest clearance CEA vide its letter no. 67/26/2012-SP & PA/ dated 9.4.2012 approved the interim arrangement for facilitating evacuation of power from DVC generation projects in Eastern Region.
- b) Hence, due to such delay in completion of 400 kV D/C Maithan Gaya line and 400 kV DC Koderma Gaya line, an interim arrangement (as approved by CEA) by reconfiguring the (i) Gaya-Balia 765 kV S/C and (ii) one ckt of the Biharsharif-Sasaram 400 kV D/C (Quad) lines was developed so as to form a 400 kV Biharsharif-Gaya S/C and Sasaram-Balia 400 kV S/C lines to transfer DVC power to Fatehpur and Balia in NR. This interim



arrangement was discussed and agreed in the SCM held on 8.2.2012 and also in the 21st ERPC meeting held on 21.2.2012 with the condition that this interim arrangement would be withdrawn and the normal/planned transmission system would be in place upon completion on Maithon-Gaya 400 kV D/C and Koderma-Gaya 400 kV D/c lines.

- c) Thus, for termination of so formed 400 kV Biharsharif –Gaya line at Gaya Sub-station, a 400 kV line bay was used. As a result, the 765 kV Balia bay at Gaya Sub-station (i.e. Asset-IV) could not be commissioned earlier, though ready. Therefore, the 765 kV Balia bay at Gaya Sub-station could have been commissioned only after commissioning of 400 kV D/C Maithon Gaya line and 400 kV D/C Kodarma Gaya line as per original scheme and removal of arrangements on Gaya Balia line required for interim arrangement which was completed on 30.12.2014. Immediately, after this restoration, the 765 kV Balia bay at Gaya Sub-station was commissioned and put under commercial operation on 8.1.2015.

18. The petitioner was directed to submit the time over-run analysis with standard method such as PERT chart/L2 schedule. In response, the petitioner, vide its affidavit dated 21.3.2016, has submitted the L-2 network for Maithon-Gaya Line.

19. In case of Assets I, II and III, the petitioner submitted the proposal for forest land in May, 2010 and got the final clearance on 8.11.2012 after 26 months. We are of the view that the time taken for getting forest clearance is



beyond the petitioner. However, the petitioner has not submitted the time considered in the investment approval while claiming the delay. The processing time including preparatory activities for submission of proposal will have to be completed by the petitioner within a year to complete the project within schedule date of commissioning. In view of above consideration, we have considered that the petitioner would have factored 12 months for getting forest clearance. Hence, time over-run of only 14 months (after excluding 12 months) due to delay in forest clearance is condoned. It is further observed there were problems due to naxalites and hence this time over-run of 2 months is also condoned. Accordingly, we have condoned the total delay of 16 months in case of Assets I, II and III. Thus, we have disallowed the delay of 8 months and 7 days in case of Asset-I and 12 months in case of Asset-II and III.

20. In case of Asset-IV, the petitioner submitted that the asset could have been commissioned only after commissioning of 400 kV D/C Maithan Gaya line and 400 kV D/C Kodarma Gaya line as per original scheme. However, the completion of 400 kV D/C Maithan Gaya line and 400 kV D/C Kodarma Gaya line got delayed due to pending forest clearance. Therefore, to commission the Asset-IV, an interim arrangement was approved and completed on 30.12.2014. Thereafter, the Asset-IV was commissioned on 8.1.2015. We are of the view that the time taken for commissioning the Asset-IV is beyond the petitioner and hence 28 months delay are condoned.



21. The Hon'ble Appellate Tribunal for Electricity in its Judgment dated 27.4.2011 in Appeal No.72/2010 has held that the additional cost due to time over-run due to the factors beyond the control of project developer shall be capitalized.

22. The time over-run of 16 months in commissioning of Asset-I, II and III and 28 months in commissioning of Asset- IV is beyond the control of the petitioner and it cannot be attributed to the petitioner. As per the judgement of Hon'ble Tribunal, the additional cost due to time over-run not attributable to the petitioner shall be capitalized. Accordingly, the time over-run in case of the instant assets is condoned and accordingly IDC and IEDC for the delay is allowed to be capitalised.

IDC and IEDC

23. The petitioner was directed to provide the computation of IDC and IEDC on cash basis (i) from date of infusion of debt fund to scheduled COD and (ii) from scheduled COD to actual COD. In response, the petitioner vide its affidavit dated 21.3.2016 submitted the breakup of IDC and IEDC as follows:

(₹ in lakh)

Statement showing IDC and IEDC	Asset-I		Asset-II	
	IDC	IEDC	IDC	IEDC
Total IDC/IEDC as per certificate	1128.02	308.34	748.28	91.40
IDC/IEDC discharged upto SCOD	776.35	212.21	491.50	60.04
IDC/IEDC discharged from SCOD to actual COD	351.67	96.13	256.78	31.36



(₹ in lakh)

Statement showing IDC & IEDC	Asset-III		Asset-IV	
	IDC	IEDC	IDC	IEDC
Total IDC/IEDC as per certificate	178.92	26.16	144.63	67.37
IDC/IEDC discharged upto SCOD	117.52	17.18	94.66	44.09
IDC/IEDC discharged from SCOD to actual COD	61.40	8.98	49.97	23.28

24. The petitioner was further directed to submit the details indicating actual payment made on cash basis and balance payments to be made under balance & retention payment for all the assets. In response, the petitioner vide its affidavit dated 21.3.2016 submitted that for Asset-I entire IDC has been discharged upto COD. For Asset-II, out of the total IDC of ₹748.28 lakh, the IDC of ₹730.24 lakh has been discharged upto COD and balance IDC of ₹18.04 lakh is discharged during 2014-15. Further, for Asset-III, out of the total IDC of ₹178.92 lakh, the IDC of ₹177.39 lakh has been discharged upto COD and balance IDC of ₹1.53 lakh is discharged during 2014-15. The petitioner has submitted in the petition that for Asset-IV, entire IDC has been discharged upto COD. Further, the petitioner has submitted that entire IEDC amount mentioned in the Auditor's Certificate is on cash basis and is paid upto COD for all the assets.

25. As discussed above, we have disallowed the delay of 8 months and 7 days in case of Asset-I and 12 months in case of Asset-II and III. Further, in case of Asset-IV, overall delay of 28 months has been condoned. Accordingly, we have worked out the IDC/IEDC as follows:-



(₹ in lakh)

Asset-I			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	737	737	
Total IDC/IEDC from date of infusion of debt fund to SCOD	776.35	212.21	988.56
Total IDC/IEDC from SCOD to COD (in Rs lakh)	351.67	96.13	447.80
Total delay in days disallowed by the Commission	251	251	
IDC and IEDC disallowed (Rs lakh)	119.77	32.74	152.51
IDC and IEDC allowed by the Commission (Rs lakh)	1008.25	275.60	1283.85
As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time-overrun):			
Total IDC/IEDC upto COD	1008.25	275.60	1283.85
Accrual IDC/IEDC to be discharged in 2014-15	0.00	0.00	0.00

(₹ in lakh)

Asset-II			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	850	850	
Total IDC/IEDC from date of infusion of debt fund to SCOD	491.50	60.04	551.54
Total IDC/IEDC from SCOD to COD (in Rs lakh)	256.78	31.36	288.14
Total delay in days disallowed by the Commission	364	364	
IDC and IEDC disallowed	109.96	13.43	123.39
IDC and IEDC allowed by the Commission	638.32	77.97	716.29
As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time-overrun):			
Total IDC/IEDC upto COD	638.32	77.97	716.29
Accrual IDC/IEDC to be discharged in 2014-15	0.00	0.00	0.00

(₹ in lakh)

Asset-III			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	850	850	
Total IDC/IEDC from date of infusion of debt fund to SCOD	117.52	17.18	134.70
Total IDC/IEDC from SCOD to COD (in Rs lakh)	61.40	8.98	70.38
Total delay in days disallowed by the Commission	364	364	
IDC and IEDC disallowed	26.29	3.85	30.14
IDC and IEDC allowed by the Commission	152.63	22.31	174.94
As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time-overrun):			



Asset-III			
Particulars	IDC	IEDC	Total
Total IDC/IEDC upto COD	152.63	22.31	174.94
Accrual IDC/IEDC to be discharged in 2014-15	0.00	0.00	0.00

(₹ in lakh)

Asset-IV			
Particulars	IDC	IEDC	Total
Delay in days (from SCOD to COD)	859	859	
Total IDC/IEDC from date of infusion of debt fund to SCOD	94.66	44.09	138.75
Total IDC/IEDC from SCOD to COD (in Rs lakh)	49.97	23.28	73.25
Total delay in months disallowed by the Commission	0	0	
IDC and IEDC disallowed	0.00	0.00	0.00
IDC and IEDC allowed by the Commission	144.63	67.37	212.00
As worked out (after adjustment of above IDC/IEDC disallowed by the commission due to time-overrun):			
Total IDC/IEDC upto COD	144.63	67.37	212.00
Accrual IDC/IEDC to be discharged in 2014-15	0.00	0.00	0.00

Initial Spares

26. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

“(d) Transmission System	
Transmission line:	1.00%
Transmission sub-station (Green Field):	4.00%
Transmission sub-station (Brown Field):	6.00%”

27. The petitioner has claimed initial spares of ₹107.00 lakh and ₹37.00 lakh for transmission line for Asset-I and Asset-II, respectively. Further, the petitioner has claimed initial spares of ₹22.03 lakh and ₹67.17 lakh for sub-station for Asset-III and Asset-IV, respectively. The petitioner’s claim is within the norms



specified in the 2014 Tariff Regulations and accordingly the initial spares claimed by the petitioner is allowed as given below:-

(₹ in lakh)

Description Sub-station (including PLCC)	Cut-off date	Capital cost as on cut-off date	Initial spares claimed	Ceiling limits as per Regulation 8 of the 2009 Tariff Regulation	Initial spares worked out and allowed	Excess initial spares claimed
		(a)	(b)	(c)	(d)= ((a-b)*c)/(100-c)%	(e)=(d)-(b)
Transmission Line						
Asset-I	31.3.2017	12445.59	107.00	1.00%	124.63	0.00
Asset-II	31.3.2017	4516.04	37.00	1.00%	45.24	0.00
Sub-station						
Asset-III	31.3.2017	717.90	22.03	4.00%	28.99	0.00
Asset-IV	31.3.2018	2034.77	67.17	4.00%	81.98	0.00

28. We have not considered the accrued IDC to be discharged in 2014-15 and 2015-16, and accordingly, the capital cost approved for Asset-I, II, III and IV as given below:

(₹ in lakh)

Particulars	Asset-I	Asset-II	Asset-III	Asset-IV
Capital Cost as on COD as per Management Certificate/Auditor's Certificate	11716.58	4204.57	700.66	1279.59
Total IDC/IEDC disallowed by the Commission	152.51	123.39	30.14	0.00
Accrued IDC/IEDC discharged in 2014-15	0.00	0.00	0.00	0.00
Capital Cost as on COD (after deducting disallowed IDC/IEDC and accrual IDC to be discharged in 2014-16)	11564.07	4081.18	670.52	1279.59

29. The estimated capital cost as on COD of ₹11564.07 lakh, ₹4081.18 lakh, ₹670.52 lakh and ₹1279.59 lakh is within the approved apportioned cost of ₹13468.90 lakh, ₹4948.23 lakh, ₹792.17 lakh and ₹2249.13 lakh for Asset-I, Asset-II, Asset-III and Asset-IV, respectively. Accordingly, capital cost as on COD



is allowed and considered for the purpose of tariff computation for 2014-19 tariff period on provisional basis, which shall be trued up at the time of truing up of tariff for 2014-19 period.

Additional Capital Expenditure

30. The petitioner has claimed additional capital expenditure of ₹881.52 lakh, ₹452.90 lakh, ₹48.91 lakh and ₹816.43 lakh for Asset-I, II, III and IV, respectively, during 2014-19 tariff period, towards balance and retention payments under Clause 1(i) of Regulation 14 of the 2014 Tariff Regulations.

31. Clause 1, sub-clause (i) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

“(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

.....

(i) Undischarged liabilities recognized to be payable at a future date;

32. As the total capital cost (including additional capital expenditure) of all the assets is within the approved apportioned cost., we have allowed following additional capital expenditure during 2014-19 under Regulation 14(1)(i) of 2014 Tariff Regulations subject to prudence check while carrying out the truing up of tariff for 2014-19 period.



(₹ in lakh)

Name of the element	Approved Apportioned Cost	Expenditure upto COD	Additional Capital Expenditure				Total estimated completion cost
			2014-15	2015-16	2016-17	Total	
Asset-I	13468.90	11564.07	446.66	262.39	172.47	881.52	12445.59
Asset-II	4948.23	4081.18	0.00	262.39	172.47	434.86	4516.04
Asset-III	792.17	670.52	0.00	16.50	30.88	47.38	717.90
Asset-IV	2249.13	1279.59	489.86	244.93	81.64	816.43	2096.02

33. Further, the petitioner has submitted that the cost over-run in case of Assets I and II was mainly due to actual site conditions and other associated factors beyond the control of petitioner as given below:

- Increase in route length: Route length increased by 43 km (18%) in w.r.t. the length considered in FR. The increase in length was mainly to minimize the forest area.
- Use of multi circuit towers with HTLS conductor: To minimize the forest area, approximately 42 km of Maithon-Gaya line has been traversed on multi circuit towers. Due to use of multi circuit towers, tower steel quantity has increased from FR quantity of 15572 to 20030 MT (considering 50% quantity of multi ckt tower)
- Increase in cost towards forest clearance: In spite of using multi circuit towers and selecting least forest encroaching route, forest involvement has increased from FR quantity of 1 Ha to 138 Ha.

Debt: Equity Ratio

34. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on



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

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

35. The petitioner has considered debt: equity ratio as 70:30 both for capital cost as on COD and for additional capitalization during the tariff period 2014-19. The details of the debt: equity as on COD and for the additional capital expenditure considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset-I				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	8094.85	70.00	8711.91	70.00
Equity	3469.22	30.00	3733.68	30.00
Total	11564.07	100.00	12445.59	100.00

(₹ in lakh)

Asset-II				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	2856.82	70.00	3161.23	70.00
Equity	1224.35	30.00	1354.81	30.00
Total	4081.18	100.00	4516.04	100.00

(₹ in lakh)

Asset-III				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	469.36	70.00	502.53	70.00
Equity	201.16	30.00	215.37	30.00
Total	670.52	100.00	717.90	100.00



(₹ in lakh)

Asset-IV				
Particulars	Capital cost as on COD		Estimated completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Debt	895.71	70.00	1467.21	70.00
Equity	383.88	30.00	628.81	30.00
Total	1279.59	100.00	2096.02	100.00

Interest on Loan (“IOL”)

36. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:
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.”

37. The weighted average rate of IOL has been considered on the basis of rate prevailing as on COD. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted at the time of truing up.

38. We have considered the petitioner’s submissions. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. Further, with regard to floating rate of interest, variation in interest rate if any shall be considered at the time of true up. The details of weighted average rate of



interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)

Asset-I					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	8094.85	8407.51	8591.19	8711.91	8711.91
Cumulative Repayment upto DOCO/previous year	0.00	349.55	990.65	1643.22	2300.35
Net Loan-Opening	8094.85	8057.96	7600.54	7068.69	6411.57
Additions during the year	312.66	183.67	120.73	0.00	0.00
Repayment during the year	349.55	641.09	652.57	657.13	657.13
Net Loan-Closing	8057.96	7600.54	7068.69	6411.57	5754.44
Average Loan	8076.41	7829.25	7334.62	6740.13	6083.00
Rate of Interest (%)	9.1519	9.1574	9.1479	9.1362	9.1353
Interest	415.13	716.95	670.96	615.79	555.70

(₹ in lakh)

Asset-II					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	2856.82	2856.82	3040.50	3161.23	3161.23
Cumulative Repayment upto DOCO/previous year	0.00	54.31	276.73	510.62	749.07
Net Loan-Opening	2856.82	2802.51	2763.77	2650.61	2412.16
Additions during the year	0.00	183.67	120.73	0.00	0.00
Repayment during the year	54.31	222.41	233.89	238.45	238.45
Net Loan-Closing	2802.51	2763.77	2650.61	2412.16	2173.71
Average Loan	2829.67	2783.14	2707.19	2531.38	2292.94
Rate of Interest (%)	9.0226	9.0217	9.0140	9.0035	9.0010
Interest	64.35	251.09	244.03	227.91	206.39

(₹ in lakh)

Asset-III					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	469.36	469.36	480.91	502.53	502.53



Asset-III					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Cumulative Repayment upto DOCO/previous year	0.00	9.12	45.75	83.63	122.33
Net Loan-Opening	469.36	460.24	435.16	418.90	380.20
Additions during the year	0.00	11.55	21.62	0.00	0.00
Repayment during the year	9.12	36.63	37.88	38.70	38.70
Net Loan-Closing	460.24	435.16	418.90	380.20	341.50
Average Loan	464.80	447.70	427.03	399.55	360.85
Rate of Interest (%)	8.7965	8.8014	8.8058	8.8067	8.8077
Interest	10.31	39.40	37.60	35.19	31.78

(₹ in lakh)

Asset-IV					
Details of Loan	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	895.71	1238.62	1410.07	1467.21	1467.21
Cumulative Repayment upto DOCO/previous year	0.00	18.12	117.26	225.04	334.98
Net Loan-Opening	895.71	1220.50	1292.81	1242.18	1132.23
Additions during the year	342.90	171.45	57.15	0.00	0.00
Repayment during the year	18.12	99.14	107.78	109.94	109.94
Net Loan-Closing	1220.50	1292.81	1242.18	1132.23	1022.29
Average Loan	1058.10	1256.65	1267.49	1187.21	1077.26
Rate of Interest (%)	8.7916	8.7068	8.7077	8.7087	8.7097
Interest	23.45	109.41	110.37	103.39	93.83

Return on Equity("ROE")

39. Clause (1) & (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system...

Provided that:



i. in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed, if such projects are completed within the timeline specified in **Appendix-I**:

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

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid.”

“25. Tax on Return on Equity:

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

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

40. The petitioner has computed ROE at the rate of 19.610% for 2014-15 and 19.705% for period 2015-16 to 2018-19 after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.



41. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

42. We have computed ROE at the rate of 19.610% for tariff period 2014-19 after grossing up the ROE with MAT rate as per the above Regulation. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE allowed is given below:-

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	3469.22	3603.22	3681.94	3733.68	3733.68
Addition due to Additional Capitalisation	134.00	78.72	51.74	0.00	0.00
Closing Equity	3603.22	3681.94	3733.68	3733.68	3733.68
Average Equity	3536.22	3642.58	3707.81	3733.68	3733.68
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961



Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	389.47	714.31	727.10	732.17	732.17

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	1224.35	1224.35	1303.07	1354.81	1354.81
Addition due to Additional Capitalisation	0.00	78.72	51.74	0.00	0.00
Closing Equity	1224.35	1303.07	1354.81	1354.81	1354.81
Average Equity	1224.35	1263.71	1328.94	1354.81	1354.81
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	60.52	247.81	260.61	265.68	265.68

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	201.16	201.16	206.11	215.37	215.37
Addition due to Additional Capitalisation	0.00	4.95	9.26	0.00	0.00
Closing Equity	201.16	206.11	215.37	215.37	215.37
Average Equity	201.16	203.63	210.74	215.37	215.37
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	9.94	39.93	41.33	42.23	42.23



(₹ in lakh)

Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	383.88	530.84	604.31	628.81	628.81
Addition due to Additional Capitalisation	146.96	73.48	24.49	0.00	0.00
Closing Equity	530.84	604.31	628.81	628.81	628.81
Average Equity	457.36	567.57	616.56	628.81	628.81
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax)(%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	20.39	111.30	120.91	123.31	123.31

Depreciation

43. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“**useful life**’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:-

.....

- (c) AC and DC Sub-station: 25 years
- (d) Gas Insulated Sub-station: 25 years
- (e) Transmission line (including HVAC & HVDC): 35 years”

44. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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”



“(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** 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 the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

45. The petitioner in its petition has computed depreciation considering capital cost as on COD of ₹11716.58 lakh, ₹4186.53 lakh, ₹699.13 lakh and ₹1279.59 lakh and additional capitalization of ₹881.52 lakh, ₹452.90 lakh, ₹48.91 lakh and ₹816.43 lakh during tariff period 2014-19 for Asset-I, Asset-II, Asset-III and Asset-IV, respectively.

46. As per Clause 67 of Regulation 3 of the 2014 Tariff Regulations, weighted average value of asset as on COD has been considered to work out the weighted average life of the transmission system as 35 years for Asset-I & II and 25 years for Asset-III & IV.

47. We have computed depreciation considering capital cost as on COD of ₹11564.07 lakh, ₹4081.18 lakh, ₹670.52 lakh and ₹1279.59 lakh and additional capitalization of ₹881.52 lakh, ₹434.86 lakh, ₹47.38 lakh and ₹816.43 lakh for tariff period 2014-19 for Asset-I, Asset-II, Asset-III and Asset-IV, respectively. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)



Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	11564.07	12010.73	12273.12	12445.59	12445.59
Additional Capitalization	446.66	262.39	172.47	0.00	0.00
Closing Gross block	12010.73	12273.12	12445.59	12445.59	12445.59
Average Gross block	11787.40	12141.93	12359.36	12445.59	12445.59
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	10608.66	10927.74	11123.42	11201.03	11201.03
Elapsed Life of the asset at beginning of the year	0.00	1.00	2.00	3.00	4.00
Weighted Balance Useful life of the asset	35.00	34.00	33.00	32.00	31.00
Remaining Depreciable Value	10608.66	10578.18	10132.78	9557.81	8900.69
Depreciation	349.55	641.09	652.57	657.13	657.13

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	4081.18	4081.18	4343.57	4516.04	4516.04
Additional Capitalization	0.00	262.39	172.47	0.00	0.00
Closing Gross block	4081.18	4343.57	4516.04	4516.04	4516.04
Average Gross block	4081.18	4212.37	4429.80	4516.04	4516.04
Rate of Depreciation (%)	5.280	5.280	5.280	5.280	5.280
Depreciable Value	3673.06	3791.14	3986.82	4064.43	4064.43
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	35	34	33	32	31
Remaining Depreciable Value	3673.06	3736.82	3710.10	3553.81	3315.37
Depreciation	54.31	222.41	233.89	238.45	238.45

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	670.52	670.52	687.02	717.90	717.90



Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Additional Capitalization	0.00	16.50	30.88	0.00	0.00
Closing Gross block	670.52	687.02	717.90	717.90	717.90
Average Gross block	670.52	678.77	702.46	717.90	717.90
Rate of Depreciation (%)	5.398	5.397	5.393	5.390	5.390
Depreciable Value	603.47	610.89	632.21	646.11	646.11
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	603.47	601.77	586.46	562.48	523.78
Depreciation	9.12	36.63	37.88	38.70	38.70

(₹ in lakh)

Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	1279.59	1769.45	2014.38	2096.02	2096.02
Additional Capitalization	489.86	244.93	81.64	0.00	0.00
Closing Gross block	1769.45	2014.38	2096.02	2096.02	2096.02
Average Gross block	1524.52	1891.92	2055.20	2096.02	2096.02
Rate of Depreciation (%)	5.227	5.240	5.244	5.245	5.245
Depreciable Value	1372.07	1702.72	1849.68	1886.42	1886.42
Elapsed Life of the asset at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the asset	25	24	23	22	21
Remaining Depreciable Value	1372.07	1684.60	1732.42	1661.38	1551.44
Depreciation	18.12	99.14	107.78	109.94	109.94



Operation & Maintenance Expenses (“O&M Expenses”)

48. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. In Asset-I, the petitioner has claimed O&M charges for S/C (Bundled conductor with four or more sub-conductors) TL of 22.943 km and D/C portion (Bundled conductor with four or more sub-conductors) TL of 42.015 km for the period from 8.9.2014 to 29.12.2014. Thereafter, the same is changed to D/C portion (Bundled conductor with four or more sub-conductors) TL of 22.943 km and Multi Circuit (Bundled conductor with four or more sub-conductors) TL of 42.015 km and shown in Asset-II. Further, the petitioner has claimed O&M expenses for 1 no. of 400 kV bay for Asset-III and 1 no. of 765 kV bay for Asset-IV.

49. We have considered the petitioner’s submission. The petitioner’s entitlement of O&M Expenses has been worked out as given hereunder:-

(₹ in lakh)

		Asset-I				
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	Single Circuit (Bundled Conductor with four sub-conductors)	22.943*	0.00	0.00	0.00	0.00
	Double Circuit (Bundled conductor with four or more sub-conductors)	42.015*	0.00	0.00	0.00	0.00
Norms as per Regulation	Single Circuit (Bundled Conductor with four sub-conductors)	0.606				



Asset-I						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
	Double Circuit (Bundled conductor with four or more sub- conductors)	1.062				
Total		18.28	0.00	0.00	0.00	0.00

*O&M charges for S/C (Bundled conductor with four or more sub-conductors) TL of 22.943 km and D/C portion (Bundled conductor with four or more sub-conductors) TL of 42.015 km has been considered for the period from 8.9.2014 to 29.12.2014 only. Thereafter, the same is changed to D/C portion (Bundled conductor with four or more sub-conductors) TL of 22.943 km and 42.015 km as shown in Asset-II.

(₹ in lakh)

Asset-II						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	Double Circuit (Bundled conductor with four or more sub-conductors)	64.958 (=22.943+ 42.015) [#]	64.958	64.958	64.958	64.958
Norms as per Regulation (₹lakh/km)	Double Circuit (Bundled conductor with four or more sub-conductors)	1.062	1.097	1.133	1.171	1.21
Total		17.39	71.26	73.60	76.07	78.60

[#] It is noticed that petitioner has converted S/C (Bundled conductor with four or more sub-conductors) TL of 22.943 km to D/C (Bundled conductor with four or more sub-conductors) TL of 22.943 km. Further, the petitioner has converted D/C portion (Bundled conductor with four or more sub-conductors) TL of 42.015 km to multi circuit (Bundled conductor with four or more sub-conductors) TL of 42.015 km for the period from 30.12.2014 to 31.3.2015. However, the petitioner has claimed the O&M expenses for Double Circuit in Form-2 which has been considered for the tariff.

(₹ in lakh)

Asset-III						
Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	400 kV bay	1	1	1	1	1
Norms as per Regulation	400 kV bay (₹lakh/bay)	60.30	62.30	64.37	66.51	68.71
Total		15.20	62.30	64.37	66.51	68.71

(₹ in lakh)

Asset-IV					
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Particulars		2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Actual (No. of bays)	765 kV bay	1	1	1	1	1
Norms as per Regulation	765 kV bay (₹lakh/bay)	84.42	87.22	90.12	93.11	96.20
Total		19.20	87.22	90.12	93.11	96.2

50. It is observed that the petitioner has changed the configuration of tower for part of the line covered in Asset-II. The petitioner has converted multi Circuit (Bundled conductor with four or more sub-conductors) TL of 42.015 km for the period from 30.12.2014 to 31.3.2015. However, as per Form-2 of the petition, the petitioner has indicated the configuration of line as Double Circuit. The petitioner has not clarified reasons for change in the configuration of Asset-II. We have considered the submission of the petitioner made in Form 2 and worked out O&M Expenses considering the line as a Double Circuit line. However, the petitioner has a liberty to claim the O&M Expenses for Asset-II on the basis of actual configuration and actual line length at the time of truing up.

51. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the



Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

52. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

53. The details of O&M Expenses allowed are given hereunder:-

Particulars	(₹ in lakh)				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-I	18.28	0.00	0.00	0.00	0.00
Asset-II	17.39	71.26	73.60	76.07	78.60
Asset-III	15.20	62.30	64.37	66.51	68.71
Asset-IV	19.20	87.22	90.12	93.11	96.2

Interest on Working Capital (“IWC”)

54. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.



(ii) Maintenance Spares

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the Bank Rate' means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points. The rate of interest on working



capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

55. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)

Asset-I					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	2.74	0.00	0.00	0.00	0.00
O & M expenses	1.52	0.00	0.00	0.00	0.00
Receivables	200.00	353.34	349.64	341.87	331.63
Total	204.27	353.34	349.64	341.87	331.63
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	27.58	47.70	47.20	46.15	44.77

(₹ in lakh)

Asset-II					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	2.61	10.69	11.04	11.41	11.79
O & M expenses	1.45	5.94	6.13	6.34	6.55
Receivables	33.61	135.52	138.86	138.19	134.97
Total	37.67	152.15	156.04	155.94	153.31
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	5.09	20.54	21.07	21.05	20.70

(₹ in lakh)

Asset-III					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	2.28	9.35	9.66	9.98	10.31
O & M expenses	1.27	5.19	5.36	5.54	5.73
Receivables	7.68	30.73	31.24	31.50	31.30
Total	11.23	45.27	46.26	47.01	47.33
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	1.52	6.11	6.24	6.35	6.39

(₹ in lakh)

Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	2.88	13.08	13.52	13.97	14.43



Asset-IV					
Particulars	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
O & M expenses	1.60	7.27	7.51	7.76	8.02
Receivables	13.94	69.88	73.66	73.77	72.69
Total	18.42	90.23	94.69	95.50	95.13
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	2.49	12.18	12.78	12.89	12.84

Annual Transmission Charges

56. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)

Particulars	Asset-I				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	11564.07	12010.73	12273.12	12445.59	12445.59
Additional Capitalisation	446.66	262.39	172.47	0.00	0.00
Closing Gross Block	12010.73	12273.12	12445.59	12445.59	12445.59
Average Gross Block	11787.40	12141.93	12359.36	12445.59	12445.59
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	10608.66	10927.74	11123.42	11201.03	11201.03
Elapsed Life of the assets at beginning of the year	0.00	1.00	2.00	3.00	4.00
Weighted Balance Useful life of the assets	35.00	34.00	33.00	32.00	31.00
Remaining Depreciable Value	10608.66	10578.18	10132.78	9557.81	8900.69
Depreciation	349.55	641.09	652.57	657.13	657.13
Interest on Loan					
Gross Normative Loan	8094.85	8407.51	8591.19	8711.91	8711.91
Cumulative Repayment upto Previous Year	0.00	349.55	990.65	1643.22	2300.35
Net Loan-Opening	8094.85	8057.96	7600.54	7068.69	6411.57
Additions	312.66	183.67	120.73	0.00	0.00
Repayment during the year	349.55	641.09	652.57	657.13	657.13



Particulars	Asset-I				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Net Loan-Closing	8057.96	7600.54	7068.69	6411.57	5754.44
Average Loan	8076.41	7829.25	7334.62	6740.13	6083.00
Weighted Average Rate of Interest on Loan (%)	9.1519	9.1574	9.1479	9.1362	9.1353
Interest	415.13	716.95	670.96	615.79	555.70
Return on Equity					
Opening Equity	3469.22	3603.22	3681.94	3733.68	3733.68
Additions	134.00	78.72	51.74	0.00	0.00
Closing Equity	3603.22	3681.94	3733.68	3733.68	3733.68
Average Equity	3536.22	3642.58	3707.81	3733.68	3733.68
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	389.47	714.31	727.10	732.17	732.17
Interest on Working Capital					
Maintenance Spares	2.74	0.00	0.00	0.00	0.00
O & M expenses	1.52	0.00	0.00	0.00	0.00
Receivables	200.00	353.34	349.64	341.87	331.63
Total	204.27	353.34	349.64	341.87	331.63
Interest	27.58	47.70	47.20	46.15	44.77
Annual Transmission Charges					
Depreciation	349.55	641.09	652.57	657.13	657.13
Interest on Loan	415.13	716.95	670.96	615.79	555.70
Return on Equity	389.47	714.31	727.10	732.17	732.17
Interest on Working Capital	27.58	47.70	47.20	46.15	44.77
O & M Expenses	18.28	0.00	0.00	0.00	0.00
Total	1200.02	2120.06	2097.84	2051.24	1989.77

(₹ in lakh)

Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19



Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	4081.18	4081.18	4343.57	4516.04	4516.04
Additional Capitalisation	0.00	262.39	172.47	0.00	0.00
Closing Gross Block	4081.18	4343.57	4516.04	4516.04	4516.04
Average Gross Block	4081.18	4212.37	4429.80	4516.04	4516.04
Rate of Depreciation	5.280	5.280	5.280	5.280	5.280
Depreciable Value	3673.06	3791.14	3986.82	4064.43	4064.43
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	35	34	33	32	31
Remaining Depreciable Value	3673.06	3736.82	3710.10	3553.81	3315.37
Depreciation	54.31	222.41	233.89	238.45	238.45
Interest on Loan					
Gross Normative Loan	2856.82	2856.82	3040.50	3161.23	3161.23
Cumulative Repayment upto Previous Year	0.00	54.31	276.73	510.62	749.07
Net Loan-Opening	2856.82	2802.51	2763.77	2650.61	2412.16
Additions	0.00	183.67	120.73	0.00	0.00
Repayment during the year	54.31	222.41	233.89	238.45	238.45
Net Loan-Closing	2802.51	2763.77	2650.61	2412.16	2173.71
Average Loan	2829.67	2783.14	2707.19	2531.38	2292.94
Weighted Average Rate of Interest on Loan (%)	9.0226	9.0217	9.0140	9.0035	9.0010
Interest	64.35	251.09	244.03	227.91	206.39
Return on Equity					
Opening Equity	1224.35	1224.35	1303.07	1354.81	1354.81
Additions	0.00	78.72	51.74	0.00	0.00
Closing Equity	1224.35	1303.07	1354.81	1354.81	1354.81
Average Equity	1224.35	1263.71	1328.94	1354.81	1354.81
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	60.52	247.81	260.61	265.68	265.68



Particulars	Asset-II				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
Maintenance Spares	2.61	10.69	11.04	11.41	11.79
O & M expenses	1.45	5.94	6.13	6.34	6.55
Receivables	33.61	135.52	138.86	138.19	134.97
Total	37.67	152.15	156.04	155.94	153.31
Interest	5.09	20.54	21.07	21.05	20.70
Annual Transmission Charges					
Depreciation	54.31	222.41	233.89	238.45	238.45
Interest on Loan	64.35	251.09	244.03	227.91	206.39
Return on Equity	60.52	247.81	260.61	265.68	265.68
Interest on Working Capital	5.09	20.54	21.07	21.05	20.70
O & M Expenses	17.39	71.26	73.60	76.07	78.60
Total	201.66	813.11	833.19	829.16	809.81

(₹ in lakh)

Particulars	Asset-III				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	670.52	670.52	687.02	717.90	717.90
Additional Capitalisation	0.00	16.50	30.88	0.00	0.00
Closing Gross Block	670.52	687.02	717.90	717.90	717.90
Average Gross Block	670.52	678.77	702.46	717.90	717.90
Rate of Depreciation	5.398	5.397	5.393	5.390	5.390
Depreciable Value	603.47	610.89	632.21	646.11	646.11
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	603.47	601.77	586.46	562.48	523.78
Depreciation	9.12	36.63	37.88	38.70	38.70
Interest on Loan					
Gross Normative Loan	469.36	469.36	480.91	502.53	502.53
Cumulative Repayment upto Previous Year	0.00	9.12	45.75	83.63	122.33



Particulars	Asset-III				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Net Loan-Opening	469.36	460.24	435.16	418.90	380.20
Additions	0.00	11.55	21.62	0.00	0.00
Repayment during the year	9.12	36.63	37.88	38.70	38.70
Net Loan-Closing	460.24	435.16	418.90	380.20	341.50
Average Loan	464.80	447.70	427.03	399.55	360.85
Weighted Average Rate of Interest on Loan (%)	8.7965	8.8014	8.8058	8.8067	8.8077
Interest	10.31	39.40	37.60	35.19	31.78
Return on Equity					
Opening Equity	201.16	201.16	206.11	215.37	215.37
Additions	0.00	4.95	9.26	0.00	0.00
Closing Equity	201.16	206.11	215.37	215.37	215.37
Average Equity	201.16	203.63	210.74	215.37	215.37
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	9.94	39.93	41.33	42.23	42.23
Interest on Working Capital					
Maintenance Spares	2.28	9.35	9.66	9.98	10.31
O & M expenses	1.27	5.19	5.36	5.54	5.73
Receivables	7.68	30.73	31.24	31.50	31.30
Total	11.23	45.27	46.26	47.01	47.33
Interest	1.52	6.11	6.24	6.35	6.39
Annual Transmission Charges					
Depreciation	9.12	36.63	37.88	38.70	38.70
Interest on Loan	10.31	39.40	37.60	35.19	31.78
Return on Equity	9.94	39.93	41.33	42.23	42.23
Interest on Working Capital	1.52	6.11	6.24	6.35	6.39
O & M Expenses	15.20	62.30	64.37	66.51	68.71
Total	46.09	184.38	187.43	188.97	187.81

(₹ in lakh)



Particulars	Asset-IV				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	1279.59	1769.45	2014.38	2096.02	2096.02
Additional Capitalisation	489.86	244.93	81.64	0.00	0.00
Closing Gross Block	1769.45	2014.38	2096.02	2096.02	2096.02
Average Gross Block	1524.52	1891.92	2055.20	2096.02	2096.02
Rate of Depreciation	5.227	5.240	5.244	5.245	5.245
Depreciable Value	1372.07	1702.72	1849.68	1886.42	1886.42
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	1372.07	1684.60	1732.42	1661.38	1551.44
Depreciation	18.12	99.14	107.78	109.94	109.94
Interest on Loan					
Gross Normative Loan	895.71	1238.62	1410.07	1467.21	1467.21
Cumulative Repayment upto Previous Year	0.00	18.12	117.26	225.04	334.98
Net Loan-Opening	895.71	1220.50	1292.81	1242.18	1132.23
Additions	342.90	171.45	57.15	0.00	0.00
Repayment during the year	18.12	99.14	107.78	109.94	109.94
Net Loan-Closing	1220.50	1292.81	1242.18	1132.23	1022.29
Average Loan	1058.10	1256.65	1267.49	1187.21	1077.26
Weighted Average Rate of Interest on Loan (%)	8.7916	8.7068	8.7077	8.7087	8.7097
Interest	23.45	109.41	110.37	103.39	93.83
Return on Equity					
Opening Equity	383.88	530.84	604.31	628.81	628.81
Additions	146.96	73.48	24.49	0.00	0.00
Closing Equity	530.84	604.31	628.81	628.81	628.81
Average Equity	457.36	567.57	616.56	628.81	628.81
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	20.39	111.30	120.91	123.31	123.31



Particulars	Asset-IV				
	2014-15 (Pro-rata)	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital					
Maintenance Spares	2.88	13.08	13.52	13.97	14.43
O & M expenses	1.60	7.27	7.51	7.76	8.02
Receivables	13.94	69.88	73.66	73.77	72.69
Total	18.42	90.23	94.69	95.50	95.13
Interest	2.49	12.18	12.78	12.89	12.84
Annual Transmission Charges					
Depreciation	18.12	99.14	107.78	109.94	109.94
Interest on Loan	23.45	109.41	110.37	103.39	93.83
Return on Equity	20.39	111.30	120.91	123.31	123.31
Interest on Working Capital	2.49	12.18	12.78	12.89	12.84
O & M Expenses	19.20	87.22	90.12	93.11	96.20
Total	83.65	419.25	441.96	442.64	436.12

Filing Fee and the Publication Expenses

57. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

58. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and



charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

59. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.

Sharing of Transmission Charges

60. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

61. This order disposes of Petition No. 280/TT/2015.

Sd/-
(Dr. M. K. Iyer)
Member

Sd/-
(A.S. Bakshi)
Member



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Particulars	ASSET-I			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXIX-Doco loan-	9.20	59.00	0.00	59.00
BOND XXX-Doco loan 1-	8.80	50.00	0.00	50.00
BOND XXXI-Doco loan 2-	8.90	875.81	0.00	875.81
BOND XXXIII-DOCO Funding	8.64	250.00	0.00	250.00
BOND XXXII-DOCO Funding-	8.84	66.00	0.00	66.00
BOND-XXXIV-DOCO Funding-	8.84	250.00	0.00	250.00
BOND-XXXV-DOCO Funding-	9.64	500.00	0.00	500.00
BOND XXXVI-DOCO Funding-	9.35	525.00	0.00	525.00
BOND XXXVII-DOCO Funding-	9.25	226.90	0.00	226.90
BOND XXXVIII-DOCO Funding-	9.25	103.87	0.00	103.87
BOND XXXIX-DOCO Funding-	9.40	114.13	0.00	114.13
SBI (21.03.2012)-Doco loan 3-	10.25	1926.42	0.00	1926.42
BOND XL-DOCO Funding-	9.30	1000.00	0.00	1000.00
BOND - XLI-DOCO Funding-	8.85	1050.00	0.00	1050.00
IFC (IFC - A LOAN) (31419-00)-Doco loan4-60.81	3.23	104.47	0.00	104.47
BOND - XLII-DOCO Funding	7.93	1100.00	0.00	1100.00
BOND XLVI-ADDCAP FOR 2014-2015 addcap loan-	9.30	0.00	312.66	312.66
Total		8201.60	312.66	8514.26

(₹ in lakh)

Particulars	ASSET-II			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXX-DOCO XXX-	8.80	240.00	0.00	240.00
BOND XXXI-DOCO XXXI-	8.90	250.00	0.00	250.00
BOND XXXIII-DOCO XXXIII-	8.64	200.00	0.00	200.00
BOND-XXXIV-DOCO XXXIV-	8.84	200.00	0.00	200.00
BOND-XXXV-DOCO XXXV-	9.64	200.00	0.00	200.00



Particulars	ASSET-II			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXVI-DOCO XXXVI-	9.35	200.00	0.00	200.00
SBI (21.03.2012)-Doco loan 12-	10.25	453.20	0.00	453.20
BOND - XLI-DOCO XLI-	8.85	500.00	0.00	500.00
BOND - XLIII-ADDCAP FOR 2014-2015 addcap loan-	7.93	0.00	12.62	12.62
BOND - XLIII-Doco loan 11-	7.93	487.37	0.00	487.37
BOND XL-DOCO XL-	9.30	200.00	0.00	200.00
		2930.57	12.62	2943.19

(₹ in lakh)

Particulars	ASSET-III			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXX-DOCO LOAN-	8.80	150.00	0.00	150.00
BOND XXXI-DOCO LOAN-	8.90	50.00	0.00	50.00
BOND XXXIII-bond 33-	8.64	267.00	0.00	267.00
SBI (21.03.2012)-ADDCAP FOR 2014-2015 add cap loan-	10.25	0.00	1.07	1.07
SBI (21.03.2012)-Doco loan 10-	10.25	22.39	0.00	22.39
		489.39	1.07	490.46

(₹ in lakh)

Particulars	ASSET-IV			
	2014-19			
	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
Bond XXXIII - doco	8.64	450.00	0.00	450.00
Bond XXXIV- doco Loan 1	8.84	135.00	0.00	135.00
Bond XLVI- doco Loan 2	9.30	310.71	0.00	310.71
Bond XLVIII- doco addcap Loan	8.20	0.00	342.90	342.90
		895.71	342.90	1238.61



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	ASSET-I				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	8201.60	8514.26	8514.26	8514.26	8514.26
Cumulative Repayments of Loans upto Previous Year	113.31	221.71	411.52	982.29	1655.18
Net Loans Opening	8088.29	8292.55	8102.74	7531.97	6859.08
Add: Drawl(s) during the year	312.66	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	108.40	189.81	570.77	672.89	672.89
Net Closing Loan	8292.55	8102.74	7531.97	6859.08	6186.19
Average Net Loan	8190.42	8197.65	7817.36	7195.53	6522.64
Interest on Loan	749.58	750.69	715.12	657.40	595.86
Rate of Interest on Loan (%)	9.1519	9.1574	9.1479	9.1362	9.1353

(₹ in lakh)

Particulars	ASSET-II				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	2930.57	2943.19	2943.19	2943.19	2943.19
Cumulative Repayments of Loans upto Previous Year	94.17	115.00	205.84	409.55	654.92
Net Loans Opening	2836.40	2828.19	2737.35	2533.64	2288.27
Add: Drawl(s) during the year	12.62	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	20.83	90.84	203.71	245.37	245.37
Net Closing Loan	2828.19	2737.35	2533.64	2288.27	2042.90
Average Net Loan	2832.30	2782.77	2635.50	2410.96	2165.59
Interest on Loan	255.55	251.05	237.56	217.07	194.92
Rate of Interest on Loan (%)	9.0226	9.0217	9.0140	9.0035	9.0010

(₹ in lakh)

Particulars	ASSET-III				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	489.39	490.46	490.46	490.46	490.46
Cumulative Repayments of	51.42	55.59	94.51	135.57	176.63



Particulars	ASSET-III				
	2014-15	2015-16	2016-17	2017-18	2018-19
Loans upto Previous Year					
Net Loans Opening	437.97	434.87	395.95	354.89	313.83
Add: Drawl(s) during the year	1.07	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	4.17	38.92	41.06	41.06	41.06
Net Closing Loan	434.87	395.95	354.89	313.83	272.77
Average Net Loan	436.42	415.41	375.42	334.36	293.30
Interest on Loan	38.39	36.56	33.06	29.45	25.83
Rate of Interest on Loan (%)	8.7965	8.8014	8.8058	8.8067	8.8077

(₹ in lakh)

Particulars	ASSET-IV				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	895.71	1238.61	1238.61	1238.61	1238.61
Cumulative Repayments of Loans upto Previous Year	48.75	48.75	97.50	146.25	195.00
Net Loans Opening	846.96	1189.86	1141.11	1092.36	1043.61
Add: Drawl(s) during the year	342.90	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	0.00	48.75	48.75	48.75	48.75
Net Closing Loan	1189.86	1141.11	1092.36	1043.61	994.86
Average Net Loan	1018.41	1165.49	1116.74	1067.99	1019.24
Interest on Loan	89.53	101.48	97.24	93.01	88.77
Rate of Interest on Loan (%)	8.7916	8.7068	8.7077	8.7087	8.7097

