

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 47/TT/2014

Coram:

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

Date of Hearing : 27.01.2016

Date of Order : 29.03.2016

In the matter of:

Determination of transmission tariff for the 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 for Assets under “Transmission System Strengthening in Western part of Western Region for IPPs generation projects in Chhattisgarh (IPP D)” 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. Madhya Pradesh Power Management Company Limited
Shakti Bhawan, Rampur
Jabalpur –482 008
2. Maharashtra State Electricity Distribution Co. Limited
Prakashgad, 4th Floor, Andheri (East),
Mumbai – 400 052
3. Gujarat UrjaVikas Nigam Limited
Sardar Patel VidyutBhawan,
Race Course Road, Vadodara – 390 007
4. Electricity Department
Govt. of Goa



VidyutBhawan, Panaji,
Near Mandvi Hotel, Goa – 403 001

5. Electricity Department
Administration of Daman & Diu
Daman – 396 210
6. Electricity Department
Administration of Dadra Nagar Haveli,
U.T., Silvassa – 396 230
7. Chhattisgarh State Electricity Board
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh – 492 013
8. Madhya Pradesh Audyogik Kendra
Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road,
Indore – 452 008

.....**Respondents**

The following were present:-

For Petitioner: ShriPiyushAwasthi, PGCIL
 Shri A.M Pavgi, PGCIL
 Shri P.V Nath, PGCIL
 ShriMohdMohsin, PGCIL
 Shri M.M Mondal, PGCIL
 ShriRakesh Prasad, PGCIL
 Smt. Sangeeta Edwards, PGCIL
 ShriSubhash C Taneja, PGCIL
 Shri S.K Venkatesan, PGCIL

For Respondent: None

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. (“the petitioner”), a transmission licensee, for determination of transmission tariff for Assets under “Transmission System Strengthening in Western part



of Western Region for IPPs generation projects in Chhattisgarh (IPP D)" in Western Region (hereinafter referred as "transmission asset") under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations") based on actual capital expenditure for the tariff period 2009-14.

2. The respondents are electricity departments and distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of the Western Region.

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner's company vide Memorandum No. C/CP/Chhattisgarh IPP (Part-B) dated 22.11.2011, at an estimated cost of ₹212751 lakh, which included IDC of ₹13573 lakh (based on 2nd quarter 2011 price level). The scope of the scheme was discussed and approved in the 29th Standing Committee Meeting (SCM) of Western Region. The transmission system was later discussed in the 30th SCM of WR constituents. The petitioner has submitted the Revised Cost Estimate (RCE) of the project dated 11.3.2016. As per RCE the cost has been revised, estimated as ₹261956 lakh, including IDC of ₹22169 lakh, based on August, 2015 price level. The petitioner has submitted the revised apportionment cost of the assets in its affidavit dated 21.3.2016 as follows:



Asset Name	Description	Revised apportioned cost (₹ in lakh)
Asset A	3x110 MVAR switchable line reactor to be charged as Bus Reactor 1 at 765/400 kV Wardha Sub-station	3492.31
Asset B	3x110 MVAR switchable line reactor to be charged as Bus Reactor 2 at 765/400 kV Wardha Sub-station	3406.81
Asset C	3x80 MVAR 765 kV line reactor for 765 kV D/C Wardha Aurangabad line 1 ckt#1 to be used as bus reactor at Aurangabad Sub-station	3684.58
Asset D	3x80 MVAR 765 kV bus reactor at Aurangabad Sub-station	2780.52
Asset E	765/400 kV 1500 MVA ICT-2 at Aurangabad Sub-station	5976.44

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

Transmission Lines:

- i) Wardha- Aurangabad 765 kV D/C.
- ii) Aurangabad-Boisar 400 kV D/C (Quad).

Sub-stations:

- i) Establishment of 765/400 kV, 2x1500 MVA Aurangabad sub-station.
- ii) Augmentation of 400/220 kV transformation capacity by 1x500 MVA transformer at Boisar sub-station.
- iii) Extension of 765/400 kV Wardha Sub-station

(c) The petitioner initially filed the petition for the Assets I to VIII on 24.2.2014. However, three of the assets namely Assets-IV, VI and VIII spilled over to 2014-19 tariff period therefore, the petitioner submitted revised tariff forms vide affidavit dated 10.11.2015 for five Assets which got commissioned in 2009-14 tariff period. The petitioner filed separate Petition No 58/TT/2015 considering the spilled over assets along with additional assets commissioned/ likely to be commissioned in the



2014-19 tariff period. The petitioner has claimed transmission charges for the following assets as shown in the table below.

Asset as per Petition No. 47/TT/2014	Revised names of the balance assets	Name of the Asset	Actual COD
Asset-I	Asset A	3x110 MVAR switchable line reactor to be charged as Bus Reactor 1 at 765/400 kV Wardha Sub-station	1.1.2014
Asset-II	Asset B	3x110 MVAR switchable line reactor to be charged as Bus Reactor 2 at 765/400 kV Wardha Sub-station	1.1.2014
Asset-III	Asset C	3x80 MVAR 765 kV line reactor for 765 kV D/C Wardha Aurangabad line 1 ckt#1 to be used as bus reactor at Aurangabad Sub-station	1.3.2014
Asset-IV*		3x80 MVAR 765 kV Line reactor for 765 kV D/C Wardha Aurangabad line 1 ckt#2 to be used as bus reactor at Aurangabad Sub-station	
Asset-V	Asset D	3x80 MVAR 765 kV bus reactor at Aurangabad Sub-station	1.3.2014
Asset-VI*		765/400 kV 1500 MVA ICT-1 at Aurangabad Sub-station	
Asset-VII	Asset E	765/400 kV 1500 MVA ICT-2 at Aurangabad Sub-station	1.3.2014
Asset-VIII*		765 kV D/C Wardha-Aurangabad Line-1 along with bays at both ends	

* Covered under Petition No. 58/TT/2015 (2014-19 tariff period).

(d) The petitioner had submitted in its filings dated 24.2.2014 that, problem of over-voltage in Western region was discussed in the 24th WRPC Meeting held on 9.10.2013 where it was decided that utilities may explore option of converting Line reactors as bus reactors. In view of this, line reactors were commissioned/ anticipated to be commissioned as bus reactors. Further, CEA granted in principle approval vide letter dated 24.12.2013 for



commissioning of 330 MVAR line reactors associated with Wardha-Aurangabad 765 kV D/C line as bus reactors at Wardha 765/400 kV sub-station due to persistent over-voltage conditions.

- (e) The petitioner has claimed revised transmission charges vide affidavit dated 10.11.2015 as under:-

(₹ in lakh)

Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Depreciation	27.30	26.66	13.08	8.66	17.26
Interest on Loan	34.88	33.34	15.38	10.38	21.17
Return on equity	32.31	31.54	15.43	10.34	20.50
Interest on Working Capital	3.36	3.30	1.40	1.07	2.03
O & M Expenses	22.91	22.91	7.64	7.64	13.09
Total	120.76	117.75	52.93	38.09	74.05

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

(₹ in lakh)

Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Maintenance Spares	13.75	13.75	13.75	13.75	23.56
O & M Expenses	7.64	7.64	7.64	7.64	13.09
Receivables	80.51	78.50	105.86	76.19	148.11
Total	101.90	99.89	127.25	97.58	184.76
Rate of Interest (%)	13.20	13.20	13.20	13.20	13.20
Interest	13.45	13.19	16.80	12.88	24.39
Pro-rata Interest	3.36	3.30	1.40	1.07	2.03

- (g) The AFC for Asset- A, Asset-B and Asset-D was allowed under Regulation 5(3) of the 2009 Tariff Regulations vide order dated 13.5.2014, for inclusion in PoC charges.



- (h) The petitioner has claimed tariff for only the 2009-14 tariff period, based on Auditor's certificate dated 5.5.2015 and 6.5.2015. The petitioner has also submitted additional capitalization for 2014-19 tariff period which is not considered for the computation of tariff for 2009-14 tariff period.
- (i) The petitioner submitted SLD of the scheme and RPC approval of the said asset vide affidavit dated 28.1.2016.

4. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 27.1.2016. The petitioner has submitted additional information vide affidavit dated 13.6.2014 and 7.3.2014. The petitioner was directed to file certain information vide letter dated 27.5.2014 and 14.5.2015. The petitioner has submitted the information vide affidavit dated 24.11.2014 and 10.11.2015. The petitioner was further directed vide Record of Proceedings (ROP) dated 2.2.2016 to submit information. In response the petitioner submitted the replies vide affidavit dated 11.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.



Date of Commercial Operation

5. The petitioner has submitted the date of commercial operation of Asset A and Asset-B as 1.1.2014, Asset-C, Asset-D and Asset-E as 1.3.2014. Regulation 3(12) of the 2009 Tariff Regulation provides as follows:

“(a)

(b).....

(c) in relation to the transmission system, the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful charging and trial operation:”

6. The petitioner has submitted the CEA Energisation Certificate in support of its claim of commercial operation of the assets in accordance with Regulation 3(12) of the 2009 Tariff Regulations.

Capital Cost

7. Regulation 7(1) & (2) of the 2009 Tariff Regulations specifies as follows:-

“(1) Capital cost for a project shall include:-

(a) The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (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 fund deployed, up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but not in use shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:



Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff.”

8. The petitioner has submitted revised capital expenditure and additional capitalization for the assets during 2013-14 for the 2009-14 tariff period. Further, the petitioner has submitted Auditor's certificate dated 5.5.2015 for Asset-A and Asset-B, Auditor's certificate dated 6.5.2015 for Asset-C, Asset-D and Asset-E certifying the capital cost of the assets.

9. The petitioner was directed vide letter dated 14.5.2015 to submit the details of element wise actual capital expenditure incurred along with undischarged liability corresponding to the elements of the asset, duly certified by the Auditor along with revised tariff forms for the purpose of truing up. In response, the petitioner vide affidavit dated 10.11.2015 submitted the audited cost certificates based on actual COD and are as follows:

(₹ in lakh)							
Name of the Asset	Apportioned Cost as per RCE	Expenditure up to COD	2013-14	Capital Cost as on 31.3.2014	2014-15	2015-16 (undischarged)	Total Estimated Expenditure
Asset-A	3492.31	1955.95	344.09	2300.04	616.89	161.48	3078.41
Asset-B	3406.81	1855.24	443.74	2298.98	752.92	164.72	3216.62
Asset-C	3684.58	2974.85	146.9	3121.75	361.62	115.16	3598.53
Asset-D	2780.52	2003.73	79.39	2083.12	429.01	115.83	2627.96
Asset-E	5976.44	3597.74	904.54	4502.28	1030.76	182.82	5715.86
Total	19340.66	12387.51	1918.66	14306.2	3191.20	740.01	18237.38



Time Over-run

10. As per investment approval dated 22.11.2011, the schedule completion for the assets is within 32 months from the date of investment approval. Accordingly, the scheduled COD works out to be 21.7.2014 against which Asset-A and Asset-B achieved COD on 1.1.2014 and Asset-C, Asset-D and Asset-E achieved COD on 1.3.2014. Hence, there is no time over-run for the said assets.

Cost Variation

11. The petitioner submitted that there is cost over-run as compared to the FR cost due to higher award cost received in competitive bidding compared to initial estimates. For procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required products/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending on prevailing market conditions. It was further submitted that, variation of actual cost with approved cost of the project is considered as a whole and not separately for each element. The petitioner was directed vide letter dated 27.5.2014 to submit the following:

- Reason behind over-estimation of cost by 26% for Asset-A and 17.37% in case of Asset-B. Reason for the same has been mentioned in Form 5B as decrease in awarded cost. The petitioner was directed to submit justification/ detail of arriving at estimated FR cost regarding the same;



- The petitioner was directed to submit reason for cost variation for following works:

Particulars	Asset-C	Asset-D
Foundation for structure	355.14%	339.11%
Compensating equipment (Reactors, SVC etc)	31.00%	15.73%
Auxiliary system	36.20%	-
Switchgear	-	18.32%

12. The petitioner submitted vide affidavit dated 24.11.2014 submitted that,

- Cost variation for foundation structure and Misc civil works against FR cost is due to price variation, higher bidding cost, vis-à-vis FR estimate and also actual requirement in site.
- In FR, the cost of equipment structure, civil works including building area and other auxiliary equipment are considered on normative basis since actual BOQ is unavailable at the time of preparation of FR, in absence of detailed engineering. Subsequently, final cost is based on actual BOQ requirement of all items including spares and actual site requirement which resulted in increase in the cost.
- Further, FR cost has been prepared considering foundation cost under equipment cost. However in Form- 5B, foundation for structure is shown separately. Due to this, the percentage variation in respect of foundation structure works out to be on the higher side.

13. We have considered the submissions of the petitioner. As per the petitioner's affidavit dated 21.3.2016, RCE is submitted and estimated



completion cost of the assets is well within the revised approved apportioned cost of the assets.

IDC/IEDC

14. The petitioner was directed vide letter dated 14.5.2015, to submit the year wise and loan wise computation of IDC on cash basis from the date of infusion of debt fund upto COD as per the 2009 Tariff Regulations and to submit the following;

- Expenditure head wise details of IEDC
- Whether entire amount pertaining to IDC and IEDC has been actually paid as on COD.

15. The petitioner vide affidavit dated 10.11.2015 requested the Commission to allow tariff on basis of cash outflow. The IDC discharged as submitted by the petitioner is as follows:

Particulars	Total IDC	IDC discharged upto COD	IDC discharged during 2013-14	IDC discharged during 2014-15
Asset-A	47.46	40.39	2.37	4.70
Asset-B	37.71	20.36	1.20	16.15
Asset-C	222.99	78.52	131.23	13.25
Asset-D	118.84	63.93	3.06	51.84
Asset-E	168.29	154.46	7.75	6.08
Total	595.29	357.66	145.61	92.02

16. The petitioner also submitted that, entire IEDC amount as in auditor's certificate is on cash basis and is paid upto COD. The petitioner has further submitted that, accrued IDC discharged during 2013-14 and 2014-15 has not



been included in the additional capitalization for respective years as per Auditor's certificate.

17. It was observed that the petitioner has submitted negative IEDC for the assets as on COD as shown below:

(₹ in lakh)	
Name of the Asset	IEDC Claimed
Asset-A	-9.21
Asset-B	-6.10
Asset-C	-2.99
Asset-D	-3.78
Asset-E	-21.12
Total	-43.20

18. The petitioner vide affidavit dated 21.1.2016 was directed to clarify negative IEDC for the assets. In response the petitioner vide affidavit dated 28.1.2016 submitted that negative IEDC is due to interest amount recovered from initial advance to contractors for the project.

19. We have considered the submissions of the petitioner. It is observed that the petitioner has claimed the entire IDC amount as on COD of the asset (i.e. including accrued IDC for 2013-14 and 2014-15), but claimed tariff only for 2009-14 tariff period. Hence, based on the submissions of the petitioner, IDC discharged upto COD on cash basis considered in the capital cost as on COD for the asset. Similarly, IDC discharged in 2013-14 is considered in the additional capitalization for the 2013-14 tariff period. The IDC claimed for 2014-15 is not considered in this order since the petitioner has claimed tariff till 31.3.2014. The IDC considered is as follows:



Particulars	IDC discharged upto COD	IDC discharged during 2013-14	Total IDC discharged during 2009-14
Asset-A	40.39	2.37	42.76
Asset-B	20.36	1.2	21.56
Asset-C	78.52	131.23	209.75
Asset-D	63.93	3.06	66.99
Asset-E	154.46	7.75	162.21
Total	357.66	145.61	503.27

Initial Spares

20. Regulation 8 of the 2009 Tariff Regulations provides that initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:-

“Transmission line:	0.75%
Transmission sub-station	2.50%
Series compensation devices & HVDC Station:	3.50%”

21. The petitioner was directed vide letter dated 14.5.2015, to clarify whether entire liability has been discharged corresponding to initial spares up to COD. In response, the petitioner vide affidavit dated 10.11.2015 has submitted the year wise details of initial spares discharged for transmission line and sub-station from COD to 2015-16.

(₹ in lakh)				
Name of the Asset	Initial Spares upto COD	2014-15	2015-16	Total
Asset-A	27.82	40.77	6.33	74.92
Asset-B	21.62	33.54	10.73	65.89
Asset-C	21.15	32.25	16.68	70.08
Total	70.59	106.56	33.74	210.89



22. We have considered the petitioner's submission. The initial spares are worked out considering the initial spares discharged from COD of the assets to 2013-14 for the 2009-14 tariff period. No initial spares are claimed by the petitioner for Asset-D and Asset-E. The initial spares claimed for 2014-15 has not been considered in this order. Hence, the initial spares claimed are within the specified limits in accordance to the 2009 Tariff Regulations.

Capital Cost

23. We have considered the submissions of the petitioner. It is observed that the petitioner has claimed tariff for the 2009-14 tariff period only, but has also included the estimated additional capitalization for 2014-19 tariff period while computing the completion cost. We have considered the estimated completion cost only upto 31.3.2014. Further, after considering the IDC on cash basis we have determined the capital cost of the asset as on COD as follows:

(₹ in lakh)			
Particulars	Capital Cost Claimed (A)	Excluding Accrued IDC for 2013-15 (B)	Capital cost Approved (A)-(B)
Asset-A	1955.95	7.07	1948.88
Asset-B	1855.24	17.35	1837.89
Asset-C	2974.85	144.48	2830.37
Asset-D	2003.73	54.90	1948.83
Asset-E	3597.74	13.83	3583.91
Total	12387.51	237.63	12149.88

24. The estimated completion cost as on 31.3.2014 for the assets is well within the approved apportioned cost of the assets.



Additional Capital Expenditure

25. The petitioner has submitted revised capital cost vide affidavit dated 10.11.2015 as ₹1955.95lakh, ₹1855.24lakh, ₹2974.85lakh, ₹2003.73lakh and ₹3597.74lakh for Asset-A, Asset-B, Asset-C, Asset-D and Asset-E respectively as on COD. Further, the petitioner has claimed revised additional capitalization of ₹344.09lakh, ₹443.74lakh, ₹146.90lakh, ₹79.39lakh, and ₹904.54lakh for Asset-A, Asset-B, Asset-C, Asset-D and Asset-E respectively during 2013-14 in the 2009-14 tariff period under Regulation 9(1) of the 2009 Tariff Regulations. The petitioner has submitted that the additional capital expenditure is on account of balance and retention payments for works executed within cut-off date.

26. Clause 9(1) of the 2009 Tariff Regulations provides as under:-

“Additional Capitalisation:

(1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities;

(ii) Works deferred for execution;

(iii) Procurement of initial capital Spares within the original scope of work, subject to the provisions of Regulation 8;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

(v) Change in Law.”

27. The petitioner vide letter dated 21.1.2016 was directed to submit, the asset wise amount of balance and retention payments yet to be made along with details of the contract for which payment has been retained along with amount retained. In response the petitioner vide affidavit dated 28.1.2016 submitted the



contractor wise details for which payment has been made along with projection for expenditure in 2014-15 and 2015-16 for the assets.

28. We have considered the submissions of the petitioner. It is observed that the capital cost including additional capitalization for 2013-14 after adjustment of IDC is within the revised approved apportioned cost of the asset. Hence, the same is considered for the 2009-14 tariff period. The additional capitalization approved in this order is as follows:

(₹ in lakh)				
Name of the Asset	Apportioned Cost as per RCE	Expenditure up to COD	Additional capitalization (2013-14)	Capital cost as on 31.3.2014
Asset-A	3492.31	1948.88	346.46	2295.34
Asset-B	3406.81	1837.89	444.94	2282.83
Asset-C	3684.58	2830.37	278.13	3108.50
Asset-D	2780.52	1948.83	82.45	2031.28
Asset-E	5976.44	3583.91	912.29	4496.20
Total	19340.66	12149.88	2064.27	14214.15

Debt:EquityRatio

29. Regulation 12 of the 2009 Tariff Regulations provides as under:-

“12. Debt-Equity Ratio. (1) For a project declared under commercial operation on or after 1.4.2009, 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 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.”

30. The petitioner vide letter dated 21.1.2016 was directed to submit an undertaking that the actual equity infused for capital cost and additional capitalization in the tariff period 2009-14 is not less than 30%. In response the petitioner vide affidavit dated 28.1.2016 submitted that the actual loan deployed in Form-13 is 70% of additional capitalization for 2013-14, therefore equity infused for additional capitalization during the 2009-14 tariff period is 30% for the asset as indicated in Form 1A as per Clause 12(1) and 12(3) of the 2009 Tariff Regulations.

31. The details of the debt: equity considered for the purpose of tariff for the 2009-14 tariff period is as follows:

(₹ in lakh)

Particulars	Capital Cost as on COD		Completion cost including additional capitalization	
	Amount	(%)	Amount	(%)
Asset- A				
Debt	1364.22	70.00	1606.74	70.00
Equity	584.66	30.00	688.60	30.00
Total	1948.88	100.00	2295.34	100.00
Asset- B				
Debt	1286.52	70.00	1597.98	70.00



Particulars	Capital Cost as on COD		Completion cost including additional capitalization	
Equity	551.37	30.00	684.85	30.00
Total	1837.89	100.00	2282.83	100.00
Asset- C				
Debt	1981.26	70.00	2175.95	70.00
Equity	849.11	30.00	932.55	30.00
Total	2830.37	100.00	3108.50	100.00
Asset- D				
Debt	1364.18	70.00	1421.90	70.00
Equity	584.65	30.00	609.38	30.00
Total	1948.83	100.00	2031.28	100.00
Asset- E				
Debt	2508.74	70.00	3147.34	70.00
Equity	1075.17	30.00	1348.86	30.00
Total	3583.91	100.00	4496.20	100.00

Interest on Loan ("IOL")

32. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

33. The petitioner was directed vide affidavit dated 14.5.2015 to submit loan agreements in respect of loan(s) indicated in Form-13 of the revised tariff forms, supporting documents for date of drawl, applicable interest rate of loan from time to time and repayment schedule. The petitioner was also directed to submit applicable exchange rate as on date of payment of interest on loan. In response vide affidavit dated 10.11.2015, the petitioner has submitted the relevant documents.



34. We have considered the submissions of the petitioner and the respondent and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations.

Particulars	(₹ in lakh) 2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Gross Normative Loan	1364.22	1286.52	1981.26	1364.18	2508.74
Cumulative Repayment up to Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loan-Opening	1364.22	1286.52	1981.26	1364.18	2508.74
Additions	242.52	311.46	194.69	57.72	638.60
Repayment during the year	27.23	26.44	12.74	8.43	17.22
Net Loan-Closing	1579.51	1571.54	2163.21	1413.47	3130.12
Average Loan	1471.86	1429.03	2072.24	1388.83	2819.43
Weighted Average Rate of Interest on Loan (%)	8.7000	9.2559	8.6768	8.7313	8.9864
Interest	32.01	33.07	14.98	10.11	21.11

Return on Equity("ROE")

35. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provide that:-

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

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

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

(5) The generating company or the transmission licensee, as the case maybe, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate



Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the 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 trued up in accordance with Regulation 6 of these regulations.”

36. The petitioner was directed vide affidavit dated 27.5.2014 to submit the year wise MAT rate/ corporate tax rate applicable during 2009-14 tariff period. In response the petitioner submitted that, MAT rate applicable to the petitioner for various years as per Finance Act of the relevant years and the revised grossed up ROE are as given in the table below:

Particulars	MAT Rate (t) %	Grossed up ROE (Base rate/(1-t)) %
2013-14	20.961	19.610

37. The petitioner has claimed additional ROE of 0.5%, since the elements covered in this project have executed within the time schedule specified in Appendix-II to the Regulations. However, the petitioner has not submitted documentary evidence of whether all the elements of the project has been completed with the schedule. Hence, the additional ROE claimed is not allowed.

38. The petitioner has computed ROE at the rate of 20.243% 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. 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. The computation of ROE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14.

39. The computation of ROE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during the 2009-14 tariff period as below:

Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Opening Equity	584.66	551.37	849.11	584.65	1075.17
Additions	103.94	133.48	83.44	24.74	273.69
Closing Equity	688.60	684.85	932.55	609.38	1348.86
Average Equity	636.63	618.11	890.83	597.02	1212.02
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the respective 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)	31.21	30.30	14.56	9.76	19.81

Depreciation

40. Clause (42) of Regulation 3 of the 2009 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) Hydro generating station	35 years
(e) Transmission line	35 years”

41. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provides as follows:-

"17. Depreciation:

...
(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.”

42. The weighted average useful life of the transmission asset has been considered as per Regulations 3 (42) and 17 (4) of the 2009 Tariff Regulations. For the purpose of calculation, the weighted average useful life of the asset has been considered as 25 years. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:

Particulars	(₹ in lakh)				
	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Opening Gross Block	1948.88	1837.89	2830.37	1948.83	3583.91
Additional Capitalization	346.46	444.94	278.13	82.45	912.29
Closing Gross block	2295.34	2282.83	3108.50	2031.28	4496.20
Average Gross block	2122.11	2060.36	2969.44	1990.06	4040.06
Rate of Depreciation (%)	5.132	5.133	5.147	5.081	5.114
Depreciable Value	1909.90	1854.32	2672.49	1791.05	3636.05



Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Elapsed Life of the assets at beginning of the year	0	0	0	0	0
Weighted Balance Useful life of the assets	25	25	25	25	25
Remaining Depreciable Value at the beginning of the year	1909.90	1854.32	2672.49	1791.05	3636.05
Depreciation	27.23	26.44	12.74	8.43	17.22

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

43. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies norms for O&M Expenses for transmission system based on type of Sub-stations and the transmission line. Norms specified in respect of O&M Expenses for transmission asset covered in the instant petition are as hereinafter:-

Particulars		Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Number of Bays	765 kV Bays(Nos)	1	1	1	1	1
	400 kV Bays (Nos)	-	-	-	-	1
Norms as per Regulation	765 kV (₹ lakh/bay)	91.64	91.64	91.64	91.64	91.64
	400 kV (₹ lakh/bay)	65.46	65.46	65.46	65.46	65.46
Total	₹ in lakh (Pro-rata)	22.91	22.91	7.64	7.64	13.09

44. The petitioner has submitted that norms for O&M Expenses for the year 2009-14 had been arrived at on the basis of normalized actual O&M Expenses during the period 2003-04 to 2007-08 and by escalating it by 5.72% per annum for arriving at norms for the years of tariff period. The wage hike of 50% on



account of pay revision of the employees of public sector undertaking has also been considered while calculating the O&M Expenses for the tariff period 2009-14. The petitioner has further submitted that it may approach the Commission for suitable revision in norms for O&M Expenses due to impact of wage revision.

45. The petitioner has also submitted that the claim for transmission tariff is exclusive of any statutory taxes, levies, duties, cess or any other kind of impositions, etc. Such kinds of payments are generally included in the O&M Expenses. While specifying the norms for the O&M Expenses, the Commission has in the 2009 Tariff Regulations, given effect to impact of pay revision by factoring 50% on account of pay revision of the employees of PSUs.

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

Particulars	(₹ in lakh)				
	2013-14 (Pro rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
O&M Expenses Allowed	22.91	22.91	7.64	7.64	13.09

Interest on Working Capital (“IWC”)

47. Sub-clause (c) of Clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and Clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest of working capital.

48. The petitioner has submitted that the rate of interest on working capital has been considered as 13.20% as per Clause (3) of Regulation 18 of the 2009



Tariff Regulations and the components of working capital are also considered in accordance with Sub-clause (c) of Clause (1) of Regulation 18 of the 2009 Regulations.

49. In accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation after 1.7.2010 shall be equal to SBI Base Rate plus 350 basis points as on 1st April of the year in which the transmission asset was declared under commercial operation. State Bank of India base Rate as on 1.4.2013 was 9.70%. Therefore, interest rate of 13.20% has been considered to work out the interest on working capital in the instant case.

50. Computations in support of interest on working capital allowed are as follows:-

Particulars	(₹ in lakh)				
	2013-14 (Pro rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Maintenance Spares	3.44	3.44	1.15	1.15	1.96
O & M expenses	1.91	1.91	0.64	0.64	1.09
Receivables	19.44	19.33	8.55	6.16	12.21
Total	24.78	24.67	10.33	7.94	15.26
Rate of Interest (%)	13.20	13.20	13.20	13.20	13.20
Interest	3.27	3.26	1.36	1.05	2.01

Annual Transmission Charges

51. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2009-14 is summarised below:-



(₹ in lakh)

Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Gross Block					
Opening Gross Block	1948.88	1837.89	2830.37	1948.83	3583.91
Additional Capitalization	346.46	444.94	278.13	82.45	912.29
Closing Gross block	2295.34	2282.83	3108.50	2031.28	4496.20
Average Gross block	2122.11	2060.36	2969.44	1990.06	4040.06
Depreciation					
Rate of Depreciation (%)	5.132	5.133	5.147	5.081	5.114
Depreciable Value	1909.90	1854.32	2672.49	1791.05	3636.05
Elapsed Life of the assets at beginning of the year	0	0	0	0	0
Weighted Balance Useful life of the assets	25	25	25	25	25
Remaining Depreciable Value	1909.90	1854.32	2672.49	1791.05	3636.05
Depreciation	27.23	26.44	12.74	8.43	17.22
Interest on Loan					
Gross Normative Loan	1364.22	1286.52	1981.26	1364.18	2508.74
Cumulative Repayment upto Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loan-Opening	1364.22	1286.52	1981.26	1364.18	2508.74
Additions	242.52	311.46	194.69	57.72	638.60
Repayment during the year	27.23	26.44	12.74	8.43	17.22
Net Loan-Closing	1579.51	1571.54	2163.21	1413.47	3130.12
Average Loan	1471.86	1429.03	2072.24	1388.83	2819.43
Weighted Average Rate of Interest on Loan (%)	8.7000	9.2559	8.6768	8.7313	8.9864
Interest	32.01	33.07	14.98	10.11	21.11
Return on Equity					
Opening Equity	584.66	551.37	849.11	584.65	1075.17
Additions	103.94	133.48	83.44	24.74	273.69
Closing Equity	688.60	684.85	932.55	609.38	1348.86
Average Equity	636.63	618.11	890.83	597.02	1212.02



Particulars	2013-14 (Pro-rata)				
	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the respective 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)	31.21	30.30	14.56	9.76	19.81
Interest on Working Capital					
Maintenance Spares	3.44	3.44	1.15	1.15	1.96
O & M Expenses	1.91	1.91	0.64	0.64	1.09
Receivables	19.44	19.33	8.55	6.16	12.21
Total	24.78	24.67	10.33	7.94	15.26
Interest	3.27	3.26	1.36	1.05	2.01
Annual Transmission Charges					
Depreciation	27.23	26.44	12.74	8.43	17.22
Interest on Loan	32.01	33.07	14.98	10.11	21.11
Return on Equity	31.21	30.30	14.56	9.76	19.81
Interest on Working Capital	3.27	3.26	1.36	1.05	2.01
O & M Expenses	22.91	22.91	7.64	7.64	13.09
Total	116.63	115.98	51.28	36.97	73.24

Filing Fee and the Publication Expenses

52. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 42 of the 2009 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 Regulation 42 of the 2009 Tariff Regulations.

Licence Fee

53. The petitioner has requested to allow the petitioner to bill and recover Licence fee separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee in accordance with Clause (1)(b) of Regulation 42A of the 2009 Tariff Regulations.

Service Tax

54. 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

55. 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.

56. This order disposes of Petition No. 47/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member



-// ANNEXURE-I //

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO

(₹ in lakh)

Asset-A	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXXIX-Loan 1-	9.40	14.00	0.00	14.00
SBI(21.3.2012)- Loan 2-	10.25	45.00	0.00	45.00
SBI(21.3.2012)-Loan 8-	10.25	979.00	0.00	979.00
BOND-XL-Loan 3-	9.30	20.00	0.00	20.00
BOND-XLI Loan 4-	8.85	26.00	0.00	26.00
BOND - XLII- Loan 6-	8.80	2.00	0.00	2.00
IFC(IFC- A LOAN) (31419-00)-doco-62.41	3.28	3.99	0.00	3.99
FC- BOND (17.1.2013)- Loan 7-62.41	4.10	66.03	0.00	66.03
BOND-XLIII-Loan 9-	7.93	213.17	0.00	213.17
BOND-XLIV-ADDCAP FOR 2013-14 Loan 10-	8.70	0.00	240.86	240.86
Total		1369.19	240.86	1610.05

(₹ in lakh)

Asset-B	Interest Rate (%)	Loan deployed as on 1.10.2013	Additions during the tariff period	Total
SBI (21.3.2012)-Loan 1-	10.25	5.00	0.00	5.00
SBI(21.3.2012)- Loan 7-	10.25	854.83	0.00	854.83
BOND-XLI-Loan 3-	8.85	23.00	0.00	23.00
BOND-XLII Loan 5-	8.80	2.00	0.00	2.00
IFC (IFC-A Loan) (31419-00)-Loan 4-62.41	3.28	3.00	0.00	3.00
FC BOND (17.01.2013)-Loan 6-62.41	4.09	56.98	0.00	56.98
BOND-XLIII-Loan 8-	7.93	336.84	0.00	336.84
BOND-XLIV-ADDCAP FOR 2013-2014 Loan9-	8.70	0.00	310.62	310.62
BOND XL-Loan 2-	9.30	17.00	0.00	17.00
		1298.65	310.62	1609.27



(₹ in lakh)

Asset- C	Interest Rate (%)	Loan deployed as on 1.1.2014	Additions during the tariff period	Total
BOND XXXIX-Loan 1-	9.40	630.00	0.00	630.00
SBI (21.03.2012)-Loan 2-	10.25	23.00	0.00	23.00
BOND-XL-Loan 3-	9.30	42.00	0.00	42.00
BOND XLI-Loan 4-	8.85	57.00	0.00	57.00
BOND-XLII-Loan 6-	8.80	246.00	0.00	246.00
BOND - XLII-Loan 8-	8.80	652.00	0.00	652.00
IFC(IFC- A LOAN) (31419-01)-doco-62.65	3.26	8.14	0.00	8.14
FC BOND(17.01.2013)-Loan 7- 62.65	4.10	142.22	0.00	142.22
BOND-XLIV- Loan 9-	8.70	282.04	0.00	282.04
BOND-XLV-ADDCAP FOR 2013-14-Loan-10-	9.65	0.00	102.83	102.83
		2082.40	102.83	2185.23

(₹ in lakh)

Asset-D	Interest Rate (%)	Loan deployed as on 1.3.2014	Additions during the tariff period	Total
BOND XXXIX-Loan 1-	9.40	29.00	0.00	29.00
SBI (21.03.2012)-Loan 2-	10.25	21.00	0.00	21.00
SBI (21.03.2012)-Loan 8-	10.25	248.17	0.00	248.17
BOND XL-Loan 3-	9.30	390.00	0.00	390.00
BOND-XLI-Loan 4-	8.85	54.00	0.00	54.00
BOND - XLII-Loan 6-	8.80	5.00	0.00	5.00
IFC(IFC- A LOAN) (31419-01)-doco-62.65	3.26	8.14	0.00	8.14
FC BOND(17.01.2013)-Loan 7- 62.65	4.09	134.07	0.00	134.07
FC-BOND (17.1.2013)-Loan-9-63.12	8.70	513.22	0.00	513.22
FC-BOND (17.01.2013)-Loan 63.12	9.65	0.00	55.57	55.57
		1402.60	55.57	1458.17

(₹ in lakh)

Asset- E	Interest Rate (%)	Loan deployed as on 1.1.2014	Additions during the tariff period	Total
BOND XXXIX-Loan 1-	9.40	74.00	0.00	74.00



SBI (21.03.2012)-Loan 2-	10.25	560.00	0.00	560.00
BOND XL- Loan3-	9.30	103.00	0.00	103.00
BOND XLI-Loan 4-	8.85	139.00	0.00	139.00
BOND-XLII-Loan 6-	8.80	12.00	0.00	12.00
IFC(IFC- A LOAN) (31419-01)- doco-62.65	3.26	20.05	0.00	20.05
FC BOND(17.01.2013)-Loan 7- 62.65	4.10	344.58	0.00	344.58
BOND- XLV-ADD CAP FOR 2013- 2014 Loan 9-	9.65	0.00	633.18	633.18
BOND- XLV- Loan 8-	9.65	1265.79	0.00	1265.79
		2518.42	633.18	3151.60

**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2013-14**

(₹ in lakh)					
Particulars	Asset-A	Asset-B	Asset-C	Asset-D	Asset-E
Gross Opening Loan	1369.19	1298.65	2082.40	1402.60	2518.42
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loans Opening	1369.19	1298.65	2082.40	1402.60	2518.42
Add: Drawl(s) during the year	240.86	310.62	102.83	55.57	633.18
Less: Repayment(s) of Loan during the year	0.00	0.00	0.00	0.00	0.00
Net Closing Loan	1610.05	1609.27	2185.23	1458.17	3151.60
Average Net Loan	1489.62	1453.96	2133.82	1430.39	2835.01
Interest on Loan	140.83	134.58	185.15	124.89	254.77
Rate of Interest on Loan (%)	9.4543	9.2559	8.6768	8.7313	8.9864

