

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 96/TT/2017

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A. K. Singhal, Member
Shri A. S. Bakshi, Member
Dr. M. K. Iyer, Member**

Date of Order : 11.09.2017

In the matter of:

Truing up of transmission tariff of 2009-14 tariff period under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 of assets under Petition No. 166/TT/2013: Asset 1: Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV Double Circuit Transmission line with associated bays, Asset 2(a): 765/400 kV 1500 MVA ICT-1 with associated bays & Asset 2(b) : 765 kV, 240 MVAR Bus Reactor at Raigarh (near Tamnar) with bays and of Assets under Petition No. 307/TT/2013: Asset 1: 765/400 kV 1500 MVA ICT-2 at Raigarh PS (near Tamnar) with associated bays & Asset 2: 765/400 kV 1500 MVA ICT-3 at Raigarh PS (near Tamnar) with associated bays for IPP generation projects in Chhattisgarh Set B in Western Region under Regulation 86 of the 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**

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur
Jabalpur-482 008
2. Maharashtra State Electricity Distribution Company Limited,
5th Floor, Prakashgad,
Bandra (East),



Mumbai-400 052

3. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road,
Vadodara-390 007
4. Electricity Department,
Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001
5. Electricity Department,
Administration of Daman and 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) Limited,
3/54, Press Complex, Agra-Bombay Road
Indore-452 008

.....**Respondents**

For Petitioner : Shri S.K. Venkatesan, PGCIL
Shri Rakesh Prasad, PGCIL
Shri B. Dash, PGCIL

For Respondents : None



ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for truing up of capital expenditure of 2009-14 tariff period of assets under Petition No. 166/TT/2013: Asset 1: Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV Double Circuit Transmission line with associated bays, Asset 2(a): 765/400 kV 1500 MVA ICT-1 with associated bays & Asset 2(b): 765 kV, 240 MVAR Bus Reactor at Raigarh (near Tamnar) with bays and of assets under Petition No.307/TT/2013: Asset 1: 765/400 kV 1500 MVA ICT-2 at Raigarh PS (near Tamnar) with associated bays & Asset 2: 765/400 kV 1500 MVA ICT-3 at Raigarh PS (near Tamnar) with associated bays for IPP generation projects in Chhattisgarh Set B (hereinafter referred to as “transmission assets”) in Western Region, 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 period from COD to 31.3.2014 and for determination of tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

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

- a) The investment approval for the Scheme was accorded by Board of Directors of the petitioner company vide Memorandum No. C/CP/Chhattisgarh-IPP dated 31.5.2011 at an estimated cost of ₹196187 lakh, including Interest



During Construction (IDC) of ₹12572 lakh (based on 4th Quarter, 2010 price level). Subsequently, Revised Cost Estimate (RCE) of the project was approved by Board of Directors on 11.3.2016 at an estimated cost of ₹231058 lakh including IDC of ₹16500 lakh (based on December, 2015 price level).

b) As per the investment approval dated 31.5.2011, the project was to be commissioned within 36 months from the date of investment approval. Accordingly, the Schedule date of commercial operation was 1.6.2014.

c) The status of various assets covered under the scope of the instant project are tabulated as below:-

S. No.	Details of assets	COD	Petition No
Assets commissioned during 2009-14 Period .			
1.	Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV D/C Transmission Line with associated bays	1.11.2013	Order dated 17.3.2016 in Petition No. 166/TT/2013
2.	765/400 kV 1500 MVA Auto-Transformer and 765 kV 4*80 MVAR Bus Reactor at Raigarh (near Tamnar)	1.11.2013	
3	765 kV 4*80 MVAR Bus Reactor at Raigarh at Raigarh (near Tamnar)	1.12.2013	
4	765/400 kV, 3x500 MVA ICT-2 at Raigarh PS (Near Tamnar) alongwith with associated bays	1.12.2013	Order dated 31.12.2015 in Petition No. 307/TT/2013
5.	765/400 kV, 3x500 MVA ICT-3 at Raigarh PS (Near Tamnar) alongwith with associated bays	1.3.2014	
Assets commissioned during 2014-19 Period			
6	765 kV D/C Champa Pooling Station-Raipur Pooling Station Transmission Line and associated bays at Raipur PS only	24.5.2014	Order dated 15.2.2016 in Petition No. 45/TT/2014
7	765 kV S/C Champa PS-Dharamjaygarh Sub-staion, Transmission Line & Bays at Dharamjaygarh Sub-station only	Tariff was claimed in Petition No. 307/TT/2013 for 2009-14 period on anticipated COD. However, asset was put under commercial operation in 2014-19 tariff period.	



		Tariff was claimed in Petition No. 260/TT/2015 under 2014 Tariff Regulations and was granted vide order dated 30.5.2016.	
8	Champa PS – Dharamjaygarh (Korba) 765 kV S/C T/L along with Bays at Dharamjaygarh Sub-station	24.5.2014	Order dated 30.5.2016 in Petition No. 260/TT/2015
9	Raigarh PS (near Kotra) - Champa PS 765 kV S/C Transmission Line along with associated bays and One no. bay at Champa PS for one ckt. of Champa PS-Raipur PS 765 kV D/C Transmission Line	31.5.2015	
10	765/400 kV 1500 MVA ICT-1 at 765/400 kV Champa PS	13.6.2015	
11	765/400 kV 1500 MVA ICT-2 & 765 kV, 240 MVAR Bus Reactor at 765/400 kV Champa PS	26.3.2016	
12	400 kV, 80 MVAR Bus Reactor at Champa PS	27.3.2016	
13	765/400 kV 1500 MVA ICT-3, 765/400 kV 1500 MVA ICT-4, 765/400 kV 1500 MVA ICT-5 & 765/400 kV 1500 MVA ICT-6 along with associated bays & one No. 765 kV bay at Champa for one ckt. of Champa PS - Raipur PS 765 kV D/C T/L and 765 kV Dharamjaygarh line bay at Champa PS for 765 kV S/C Champa PS - Dharamjaygarh S/S T/L	15.6.2016 (Anticipated)	

Assets covered in the instant petition:-

d) The details of the assets covered in the instant petition and their COD are as follows:-

Asset No.	Asset description	Scheduled COD	Actual COD	Time over-run
Asset A1.	Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV D/C Transmission Line with associated bays.	1.6.2014	1.11.2013	No
Asset A2(a)	765/400 kV 1500 MVA Auto-Transformer and 765 kV 4*80 MVAR Bus Reactor at Raigarh (near Tamnar).	1.6.2014	1.11.2013	No
Asset A2(b)	765 kV 4*80 MVAR Bus Reactor at Raigarh at Raigarh (near Tamnar)	1.6.2014	1.12.2013	No
Asset B1	765/400 kV, 3x500 MVA ICT-2 at	1.6.2014	1.12.2013	No



	Raigarh PS (Near Tamnar) alongwith with associated bays.			
Asset B2	765/400 kV, 3x500 MVA ICT-3 at Raigarh PS (Near Tamnar) alongwith associated bays	1.6.2014	1.3.2014	No

3. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act, 2003 ("the Act"). The petitioner has served the petition on the respondents. M.P. Power Management Company Limited (MPPMCL), Respondent No. 1, has filed reply vide affidavit dated 22.5.2017. MPPMCL has raised issues of initial spares and additional capitalisation. The petitioner has filed rejoinder, vide affidavit dated 31.5.2017, to the reply of MPPMCL. The issues raised by the respondent and the clarifications given by the petitioner are dealt in the respective para of this order.

4. The hearing in the matter was held on 20.6.2017. Having heard the representatives of the petitioner, respondents and perused the material on record, we proceed to dispose of the petition.

5. The capital cost allowed for the instant assets vide order dated 17.3.2016 and 31.12.2015 in Petition Nos. 166/TT2013 and 307/TT/2013 respectively is summarized below:-



(₹ in lakh)

Asset	Appor- tioned approved cost as per FR	Appor- tioned approved cost as per RCE	Expendi- ture up to COD (claimed)	Capital cost allowed as on COD	Add Cap (admit- ted)	Estimated comple- tion cost as on 31.3.2014 (allowed)	Petition No.
Asset 1	27786.33	34556.94	25582.11	25199.87	3854.07	29053.94	Order dated 17.3.2016 in Petition No. 166/ TT/2013
Asset 2(a)	12395.32	8081.20	5969.64	5892.71	981.87	6874.58	
Asset 2(b)		4212.95	2053.73	1958.37	938.05	2896.42	
Asset 1	6055.26	5328.85	4069.45	3984.16	560.10	4544.26	Order dated 31.12.2015 in Petition No.307/TT/ 2013
Asset 2	6081.19	5253.65	3653.34	3561.28	1086.32	4647.60	
Total	52318.10	57433.59	41328.27	40596.39	7420.41	48016.80	

6. The Annual Fixed Charges allowed vide orders dated 17.3.2016 and 31.12.2015 for the instant assets are as follows:-

(₹ in lakh)

Particulars	Petition No.166/TT/2013			Petition No.307/TT/2013	
	Asset-1	Asset 2(a)	Asset 2(b)	Asset-1	Asset-2
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Depreciation	558.67	135.56	41.03	73.40	17.54
Interest on Loan	565.76	152.27	43.06	77.79	19.17
Return on Equity	664.96	156.48	47.60	83.62	20.12
Interest on Working Capital	49.77	13.53	4.61	8.11	1.99
O & M Expenses	176.21	65.46	30.55	52.37	13.09
Total	2015.37	523.30	166.85	295.29	71.91

Truing-up of Annual Fixed Charges of 2009-14 period

7. The tariff of 2009-14 has been trued up as discussed below.

Capital Cost

8. Regulation 6 of the 2009 Tariff Regulations provides as under:-

“6. Truing up of Capital Expenditure and Tariff.



(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013- 14 for revision of tariff.

(2) The generating company or the transmission licensee, as the case may be, shall make an application, as per Appendix I to these regulations, for carrying out truing up exercise in respect of the generating station a unit or block thereof or the transmission system or the transmission lines or sub-stations thereof by 31.10.2014;

(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors;

(4) Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall refund to the beneficiaries or the transmission customers, as the case may be, the excess amount so recovered along with simple interest at the rates specified in the proviso to this regulation.

(5) Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations, the generating company or the transmission licensee, as the case may be, shall recover from the beneficiaries or the transmission customers, as the case may be, the under-recovered amount along with simple interest at the rates specified in the proviso to this regulation.

(6) The amount under-recovered or over-recovered, along with simple interest at the rates specified in the proviso to this regulation, shall be recovered or refunded by the generating company or the transmission licensee, as the case may be, in six equal monthly installments starting within three months from Page 3 of 6 the date of the tariff order issued by the Commission after the truing up exercise.

Provided that the rate of interest, for clauses (4), (5) and (6) of this regulation, for calculation of simple interest shall be considered as under:

(i) SBI short-term Prime Lending Rate as on 01.04.2009 for the year 2009-10.

(ii) SBI Base Rate as on 01.07.2010 plus 350 basis points for the year 2010-11.

(iii) Monthly average SBI Base Rate from 01.07.2010 to 31.3.2011 plus 350 basis points for the year 2011-12.

(iv) Monthly average SBI Base Rate during previous year plus 350 basis points for the year 2012-13 & 2013-14.”



9. Details of apportioned approved cost, cost as per RCE, and actual additional capitalization claimed upto 31.3.2014 along with projected expenditure during 2014-19 period as per Auditor Certificate dated 24.11.2016 for the assets covered in this petition are summarized below:-

(₹ in lakh)

Capital cost as on COD along with additional capitalization claimed as per Auditor certificate						
Asset	Apportioned cost as per Inv. Approval	Apportioned cost as per RCE	COD	Capital cost as on COD	Add-cap during 2013-14	Total as on 31.3.2014
Asset- A1	27786.33	34556.94	1.11.2013	25582.11	3577.66	29159.77
Asset- A2(a)	12395.32	8081.20	1.11.2013	5969.64	1039.06	7008.70
Asset-A2(b)		4212.95	1.12.2013	2053.72	1009.61	3063.33
Asset-B1	6055.26	5328.85	1.12.2013	4069.46	513.11	4582.57
Asset-B2	6081.19	5253.65	1.3.2014	3653.34	1078.48	4731.82
Total	52318.10	57433.59	--	41328.27	7217.92	48546.19

Treatment of IDC

10. The petitioner has submitted, in the IDC statement sheet, the information related to IDC and mentioned the year-wise discharge of the entire claimed IDC. Based on the available information, the IDC has been worked out on cash basis up to COD for all the assets, i.e. loan details mentioned in Form-13 and the working sheet of the IDC, submitted by the petitioner. The asset wise details of IDC claimed in Auditor certificate and IDC worked out and considered for tariff purpose are as follows:-



(₹ in lakh)

Particulars	IDC Claimed	Entitled IDC as on COD as worked out	IDC dis-allowed as on COD due to computation difference (A-B)	Un-discharge d portion of Entitled IDC as on COD	IDC Allowed on cash basis as on COD	Discharge of IDC: Allowed as ACE of 2013-14	Discharge of IDC: Allowed as ACE of 2014-15 (in 2014-19 period)
a	b	c	d=b-c	E	f=b-d-e	g	h
Asset-A1	1664.53	1664.53	0.00	382.24	1282.29	276.41	105.83
Asset-A2(a)	504.49	500.82	3.67	79.19	421.63	48.02	31.17
Asset-A2(b)	180.68	176.08	4.60	39.27	136.81	24.88	14.39
Asset-B1	313.06	308.97	4.09	80.48	228.50	25.28	55.20
Asset-B2	218.90	218.90	0.00	91.78	127.12	7.84	83.94
Total	2881.66	2869.30	12.36	672.95	2196.35	382.43	290.52

Treatment of IEDC

11. The petitioner has submitted that the entire IEDC claimed, in case of all the instant assets, has been discharged as on COD. The IEDC limit indicated in the 'Abstract Cost Estimate', which is 5% of the "Hard Cost" is considered. As the IEDC claimed as on COD is lower than 5% of the "Hard Cost", it is being allowed for the tariff calculation purpose.

(₹ in lakh)

Asset	IEDC	
	Claimed as per Auditor's certificate dated 24.11.16	Allowed
Asset 1	288.24	288.24
Asset 2(a)	79.19	79.19
Asset 2(b)	30.01	30.01
Asset 1	51.57	51.57
Asset 2	51.83	51.83
Total	500.84	500.84

Treatment of initial spares

12. MPPMCL has submitted that initial spares may be allowed as per the norms specified in the 2009 Tariff Regulations. In response, the petitioner has submitted that initial spares has been restricted in its order dated 17.3.2016 in Petition



No.166/TT/2013 while allowing tariff for the assets covered in the said petition. However, in Petition No.33/TT/2013, the Commission vide order dated 25.4.2013, allowed initial spares considering the ceiling limit of Project as a whole instead of applying element wise. The petitioner has further submitted that after clubbing of assets for the purpose of tariff of the Project as whole, individual elements have lost their identity and therefore restricting of initial spares on individual elements becomes infructuous.

13. We have considered the submissions of MPPMCL and the petitioner. Initial spares are allowed in the instant petition on the basis of the capital cost of the individual assets as the assets do not lose their individuality even though they are combined for the purpose of allowing a single tariff at the stage of triung-up. The petitioner has claimed initial spares pertaining to sub-station and transmission line. The petitioner has not submitted the discharge details of the initial spare. Hence, it has been assumed that initial spare claimed are discharged as on COD. Accordingly, the excess initial spare claimed has been adjusted from the capital cost as on COD. The details of the initial spares claimed and allowed for the instant assets are summarized in the table below:-

(₹ in lakh)

Assets	Cut-off Date	Element	Total cost as on available cut-off date	Initial spares claimed	Ceiling limits as per 2009 Tariff Regulations	Initial Spares worked out	Total Excess Initial spares
Asset-A1	31.3.2016	T/L	22375.87	173.64	0.75%	167.78	5.86
		S/S	7813.68	268.99	2.50%	193.45	75.54
Asset-A2(a)	31.3.2016	S/S	7827.58	196.93	2.50%	195.66	1.27
Asset-A2(b)	31.3.2016	S/S	3330.97	100.85	2.50%	82.82	18.03



Asset-B1	31.3.2016	S/S	5061.42	132.38	2.50%	126.39	5.99
Asset-B2	31.3.2017	S/S	5063.71	110.92	2.50%	110.92	0.00

Capital Cost allowed as on COD

14. Based on the above, the summary of capital cost allowed as on COD are shown below:-

(₹ in lakh)						
Asset	Capital cost as on COD claimed by the petitioner	IDC dis-allowed due to difference in computation	Un-discharged IDC as on COD	IEDC disallowed on COD	Excess Initial Spares disallowed	Capital cost as on COD considered for tariff calculation
1	2	3	4	5	6	7= (2-3-4-5-6)
Asset-A1	25582.11	0.00	382.24	0.00	81.40 (75.54+5.86)	25118.47
Asset-A2(a)	5969.64	3.67	79.19	0.00	1.27	5885.51
Asset-A2(b)	2053.72	4.60	39.27	0.00	18.03	1991.82
Asset-B1	4069.46	4.09	80.48	0.00	5.99	3978.90
Asset-B2	3653.34	0.00	91.78	0.00	0.00	3561.56
Total	41328.27	12.36	672.96	0.00	106.69	40536.26

Additional Capital Expenditure

15. Regulation 9 (1) of the 2009 Tariff Regulations specifies as under:-

“9. 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
- (i) Change in law:

Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.”



16. The cut-off date for Asset-A1, Asset-A2(a), Asset-A2(b) and Asset-B1 is 31.3.2016 and the cut-off date for Asset B2 is 31.3.2017. Additional capital expenditure has been allowed as per Clause 9(1) of the 2009 Tariff Regulations. Liability pertaining to IDC has been allowed as additional capital expenditure in the concerned financial year to the extent it has been actually discharged. Based on the information submitted for the purpose of truing up, the Additional Capital Expenditure allowed during the tariff period 2009-14 is summarized below:-

(₹ in lakh)

Particulars	Claimed Add Cap for 2013-14 as per Auditor Certificate			Allowed Add Cap (including discharge of liability)		
	Asset-A1	Asset-A2(a)	Asset-A2(b)	Asset-A1	Asset-A2(a)	Asset-A2(b)
	2013-14	2013-14	2013-14	2013-14	2013-14	2013-14
Freehold Land	0.00	0.00	0.00	14.27	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	91.95	134.65	10.00	105.14	139.06	13.28
Transmission Line	1958.10	0.00	0.00	2169.70	0.00	0.00
Sub-Station Equipments	1487.53	904.41	999.61	1523.77	948.02	1021.21
PLCC	40.08	0.00	0.00	41.19	0.00	0.00
Total	3577.66	1039.06	1009.61	3854.07	1087.08	1034.49

(₹ in lakh)

Particulars	Claimed Add Cap as per Auditor Certificate		Allowed Add Cap (including discharge of liability)	
	Asset-B1	Asset-B2	Asset-B1	Asset-B2
	2013-14	2013-14	2013-14	2013-14
Freehold Land	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00
Building & Other Civil Works	11.62	0.00	13.20	0.71
Transmission Line	0.00	0.00	0.00	0.00
Sub-Station Equipments	501.49	1078.48	525.19	1085.61
PLCC	0.00	0.00	0.00	0.00
Total	513.11	1078.48	538.39	1086.32

Summary of capital cost considered for tariff for the period from COD to 31.3.2014



17. Based on the above, the capital cost as on COD and the additional capital expenditure considered for tariff computation for the instant assets are summarised as below:-

(₹ in lakh)			
Particulars	Capital cost allowed as on COD	Additional capitalization allowed for 2013-14	Admitted Cost as 31.3.2014
Asset- A1	25118.47	3854.07	28972.54
Asset-A2(a)	5885.51	1087.08	6972.59
Asset-A2(b)	1991.82	1034.49	3026.31
Asset-B1	3978.90	538.39	4517.29
Asset-B2	3561.56	1086.32	4647.88
Total	40536.26	7600.35	48136.62

Debt: Equity Ratio

18. Clause (1) and (2) of Regulation 12 of the 2009 Tariff Regulations provide that:-

“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:

(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.”

19. The debt: equity ratio of 70:30, as admitted vide orders dated 17.3.2016 and 31.12.2015 in Petition Nos. 166/TT/2013 and 307/TT/2013 has been considered as on COD of instant assets, as provided in Regulation 12(1) of the 2009 Tariff



Regulations. The opening debt:equity ratio considered for the purpose of truing up of the approved tariff of tariff period 2009-14 is as under:-

(₹ in lakh)

Asset-A1				
Particulars	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Debt	17583.04	70.00	20280.82	70.00
Equity	7535.53	30.00	8691.72	30.00
Total	25118.57	100.00	28972.54	100.00

(₹ in lakh)

Asset-A2 (a)				
Particulars	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Debt	4119.87	70.00	4880.82	70.00
Equity	1765.64	30.00	2091.77	30.00
Total	5885.51	100.00	6972.59	100.00

(₹ in lakh)

Asset-A2 (b)				
Particulars	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Debt	1394.28	70.00	2118.42	70.00
Equity	597.54	30.00	907.89	30.00
Total	1991.82	100.00	3026.31	100.00

(₹ in lakh)

Asset-B1				
Particulars	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Debt	2785.24	70.00	3162.11	70.00
Equity	1193.66	30.00	1355.18	30.00
Total	3978.90	100.00	4517.29	100.00

(₹ in lakh)

Asset-B2				
Particulars	As on COD		As on 31.3.2014	
	Amount	%	Amount	%
Debt	2493.10	70.00	3253.52	70.00
Equity	1068.46	30.00	1394.36	30.00
Total	3561.56	100.00	4647.88	100.00

Return on Equity (ROE)

20. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provides 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:

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

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

(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.”

21. The petitioner has submitted the MAT rate applicable during the various years. RoE has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act, 1961 of the relevant year for the purpose of grossing up of ROE is as under:-

Year	MAT Rate (in %)	Grossed up ROE (Base rate/(1-t) (in %)
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

22. The trued up ROE allowed for the instant transmission assets is as follows:-

Particulars	(₹ in lakh)				
	Asset-A1	Asset -A2 (a)	Asset-A2(b)	Asset-B1	Asset-B2



	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Opening Equity	7535.50	1765.64	597.54	1193.66	1068.46
Addition due to Additional Capitalization	1156.22	326.12	310.35	161.52	325.90
Closing Equity	8691.72	2091.77	907.89	1355.18	1394.36
Average Equity	8113.61	1928.70	752.72	1274.42	1231.41
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.611%	19.611%	19.611%	19.611%	19.611%
Return on Equity (Pre Tax)	658.26	156.48	48.94	82.85	20.51

Interest on Loan (“IOL”)

23. Regulation 16 of the 2009 Tariff regulations provides that,-

“16. Interest on loan capital

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

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

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

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

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

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

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

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

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



beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

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

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

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

24. The petitioner has claimed the IOL based on actual interest rates for each year during the 2009-14 tariff period. We have considered the submissions of the petitioner and accordingly calculated the IOL based on gross amount of normative loan and normative repayment of instalments and rate of interest submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are given in Annexure-I to Annexure-V and the IOL has been worked out and allowed as provided under Regulation 16 of the 2009 Tariff Regulations as under:-

Particulars	(₹ in lakh)				
	Asset-A1 2013-14 (pro-rata)	Asset -A2 (a) 2013-14 (pro-rata)	Asset-A2(b) 2013-14 (pro-rata)	Asset-B1 2013-14 (pro-rata)	Asset- B2 2013-14 (pro-rata)
Gross Normative Loan	17582.97	4119.87	1394.28	2785.24	2493.10
Cumulative Repayment upto Previous Year	0.00	0.00	0.00	0.00	0.00
Net Loan-Opening	17582.97	4119.87	1394.28	2785.24	2493.10
Addition due to Additional capitalisation	2697.85	760.96	724.14	376.87	760.42
Repayment during the year	552.76	135.54	42.19	72.72	17.88
Net Loan-Closing	19728.06	4745.29	2076.24	3089.39	3235.65
Average Loan	18655.52	4432.58	1735.26	2937.32	2864.37
Weighted Average Rate	7.2574%	8.3255%	7.7159%	7.9565%	8.0333%



of Interest on Loan					
Interest	560.11	152.67	44.39	77.48	19.54

Depreciation

25. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as under:-

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

- | | |
|--|-----------|
| (a) Coal/Lignite based thermal generating station | 25 years |
| (b) Gas/Liquid fuel based thermal generating station | 25 years |
| (c) AC and DC sub-station | 25 years |
| (d) Hydro generating station | 35 years |
| (e) Transmission line | 35 years” |

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

"(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.”

27. The instant assets have been put under commercial operation on 1.11.2013, 1.11.2013, 1.12.2013, 1.12.2013 and 1.3.2014 for Asset-A1, Asset-2(a), Asset-2(b), Asset-B1 and Asset-B2, respectively and would complete 12 years beyond tariff period 2009-14. Accordingly, the depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III to 2009 Tariff Regulations. The depreciation for the tariff period 2009-14 has been trued up in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:-



(₹ in lakh)

Particulars	Asset-A1	Asset-A2 (a)	Asset-A2(b)	Asset-B1	Asset- B2
	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)	2013-14 (pro-rata)
Opening Gross Block	25118.47	5885.51	1991.82	3978.90	3561.56
Addition during 2009-14	3854.07	1087.08	1034.49	538.39	1086.32
Closing Gross Block	28972.54	6972.59	3026.31	4517.29	4647.88
Average Gross Block	27045.50	6429.05	2509.07	4248.10	4104.72
Rate of Depreciation	4.9404%	5.0961%	5.0719%	5.1635%	5.1274%
Depreciable Value	23167.31	5786.15	2258.16	3823.29	3694.25
Remaining Depreciable Value	23167.31	5786.15	2258.16	3823.29	3694.25
Depreciation	552.76	135.54	42.19	72.72	17.88

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

28. O & M Expenses allowed vide order dated 17.3.2016 and 31.12.2015 in Petition Nos. 166/TT2013 and 307/TT/2013 respectively has been considered for the purpose of tariff calculation.

29. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and are as follows:-

(₹ in lakh)

Particulars	Asset-A1	Asset-A2 (a)	Asset-A2(b)	Asset-B1	Asset- B2
	2013-14	2013-14	2013-14	2013-14	2013-14
	(pro-rata)	(pro-rata)	(pro-rata)	(pro-rata)	(pro-rata)
Approved vide order dated 17.3.2016 and 31.12.2015	176.21	65.46	30.55	52.37	13.09
As claimed by petitioner	176.21	65.46	30.55	52.37	13.09
Allowed after true up	176.21	65.46	30.55	52.37	13.09

Interest on Working Capital (IWC)



30. 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.

(i) Maintenance Expenses

Maintenance spares have been worked out based on 15% of Operation and Maintenance expenses specified in Regulation 19.

(ii) O & M expenses:

O&M expenses have been considered for one month of the allowed O&M expenses as per order dated 17.3.2016 & 31.12.2015 in Petition No. 166/TT2013 and 307/TT/2013 respectively.

(iii) Receivables:

The receivables have been worked out on the basis of 2 months' of annual transmission charges as worked out above.

(iv) Rate of interest on working capital:

SBI Base Rate (9.70%) as on 1.4.2012 Plus 350 Bps i.e. 13.20% has been considered as the rate of interest on working capital.

31. The IWC trued up is as under:-

Particulars	(₹ in lakh)				
	Asset-A1 2013-14 (pro-rata)	Asset -A2 (a) 2013-14 (pro-rata)	Asset-A2(b) 2013-14 (pro-rata)	Asset-B1 2013-14 (pro-rata)	Asset- B2 2013-14 (pro-rata)
Maintenance Spares	63.89	23.73	13.82	23.70	23.12



O & M expenses	35.49	13.19	7.68	13.16	12.84
Receivables	804.41	210.98	85.85	147.55	143.31
Total	903.80	247.90	107.35	184.41	179.27
Interest	49.35	13.54	4.70	8.07	2.01

Annual Transmission charges

32. In view of above, the annual transmission charges of the instant assets after truing up for the 2009-14 tariff period is as under:-

Particulars	(₹ in lakh)				
	Asset-A1 2013-14 (pro-rata)	Asset -A2 (a) 2013-14 (pro-rata)	Asset-A2(b) 2013-14 (pro-rata)	Asset-B1 2013-14 (pro-rata)	Asset- B2 2013-14 (pro-rata)
Depreciation	552.76	135.54	42.19	72.72	17.88
Interest on Loan	560.11	152.67	44.39	77.48	19.54
Return on Equity	658.26	156.48	48.94	82.85	20.51
Interest on Working Capital	49.35	13.54	4.70	8.07	2.01
O & M Expenses	176.21	65.46	30.55	52.37	13.09
Total	1996.70	523.68	170.76	293.48	73.03

Determination of Annual Transmission Charges for 2014-19

33. The tariff for the instant transmission assets up to 2009-14 tariff period has been trued-up based on the actual COD of individual elements. To avoid multiplicity of petitions and granting multiple tariffs for the assets covered under the single project/transmission system for 2014-19 tariff period, the Commission, vide Regulation 6 of the 2014 Tariff Regulations, has brought in the concept of a single consolidated petition wherein a single petition is required to be filed by a petitioner in case of all the assets which have been put under commercial operation prior to 31.3.2014, so that a single tariff can be granted for all the assets covered under such a single project/transmission system. To determine a single transmission tariff for different assets after combining them, as per the 2014 Tariff Regulations, the concept of effective date of commercial operation and weighted average life has also been introduced in Regulation 27 (Depreciation) of the 2014



Tariff Regulations. The relevant portions of Regulation 6 and Regulation 27 of the 2014 Tariff Regulations are as follows:-

“6. Tariff determination

(1) Tariff in respect of a generating station may be determined for the whole of the generating station or stage or generating unit or block thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or transmission line or sub-station or communication system forming part of transmission system:

Provided that:

(i) where all the generating units of a stage of a generating station or all elements of a transmission system have been declared under commercial operation prior to 1.4.2014, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 2014-15 to 2018-19:

Xxx

Xxx”

“27. Depreciation:

a. Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(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.

Xxx

Xxx”



(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.
Xxx”

34. Some of the assets covered in the instant project were commissioned during 2009-14 and some others during 2014-19 tariff period. The petitioner in the instant petition has claimed combined single tariff for all the assets put under commercial operation till 31.3.2014, for 2014-19 tariff period, for which Commission has granted final tariff in Petition Nos. 166/TT/2013 and 307/TT/2013 vide orders dated 17.3.2016 and 31.12.2015 respectively. As provided under Regulation 6, a single combined tariff is allowed for all assets that were put under commercial operation up to 31.3.2014 in this order. The petitioner is directed to submit a single consolidated petition for the project as whole at the time of true up for 2014-19 period, including the assets that are put under commercial operation during 2014-19 tariff period.

35. The Commission in order dated 29.2.2016 in Petition No. 181/TT/2014 approved the methodology of combining individual assets at the truing-up stage. The same methodology has been adopted in the instant case.

36. The consolidation of individual assets for single tariff has been done by adding up of the admitted capital cost as on 31.3.2017 of individual assets. The AFC for the consolidated cost has been allowed as given below:-

(a) **Return on Equity:** The admitted Gross Normative Equity as on



31.3.2014 of individual assets are added to arrive the Gross Equity as on 1.4.2014 for the combined assets.

- (b) **Interest on Loan:** The admitted Gross Normative loan and Cumulative re-payment of loan as on 31.3.2014 of individual assets are added to get the Gross Normative loan and Cumulative re-payment of loan as on 1.4.2014 for the combined assets.
- (c) **Depreciation:** The admitted gross capital cost and cumulative depreciation as on 31.3.2014 of individual assets are added to get the gross capital cost and cumulative depreciation as on 1.4.2014 for the combined assets. Lapsed life of the combined assets as on 1.4.2014 has been worked out by the concept of effective COD and weighted average life as provided in Regulation 27 of the 2014 Tariff Regulations.
- (d) **Interest on Working capital:** Since, the normative working capital is derived from the O&M Expenses and receivables, it is being worked out accordingly.
- (e) **O&M Expenses:** The entitled O&M Expenses as per the 2014 Tariff Regulations of individual assets are added and considered as O&M Expenses of the consolidated assets.

37. Though a consolidated single tariff is allowed for the instant assets, the petitioner is directed to maintain the identity of the individual assets. Further, in future tariff petitions, the petitioner is directed to provide the details of individual assets like asset description, actual COD, cut-off date, effective COD, admitted capital cost, O&M Expenses claimed, etc. The petitioner is also directed to make



all the future claim of additional capital expenditure or de-capitalization for the project, along with Auditor certificate by clearly mentioning the individual assets to which the claim has been made.

38. The petitioner has claimed the following AFC for combined assets for the 2014-19 tariff period:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2514.28	2641.20	2737.50	2794.52	2794.52
Interest on Loan	2557.92	2521.63	2412.96	2248.30	2012.38
Return on Equity	2956.06	3119.74	3237.30	3307.31	3307.31
Interest on Working Capital	234.91	242.44	246.58	247.49	243.89
O&M Expenses	907.22	937.30	968.44	1000.60	1033.79
Total	9170.53	9462.33	9602.77	9598.21	9391.91

39. The IWC claimed by the petitioner for combined assets are as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance	136.08	140.60	145.27	150.09	155.07
Spares					
O & M Expenses	75.60	78.11	80.70	83.38	86.15
Receivables	1528.43	1577.11	1600.52	1599.76	1565.37
Total	1740.11	1795.82	1826.49	1833.23	1806.59
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	234.91	242.44	246.58	247.49	243.89

Capital Cost

40. Clause (1), (2) and (3) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

“(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.

(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

41. The petitioner vide Auditor Certificate dated 24.11.2016 has claimed the capital cost of the individual assets which has been added to arrive at the capital cost claimed during 2014-19 period for consolidated assets as detailed below:-

(₹ in lakh)								
Particulars	Apportioned cost as per RCE	Capital Cost claimed as per Auditor certificate						Total as on 31.3.2019
		Up to 31.3.2014	2014-15	2015-16	2016-17	2017-18	2018-19	
Asset-A1	34556.94	29159.80	2290.49	718.99	1931.51	0.00	0.00	34100.76
Asset-A2(a)	8081.20	7008.70	735.19	83.69	49.42	0.00	0.00	7877.00
Asset-A2(b)	4212.95	3063.33	183.08	84.56	703.03	0.00	0.00	4034.00



Asset-B1	5328.85	4582.57	423.53	55.32	86.65	0.00	0.00	5148.07
Asset-B2	5253.65	4731.82	48.56	55.34	227.99	0.00	0.00	5063.71
Consolidated Asset	57433.60	48546.19	3680.85	997.90	2998.60	0.00	0.00	56223.54

Cost over run

42. The completion cost of the individual assets is within the apportioned approved cost as per RCE. Hence, there is no cost over-run for all the assets.

Capital Cost as on 1.4.2014

43. The capital cost as on 1.4.2014 as certified by the Auditor is ₹48546.19 lakh. However, the petitioner vide form 10A has claimed capital cost of ₹48278.86 lakh for tariff purpose.

44. The capital cost as on 31.3.2014 of individual assets were trued-up in above paragraphs. Based on the true-up, the admitted element wise capital cost (i.e. land, building, transmission line, sub-station and PLCC) as on 31.3.2014 of all assets are added together to arrive the capital cost of combined assets as on 1.4.2014 as detailed below:-

Admitted Capital Cost as on 31.3.2014						(₹ in lakh)
Particulars	Asset-A1	Asset-A2(a)	Asset-A2(b)	Asset-B1	Asset-B2	Combined Cost as on 1.4.2014
Freehold Land	1311.18	0.00	0.00	0.00	0.00	1311.18
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	1303.74	679.07	275.74	261.60	323.25	2843.39
Transmission Line	21398.93	0.00	0.00	0.00	0.00	21398.93
Sub-Station Equipments	4816.91	6293.53	2750.57	4255.69	4324.63	22441.34
PLCC	141.77	0.00	0.00	0.00	0.00	141.77
Total	28972.54	6972.59	3026.31	4517.29	4647.88	48136.62



Additional Capital Expenditure

45. Sub-clause (i) of Clause 1 and sub-clause (ix) of Clause 3 of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

“(1) The capital expenditure in respect of the new project or an existing project 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 recognized to be payable at a future date;”

“(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:

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system;”

46. The petitioner has claimed the following additional capital expenditure:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Regulation 14 (1)	3948.18	1616.38	2380.12	0.00	0.00

47. MPPMCL has submitted that the additional capital expenditure claimed by the petitioner may not be allowed as the petitioner has not submitted the details, proper reasoning and justification. The petitioner has clarified that add-cap during 2009-14 tariff period is claimed under Regulation 9(1)(i) of the 2009 Tariff Regulations and for 2014-19 tariff period under Regulation 14(1)(i) of the 2014 Tariff Regulations and the add-cap claimed pertains to retention amounts of sub-



station civil works like control room, building, foundation, roads, drains, etc., and erection which are to be paid as per the contractual agreement and requested to allow add-cap claimed.

48. We have considered the submissions made by MPPMCL and the clarifications given by the petitioner. The cut-off date in case of Asset A1, A2(a), A2(b) and B1 is 31.3.2016 whereas in case of Asset B2 it is 31.3.2017. The petitioner has claimed the above said additional capital expenditure under Regulation 14(1) of the 2014 Tariff Regulations, which pertains to add-cap before the cut-off date. The petitioner has not specified sub-clause of Regulation 14(1) under which the claim has been made. Moreover, the additional capital expenditure claimed by the petitioner is not matching with the claim made in Auditor certificate.

49. The petitioner has claimed projected additional capital expenditure beyond cut-off date in case of Asset A1, A2(a), A2(b) and B1 under Regulation 14(1), whereas the said Regulation pertains to add-cap before the cut-off date. Further, the petitioner has also not submitted the details of liability flow duly certified by the Auditor. We are unable to verify the claim made after cut-off date. Therefore, the petitioner's claim of ACE during 2016-17 in case of Asset A1, A2(a), A2(b) and B1 has been disallowed.

50. The IDC actually discharged has been allowed as additional capitalization in 2014-15. The additional capitalisation allowed for 2014-19 tariff period after including the discharge of liabilities towards IDC in the respective financial year



are summarized below:-

(₹ in lakh)				
Srl. No.	Asset	2014-15	2015-16	2016-17
A	Claimed as per Auditor certificate	3680.85	997.90	2998.60
B	Discharge of IDC	290.53	0.00	0.00
C	ACE disallowed	0.00	0.00	2770.61
D	ACE allowed for tariff D=(A+B-C)	3971.38	997.90	227.99

51. The additional capital expenditure allowed is subject to true-up. The petitioner is directed to submit the asset wise Auditor Certificate w.r.t. un-discharged liability and its year wise discharge particulars.

Summary of capital cost considered for tariff for the period from 1.4.2014 to 31.3.2019

52. Based on the above, the capital cost as on 1.4.2014 and the additional capital expenditure considered for tariff computation for the project as whole are summarised as below:-

Particulars	Combined admitted capital cost as on 31.3.2014	Projected additional capitalization			Admitted cost as 31.3.2019
		2014-15	2015-16	2016-17	
Freehold Land	1311.18	295.86	0.00	0.00	1607.04
Leasehold Land	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	2843.39	1044.66	349.36	60.05	4297.46
Transmission Line	21398.93	1026.95	293.48	0.00	22719.37
Sub-Station Equipments	22441.34	1590.31	341.65	0.00	24373.30
PLCC	141.77	13.60	13.41	167.94	336.72
Total	48136.62	3971.38	997.90	227.99	53333.89



Debt: Equity Ratio

53. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

54. The debt: equity ratio of 70:30 was admitted after true-up for the tariff period ending 31.3.2014. The debt:equity ratio of combined asset has been worked out as 70:30 based on combined normative equity and combined normative loan as on 1.4.2014. The details of the debt:equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period and as on 31.3.2019 are as under:-

Particulars	Ratio	As on 1.4.2014	As on 31.3.2019
	%	Amount	Amount
Debt	70.00	33695.70	37333.79
Equity	30.00	14440.91	16000.09
Total	100.00	48136.62	53333.89

Return on Equity (“ROE”)

55. Clause (1) and (2) of Regulation 24 and Clause (1) and (2) of Regulation 25 of the 2014 Tariff Regulations specify as follows:-

“**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 and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

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:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

“25. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

Where “t” is the 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.”

56. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate of 20.961% as per the above Regulations. The petitioner



has 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.

57. 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.

58. The RoE has been worked out in accordance with Regulations 24 and 25 of the 2014 Tariff Regulations. The rate of pre-tax return on equity for all the financial year during 2014-19 period has been determined by grossing up the base rate of 15.50% with effective tax rate of 20.961% (i.e. MAT rate applicable for the financial year 2013-14). This rate of pre-tax return on equity is subject to true up based on the effective tax rate of respective financial year applicable to the petitioner company.

59. Accordingly, the ROE determined is as given under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
-------------	---------	---------	---------	---------	---------



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	14440.91	15632.33	15931.70	16000.09	16000.09
Addition due to Additional Capitalisation	1191.41	299.37	68.40	0.00	0.00
Closing Equity	15632.33	15931.70	16000.09	16000.09	16000.09
Average Equity	15036.62	15782.01	15965.89	16000.09	16000.09
Return on Equity (Base Rate-%)	15.50%	15.50%	15.50%	15.50%	15.50%
MAT rate for the year (%)	20.960%	20.960%	20.960%	20.960%	20.960%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	2948.68	3094.85	3130.91	3137.62	3137.62

Interest on Loan (“IOL”)

60. Regulation 26 of the 2014 Tariff Regulations with regard to IoL specifies as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

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

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.”

61. In the calculations, the IoL has been worked out as detailed below:-

(i) Gross amount of normative loan, normative repayment of loan as on 01.04.2014 have been considered as per truing up of 2009-14.

(ii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year.

(iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the normative average loan during the year to arrive at the interest on loan.

(iv) It is pertinent to mention that the closing balance of actual loan amount (i.e the balance during 2013-14) is not matching with the opening balance (i.e claimed loan amount during 2014-19 period). Therefore, the petitioner is directed to submit duly filled consolidated Form 9C for all assets with the repayment schedule at the time of true-up.

(v) The petitioner has shown the same foreign exchange loans with different exchange rates in Form 9C. Therefore, the petitioner is directed to submit the loan balance in INR as per the single exchange rate (i.e. as on 1.4.2014), at the time of filing the truing-up petition.

62. The details of weighted average rate of interest are placed at Annexure-VI and the IOL has been worked out as follows:-



(₹ in lakh)					
Combined Assets	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	33695.70	36475.67	37174.20	37333.79	37333.79
Cumulative Repayment upto previous year	821.08	3326.76	5942.44	8587.47	11238.81
Net Loan-Opening	32874.62	33148.91	31231.76	28746.33	26094.98
Additions during the year	2779.97	698.53	159.59	0.00	0.00
Repayment during the year	2505.68	2615.68	2645.02	2651.34	2651.34
Net Loan-Closing	33148.91	31231.76	28746.33	26094.98	23443.64
Average Loan	33011.77	32190.33	29989.04	27420.66	24769.31
Rate of Interest (%)	7.733%	7.771%	7.744%	7.693%	7.613%
Interest	2552.87	2501.46	2322.31	2109.38	1885.71

63. The petitioner has prayed that it be allowed to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents. The interest on loans has been calculated on the basis of rate submitted by the petitioner. Any change in actual rate of interest during 2014-19 period will be considered at the time of truing-up.

Depreciation

64. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.



(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.

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

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

(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.”

Effective Date of Commercial Operation (E-COD)

65. The Effective Date of Commercial Operation (E-COD) for the combined assets has been worked out based on the admitted capital cost of individual assets as on 31.3.2014 and the actual COD of individual assets. Accordingly, the



Effective Date of Commercial Operation (**E-COD**) for the combined assets has been worked out as shown below:-

(₹ in lakh)

Computation of Effective COD								
Project Name	Asset	Asset Description	Actual COD	Admitted Capital Cost as on 31.3.2014	Weight of the cost	No. of days from last COD	Weighted days	Effective COD (latest COD - total weighted days)
Transmission system associated with IPPs Generation in Chhattisgarh (Set-B)	Asset -A 1	Raigarh PS (Near Kotra) – Raigarh PS (near Tamnar) 765 kV D/C T/L with associated bays	1.11.2013	28972.64	60.19%	120	72.23	17.11.2013
	Asset -A 2(a)	765/400 kV 1500 MVA ICT-1 with associated bays	1.11.2013	6972.59	14.48%	120	17.38	
	Asset -A - 2(b)	765 kV, 240 MVAR Bus Reactor at Raigarh (near Tamnar) with bays	1.12.2013	3026.31	6.29%	90	5.66	
	Asset -B 1	765/400 kV 1500 MVA ICT-2 at Raigarh PS (near Tamnar) with associated bays	1.12.2013	4517.29	9.38%	90	8.45	
	Asset -B 2	765/400 kV 1500 MVA ICT-3 at Raigarh PS (near Tamnar) with associated bays	1.3.2014	4647.88	9.66%	0	0.00	
	Total		1.3.2014	48136.72	100.00%		103.71	

66. The E-COD has been used to determine the lapsed life of the combined asset as on 1.4.2014 (i.e. the no. of completed years as on 1.4.2014 from E-



COD). The E-COD for the project as whole shall be determined at the time of true-up along with the other assets commissioned during 2014-19 period.

Weighted Average Life (WAL)

67. The Project as a whole, have multiple elements (i.e. Land, Building, Transmission line, Substation and PLCC) and each element may have different span of life. Therefore, in 2014 Tariff Regulations, the concept of Weighted Average Life (WAL) has been introduced which has been used as the useful life of the project as whole. The concept of Weighted Average Life (WAL) has been applied to the combined assets.

68. The Weighted Average Life (WAL) has been determined based on the admitted capital cost of individual elements as on 31.3.2014 and their respective life as stipulated in the 2014 Tariff Regulations. The element wise life as it was defined in the Tariff Regulations prevailed at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2014 Tariff Regulations has been considered for determination of WAL. Accordingly, the Weighted Average Life (WAL) of the combined asset been worked out as 29 years as shown below:-

(₹ in lakh)

Determination of Weighted Average Life of the Project								
Admitted Capital Cost as on 31.3.2014								
Particulars	Asset-A1	Asset-A2(a)	Asset-A2(b)	Asset-B1	Asset-B2	Combined Cost (a)	Life as per 2014 Tariff Regulations (b)	Weight (a) x (b)
Freehold Land	1311.18	0.00	0.00	0.00	0.00	1311.18	0	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00	0.00	25	0.00
Building & Other Civil	1303.84	679.07	275.74	261.60	323.25	2843.49	25	71087.30



Works								
Transmission Line	21398.94	0.00	0.00	0.00	0.00	21398.94	35	748962.73
Sub-Station Equipments	4816.91	6293.53	2750.57	4255.69	4324.63	22441.34	25	561033.47
PLCC	141.77	0.00	0.00	0.00	0.00	141.77	15	2126.53
Total	28972.64	6972.59	3026.31	4517.29	4647.88	48136.72		1383210.03
Weighted Average life							29	Years

69. The weighted average life of combined assets as on 1.4.2014 as determined above is applicable prospectively (i.e. for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. The weighted average life of the project as whole shall be determined at the time of true up of 2014-19 tariff along with the other assets of the instant project which were commissioned during 2014-19 period. Accordingly, the WAL has been used to determine the remaining useful life as on 31.3.2014 as 29 years. The cumulative depreciation for the combined asset has been computed as shown below:-

(₹ in lakh)		
Particulars	Details of Cumulative Depreciation as on 31.3.2014, as determined during true-up of 2009-14 tariff	Considered for single tariff for the combined assets as on 1.4.2014
Asset A 1	552.76	821.09
Asset A2(a)	135.54	
Asset A2(b)	42.19	
Asset B1	72.72	
Asset B2	17.88	
Total	821.09	

70. The capital cost, E-COD, Weighted Average Life and lapsed life for the combined assets as determined in above paragraphs are considered for computation of depreciation for the 2014-19 tariff period.

71. Accordingly, the instant combined assets would complete 12 years from the



effective date of commercial operation beyond the tariff period 2014-19. Accordingly, the depreciation for entire tariff period (i.e. 2014-19) has been worked out based on Straight Line Method and at rates specified in Appendix-II to the 2014 Tariff Regulations.

72. The admitted gross capital cost and cumulative depreciation as on 31.3.2014 of individual assets are added to get the gross capital cost and cumulative depreciation as on 1.4.2014 for the combined assets. Lapsed life of the combined assets as on 1.4.2014 has been worked out on the basis of Effective COD and Weighted Average life as provided in Regulation 27 of 2014 Tariff Regulations. Further, to determine a single transmission tariff for the instant transmission assets, the concept of effective date of commercial operation and weighted average life under as stipulated in Regulation 27 of 2014-19 Tariff Regulations has been considered.

73. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	48136.62	52108.00	53105.90	53333.89	53333.89
Additions during the year due to projected additional capitalization	3971.38	997.90	227.99	0.00	0.00
Closing Gross block	52108.00	53105.90	53333.89	53333.89	53333.89
Average gross block	50122.31	52606.95	53219.89	53333.89	53333.89
Rate of Depreciation (%)	5.00%	4.97%	4.97%	4.97%	4.97%
Depreciable Value	43796.88	45899.92	46451.57	48000.50	46554.16
Remaining Depreciable Value	42975.80	42573.15	40509.12	39413.03	35315.35
Depreciation	2505.68	2615.68	2645.02	2651.34	2651.34



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

74. The petitioner’s entitlement to O&M Expenses has been worked out for combined asset as per sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations and considered as O&M Expenses of project as a whole for the purpose of computation of tariff. The details of O&M Expenses allowed are as follows:-

Particulars	(₹ in lakh)				
	Combined Asset				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	907.22	937.30	968.44	1000.60	1033.79

75. The petitioner has submitted that 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 Company is due during 2014-19 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.

76. 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.



Interest on Working Capital (“IWC”)

77. Clause 1 (c) and 3 of Regulation 28 and Clause 5 of Regulation 3 of the 2014

Tariff Regulations specify as follows:-

“28. Interest on Working Capital: (1) The working capital shall cover:

(a)-----

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

(3) 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 generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later”

“(5) ‘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;”

78. The petitioner is entitled to claim interest on working capital as per the 2014

Tariff Regulations. The components of the working capital and the petitioner’s

entitlement to interest thereon are discussed hereunder:-

(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months’ annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months’ transmission charges.



(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

O&M Expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M Expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

As per proviso 3 of Regulation 28 of the 2014 Tariff Regulations, SBI Base rate 10.00% as on 1.4.2014 plus 350 Bps i.e. 13.50% has been considered for the asset, as the rate of interest on working capital.

79. The interest on working capital as determined is shown in the table given below:-

(₹in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	136.08	140.60	145.27	150.09	155.07
O & M expenses	75.60	78.11	80.70	83.38	86.15
Receivables	1524.81	1565.02	1551.10	1522.67	1490.37
Total	1736.50	1783.72	1777.07	1756.14	1731.59
Interest	234.43	240.80	239.90	237.08	233.76

Annual Transmission Charges

80. The Annual Transmission Charges allowed for the combined transmission asset are as under:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	2505.68	2615.68	2645.02	2651.34	2651.34
Interest on Loan	2552.87	2501.46	2322.31	2109.38	1885.71
Return on Equity	2948.68	3094.85	3130.91	3137.62	3137.62
Interest on Working Capital	234.43	240.80	239.90	237.08	233.76
O & M Expenses	907.22	937.30	968.44	1000.60	1033.79
Total	9148.88	9390.09	9306.59	9136.02	8942.22

81. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess filing fees, license fee RLDC fees and charges or any other kind of impositions etc. The same, if imposed shall be borne and additionally paid by the respondents. We have considered the submissions of the petitioner and the respondent. The petitioner can make claims as per the prevailing regulations. We would like to clarify that we have allowed transmission tariff as per the 2014 Tariff Regulations.

Filing Fee and Publication Expenses

82. 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

83. 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.

Sharing of Transmission Charges

84. 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.

85. This order disposes of Petition No. 96/TT/2017.

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

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



ANNEXURE-I**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2009-14**

Asset A1.	Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV D/C Transmission Line with associated bays.
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(₹ in lakh)

	Details of Loan	2012-13
1	Bond XXXIX	
	Gross loan opening	1500.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1500.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1500.00
	Average Loan	1500.00
	Rate of Interest	9.40%
	Interest	141.00
	Rep Schedule	redeemable at par on 29.3.2027
2	Bond XLI	
	Gross loan opening	2000.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2000.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2000.00
	Average Loan	2000.00
	Rate of Interest	8.85%
	Interest	177.00
	Rep Schedule	12 Equal Annual Installments from 19.10.2016
3	BOND-XXXVII	
	Gross loan opening	1500.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1500.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1500.00
	Average Loan	1500.00



	Rate of Interest	9.25%
	Interest	138.75
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
	BOND-XXXVI	
	Gross loan opening	310.000
	Cumulative Repayment upto COD/previous year	0.000
	Net Loan-Opening	310.000
	Additions during the year	0.000
	Repayment during the year	0.000
	Net Loan-Closing	310.000
	Average Loan	310.000
	Rate of Interest	9.35%
	Interest	28.99
	Rep Schedule	redeemable W.E.F 29.8.2016
4	Bond XXXV	
	Gross loan opening	50.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	50.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	50.00
	Average Loan	50.00
	Rate of Interest	9.640%
	Interest	4.82
	Rep Schedule	12 Equal Annual Installments from 31.5.2015
5	FC Bond	
	Gross loan opening	6122.73
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	6122.73
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	6122.73
	Average Loan	6122.73
	Rate of Interest	3.875%
	Interest	237.26
	Rep Schedule	redeemable at par on 17.1.2023
6	SBI (21.3.2012)	



	Gross loan opening	2506.34
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2506.34
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2506.34
	Average Loan	2506.34
	Rate of Interest	10.24%
	Interest	256.65
	Rep Schedule	Not available
7	Bond XL	
	Gross loan opening	2000.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2000.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	2000.00
	Average Loan	2000.00
	Rate of Interest	9.30%
	Interest	186.00
	Rep Schedule	12 Equal Annual Installments from 28.6.2016
8	IFC (IFC-A LOAN)	
	Gross loan opening	918.41
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	918.41
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	918.41
	Average Loan	918.41
	Rate of Interest	3.28%
	Interest	30.12
	Rep Schedule	Not available
9	Bond- XLIII	
	Gross loan opening	500.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	500.00
	Additions during the year	565.00
	Repayment during the year	0.00
	Net Loan-Closing	1065.00
	Average Loan	782.50
	Rate of Interest	7.93%



	Interest	62.05
	Rep Schedule	12 Equal Annual Installments from 20.5.2017
10	Bond XLIV	
	Gross loan opening	500.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	500.00
	Additions during the year	1939.36
	Repayment during the year	0.00
	Net Loan-Closing	2439.36
	Average Loan	1469.68
	Rate of Interest	8.70%
	Interest	127.86
	Rep Schedule	redeemable W.E.F 15.7.2018
	Total Loan	
	Gross loan opening	17907.48
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	17907.48
	Additions during the year	2504.36
	Repayment during the year	0.00
	Net Loan-Closing	20411.84
	Average Loan	19159.66
	Rate of Interest	7.2574%
	Interest	1390.50



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

Asset A2(a)	765/400 kV 1500 MVA Auto-Transformer and 765 kV 4*80 MVAR Bus Reactor at Raigarh (near Tamnar).
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(₹ in lakh)

	Details of Loan	2013-14
1	Bond XXXIX	
	Gross loan opening	300.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	300.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	300.00
	Average Loan	300.00
	Rate of Interest	9.40%
	Interest	28.20
	Rep Schedule	redeemable at par on 29.3.2027
2	Bond XLIV	
	Gross loan opening	40.81
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	40.81
	Additions during the year	760.95
	Repayment during the year	0.00
	Net Loan-Closing	801.76
	Average Loan	421.29
	Rate of Interest	8.70%
	Interest	36.65
	Rep Schedule	redeemable W.E.F 15.7.2018
3	BOND-XXXVII	
	Gross loan opening	300.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	300.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	300.00



	Average Loan	300.00
	Rate of Interest	9.25%
	Interest	27.75
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
4	Bond XXXV	
	Gross loan opening	125.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	125.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	125.00
	Average Loan	125.00
	Rate of Interest	9.640%
	Interest	12.05
	Rep Schedule	12 Equal Annual Installments from 31.5.2015
5	Bond XXXVI	
	Gross loan opening	225.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	225.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	225.00
	Average Loan	225.00
	Rate of Interest	9.350%
	Interest	21.04
	Rep Schedule	redeemable W.E.F 29.8.2016
6	SBI (21.3.2012)	
	Gross loan opening	1000.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1000.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1000.00
	Average Loan	1000.00
	Rate of Interest	10.24%
	Interest	102.40
	Rep Schedule	Not available
7	Bond XL	
	Gross loan opening	600.00



	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	600.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	600.00
	Average Loan	600.00
	Rate of Interest	9.30%
	Interest	55.80
	Rep Schedule	12 Equal Annual Installments from 28.6.2016
8	Bond- XLI	
	Gross loan opening	656.90
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	656.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	656.90
	Average Loan	656.90
	Rate of Interest	8.85%
	Interest	58.14
	Rep Schedule	12 Equal Annual Installments from 19.10.2016
9	IFC(IFC A LOAN)	
	Gross loan opening	374.16
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	374.16
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	374.16
	Average Loan	374.16
	Rate of Interest	3.28%
	Interest	12.27
	Rep Schedule	20 Half yearly equal installments from 15.9.2017
10	FC Bond	
	Gross loan opening	498.88
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	498.88
	Additions during the year	0.00



	Repayment during the year	0.00
	Net Loan-Closing	498.88
	Average Loan	498.88
	Rate of Interest	4.10%
	Interest	20.45
	Rep Schedule	Final payment on 17.1.2023
	Total Loan	
	Gross loan opening	4120.75
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	4120.75
	Additions during the year	760.95
	Repayment during the year	0.00
	Net Loan-Closing	4881.70
	Average Loan	4501.23
	Rate of Interest	8.3255%
	Interest	374.75



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

Asset A2(b)	765 kV 4*80 MVAR Bus Reactor at Raigarh at Raigarh (near Tamnar)
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(₹ in lakh)

	Details of Loan	2013-14
1	Bond XXXIX	
	Gross loan opening	100.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.40%
	Interest	9.40
	Rep Schedule	redeemable at par on 29.3.2027
2	Bond XLIV	
	Gross loan opening	0.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	0.00
	Additions during the year	706.73
	Repayment during the year	0.00
	Net Loan-Closing	706.73
	Average Loan	353.37
	Rate of Interest	8.70%
	Interest	30.74
	Rep Schedule	redeemable W.E.F 15.7.2018
3	BOND-XXXVII	
	Gross loan opening	150.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	150.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	150.00



	Average Loan	150.00
	Rate of Interest	9.25%
	Interest	13.88
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
4	Bond XXXV	
	Gross loan opening	10.36
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	10.36
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	10.36
	Average Loan	10.36
	Rate of Interest	9.640%
	Interest	1.00
	Rep Schedule	12 Equal Annual Installments from 31.5.2015
5	Bond XXXVI	
	Gross loan opening	313.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	313.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	313.00
	Average Loan	313.00
	Rate of Interest	9.350%
	Interest	29.27
	Rep Schedule	redeemable W.E.F 29.8.2016
6	SBI (21.3.2012)	
	Gross loan opening	91.28
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	91.28
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	91.28
	Average Loan	91.28
	Rate of Interest	10.25%
	Interest	9.36
	Rep Schedule	Not available
7	Bond XL	
	Gross loan opening	120.00



	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	120.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	120.00
	Average Loan	120.00
	Rate of Interest	9.30%
	Interest	11.16
	Rep Schedule	12 Equal Annual Installments from 28.6.2016
8	Bond- XLI	
	Gross loan opening	150.80
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	150.80
	Additions during the year	17.42
	Repayment during the year	0.00
	Net Loan-Closing	168.22
	Average Loan	159.51
	Rate of Interest	8.85%
	Interest	14.12
	Rep Schedule	12 Equal Annual Installments from 19.10.2016
9	IFC(IFC A LOAN)	
	Gross loan opening	205.76
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	205.76
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	205.76
	Average Loan	205.76
	Rate of Interest	3.280%
	Interest	6.75
	Rep Schedule	20 Half yearly equal installments from 15.9.2017
10	FC Bond	
	Gross loan opening	267.49
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	267.49
	Additions during the year	0.00



	Repayment during the year	0.00
	Net Loan-Closing	267.49
	Average Loan	267.49
	Rate of Interest	4.10%
	Interest	10.97
	Rep Schedule	Final payment on 17.1.2023
	Total Loan	
	Gross loan opening	1408.69
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	1408.69
	Additions during the year	724.15
	Repayment during the year	0.00
	Net Loan-Closing	2132.84
	Average Loan	1770.77
	Rate of Interest	7.7159%
	Interest	136.63



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

Asset B1	765/400 kV, 3x500 MVA ICT-2 at Raigarh PS (Near Tamnar) alongwith with associated bays.
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(₹ in lakh)

	Details of Loan	2013-14
1	Bond XXXIX	
	Gross loan opening	400.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	400.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	400.00
	Average Loan	400.00
	Rate of Interest	9.40%
	Interest	37.60
	Rep Schedule	redeemable at par on 29.3.2027
2	Bond XLIV	
	Gross loan opening	185.28
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	185.28
	Additions during the year	399.97
	Repayment during the year	0.00
	Net Loan-Closing	585.25
	Average Loan	385.27
	Rate of Interest	8.70%
	Interest	33.52
	Rep Schedule	redeemable W.E.F 15.7.2018
3	BOND-XXXVII	
	Gross loan opening	250.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	250.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	250.00



	Average Loan	250.00
	Rate of Interest	9.25%
	Interest	23.13
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
4	Bond XXXV	
	Gross loan opening	5.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	5.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	5.00
	Average Loan	5.00
	Rate of Interest	9.640%
	Interest	0.48
	Rep Schedule	12 Equal Annual Installments from 31.5.2015
5	Bond XXXVI	
	Gross loan opening	35.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	35.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	35.00
	Average Loan	35.00
	Rate of Interest	9.350%
	Interest	3.27
	Rep Schedule	redeemable W.E.F 29.8.2016
6	SBI (21.3.2012)	
	Gross loan opening	700.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	700.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	700.00
	Average Loan	700.00
	Rate of Interest	10.25%
	Interest	71.75
	Rep Schedule	Not available
7	Bond XL	
	Gross loan opening	140.00



	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	140.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	140.00
	Average Loan	140.00
	Rate of Interest	9.30%
	Interest	13.02
	Rep Schedule	12 Equal Annual Installments from 28.6.2016
8	Bond XLIII	
	Gross loan opening	200.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	200.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	200.00
	Average Loan	200.00
	Rate of Interest	7.930%
	Interest	15.86
	Rep Schedule	12 Equal Annual Installments from 20.5.2017
9	Bond- XLI	
	Gross loan opening	90.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	90.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	90.00
	Average Loan	90.00
	Rate of Interest	8.85%
	Interest	7.97
	Rep Schedule	12 Equal Annual Installments from 19.10.2016
10	IFC(IFC A LOAN)	
	Gross loan opening	108.59
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	108.59
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	108.59



	Average Loan	108.59
	Rate of Interest	3.280%
	Interest	3.56
	Rep Schedule	Not available
11	FC Bond	
	Gross loan opening	675.56
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	675.56
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	675.56
	Average Loan	675.56
	Rate of Interest	4.10%
	Interest	27.70
	Rep Schedule	Not available
	Total Loan	
	Gross loan opening	2789.43
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2789.43
	Additions during the year	399.97
	Repayment during the year	0.00
	Net Loan-Closing	3189.40
	Average Loan	2989.42
	Rate of Interest	7.9565%
	Interest	237.85



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

Asset B2	765/400 kV, 3x500 MVA ICT-3 at Raigarh PS (Near Tamnar) alongwith associated bays
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(₹ in lakh)

	Details of Loan	2013-14
1	Bond XXXIX	
	Gross loan opening	80.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	80.00
	Average Loan	80.00
	Rate of Interest	9.40%
	Interest	7.52
	Rep Schedule	redeemable at par on 29.3.2027
2	Bond XLIV	
	Gross loan opening	500.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	500.00
	Additions during the year	689.16
	Repayment during the year	0.00
	Net Loan-Closing	1189.16
	Average Loan	844.58
	Rate of Interest	8.70%
	Interest	73.48
	Rep Schedule	redeemable W.E.F 15.7.2018
3	BOND-XXXVII	
	Gross loan opening	50.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	50.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	50.00
	Average Loan	50.00



	Rate of Interest	9.25%
	Interest	4.63
	Rep Schedule	12 Equal Annual Installments from 26.12.2015
4	Bond XXXV	
	Gross loan opening	5.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	5.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	5.00
	Average Loan	5.00
	Rate of Interest	9.640%
	Interest	0.48
	Rep Schedule	12 Equal Annual Installments from 31.5.2015
5	Bond XXXVI	
	Gross loan opening	20.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	20.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	20.00
	Average Loan	20.00
	Rate of Interest	9.350%
	Interest	1.87
	Rep Schedule	redeemable W.E.F 29.8.2016
6	SBI (21.3.2012)	
	Gross loan opening	200.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	200.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	200.00
	Average Loan	200.00
	Rate of Interest	10.25%
	Interest	20.50
	Rep Schedule	Not available
7	Bond XL	
	Gross loan opening	400.00
	Cumulative Repayment upto	0.00



	COD/previous year	
	Net Loan-Opening	400.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	400.00
	Average Loan	400.00
	Rate of Interest	9.30%
	Interest	37.20
	Rep Schedule	12 Equal Annual Installments from 28.6.2016
8	Bond XLIII	
	Gross loan opening	400.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	400.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	400.00
	Average Loan	400.00
	Rate of Interest	7.93%
	Interest	31.72
	Rep Schedule	12 Equal Annual Installments from 20.5.2017
9	Bond- XLI	
	Gross loan opening	80.00
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	80.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	80.00
	Average Loan	80.00
	Rate of Interest	8.85%
	Interest	7.08
	Rep Schedule	12 Equal Annual Installments from 19.10.2016
10	Bond XLV	
	Gross loan opening	222.11
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	222.11
	Additions during the year	71.27
	Repayment during the year	0.00
	Net Loan-Closing	293.38
	Average Loan	257.75



	Rate of Interest	9.65%
	Interest	24.87
	Rep Schedule	12 annual installments from 28.2.2018
11	IFC(IFC A LOAN)	
	Gross loan opening	59.55
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	59.55
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	59.55
	Average Loan	59.55
	Rate of Interest	3.260%
	Interest	1.94
	Rep Schedule	Not available
12	FC Bond	
	Gross loan opening	476.45
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	476.45
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	476.45
	Average Loan	476.45
	Rate of Interest	4.10%
	Interest	19.53
	Rep Schedule	Not available
	Total Loan	
	Gross loan opening	2493.11
	Cumulative Repayment upto COD/previous year	0.00
	Net Loan-Opening	2493.11
	Additions during the year	760.43
	Repayment during the year	0.00
	Net Loan-Closing	3253.54
	Average Loan	2873.33
	Rate of Interest	8.0333%
	Interest	230.82



ANNEXURE-VI

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

Combined Assets of	
Asset A1.	Raigarh PS (Near Kotra)-Raigarh PS (near Tamnar) 765 kV D/C Transmission Line with associated bays.
Asset A2(a)	765/400 kV 1500 MVA Auto-Transformer and 765 kV 4*80 MVAR Bus Reactor at Raigarh (near Tamnar).
Asset A2(b)	765 kV 4*80 MVAR Bus Reactor at Raigarh at Raigarh (near Tamnar)
Asset B1	765/400 kV, 3x500 MVA ICT-2 at Raigarh PS (Near Tamnar) alongwith with associated bays.
Asset B2	765/400 kV, 3x500 MVA ICT-3 at Raigarh PS (Near Tamnar) alongwith associated bays

		(₹ in lakh)				
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	Bond XXXIX					
	Gross loan opening	2380.00	2380.00	2380.00	2380.00	2380.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	2380.00	2380.00	2380.00	2380.00	2380.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	2380.00	2380.00	2380.00	2380.00	2380.00
	Average Loan	2380.00	2380.00	2380.00	2380.00	2380.00
	Rate of Interest	9.40%	9.40%	9.40%	9.40%	9.40%
	Interest	223.72	223.72	223.72	223.72	223.72
	Rep Schedule	12 Equal Annual Installments from 29.3.2027				
2	Bond XLIV					
	Gross loan opening	5722.26	5842.99	5842.99	5842.99	5842.99
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	5722.26	5842.99	5842.99	5842.99	5842.99
	Additions during the year	120.73	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	1947.66
	Net Loan-Closing	5842.99	5842.99	5842.99	5842.99	3895.33
	Average Loan	5782.63	5842.99	5842.99	5842.99	4869.16
	Rate of Interest	8.70%	8.70%	8.70%	8.70%	8.70%



	Interest	503.09	508.34	508.34	508.34	423.62
	Rep Schedule	3 equal installments from 15.7.2018,15.7.2023 and 15.7.2028				
3	XXXVII					
	Gross loan opening	2250.00	2250.00	2250.00	2250.00	2250.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	187.50	375.00	562.50
	Net Loan-Opening	2250.00	2250.00	2062.50	1875.00	1687.50
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	187.50	187.50	187.50	187.50
	Net Loan-Closing	2250.00	2062.50	1875.00	1687.50	1500.00
	Average Loan	2250.00	2156.25	1968.75	1781.25	1593.75
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	208.13	199.45	182.11	164.77	147.42
	Rep Schedule	12 Equal Annual Installments from 26.12.2015				
4	Bond XXXV					
	Gross loan opening	195.36	195.36	195.36	195.36	195.36
	Cumulative Repayment upto COD/previous year	0.00	0.00	16.28	32.56	48.84
	Net Loan-Opening	195.36	195.36	179.08	162.80	146.52
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	16.28	16.28	16.28	16.28
	Net Loan-Closing	195.36	179.08	162.80	146.52	130.24
	Average Loan	195.36	187.22	170.94	154.66	138.38
	Rate of Interest	9.64%	9.64%	9.64%	9.64%	9.64%
	Interest	18.83	18.05	16.48	14.91	13.34
	Rep Schedule	12 Equal Annual Installments from 31.5.2015				
5	XXXVI					
	Gross loan opening	903.00	903.00	903.00	903.00	903.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	60.20	120.40
	Net Loan-Opening	903.00	903.00	903.00	842.80	782.60
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	60.20	60.20	60.20
	Net Loan-Closing	903.00	903.00	842.80	782.60	722.40
	Average Loan	903.00	903.00	872.90	812.70	752.50
	Rate of Interest	9.35%	9.35%	9.35%	9.35%	9.35%
	Interest	84.43	84.43	81.62	75.99	70.36
	Rep Schedule	12 Equal Annual Installments from 29.8.2016				
6	SBI 21-3-2012					
	Gross loan opening	4497.62	4497.62	4497.62	4497.62	4497.62
	Cumulative Repayment upto	0.00	0.00	0.00	408.87	817.74



	COD/previous year					
	Net Loan-Opening	4497.62	4497.62	4497.62	4088.75	3679.88
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	408.87	408.87	408.87
	Net Loan-Closing	4497.62	4497.62	4088.75	3679.88	3271.01
	Average Loan	4497.62	4497.62	4293.19	3884.32	3475.45
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	461.01	461.01	440.05	398.14	356.23
	Rep Schedule	Not Available				
7	Bond XLI					
	Gross loan opening	2995.12	3006.62	3006.62	3006.62	3006.62
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	251.51	503.02
	Net Loan-Opening	2995.12	3006.62	3006.62	2755.11	2503.60
	Additions during the year	11.50	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	251.51	251.51	251.51
	Net Loan-Closing	3006.62	3006.62	2755.11	2503.60	2252.09
	Average Loan	3000.87	3006.62	2880.86	2629.35	2377.84
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	265.58	266.09	254.96	232.70	210.44
	Rep Schedule	12 Equal Annual Installments from 19.10.2016				
8	Bond XLIII					
	Gross loan opening	1665.00	1665.00	1665.00	1665.00	1665.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	138.75
	Net Loan-Opening	1665.00	1665.00	1665.00	1665.00	1526.25
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	138.75	138.75
	Net Loan-Closing	1665.00	1665.00	1665.00	1526.25	1387.50
	Average Loan	1665.00	1665.00	1665.00	1595.63	1456.88
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	132.03	132.03	132.03	126.53	115.53
	Rep Schedule	12 annual installments from 20.5.2017				
9	Bond XLV					
	Gross loan opening	293.38	352.14	352.14	352.14	352.14
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	29.35
	Net Loan-Opening	293.38	352.14	352.14	352.14	322.80
	Additions during the year	58.76	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	29.35	29.35
	Net Loan-Closing	352.14	352.14	352.14	322.80	293.45
	Average Loan	322.76	352.14	352.14	337.47	308.12
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%



	Interest	31.15	33.98	33.98	32.57	29.73
	Rep Schedule	12 annual installments from 28.2.2018				
10	Bond XL					
	Gross loan opening	3260.00	3260.00	3260.00	3260.00	3260.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	271.67	543.34
	Net Loan-Opening	3260.00	3260.00	3260.00	2988.33	2716.66
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	271.67	271.67	271.67
	Net Loan-Closing	3260.00	3260.00	2988.33	2716.66	2444.99
	Average Loan	3260.00	3260.00	3124.17	2852.50	2580.83
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	303.180	303.18	290.55	265.28	240.02
	Rep Schedule	12 Equal Annual Installments from 28.6.2016				
11	Bond XLVI					
	Gross loan opening	0.00	167.00	167.00	167.00	167.00
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	167.00	167.00	167.00	167.00
	Additions during the year	167.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	167.00	167.00	167.00	167.00	167.00
	Average Loan	83.50	167.00	167.00	167.00	167.00
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	7.77	15.53	15.53	15.53	15.53
	Rep Schedule	3 equal installments from 4.9.2019,4.9.2024 and 4.9.2029				
12	Bond XLVII					
	Gross loan opening	0.00	1365.57	1365.57	1365.57	1365.57
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1365.57	1365.57	1365.57	1365.57
	Additions during the year	1365.57	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	113.80
	Net Loan-Closing	1365.57	1365.57	1365.57	1365.57	1251.77
	Average Loan	682.79	1365.57	1365.57	1365.57	1308.67
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	60.97	121.95	121.95	121.95	116.86
	Rep Schedule	12 Equal Annual Installments from 20.10.2018				
13	Bond XLVIII					
	Gross loan opening	0.00	1044.02	1044.02	1044.02	1044.02



	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1044.02	1044.02	1044.02	1044.02
	Additions during the year	1044.02	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1044.02	1044.02	1044.02	1044.02	1044.02
	Average Loan	522.01	1044.02	1044.02	1044.02	1044.02
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	42.80	85.61	85.61	85.61	85.61
	Rep Schedule	4 Equal Annual Installments from 23.1.2020				
14	Bond IFC -A LOAN					
	Gross loan opening	1666.47	1666.47	1666.47	1666.47	1666.47
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	166.66
	Net Loan-Opening	1666.47	1666.47	1666.47	1666.47	1499.81
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	166.66	166.66
	Net Loan-Closing	1666.47	1666.47	1666.47	1499.81	1333.15
	Average Loan	1666.47	1666.47	1666.47	1583.14	1416.48
	Rate of Interest	3.23%	3.23%	3.23%	3.23%	3.23%
	Interest	53.83	53.83	53.83	51.14	45.75
	Rep Schedule	20 Half yearly equal installments from 15.9.2017				
15	FC Bond COD -I					
	Gross loan opening	8041.11	8041.11	8041.11	8041.11	8041.11
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	8041.11	8041.11	8041.11	8041.11	8041.11
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	8041.11	8041.11	8041.11	8041.11	8041.11
	Average Loan	8041.11	8041.11	8041.11	8041.11	8041.11
	Rate of Interest	4.10%	4.10%	4.10%	4.10%	4.10%
	Interest	329.69	329.69	329.69	329.69	329.69
	Rep Schedule	Final payment on 17.1.2023				
16	Bond LI ADD CAP					
	Gross loan opening	0.00	0.00	698.52	698.52	698.52
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	698.52	698.52	698.52
	Additions during the year	0.00	698.52	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00



	Net Loan-Closing	0.00	698.52	698.52	698.52	698.52
	Average Loan	0.00	349.26	698.52	698.52	698.52
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	29.34	58.68	58.68	58.68
	Rep Schedule	redeemable in 12 equal installments w.e.f. 14.9.2019				
	Total Loan					
	Gross loan opening	33869.32	36636.90	37335.42	37335.42	37335.42
	Cumulative Repayment upto COD/previous year	0.00	0.00	203.78	1399.81	2930.60
	Net Loan-Opening	33869.32	36636.90	37131.64	35935.61	34404.82
	Additions during the year	2767.58	698.52	0.00	0.00	0.00
	Repayment during the year	0.00	203.78	1196.03	1530.79	3592.25
	Net Loan-Closing	36636.90	37131.64	35935.61	34404.82	30812.57
	Average Loan	35253.11	36884.27	36533.62	35170.22	32608.70
	Rate of Interest	7.7332%	7.7708%	7.7439%	7.6927%	7.6131%
	Interest	2726.20	2866.22	2829.11	2705.53	2482.53

