

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 245/TT/2017

Coram:

**Shri P. K. Pujari, Chairperson
Shri A. K. Singhal, Member
Dr. M. K. Iyer, Member**

Date of Order: 04.09.2018

In the matter of:

Determination of transmission tariff for Gooty-Madhugiri 400 kV D/C line and 2x500 MVA transformers alongwith downstream bays at Madhugiri Sub-station upon bifurcation of capital cost Under "Transmission system associated with System Strengthening-XIII" in Southern Region for 2014-19 tariff block under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014

And in the matter of:

Power Grid Corporation of India Limited
"Saudamini", Plot No.2,
Sector-29, Gurgaon -122 001

.....Petitioner

Vs

1. Karnataka Power Transmission Corporation Ltd.
Kaveri Bhawan, K. G. Road
Bangalore—560 009.
2. Transmission Corporation of Andhra Pradesh Ltd.
Vidyut Soudha, Khairatabad,
Hyderabad-500 082.
3. Kerala State Electricity Boards,
Vydyuthi Bhavanam,
Thiruvananthapuram-695 004.
4. Tamil Nadu Electricity Board (TNEB)
NPKRR Maaligai, 800, Anna Salai, Cennai-600 002.



5. Electricity Department Government of Goa
Vidyuti Bhawan, Panaji Goa-403001.
6. Electricity Department, Government of Pondicherry,
Pondicherry-605 001.
7. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)
APEPDCL, P&T Colony,
Seethmmadhara, Vishakhapatnam Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501, Chittoor District, Andhra Pradesh.
9. Central Power Distribution Company of Andhra Pradesh Limited (APCPDCL)
Corporate Office, Mint Compound,
Hyderabad-500 063.
10. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL) NIT
Petrol Pump, Chaitanyapuri, Kazipet,
WARANGAL – 506 004 Andhra Pradesh
11. Bangalore Electricity Supply Company Ltd. (BESCOM)
Corporate Office, K. R. Circle,
Bangalore-560 009.
12. Gulbarga Electricity Supply Company Ltd. (GESCOM)
Station Main Road, Gulbarga, Karnataka.
13. Hubli Electricity Supply Company Ltd. (HESCOM),
P.B. Road, Nava Nagar Hubli, Karnataka.
14. Mangalore Electricity Supply Company Ltd. (MESCOM)
Paradingm Plaza, A.B. Shetty Circle,
Mangalore-575 001.
15. Chamundeshwari Electricity Supply Corp. Ltd. (CESC),
Corporate Office, 927, L. J. Avenue,
Ground Floor New Kantharaj Urs Road,
Saraswathi Puram, Mysore-570 009.

.....Respondents

For Petitioner : Shri B. Dash, PGCIL



Shri S. S. Raju, PGCIL
Shri S. K. Venkatesan, PGCIL
Shri Vivek Kumar Singh, PGCIL
Shri V. P. Rastogi, PGCIL
Shri Rakesh Prasad, PGCIL

For Respondents : Shri Vallinayagam, Advocate, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd. (PGCIL) for approval of the transmission tariff for Gooty-Madhugiri 400 kV D/C line and 2x500 MVA transformers alongwith downstream bays at Madhugiri Sub-station (hereinafter referred to as “transmission assets”) (upon bifurcation of capital cost as per the Commission’s directions in order dated 18.7.2017 in Petition 54/RP/2016) under “Transmission system associated with System strengthening -XIII” (hereinafter referred to as “transmission system”) in Southern Region for 2014-19 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “2014 Tariff Regulations”).

2. The petitioner had earlier filed a Petition No. 403/TT/2014 claiming transmission tariff for Gooty-Madhugiri 400 kV D/C line alongwith the associated bays and establishment of new 400/220 kV sub-station at Madhugiri with 2x500 MVA transformers with COD as 1.12.2015. The petitioner has submitted that the remaining assets under the transmission system are being implemented. The Commission in its order dated 19.7.2016 in Petition No. 403/TT/2014 held that the transmission charges for the said assets would be borne by the Karnataka Discoms from 1.12.2015 upto the COD of the downstream assets by the Karnataka Discoms. Thereafter, the transmission charges of



the assets are to be included in the PoC computation. The relevant portion of the order dated 19.7.2016 is extracted hereunder:-

“76. Drawing analogy from the above, we are of the view that the assets have been planned to cater drawl requirements of Karnataka Discoms and due to non-availability of downstream, the assets have not been put in regular use, we direct that the transmission charges from the COD of the instant asset shall be borne by the Karnataka Discoms till the commissioning of downstream network. After that 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.”

3. Aggrieved by the order dated 19.7.2016, petitioner filed Review Petition 54/RP/2016 contending that the instant asset was developed as a System Strengthening Scheme for the benefit of the beneficiaries of the Southern Region and not for only Karnataka. Linking the recovery of the transmission charges to the establishment of the downstream system by KPTCL is neither envisaged in the 2014 Tariff Regulations nor in the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010 (hereinafter referred to as “2010 Sharing Regulations”). The petitioner submitted in the review petition that once the asset is declared under commercial operation, its recovery gets automatically shared as per the 2010 Sharing Regulations. The petitioner prayed to allow the recovery of transmission charges of the asset from the date of COD through POC mechanism. The Commission disposed of the review, vide order dated 18.7.2017, directing the petitioner to file a fresh petition giving segregated capital cost of (a) 400 kV Gooty-Madhugiri D/C transmission line along with associated bays and the other elements of new Madhugiri Sub-station, and (b) 2x500 MVA transformers at Madhugiri Sub-station within 6 weeks from the date of issue of the order. The relevant portion of the order dated 19.7.2016 is extracted hereunder:-



“14.....We have considered the contention of Review Petitioner and TANGEDCO and the comments of SRPC and CEA. COD of the instant assets was approved under proviso(ii) of Regulation 4(3) of the 2014 Tariff Regulations as 1.12.2015 and it was held in the order dated 19.7.2016 that the transmission charges for the instant assets shall be borne by Karnataka Discoms from 1.12.2015 till the commissioning of the downstream network, as the assets have not been put to regular use. As per the comments of CEA and SRPC, the 400 kV Gooty-Madhugiri D/C line has been put to use from 25.8.2016 with the charging of the Madhugiri-Bidadi 400 kV D/C Quad line (TBCB-L&T) on 25.8.2016, by making an interim arrangement at Bidadi as per the discussion held in CEA. As a result, the power flow in the range of 400-500 MW in 400 kV D/C Gooty-Madhugiri also started from that date thereby benefiting the SR beneficiaries. However, the 2x500 MVA transformers at Madhugiri Sub-station (as claimed by petitioner in Petition No.403/TT/2014) could be put to use only with the commissioning of the downstream assets by KPTCL. Accordingly, we are of the view that as the 400 kV Gooty-Madhugiri D/C transmission line is providing beneficial services to the beneficiaries of SR and helping the grid. As such, the transmission charges of the said line should be borne by Karnataka Discoms till commissioning of Madhugiri-Bidadi line, i.e. till 24.8.2016 thereafter the transmission charges shall be included in the PoC computation. We agree with CEA that the 2x500 MVA transformers at Madhugiri Substation can be put to use only with the commissioning of the downstream assets by Karnataka Discoms. As such, we are of the view that its transmission charges of 2x500 MVA transformers at Madhugiri Sub-station should be borne by Karnataka Discoms from 1.12.2015 till the commissioning of the downstream network of KPTCL. To that extent, our decision in the impugned order shall stand revised.”

“15. It is observed that the in order dated 19.7.2016, combined tariff was allowed for the 400 kV Gooty-Madhugiri D/C transmission line alongwith associated bays and new Madhugiri Sub-station with 2x500 MVA transformers at Madhugiri Sub-station. The Review Petitioner is directed to file a fresh petition giving segregated capital cost of (a) 400 kV Gooty-Madhugiri D/C transmission line along with associated bays and the other elements of new Madhugiri Sub-station, and (b) 2x500 MVA transformers at Madhugiri Sub-station within 6 weeks from the date of issue of this order. The Review Petitioner shall not be required to file the filing fees and publish notice in the newspapers as it only pertains to segregation of tariff. Pending filing of the petition and issue of segregated tariff, the Review Petitioner is directed to segregate the tariff allowed in the impugned order at its end based on the apportioned cost for 2x500 MVA transformer at Madhugiri sub-station from the rest of the transmission system, which the Review Petitioner shall be required to raise the transmission charges for 2x500 MVA transformer at Madhugiri sub-station on Karnataka Discoms, the transmission charges for the rest of the system shall be serviced through PoC mechanism.”

“17. Accordingly, the transmission charges for the Gooty- Madhugiri 400 kV D/C transmission line from 1.12.2015 to 25.8.2016 and the 2x500 MVA transformers at Madhugiri Sub-station from the deemed COD to the commissioning of the downstream assets shall be recovered from KPTCL as stated above.”

4. Accordingly, the petitioner has filed the instant petition giving the capital cost of the individual elements. However, the petitioner has split the assets into five parts against the Commission's direction to split the asset into two. The petitioner has submitted that



the asset has been split into five elements for the purpose of raising bills to Karnataka Discom. The details of the five elements are given in the table below. The petitioner has further submitted that the transmission charges for the Gooty-Madhugiri 400 kV D/C transmission line from 1.12.2015 to 25.8.2016 and the 2x500 MVA transformers at Madhugiri Sub-station from its deemed COD to the COD of the downstream assets shall be recovered from KPTCL and thereafter through POC mechanism. However, the instant petition also contains 220 kV bays at Madhugiri for termination of downstream network of KPTCL. Since the downstream network of KPTCL is yet to be put into commercial operation, the transmission charges for the same shall be recovered from KPTCL till their commissioning. Further, transmission charges for these assets (asset-III to V) will be included in PoC as and when the associated transmission lines are put into commercial operation. Accordingly, the asset has been segregated into five parts as against two parts as directed, in order to include these assets in PoC based on their respective COD.

Sri. No	Assets	COD
1.	Gooty – Madhugiri 400 kV D/C T/L along with the associated bays and 63 MVAr Bus Reactor at Madhugiri – Asset-I	1.12.2015
2.	2*500 MVA transformers along with the associated bays at Madhugiri - Asset-II	1.12.2015
3.	220 kV line bays at Madhugiri for termination of 220 kV D/C Madhugiri – Antharasanhalli line – Asset-III	1.12.2015
4.	220 kV line bays at Madhugiri for termination of 220 kV D/C Madhugiri – Madhugiri line – Asset-IV	1.12.2015
5.	220 kV line bays at Madhugiri for termination of 220 kV D/C Madhugiri – Nittur line – Asset-V	1.12.2015

5. The petitioner has claimed the following transmission charges for the instant assets:-

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	516.62	1608.60	1667.82	1682.28
Interest on Loan	224.49	690.21	682.80	651.69
Return on Equity	628.54	1958.84	2036.39	2058.11
Interest on Working Capital	40.07	124.48	128.34	129.36
O & M Expenses	154.67	479.37	495.28	511.71
Total	1564.39	4861.50	5010.63	5033.15

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	65.39	215.65	229.85	230.11
Interest on Loan	71.31	224.56	222.31	203.77
Return on Equity	73.68	243.33	259.75	260.20
Interest on Working Capital	8.74	27.82	28.88	28.88
O & M Expenses	70.61	218.86	226.12	233.62
Total	289.73	930.22	966.91	956.58

(₹ in lakh)

Particulars	Asset-III			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.47	14.91	16.04	16.17
Interest on Loan	5.12	16.53	16.77	15.65
Return on Equity	5.27	17.74	19.29	19.51
Interest on Working Capital	1.95	6.11	6.34	6.50
O & M Expenses	29.07	90.12	93.10	96.20
Total	45.88	145.41	151.54	154.03

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.62	15.16	16.36	16.48
Interest on Loan	5.78	18.29	18.61	17.36
Return on Equity	5.44	18.04	19.66	19.88
Interest on Working Capital	1.97	6.16	6.40	6.55
O & M Expenses	29.07	90.12	93.10	96.20
Total	46.88	147.77	154.13	156.47



(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.62	15.12	16.29	16.42
Interest on Loan	5.69	17.97	18.26	17.03
Return on Equity	5.45	17.99	19.59	19.81
Interest on Working Capital	1.97	6.15	6.39	6.54
O & M Expenses	29.07	90.12	93.10	96.20
Total	46.80	147.35	153.63	156.00

6. The details of the Interest on Working Capital claimed by the petitioner for the instant assets are as under:-

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	38.67	39.95	41.27	42.64
Maintenance Spares	69.60	71.91	74.29	76.76
Receivables	782.19	810.25	835.11	838.86
Total Working Capital	890.46	922.10	950.67	958.26
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	120.21	124.48	128.34	129.36
Pro rata Interest on Working Capital	40.07	124.48	128.34	129.36

(₹ in lakh)

Particulars	Asset-II			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	17.65	18.24	18.84	19.47
Maintenance Spares	31.77	32.83	33.92	35.04
Receivables	144.87	155.04	161.15	159.43
Total Working Capital	194.29	206.10	213.91	213.94
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	26.23	27.82	28.88	28.88
Pro rata Interest on Working Capital	8.74	27.82	28.88	28.88

(₹ in lakh)

Particulars	Asset-III			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	22.94	24.23	25.26	25.67
Total Working Capital	43.29	45.26	46.98	48.12
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	5.84	6.11	6.34	6.50
Pro rata Interest on Working Capital	1.95	6.11	6.34	6.50

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	23.44	24.63	25.69	26.08
Total Working Capital	43.79	45.66	47.41	48.53
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	5.91	6.16	6.40	6.55
Pro rata Interest on Working Capital	1.97	6.16	6.40	6.55

(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	7.27	7.51	7.76	8.02
Maintenance Spares	13.08	13.52	13.97	14.43
Receivables	23.40	24.56	25.61	26.00
Total Working Capital	43.75	45.59	47.33	48.45
Rate of Interest	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	5.91	6.15	6.39	6.54
Pro rata Interest on Working Capital	1.97	6.15	6.39	6.54

7. Tamil Nadu Electricity Board (TNEB)/Tamil Nadu Generation and Distribution Corporation Ltd. (TENGEDCO), Respondent No. 4, has filed reply vide affidavit dated 23.12.2017. The petitioner has filed its rejoinder to the reply vide affidavit dated 13.03.2018. The issues raised by TANGEDCO and the clarifications given by the

petitioner are dealt in relevant paragraphs of the order. During the hearing on 8.8.2018, TANGEDCO sought two weeks' time to file written submissions and Commission directed TANGEDCO to file the same by 24.8.2018. The Commission observed that if the written submissions are not received by 24.8.2018, the matter will be disposed on the basis of the information already on record. TANGEDCO has not filed the written submissions on time. Accordingly, the matter is disposed on the basis of the information on record.

8. This order has been issued after considering the petitioner's affidavits dated 13.3.2018, 30.4.2018 and 29.6.2018.

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

Date of Commercial Operation ("COD")

10. Clause (3) of Regulation 4 of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx xxx"

11. The Commission in its order dated 19.7.2016 in Petition No.403/TT/2014 has approved COD of the instant assets under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulations as 1.12.2015. TANGEDCO vide its reply dated 23.12.2017 has submitted that 1.12.2015 can be taken as "deemed date of commissioning " and not



'actual COD' as mentioned in the petition, since the actual COD will be reckoned from the date of commissioning of downstream by KPTCL and Karnataka Discoms are liable to pay the transmission charges. TANGEDCO also requested the Commission to direct to exclude the Assets-II to V from the POC pool till commissioning of downstream assets and report the actual date of declaring COD of the redundant Assets II to V.

12. In response, the petitioner has submitted that as per the order dated 18.7.2017 in Petition No. 54/RP/2016, the COD of the instant assets is 1.12.2015. The petitioner has submitted that the transmission charges will be shared as spelt out in para 15 of the petition. The submissions made by the petitioner are as follows:-

“The Tariff for Transmission of Electricity (Annual Fixed Cost) as per Para: 14.3 of petition shall be borne by KPTCL (Karnataka discom) for the Gooty-Madhugiri 400 kV D/C transmission line (**Asset-1**) from 01.12.2015 to 24.08.2016 and for 2x500 MVA transformers at Madhugiri Sub-station along with bays for downstream system (**Assets-2, 3, 4 & 5**) from the DOCO to the commissioning of the downstream assets as per Order dated 18.07.2017 in Petition 54/RP/2016.

For **Asset-1**, the transmission charges shall be included in the PoC computation from 25.08.2016, i.e., from the date of commissioning of 400 kV D/C Madhugiri – Bidadi T/L (TBCB) and for **Assets 2, 3, 4 & 5** from the date of commissioning of downstream Assets.”

13. The relevant portion of the order dated 18.7.2017 in Petition No. 54/RP/2016 is reproduced hereunder:-

“14. We have considered the contention of Review Petitioner and TANGEDCO and the comments of SRPC and CEA. COD of the instant assets was approved under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulations as 1.12.2015 and it was held in the order dated 19.7.2016 that the transmission charges for the instant assets shall be borne by Karnataka Discoms from 1.12.2015 till the commissioning of the downstream network, as the assets have not been put to regular use. As per the comments of CEA and SRPC, the 400 kV Gooty-Madhugiri D/C line has been put to use from 25.8.2016 with the charging of the Madhugiri-Bidadi 400 kV D/C Quad line (TBCB-L&T) on 25.8.2016, by making an interim arrangement at Bidadi as per the discussion held in CEA. As a result, the power flow in the range of 400-500 MW in 400 kV D/C GootyMadhugiri also started from that date thereby benefiting the SR beneficiaries. However, the 2x500 MVA transformers at Madhugiri Sub-station (as claimed by petitioner in Petition No.403/TT/2014) could be put to use only with the commissioning of the downstream assets by KPTCL. Accordingly, we are of the view that as the 400 kV Gooty-Madhugiri D/C transmission line is providing beneficial services to the beneficiaries of SR and helping the grid. As such, the transmission charges



of the said line should be borne by Karnataka Discoms till commissioning of Madhugiri-Bidadi line, i.e. till 24.8.2016 thereafter the transmission charges shall be included in the PoC computation. We agree with CEA that the 2x500 MVA transformers at Madhugiri Substation can be put to use only with the commissioning of the downstream assets by Karnataka Discoms. As such, we are of the view that its transmission charges of 2x500 MVA transformers at Madhugiri Sub-station should be borne by Karnataka Discoms from 1.12.2015 till the commissioning of the downstream network of KPTCL. To that extent, our decision in the impugned order shall stand revised.

15. It is observed that the in order dated 19.7.2016, combined tariff was allowed for the 400 kV Gooty-Madhugiri D/C transmission line alongwith associated bays and new Madhugiri Sub-station with 2x500 MVA transformers at Madhugiri Sub-station. The Review Petitioner is directed to file a fresh petition giving segregated capital cost of (a) 400 kV Gooty-Madhugiri D/C transmission line along with associated bays and the other elements of new Madhugiri Sub-station, and (b) 2x500 MVA transformers at Madhugiri Sub-station within 6 weeks from the date of issue of this order. The Review Petitioner shall not be required to file the filing fees and publish notice in the newspapers as it only pertains to segregation of tariff. Pending filing of the petition and issue of segregated tariff, the Review Petitioner is directed to segregate the tariff allowed in the impugned order at its end based on the apportioned cost for 2x500 MVA transformer at Madhugiri sub-station from the rest of the transmission system, which the Review Petitioner shall be required to raise the transmission charges for 2x500 MVA transformer at Madhugiri sub-station on Karnataka Discoms, the transmission charges for the rest of the system shall be serviced through PoC mechanism.”

14. Accordingly, transmission charges for Assets (II to V) are withdrawn from the PoC pool with effect from 1.12.2015 and shall be borne by KPTCL till the COD of the downstream assets under the scope of KPTCL.

Capital Cost

15. Clause (1) and (2) 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 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."

16. The details of apportioned approved cost, capital cost as on COD and incurred/projected additional capital expenditure and the estimated completion cost of the instant assets as claimed in Petition No. 403/TT/2017 are as follows:-

(₹ in lakh)						
Original apportioned approved cost	Revised apportioned approved cost	Cost incurred upto COD	Estimated additional capital expenditure			Total estimated completion cost
			2015-16	2016-17	2017-18	
32964.00	43107.15	36537.40	652.95	2446.53	776.37	40413.25

17. The Commission in order dated 19.7.2016 in Petition No. 403/TT/2017 made the following observations:-

“28. According to the IDC statement, the petitioner had infused a loan capital of ₹100 lakh (i.e. Bond XXXIII) on 8.7.2010 which is prior to the date of investment approval (i.e. 27.10.2011). As the petitioner has not submitted any justification in this regard, the investment approval date (i.e. 27.10.2011) has been considered as the date of infusion for Bond XXXIII for the purpose of IDC determination.....”

“29. Further, the petitioner has not mentioned the amount of IDC claim towards the Foreign Currency loan (i.e. IBRD-IV loan) and also no computation is available for verification of this amount as the details like date of infusion, amount of infusion in both foreign currency and in INR, exchange rates as on date of drawl/infusion and as on actual COD are not available. This information was not provided by the petitioner despite raising queries in this



regard. Accordingly, IDC on foreign loan has not been considered in the instant petition due to absence of required information. However, IDC on cash basis in respect of domestic loan has been allowed. As such, IDC has been worked out as ₹408.63 lakh and allowed as on COD on cash basis. The admissible amount of IDC towards foreign loan shall be determined on receipt of complete and proper information at the time of truing-up.

30. The balance amount of ₹1133.29 lakh (i.e. ₹1541.92 lakh-₹408.63 lakh), pertaining to un-discharged IDC and IDC towards foreign loan has been reduced from the capital cost as on COD. The balance IDC to be discharged after COD shall be allowed as additional capital expenditure of concerned year at the time of truing-up subject to submission of required details. The petitioner is once again directed to submit information regarding justification for infusion of debt fund before investment approval for the project, provide the date of infusion, amount of Infusion in both FC & INR, exchange rates as on date of drawl and as on actual COD for IBRD IV and details related to the payment of actual IDC on cash basis and loan wise IDC discharged after COD at the time of truing-up.”

18. The capital cost allowed by Commission in Petition No. 403/TT/2017 is as tabulated below:-

Cost incurred upto actual DOCO	Estimated additional capital expenditure			Total estimated completion cost
	2015-16	2016-17	2017-18	
35404.11	652.95	2446.53	776.37	39279.96

19. TANGEDCO has submitted that it is unaware of the projects in which this entire loan has been deployed, as the details are not submitted by the petitioner and requested the Commission to direct the petitioner to place on record the details of infusion of debit fund in various projects.

20. In response, the petitioner has given the following clarifications:-

(a) As regards infusion of loan capital of ₹1 Cr (Bond XXXIII) prior to Investment Approval date, in general, land acquisition for sub-stations is initiated well before the Investment Approval. In case of Madhugiri Sub-station, the payment was made for land acquisition based on the assessment of State Govt. authority

before the Investment Approval. Thus, there has been infusion of Bond XXXIII on 8.7.2010, i.e., before the date of Investment Approval.

(b) As regards details of Foreign Currency loan (i.e. IBRD-IV loan), the cash IDC statement for all the elements has been submitted. Further, the petitioner is borrowing its loans as a common pool of loans. As per the Company's accounting policy funds are earmarked out of the common pool as per periodical expenditure incurred on the project during construction. The borrowing costs (including Interest during construction, front end fee, Guarantee Fee, etc.) are also allocated to the projects in proportion to the funds so earmarked. Interest during construction (IDC) allocated to construction project as per above policy are kept as a separate item under CWIP and apportioned to the assets/elements being capitalised in proportion to the closing balance of CWIP of the project.

(c) Allocation of loans is done to a project i.e. earmarking of borrowed funds to specific project is done from the common pool of loans drawn for the use of construction of projects. Deployment of loans is based on periodical expenditure for the project as a whole booked. When an element (like the present asset) is commissioned, loans are allocated to the element from the overall project funding based on the specific as well as apportioned expenditure related to the element. Since there is no asset specific loans been taken for the asset, IDC, have also been apportioned to this element. While the overall IDC and IEDC of the project will remain the same, allocation of IDC is done pro rata to the element matching the allocation of loans up to COD.



(d) In case of Foreign Loans (WB, ADB etc.), these are contracted for a basket of projects. Loans are drawn based on the periodical expenditure incurred for all the projects covered under the loan. Loans get accumulated at every drawl till the total sanctioned limit is drawn. Loans are drawn in the respective foreign currency. Repayment of loan and interest is done in respective foreign currency. Loans drawn for a specific project is apportioned to the individual elements in proportion to the expenditure of the elements periodically. The actual debt servicing in respect of the foreign loan has to be released to the lender as per schedule of repayment agreed for the loan as a whole consisting of the entire basket of projects. IDC as a whole is allocated to all the various projects covered under the subject loan in proportion to the loans drawn. Interest during construction allocated to construction project as per policy is kept as a separate item under CWIP and apportioned to the assets being capitalised in proportion to the closing balance of WIP.

(e) Various tranches of foreign loans drawn during construction phase are converted into INR at the Exchange rate prevailing on COD date to determine the D/E ratio of the element/project subject to overall ceiling of 70: 30 permitted under tariff regulations. While as per the tariff regulations, annual FERV during construction phase is considered as part of capital cost, the exchange rate as on COD forms the basis for determination of FERV, post COD. The value of the loan is considered in equivalent INR as on COD date in Tariff forms. In the statement showing IDC discharged up to COD, Exchange rate as on COD is considered for calculation of IDC discharged subsequent to COD (un-discharged as on COD).



(f) The details of interest under IBRD IV loan allocated to SRSS XIII project are as under:-

(₹ in lakh)			
Year	Interest (in INR)	Guarantee Fee (in INR)	Total
2012-13	2698407	-	2698407
2013-14	8026152	9911616	17937768
2014-15	9252319	26352873	35605192
2015-16	14182438	27200120	41382558
Total	34159316	63464609	97623925

(g) Out of the total IDC allocated to SRSS XIII as mentioned above, IDC of ₹891.71 lakhs is apportioned to Asset-I. Total IDC and IDC discharged up to COD is as under:-

(₹ in lakh)			
Nature of IDC	IBRD IV	Domestic	Total
IDC Discharged up to DOCO	875.28	307.23	1182.51
IDC Accrued and discharged after DOCO	16.43	117.87	134.30
Total IDC	891.71	425.10	1316.81

20. The petitioner has claimed the following capital cost for the instant assets:-

(₹ in lakh)							
Assets	Total FR cost	Total RCE cost	Exp. up to DOCO	Exp. during 2015- 16	Estimated exp. during 2016-17	Est. exp. during 2017-18	Estimated completion cost
Asset - I	32964.06	43107.15	31890.3	567.54	1787.6	738.62	34984.06
Asset - II			3826.04	56.42	525.17	15.30	4422.93
Asset - III			269.89	9.66	44.59	7.48	331.62
Asset - IV			276.21	9.66	44.59	7.48	337.94
Asset - V			274.95	9.66	44.59	7.48	336.68
Total	32964.06	43107.15	36537.39	652.94	2446.54	776.36	40413.23

21. The petitioner has also submitted the following RCE apportioned approved cost, vide its affidavit dated 29.6.2018:-

(₹ in lakh)

Srl. No.	Assets	Apportioned approved cost as per RCE	Completed Cost (Audited)
1	Asset - I	37604.25	34984.07
2	Asset - II	4462.90	4422.93
3	Asset - III	343.00	331.62
4	Asset - IV	348.00	337.94
5	Asset - V	349.00	336.68
	Total	43107.15	40413.24

22. It is observed that the estimated completion cost of the instant assets is within the RCE cost. Therefore, the cost variation is allowed.

Interest During Construction (IDC)

23. The petitioner has claimed IDC of ₹1316.81 lakh for Asset-I, ₹176.39 lakh for Asset-II, ₹12.44 lakh for Asset-III, ₹18.77 lakh for Asset-IV and ₹17.51 lakh for Asset-V and has submitted the Auditor's Certificate dated 23.9.2017 in support of the same. The petitioner has claimed IDC on accrual basis for all Assets under instant petition. The petitioner further submitted IDC statement which mentions the amount of IDC discharged up to COD and balance IDC discharged during 2015-16 and 2016-17 respectively.

24. The petitioner was directed to submit IDC computation for foreign loan. The petitioner has submitted that, in case of foreign loans (WB, ADB etc.) the IDC as a whole is allocated to all the various projects covered under the subject loan in proportion to the loan drawn. IDC allocated to construction project as per policy is kept as a separate item under CWIP and apportioned to the assets being capitalized in proportion to the closing balance of WIP. The petitioner has submitted that interest under IBRD IV loan allocated to SRSS XIII project is ₹976.24 lakh out of which ₹891.71 lakh is apportioned to Asset 1 of the instant project. The petitioner has submitted the date wise allocation of IBRD-IV loan along with the exchange rate as on the date of drawl and as COD for Asset I.



25. It is observed that the petitioner has calculated IDC on foreign loan and then allocated the same to various project/assets. Hence, the asset level IDC computation is not verifiable. The petitioner has submitted the drawl date wise amount of loan in foreign currency and its exchange rate and converted into INR as on COD. This information however is useful only for determining the value of foreign loan in INR but not for computation of IDC. Therefore, the IDC mentioned for foreign loan as provided by the petitioner has been considered as it is. The petitioner is directed to submit, at the time of true up, the IDC calculation of all foreign loans and its allocation to various projects and allocation to P&L account so that that documents shall be referred to allow IDC claimed for the concerned projects.

26. Based on the information submitted by the petitioner (i.e. loan amount in Form-9C, date of drawl in IDC statement) the allowable IDC has been worked out as summarized below:-

(₹ in lakh)					
Particulars	IDC Claimed as per the Auditor's Certificate (Accrual basis)	Accrued IDC as on COD as worked out	IDC disallowed as on COD due to computation difference (A-B)	Undischarged portion of Entitled IDC as on COD*	IDC Allowed on cash basis as on COD
a	b	c	d=b-c	e	f=b-d-e
Asset-I	1316.81	1316.81	0.00	134.30	1182.51
Asset-II	176.39	171.44	4.95	171.44	0.00
Asset-III	12.44	12.32	0.12	11.63	0.69
Asset-IV	18.77	18.75	0.02	4.56	14.19
Asset-V	17.51	17.52	0.00	3.37	14.14

* The Un-discharge portion of IDC has been considered as ACE during the year of discharge.

27. The IDC allowed shall be reviewed at the time of trueing up.



Incidental Expenditure During Construction (IEDC)

28. The petitioner has claimed IEDC of ₹1953.84 lakh in case of Asset-I, ₹246.44 lakh in case of Asset-II, ₹18.52 lakh in case of Asset-III, ₹18.52 lakh in case of Asset-IV and ₹18.52 lakh in case of Asset-V as on COD, which is within the percentage of Hard Cost (i.e. 10.75%) indicated in the Abstract Cost Estimate and accordingly it is allowed. Hence, no adjustment of IEDC is required in the case of instant assets. Year wise details of actual amount of IEDC discharged i.e. Form-12A is also submitted by the petitioner. However, the petitioner has not submitted the IEDC discharge details. Assuming that the entire IEDC as claimed in Auditor Certificate is on cash basis and is paid up to COD of the assets, the entire amount of IEDC has been allowed. However, petitioner is directed to submit the IEDC discharge details at the time of truing up.

Initial Spares

29. Regulation 13(d) of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:-

“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

(d) Transmission system

- (i) Transmission line-1.00%
- (ii) Transmission Sub-station (Green Field)-4.00%
- (iii) Transmission Sub-station (Brown Field)-6.00%
- (iv) Series Compensation devices and HVDC Station-4.00%
- (v) Gas Insulated Sub-station (GIS)-5.00%
- (vi) Communication system- 3.5%

Provided that:

- (i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:



- (ii) xxx
- (iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:
- (iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the breakup of head wise IDC & IEDC in its tariff application.

30. As per Auditor Certificate dated 23.9.2017 Initial spares, claimed by the petitioner in respect of the instant assets are tabulated below in table. The spares are within the ceiling specified in the 2014 Tariff Regulations. Hence, no adjustment of initial spares is required.

31. Details of claimed and allowed spares are tabulated below:-

(₹ in lakh)

Assets	Element	Cost of plant & machinery as on cut-off date	Initial Spares Claimed	Ceiling limits as per 2014 Tariff Regulations	Initial Spares worked out	Total excess Initial spares	Initial Spares allowed
Asset-I	S/S	3687.01	111.58	4.00%	148.98	-	111.58
	TL	21012.39	193.34	1.00%	210.29	-	193.34
Asset-II	S/S	3837.38	142.61	4.00%	153.95	-	142.61
Asset-III	S/S	221.07	8.32	4.00%	8.86	-	8.32
Asset-IV	S/S	221.06	7.13	4.00%	8.91	-	7.13
Asset-V	S/S	221.06	8.32	4.00%	8.86	-	8.32

Capital cost as on COD

32. Detail of the capital cost considered as on COD after making the necessary adjustment in respect capital expenditure of IDC and IEDC is as follows:-

(₹ in lakh)

Asset	Capital cost as on COD claimed by Petitioner	Accrued IDC disallowed due to computational difference	Un-discharged IDC as on COD	IEDC Disallowed on COD	Excess Initial spares	Capital Cost as on COD considered for tariff calculation
1	2	3	4	5	6	7=(2-3-4-5-6)
Asset-I	31890.30	0.00	134.30	0.00	0.00	31756.00

Asset-II	3826.04	4.95	171.44	0.00	0.00	3649.65
Asset-III	269.89	0.12	11.63	0.00	0.00	258.14
Asset-IV	276.21	0.02	4.56	0.00	0.00	271.63
Asset-V	274.95	0.00	3.37	0.00	0.00	271.58

Additional Capital Expenditure

33. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(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 recognised to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law or compliance of any existing law.”

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”

34. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines —cut-off date as under:-

‘cut-off date means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation.”

35. The cut-off date in the case of instant transmission asset is 31.3.2018.

36. The petitioner has claimed additional capital expenditure during 2015-16, 2016-17 and 2017-18 as tabulated in para 20. The additional capital expenditure claimed by the petitioner for the instant assets for the period 2015-16, 2016-17 and 2017-18 is within the cut- off date and is on account of balance and retention payments.



37. The additional capital expenditure allowed for all the assets are tabulated below:-

(₹ in lakh)

For Financial year 2015-16			
Asset	Add cap claimed	Discharge of IDC	Total Add cap allowed
Asset-I	567.54	24.23	591.77
Asset-II	56.42	158.70	215.12
Asset-III	9.66	11.32	20.98
Asset-IV	9.66	0.95	10.61
Asset-V	9.66	0.00	9.66

(₹ in lakh)

2016-17			
Asset	Add cap claimed	Discharge of IDC	Total Add cap allowed
Asset-I	1787.60	110.07	1897.67
Asset-II	525.17	12.74	537.91
Asset-III	44.59	0.30	44.89
Asset-IV	44.59	3.19	47.78
Asset-V	44.59	2.10	46.69

(₹ in lakh)

2017-18		
Asset	Add cap claimed	Total Add cap allowed
Asset-I	738.62	738.62
Asset-II	15.30	15.30
Asset-III	7.48	7.48
Asset-IV	7.48	7.48
Asset-V	7.48	7.48

38. The add cap allowed above is subject to true-up.

Capital cost as on 31.3.2019

39. The details of the capital cost allowed as on 31.3.2019 is as follows:-

(₹ in lakh)

Particulars	Capital cost allowed as on COD	Add-cap for 2015-16	Add-cap for 2016-17	Add-cap for 2017-18	Estimated completion cost as on 31.3.2019
Asset-I	31756.00	591.77	1897.67	738.62	34984.06
Asset-II	3649.66	215.12	537.91	15.30	4417.99

Asset-III	258.14	20.98	44.89	7.48	331.49
Asset-IV	271.64	10.61	47.78	7.48	337.51
Asset-V	271.59	9.66	46.69	7.48	335.42

Debt- Equity ratio

40. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

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

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

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe 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.”

41. The capital cost on the date of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30 as provided under clause (1) and (5) of the 2014 Tariff Regulations. The details of debt-equity as on the date of commercial operation and 31.3.2019 considered on normative basis are as under:-



(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	22229.20	70.00	2554.76	70.00	180.70	70.00
Equity	9526.80	30.00	1094.90	30.00	77.44	30.00
Total	31756.00	100.00	3649.66	100.00	258.14	100.00

(₹ in lakh)

Particulars	Asset-IV		Asset-V	
	Amount	(%)	Amount	(%)
Debt	190.15	70.00	190.12	70.00
Equity	81.49	30.00	81.47	30.00
Total	271.64	100.00	271.59	100.00

42. The overall debt-equity ratio as on 31.3.2019 for the assets is as under:-

(₹ in lakh)

Particulars	Asset-I		Asset-II		Asset-III	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	24488.84	70.00	3092.59132	70.00	232.05	70.00
Equity	10495.22	30.00	1325.40	30.00	99.45	30.00
Total	34984.06	100.00	4417.99	100.00	331.49	100.00

(₹ in lakh)

Particulars	Asset-IV		Asset-V	
	Amount	(%)	Amount	(%)
Debt	236.25	70.00	234.79	70.00
Equity	101.25	30.00	100.62	30.00
Total	337.50	100.00	335.41	100.00

43. The additional capital expenditure has been considered in the debt-equity ratio ratio of 70:30.

Return on Equity (RoE)

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

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

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

(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_{eff} 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_{eff} shall be considered as MAT rate including surcharge and cess.

45. The petitioner has submitted that it is liable to pay income tax at MAT rate, the RoE has been calculated @ 19.610% after grossing up the RoE with MAT rate of 20.961%, as provided under Regulation 25(2)(i) of the 2014 Tariff Regulations. As per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up rate of RoE at the end of the financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2014-19 period on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis. The petitioner has also 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.

46. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of RoE with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of RoE. Accordingly, the MAT rate applicable during 2013-14 has been considered for

the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)

Asset-I	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	9526.80	9704.33	10273.63	10495.22
Addition due to Additional Capitalisation	177.53	569.30	221.59	0.00
Closing Equity	9704.33	10273.63	10495.22	10495.22
Average Equity	9615.56	9988.98	10384.42	10495.22
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	630.26	1958.84	2036.39	2058.11

(₹ in lakh)

Asset-II	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	1094.90	1159.43	1320.81	1325.40
Addition due to Additional Capitalisation	64.54	161.37	4.59	0.00
Closing Equity	1159.43	1320.81	1325.40	1325.40
Average Equity	1127.17	1240.12	1323.10	1325.40
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	1094.90	1159.43	1320.81	1325.40

(₹ in lakh)

Asset-III	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	77.44	83.73	97.20	99.45
Addition due to Additional Capitalisation	6.29	13.47	2.24	0.00
Closing Equity	83.73	97.20	99.45	99.45
Average Equity	80.59	90.47	98.32	99.45
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	5.28	17.74	19.28	19.50

(₹ in lakh)

Asset-IV	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	81.49	84.67	99.01	101.25
Addition due to Additional Capitalisation	3.18	14.33	2.24	0.00
Closing Equity	84.67	99.01	101.25	101.25
Average Equity	83.08	91.84	100.13	101.25
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	81.49	84.67	99.01	101.25

(₹ in lakh)

Asset-V	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	81.48	84.38	98.38	100.62
Addition due to Additional Capitalisation	2.90	14.00	2.24	0.00
Closing Equity	84.38	98.38	100.62	100.62
Average Equity	82.93	91.38	99.50	100.62
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year (MAT)	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre Tax)	81.48	84.38	98.38	100.62

Interest on Loan (IoL)

47. Regulation 26 of the 2014 Tariff Regulations are provides 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 decapitalization 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.”

48. The petitioner’s entitlement to IoL has been calculated as per the provisions of Regulation 26 of the 2014 Tariff Regulations as detailed below:-

- (i) Gross Normative loan has been considered as per the Loan amount determined based on the debt:equity ratio approved above.
- (ii) The normative repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that period; and
- (iii) Weighted average rate of interest on actual loan portfolio has been worked out by considering the details of loan, repayment and rate of interest as provided in petition.

49. Detailed calculations in support of IoL are given in **Annexure-I to V** to this order.

50. The IoL is calculated as shown under:-

Asset-I	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	22229.20	22643.44	23971.81	24488.84
Cumulative Repayment up to Previous year	0.00	518.03	2126.64	3794.46
Net Loan-Opening	22229.20	22125.41	21845.17	20694.38
Addition due to Additional Capitalization	414.24	1328.37	517.03	0.00
Repayment during the year	518.03	1608.60	1667.82	1682.28
Net Loan-Closing	22125.41	21845.17	20694.38	19012.11
Average Loan	22177.31	21985.29	21269.78	19853.25



Weighted Avg Rate of Interest on Loan	3.0367%	3.1392%	3.2100%	3.2823%
Interest	225.10	690.16	682.76	651.65

(₹ in lakh)

Asset-II	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	2554.76	2705.35	3081.88	3092.59
Cumulative Repayment up to Previous year	0.00	65.57	281.10	510.69
Net Loan-Opening	2554.76	2639.77	2800.79	2581.90
Addition due to Additional Capitalization	150.58	376.54	10.71	0.00
Repayment during the year	65.57	215.52	229.60	229.85
Net Loan-Closing	2639.77	2800.79	2581.90	2352.05
Average Loan	2597.27	2720.28	2691.34	2466.98
Weighted Avg Rate of Interest on Loan	8.2360%	8.2493%	8.2496%	8.2496%
Interest	71.50	224.40	222.03	203.52

(₹ in lakh)

Asset-III	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	180.70	195.39	226.81	232.05
Cumulative Repayment up to Previous year	0.00	4.48	19.39	35.42
Net Loan-Opening	180.70	190.90	207.42	196.62
Addition due to Additional Capitalization	14.69	31.42	5.24	0.00
Repayment during the year	4.48	14.91	16.04	16.16
Net Loan-Closing	190.90	207.42	196.62	180.46
Average Loan	185.80	199.16	202.02	188.54
Weighted Avg Rate of Interest on Loan	8.2701%	8.2950%	8.2951%	8.2940%
Interest	5.14	16.52	16.76	15.64

(₹ in lakh)

Asset-IV	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	190.15	197.58	231.02	236.25
Cumulative Repayment up to Previous year	0.00	4.62	19.75	36.09
Net Loan-Opening	190.15	192.96	211.26	200.16
Addition due to Additional Capitalization	7.43	33.44	5.24	0.00
Repayment during the year	4.62	15.13	16.34	16.46
Net Loan-Closing	192.96	211.26	200.16	183.70
Average Loan	191.55	202.11	205.71	191.93

Weighted Avg Rate of Interest on Loan	9.0325%	9.0367%	9.0331%	9.0344%
Interest	5.78	18.26	18.58	17.34

(₹ in lakh)

Asset-V	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	190.12	196.88	229.55	234.79
Cumulative Repayment up to Previous year	0.00	4.61	19.67	35.90
Net Loan-Opening	190.12	192.27	209.89	198.89
Addition due to Additional Capitalization	6.76	32.68	5.24	0.00
Repayment during the year	4.61	15.06	16.23	16.36
Net Loan-Closing	192.27	209.89	198.89	182.53
Average Loan	191.19	201.08	204.39	190.71
Weighted Avg Rate of Interest on Loan	8.8906%	8.9000%	8.8981%	8.8970%
Interest	5.68	17.90	18.19	16.97

Depreciation

51. Regulation 27 of the 2014 Tariff Regulations 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.”

52. The instant transmission asset was put under commercial operation during 2015-16. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method in accordance with Regulation 27 at the rates specified in Appendix-II to the 2014 Tariff Regulations.

53. The details of the depreciation worked out are as under:-

Asset-I	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	31756.00	32347.7	34245.4	34984.0
Addition during 2009-14 due to Projected Additional Capitalisation	591.77	1897.67	738.62	0.00
Closing Gross Block	32347.77	34245.4	34984.0	34984.0
Average Gross Block	32051.89	33296.6	34614.7	34984.0



Rate of Depreciation	4.8355%	4.8311%	4.8182%	4.8087%
Depreciable Value	27021.20	28141.4	29280.3	29565.3
Remaining Depreciable Value	27021.20	26503.1	24894.5	23226.7
Depreciation	518.03	1608.60	1667.82	1682.28

(₹ in lakh)

Asset-II	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	3649.66	3864.78	4402.69	4417.99
Addition during 2009-14 due to Projected Additional Capitalisation	215.12	537.91	15.30	0.00
Closing Gross Block	3864.78	4402.69	4417.99	4417.99
Average Gross Block	3757.22	4133.74	4410.34	4417.99
Rate of Depreciation	5.2215%	5.2138%	5.2058%	5.2026%
Depreciable Value	3381.50	3720.36	3969.31	3976.19
Remaining Depreciable Value	3381.50	3315.92	3100.40	2870.80
Depreciation	65.57	215.52	229.60	229.85

(₹ in lakh)

Asset-III	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	258.14	279.12	324.01	331.49
Addition during 2009-14 due to Projected Additional Capitalisation	20.98	44.89	7.48	0.00
Closing Gross Block	279.12	324.01	331.49	331.49
Average Gross Block	268.63	301.57	327.75	331.49
Rate of Depreciation	4.9917%	4.9431%	4.8928%	4.8753%
Depreciable Value	241.77	271.41	294.98	298.34
Remaining Depreciable Value	241.77	237.28	222.38	206.34
Depreciation	4.48	14.91	16.04	16.16

(₹ in lakh)

Asset-IV	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	271.64	282.25	330.02	337.50
Addition during 2009-14 due to Projected Additional Capitalisation	10.61	47.77	7.48	0.00
Closing Gross Block	282.25	330.02	337.50	337.50
Average Gross Block	276.95	306.14	333.76	337.50
Rate of Depreciation	4.9914%	4.9434%	4.8943%	4.8771%
Depreciable Value	249.25	275.52	300.39	303.75
Remaining Depreciable Value	249.25	244.63	229.50	213.16
Depreciation	4.62	15.13	16.34	16.46



(₹ in lakh)

Asset-V	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	271.59	281.25	327.93	335.41
Addition during 2009-14 due to Projected Additional Capitalisation	9.66	46.68	7.48	0.00
Closing Gross Block	281.25	327.93	335.41	335.41
Average Gross Block	276.42	304.59	331.67	335.41
Rate of Depreciation	4.9915%	4.9433%	4.8937%	4.8764%
Depreciable Value	248.78	274.14	298.51	301.87
Remaining Depreciable Value	248.78	244.17	229.11	212.88
Depreciation	4.61	15.06	16.23	16.36

Operation & Maintenance Expenses (O&M Expenses)

54. Regulation 29(4)(a) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:-

(₹ in lakh)

Element	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-I					
400 kV D/C Twin & Three Conductor	0.707	0.731	0.755	0.780	0.806
400 kV AIS Sub-station	60.30	62.30	64.37	66.51	68.71

(₹ in lakh)

Element	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-II					
400 kV AIS Sub-station	60.30	62.30	64.37	66.51	68.71
220 kV AIS Sub-station	42.21	43.61	45.06	46.55	48.10

(₹ in lakh)

Element	2014-15	2015-16	2016-17	2017-18	2018-19
Asset-III to V					
220 kV AIS Sub-station	42.21	43.61	45.06	46.55	48.10

55. The petitioner has computed normative O&M Expenses as per sub-clause (a) of



clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the allowable O&M Expenses for the instant transmission asset are as under:-

(₹ in lakh)

Element	2015-16	2016-17	2017-18	2018-19
Asset-I				
400 kV D/C Twin & Three Conductor- 208.63	50.42	157.51	162.73	168.15
400 kV AIS Sub-station-5 bays	102.98	321.85	332.55	343.55
Total	153.40	479.36	495.28	511.70

(₹ in lakh)

Element	2015-16	2016-17	2017-18	2018-19
Asset-II				
400 kV AIS Sub-station-2 bays	41.19	128.74	133.02	137.42
220 kV AIS Sub-station – 2 bays	28.83	90.12	93.10	96.20
Total	70.02	218.86	226.12	233.62

(₹ in lakh)

Element	2015-16	2016-17	2017-18	2018-19
Asset-III, IV & V				
220 kV AIS Sub-station – 2 bays	28.83	90.12	93.10	96.20
Total	28.83	90.12	93.10	96.20

56. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

57. TANGEDCO in its reply has submitted that there is no provision in 2014 Tariff

Regulations for revising the normative O&M charges based on the actuals. TANGEDCO has submitted that the O&M rates are arrived based on past five years actual O&M Expenses which include the wage hikes during the previous five years and 10% margin over and above the effective CAGR of O&M Expenses have been allowed. The beneficiaries are over-burdened due to the exorbitant O&M rates when compared to the rates of State Transmission Utilities. Therefore, the request for revision of O&M rates should not be allowed.

58. In response, the petitioner has submitted that being a CPSU, the scheme of wage revision is binding on the petitioner. However the actual impact of wage hike (due w.e.f. 1.1.2017) has not been factored in fixation of the normative O&M rates prescribed for the 2014-19 tariff block. In line with the Regulation 19(f)(ii) of the 2014 Tariff Regulations, norms for O&M Expenses for the year 2009-10 were derived considering the impact of wage hike of the employees under PSUs. The petitioner has prayed for suitable revision in the norms for O&M Expenses for claiming the impact of wage hike during 2014-19 periods.

59. The O&M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. As regards the 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)

60. Regulation 28(1)(c) and Regulation 3(5) of the 2014 Tariff Regulations specify as follows:-



“28. Interest on Working Capital

(1) The working capital shall cover:

(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;”

61. The petitioner is entitled to claim IWC as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-

(iv) 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.

(v) 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.



(vi) **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.

(vii) **Rate of IWC**

As provided under Regulation 28(3) of the 2014 Tariff Regulations, SBI Base rate 10.00% as on 1.4.2015 plus 350 BPS i.e. 13.50% has been considered as the rate of IWC.

62. Accordingly, the IWC allowed for the instant assets is as under:-

(₹ in lakh)

Asset-I	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	68.84	71.91	74.29	76.76
O & M expenses	38.25	39.95	41.27	42.64
Receivables	781.30	810.24	835.10	838.85
Total	888.39		950.66	958.25
Pro rata IOWC	40.09	124.48	128.34	129.36

(₹ in lakh)

Asset-II	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	31.42	32.83	33.92	35.04
O & M expenses	17.46	18.24	18.84	19.47
Receivables	144.45	154.96	161.01	159.29
Total	193.33	206.03	213.77	213.80
Pro rata IOWC	8.72	27.81	28.86	28.86

(₹ in lakh)

Asset-III	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance	12.94	13.52	13.97	14.43
O & M expenses	7.19	7.51	7.76	8.02
Receivables	22.77	24.23	25.25	25.67
Total	42.90	45.26	46.98	48.11
Pro rata IOWC	1.94	6.11	6.34	6.50



(₹ in lakh)

Asset-IV	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	12.94	13.52	13.97	14.43
O & M expenses	7.19	7.51	7.76	8.02
Receivables	23.25	24.61	25.68	26.07
Total	43.38	45.64	47.40	48.51
Pro rata IOWC	1.96	6.16	6.40	6.55

(₹ in lakh)

Asset-V	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Maintenance Spares	12.94	13.52	13.97	14.43
O & M expenses	7.19	7.51	7.76	8.02
Receivables	23.19	24.52	25.57	25.97
Total	43.32	45.55	47.29	48.41
Pro rata IOWC	1.95	6.15	6.38	6.54

Transmission Charges

63. The transmission charges allowed for the instant transmission asset are summarized as under:-

(₹ in lakh)

Asset-I	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	518.03	1608.60	1667.82	1682.28
Interest on Loan	225.10	690.16	682.76	651.65
Return on Equity	630.26	1958.84	2036.39	2058.11
Interest on Working Capital	40.09	124.48	128.34	129.36
O & M Expenses	153.40	479.37	495.28	511.71
Total	1566.88	4861.46	5010.58	5033.11

(₹ in lakh)

Asset-II	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	65.57	215.52	229.60	229.85
Interest on Loan	71.50	224.40	222.03	203.52
Return on Equity	73.88	243.19	259.46	259.91
Interest on Working Capital	8.72	27.81	28.86	28.86
O & M Expenses	70.02	218.86	226.12	233.62
Total	289.70	929.79	966.06	955.76



(₹ in lakh)

Asset-III	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.48	14.91	16.04	16.16
Interest on Loan	5.14	16.52	16.76	15.64
Return on Equity	5.28	17.74	19.28	19.50
Interest on Working Capital	1.94	6.11	6.34	6.50
O & M Expenses	28.83	90.12	93.10	96.20
Total	45.67	145.40	151.52	154.00

(₹ in lakh)

Asset-IV	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.62	15.13	16.34	16.46
Interest on Loan	5.78	18.26	18.58	17.34
Return on Equity	5.45	18.01	19.64	19.86
Interest on Working Capital	1.96	6.16	6.40	6.55
O & M Expenses	28.83	90.12	93.10	96.20
Total	46.64	147.69	154.05	156.40

(₹ in lakh)

Asset-V	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	4.61	15.06	16.23	16.36
Interest on Loan	5.68	17.90	18.19	16.97
Return on Equity	5.44	17.92	19.51	19.73
Interest on Working Capital	1.95	6.15	6.38	6.54
O & M Expenses	28.83	90.12	93.10	96.20
Total	46.51	147.14	153.41	155.79

64. 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 and charges or any other kind of impositions etc. The same if imposed shall be borne and additionally paid by the respondents.

Filing Fee and Publication Expenses

65. 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. BRPL has submitted that filing fee and publication expenses should be borne by the petitioner.

We have considered the submissions of the petitioner and BRPL. 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

66. 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.

Goods and Services Tax

67. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow recovery of GST from the beneficiaries, if imposed on transmission charges under the proposed GST when implemented by Government of India. We are of the view that petitioner's prayer is premature.

Sharing of Transmission Charges

68. The transmission charges allowed in this order for Asset 1 shall be borne by Karnataka Discoms from 1.12.2015 to 24.8.2016 and thereafter it shall be included in the computation of PoC charges. In case of Assets 2 to 5, the transmission charges from 1.12.2015 till the COD of the downstream assets shall be borne by Karnataka Discoms and thereafter it shall be included in the PoC charges as held in order dated 18.7.2017 in Petition 54/RP/2016 and 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.

69. This order disposes of Petition No. 245/TT/2017.

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

sd/-
(A. K. Singhal)
Member

sd/-
(P. K. Pujari)
Chairperson



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

(₹ in lakh)

Particulars	Asset-I			
	2015-16	2016-17	2017-18	2018-19
BONDS XXXIII				
Gross Loan Opening	723.35	723.35	723.35	723.35
Cumulative Repayments of Loans upto Previous Year	120.56	120.56	180.84	241.12
Net Loans Opening	602.79	602.79	542.51	482.23
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year		60.28	60.28	60.28
Net Loan Closing	602.79	542.51	482.23	421.95
Average Net Loan	602.79	572.65	512.37	452.09
Rate of Interest on Loan	8.64%	8.64%	8.64%	8.64%
Interest on Loan	52.08	49.48	44.27	39.06
Bond XLVIII				
Gross Loan Opening	49.39	49.39	49.39	49.39
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	49.39	49.39	49.39	49.39
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	49.39	49.39	49.39	49.39
Average Net Loan	49.39	49.39	49.39	49.39
Rate of Interest on Loan	8.20%	8.20%	8.20%	8.20%
Interest on Loan	4.05	4.05	4.05	4.05
Bond L				
Gross Loan Opening	1246.12	1246.12	1246.12	1246.12
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	1246.12	1246.12	1246.12	1246.12
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	1246.12	1246.12	1246.12	1246.12
Average Net Loan	1246.12	1246.12	1246.12	1246.12
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	104.67	104.67	104.67	104.67

IBRD IV				
Gross Loan Opening	18076.86	18076.86	18076.86	18076.86
Cumulative Repayments of Loans upto Previous Year	2110.47	2110.47	3036.01	4011.86
Net Loans Opening	15966.39	15966.39	15040.85	14065.00
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year		925.54	975.85	1028.87
Net Loan Closing	15966.39	15040.85	14065.00	13036.13
Average Net Loan	15966.39	15503.62	14552.93	13550.57
Rate of Interest on Loan	1.59%	1.59%	1.59%	1.59%
Interest on Loan	253.87	246.51	231.39	215.45
SBI 10000 (1.5.2014)				
Gross Loan Opening		397.28	397.28	397.28
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		397.28	397.28	397.28
Add: Drawal(s) during the year	397.28			
Less: Repayment (s) of Loans during the year				
Net Loan Closing	397.28	397.28	397.28	397.28
Average Net Loan	198.64	397.28	397.28	397.28
Rate of Interest on Loan	9.55%	9.55%	9.55%	9.55%
Interest on Loan	18.97	37.94	37.94	37.94
Bond LI				
Gross Loan Opening	2133.48	2133.48	2133.48	2133.48
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	2133.48	2133.48	2133.48	2133.48
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	2133.48	2133.48	2133.48	2133.48
Average Net Loan	2133.48	2133.48	2133.48	2133.48
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	179.21	179.21	179.21	179.21
Bond LI				
Gross Loan Opening		16.96	16.96	16.96
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		16.96	16.96	16.96
Add: Drawal(s) during the year	16.96			
Less: Repayment (s) of Loans during the year				
Net Loan Closing	16.96	16.96	16.96	16.96

Average Net Loan	8.48	16.96	16.96	16.96
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	0.71	1.42	1.42	1.42
Bond LI				
Gross Loan Opening			77.05	77.05
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening			77.05	77.05
Add: Drawal(s) during the year		77.05		
Less: Repayment (s) of Loans during the year				
Net Loan Closing		77.05	77.05	77.05
Average Net Loan		38.53	77.05	77.05
Rate of Interest on Loan		8.40%	8.40%	8.40%
Interest on Loan		3.24	6.47	6.47
Total Loan				
Gross Loan Opening	22229.20	22643.44	22720.49	22720.49
Cumulative Repayments of Loans upto Previous Year	2231.03	2231.03	3216.85	4252.97
Net Loans Opening	19998.17	20412.41	19503.65	18467.52
Add: Drawal(s) during the year	414.24	77.05		
Less: Repayment (s) of Loans during the year		985.81	1,036.13	1,089.15
Net Loan Closing	20412.41	19503.65	18467.52	17378.36
Average Net Loan	20205.29	19958.03	18985.58	17922.94
Interest on Loan	613.57	626.52	609.43	588.29
Weighted Average Rate of Interest on Loan	3.04%	3.14%	3.21%	3.28%

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

(₹ in lakh)

		Asset-II			
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	Bond L				
	Gross loan opening	284.40	395.49	407.87	407.87
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	284.40	395.49	407.87	407.87
	Additions during the year	111.09	12.38	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	395.49	407.87	407.87	407.87
	Average Loan	339.95	401.68	407.87	407.87
	Rate of Interest	8.40%	8.40%	8.40%	8.40%
	Interest	28.56	33.74	34.26	34.26
	Rep Schedule	12 Annual Instalment from 27.5.2019			
2	SBI 2014-15				
	Gross loan opening	0.00	39.49	39.49	39.49
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	39.49	39.49	39.49
	Additions during the year	39.49	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	39.49	39.49	39.49	39.49
	Average Loan	19.75	39.49	39.49	39.49
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	1.89	3.77	3.77	3.77
	Rep Schedule	22 Semi Annual Instalment from 15.6.2019			
3	BOND XLVIII				
	Gross loan opening	2270.35	2270.35	2270.35	2270.35
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	2270.35	2270.35	2270.35	2270.35
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	2270.35	2270.35	2270.35	2270.35
	Average Loan	2270.35	2270.35	2270.35	2270.35
	Rate of Interest	8.20%	8.20%	8.20%	8.20%
	Interest	186.17	186.17	186.17	186.17
	Rep Schedule	4 instalments 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030			

Total Loan				
Gross loan opening	2554.75	2705.33	2717.71	2717.71
Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	2554.75	2705.33	2717.71	2717.71
Additions during the year	150.58	12.38	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan-Closing	2705.33	2717.71	2717.71	2717.71
Average Loan	2630.04	2711.52	2717.71	2717.71
Rate of Interest	8.2360%	8.2493%	8.2496%	8.2496%
Interest	216.61	223.68	224.20	224.20

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

(₹ in lakh)

Asset-III				
Details of loan	2015-16	2016-17	2017-18	2018-19
BOND XLVII				
Gross Loan Opening	7.72	7.72	7.72	7.72
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	7.72	7.72	7.72	7.72
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				0.64
Net Loan Closing	7.72	7.72	7.72	7.08
Average Net Loan	7.72	7.72	7.72	7.40
Rate of Interest on Loan	8.93%	8.93%	8.93%	8.93%
Interest on Loan	0.69	0.69	0.69	0.66
Bond XLVIII				
Gross Loan Opening	162.01	162.01	162.01	162.01
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	162.01	162.01	162.01	162.01
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	162.01	162.01	162.01	162.01
Average Net Loan	162.01	162.01	162.01	162.01
Rate of Interest on Loan	8.20%	8.20%	8.20%	8.20%
Interest on Loan	13.28	13.28	13.28	13.28
SBI 10000 (1.5.2014)				
Gross Loan Opening		6.76	6.76	6.76
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		6.76	6.76	6.76
Add: Drawal(s) during the year	6.76			
Less: Repayment (s) of Loans during the year				
Net Loan Closing	6.76	6.76	6.76	6.76
Average Net Loan	3.38	6.76	6.76	6.76
Rate of Interest on Loan	9.55%	9.55%	9.55%	9.55%
Interest on Loan	0.32	0.65	0.65	0.65
Bond LI				

Gross Loan Opening	10.97	10.97	10.97	10.97
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	10.97	10.97	10.97	10.97
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	10.97	10.97	10.97	10.97
Average Net Loan	10.97	10.97	10.97	10.97
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	0.92	0.92	0.92	0.92
Bond LI				
Gross Loan Opening		7.93	7.93	7.93
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		7.93	7.93	7.93
Add: Drawal(s) during the year	7.93			
Less: Repayment (s) of Loans during the year				
Net Loan Closing	7.93	7.93	7.93	7.93
Average Net Loan	3.97	7.93	7.93	7.93
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	0.33	0.67	0.67	0.67
Bond LI				
Gross Loan Opening			0.30	0.30
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening			0.30	0.30
Add: Drawal(s) during the year		0.30		
Less: Repayment (s) of Loans during the year				
Net Loan Closing		0.30	0.30	0.30
Average Net Loan		0.15	0.30	0.30
Rate of Interest on Loan		8.40%	8.40%	8.40%
Interest on Loan		0.01	0.03	0.03
Total Loan				
Gross Loan Opening	180.70	195.39	195.69	195.69
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	180.70	195.39	195.69	195.69
Add: Drawal(s) during the year	14.69	0.30		
Less: Repayment (s) of Loans during the year				0.64
Net Loan Closing	195.39	195.69	195.69	195.05
Average Net Loan	188.05	195.54	195.69	195.37

Interest on Loan	15.55	16.22	16.23	16.20
Weighted Average Rate of Interest on Loan	8.27%	8.29%	8.30%	8.29%



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

(₹ in lakh)

Asset-IV				
Details of loan	2015-16	2016-17	2017-18	2018-19
BOND XLVI				
Gross Loan Opening	100.00	100.00	100.00	100.00
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	100.00	100.00	100.00	100.00
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	100.00	100.00	100.00	100.00
Average Net Loan	100.00	100.00	100.00	100.00
Rate of Interest on Loan	9.30%	9.30%	9.30%	9.30%
Interest on Loan	9.30	9.30	9.30	9.30
BOND XLVII				
Gross Loan Opening	59.70	59.70	59.70	59.70
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	59.70	59.70	59.70	59.70
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				4.98
Net Loan Closing	59.70	59.70	59.70	54.73
Average Net Loan	59.70	59.70	59.70	57.21
Rate of Interest on Loan	8.93%	8.93%	8.93%	8.93%
Interest on Loan	5.33	5.33	5.33	5.11
Bond XLVIII				
Gross Loan Opening	13.61	13.61	13.61	13.61
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	13.61	13.61	13.61	13.61
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	13.61	13.61	13.61	13.61
Average Net Loan	13.61	13.61	13.61	13.61
Rate of Interest on Loan	8.20%	8.20%	8.20%	8.20%

Interest on Loan	1.12	1.12	1.12	1.12
SBI 10000 (1.5.2014)				
Gross Loan Opening		6.76	6.76	6.76
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		6.76	6.76	6.76
Add: Drawal(s) during the year	6.76			
Less: Repayment (s) of Loans during the year				
Net Loan Closing	6.76	6.76	6.76	6.76
Average Net Loan	3.38	6.76	6.76	6.76
Rate of Interest on Loan	9.55%	9.55%	9.55%	9.55%
Interest on Loan	0.32	0.65	0.65	0.65
Bond LI				
Gross Loan Opening	17.14	17.14	17.14	17.14
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	17.14	17.14	17.14	17.14
Add: Drawal(s) during the year				
Less: Repayment (s) of Loans during the year				
Net Loan Closing	17.14	17.14	17.14	17.14
Average Net Loan	17.14	17.14	17.14	17.14
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	1.44	1.44	1.44	1.44
Bond LI				
Gross Loan Opening			2.23	2.23
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening			2.23	2.23
Add: Drawal(s) during the year		2.23		
Less: Repayment (s) of Loans during the year				
Net Loan Closing		2.23	2.23	2.23
Average Net Loan		1.12	2.23	2.23
Rate of Interest on Loan		8.40%	8.40%	8.40%
Interest on Loan		0.09	0.19	0.19
Bond LI				
Gross Loan Opening		0.67	0.67	0.67
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening		0.67	0.67	0.67
Add: Drawal(s) during the year	0.67			
Less: Repayment (s) of Loans during the year				

Net Loan Closing	0.67	0.67	0.67	0.67
Average Net Loan	0.34	0.67	0.67	0.67
Rate of Interest on Loan	8.40%	8.40%	8.40%	8.40%
Interest on Loan	0.03	0.06	0.06	0.06
Total Loan				
Gross Loan Opening	190.45	197.88	200.11	200.11
Cumulative Repayments of Loans upto Previous Year				
Net Loans Opening	190.45	197.88	200.11	200.11
Add: Drawal(s) during the year	7.43	2.23		
Less: Repayment (s) of Loans during the year				4.98
Net Loan Closing	197.88	200.11	200.11	195.14
Average Net Loan	194.17	199.00	200.11	197.62
Interest on Loan	17.54	17.98	18.08	17.85
Weighted Average Rate of Interest on Loan	9.03%	9.04%	9.03%	9.03%

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

(₹ in lakh)

Asset-V					
	Details of Loan	2015-16	2016-17	2017-18	2018-19
1	BOND LI				
	Gross loan opening	18.41	18.41	19.88	19.88
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	18.41	18.41	19.88	19.88
	Additions during the year	0.00	1.47	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	18.41	19.88	19.88	19.88
	Average Loan	18.41	19.15	19.88	19.88
	Rate of Interest	8.40%	8.40%	8.40%	8.40%
	Interest	1.55	1.61	1.67	1.67
	Rep Schedule	12 Equal Annual instalments from 14.9.2019			
2	SBI 2014-15				
	Gross loan opening	0.00	6.76	6.76	6.76
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	6.76	6.76	6.76
	Additions during the year	6.76	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	6.76	6.76	6.76	6.76
	Average Loan	3.38	6.76	6.76	6.76
	Rate of Interest	9.55%	9.55%	9.55%	9.55%
	Interest	0.32	0.65	0.65	0.65
	Rep Schedule	22 Semi Annual Instalment from 15.6.2019			
3	BOND XLVII				
	Gross loan opening	172.58	172.58	172.58	172.58
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	172.58	172.58	172.58	172.58
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	14.38
	Net Loan-Closing	172.58	172.58	172.58	158.20
	Average Loan	172.58	172.58	172.58	165.39
	Rate of Interest	8.93%	8.93%	8.93%	8.93%
	Interest	15.41	15.41	15.41	14.77
	Rep Schedule	12 Annual Instalment from 20.10.2018			

Total Loan				
Gross loan opening	190.99	197.75	199.22	199.22
Cumulative Repayment upto COD/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	190.99	190.99	192.46	192.46
Additions during the year	6.76	1.47	0.00	0.00
Repayment during the year	0.00	0.00	0.00	14.38
Net Loan-Closing	197.75	199.22	199.22	184.84
Average Loan	194.37	198.49	199.22	192.03
Rate of Interest	8.8906%	8.9000%	8.8981%	8.8970%
Interest	17.28	17.67	17.73	17.08

