

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 12/TT/2015

Coram:

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

**Date of Hearing : 02.12.2015
Date of Order : 18.03.2016**

In the matter of:

Truing up of transmission tariff for the 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for 400 kV Transmission System associated with Farakka (I&II) STPS in Eastern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

1. South Bihar Power Distribution Company Limited,
2nd Floor, Vidyut Bhawan, Bailey Road,
Patna- 800 001
2. West Bengal State Electricity Distribution Company Limited
Bidyut Bhawan, Bidhan Nagar
Block DJ, Sector-II, SALT LAKE CITY
Kolkata-700 091
3. Grid Corporation of Orissa Ltd.
Shahid Nagar,
Bhubaneswar- 751 007
4. Damodar Valley Corporation
DVC Tower, Maniktala,



Civic Centre, VIP Road
Kolkata- 700 054

5. Power Department
Govt. of Sikkim, Gangtok- 737101
6. Jharkhand State Electricity Board
In front of Main Secretariat,
Doranda, Ranchi- 834002
7. North Bihar Power Distribution Company Limited,
2nd Floor, Vidyut Bhawan, Bailey Road
Patna- 800 001

.....**Respondents**

The following were present:

For Petitioner: Shri Anshul Garg, PGCIL
 Shri Angaru Naresh Kumar, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri S.K. Venkatesan, PGCIL
 Shri M.M. Mondal, PGCIL
 Shri Sashi Bhushan, PGCIL
 Shri J. Mazumder, PGCIL
 Shri R. Prasad, PGCIL
 Shri Sunil Kumar, PGCIL
 Shri S.S. Raju, PGCIL

For Respondent: None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the petitioner”) for trueing up of capital expenditure of 400 kV Transmission System associated with Farakka (I&II) STPS in Eastern Region (hereinafter referred as “transmission asset”) under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on actual capital expenditure for the period 1.4.2009 to 31.3.2014 and for determination of tariff



under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019.

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

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under section 64 of the Act. The hearing in this matter was held on 2.12.2015. The petitioner was directed to file certain information vide letter dated 27.11.2015 and vide ROP (Record of Proceedings) dated 4.12.2015. The petitioner submitted the said information vide affidavit dated 10.3.2013. Having heard the representatives of the petitioner and respondents and perused the material on record, we proceed to dispose of the petition.

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

- a. The Transmission System associated with Farakka STPS Stage-II was approved by Ministry of Power, vide letters dated 28.5.1992 and 25.11.1992 at a cost of ₹19076.00 lakh. Subsequently, the Revised Cost Estimate (RCE) for the instant transmission system was accorded by Ministry of Power vide its letter dated 19.8.1997 at a revised cost of ₹28589.00 lakh, including FERV of ₹5798 lakh. The transmission lines



covered under the transmission system were progressively commissioned from 1986 to 1994.

- b. The transmission tariff based on admitted capital cost of ₹32730.94 lakh as on 31.3.2009 for the tariff period 2004-09 for the instant asset was approved by the Commission vide order dated 5.1.2006 in Petition No. 126/2004. The said order was subsequently modified vide order dated 18.7.2006 and again revised by the Commission vide order dated 7.2.2008.
- c. The tariff for the 2009-14 tariff period was allowed vide order dated 4.3.2013 in Petition No. 323/2010 in accordance with the 2009 Tariff Regulations. The tariff allowed vide order dated 4.3.2013 for the 2009-14 tariff period is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	558.23	558.23	558.23	563.36	593.61
Interest on Loan	-	-	-	-	-
Return on Equity	2674.68	2674.68	2674.68	2678.27	.2696.08
Interest on Working Capital	138.18	142.21	146.51	151.23	157.00
O & M Expenses	1415.42	1496.01	1581.99	1672.56	1767.90
Total	4786.51	4871.13	4961.41	5065.42	5214.59

- d. The Commission, in its order dated 4.3.2013 in Petition No. 323/2010, has considered the admitted capital cost of ₹32730.94 lakh as on 31.3.2009.
- e. The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for the 2009-14 tariff period.



TRUING UP OF ANNUAL FIXED CHARGES FOR TARIFF PERIOD 2009-14

5. The petitioner was directed, vide ROP dated 4.12.2015, to file an affidavit authenticating the changes made in the petition, the Auditor's Certificate in support of claim of capital expenditure incurred and replies to queries sought vide letter dated 27.11.2015. The petitioner has submitted additional information vide affidavit dated 10.3.2016.

6. The truing up of tariff for the 2009-14 tariff period has been determined as discussed below.

Capital Cost

7. The petitioner has claimed admitted capital cost of ₹32730.94 lakh as on 31.3.2009 for the purpose of truing up of tariff.

8. Last proviso to Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides that:

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

Further, Last proviso to Clause (2) of Regulation 7 of the 2009 Tariff Regulations provides that:

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.

9. The capital cost admitted as on 31.3.2009 vide order dated 4.3.2013 in Petition No.323/2010 has been considered as the opening capital cost as on



1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost of ₹32730.94 lakh as on 1.4.2009 has been considered to work out the trued up tariff for the 2009-14 tariff period.

Additional Capital Expenditure

10. The petitioner vide affidavit dated 10.3.2016 has claimed additional capitalization of ₹90.97 lakh, ₹150.18 lakh, ₹221.56 lakh and 55.14 lakh for building and civil works, transmission line, sub-station and PLCC for 2013-14. The petitioner has claimed de-capitalization of ₹103.94 lakh and ₹13.50 lakh for sub-station and PLCC for 2013-14. The net additional capitalization claimed for 2013-14 is ₹400.41 lakh under Regulation 9 (2)(v) of the 2009 Tariff Regulations.

11. Regulation 9(2)(v) of the 2009 Tariff Regulation provides as follows:-

“(2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

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

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009.”

12. The petitioner has submitted the delay and cost variation in case of additional capitalization work for the sub-station equipment during the 2009-14 tariff period was due to replacement under Farakka Transmission System. The petitioner has submitted that the schedule completion of the replacement work



proposed in Petition No.323/2010 was during 2012-13 and 2013-14, however, the activities could be started at site only after Commission's approval in order dated 4.3.2013. The petitioner has submitted that these equipments were procured through open tender, LOA has been placed and most equipment have reached site and replacement works were expected to be completed during 2014-15. In the instant petition, additional capital expenditure shown in the year 2014-15 is against the equipments already approved by the Commission in order dated 4.3.2013. Expenditure indicated now is the actual award cost whereas earlier it was on estimated basis and thus there is variation in the cost data submitted in Petition No. 323/2010.

13. The petitioner, vide letter dated 27.11.2015, was directed to submit break-up of capital cost of each equipment replaced during the 2009-14 tariff period clearly indicating the cost of replacement of few more CT/CVT replaced/proposed to be carried out in the 2014-19 tariff period. The petitioner vide affidavit dated 10.3.2016 has submitted that, as per order dated 4.3.2013 in Petition No. 323/2010, the quantities of different equipments proposed to be replaced are given below:-

Description	Quantity proposed in the petition during 2009-14 for replacement	Cost of the allowed Quantity considered in tariff	Quantity NOT considered in tariff during 2009-14
Circuit Breaker	6	6	Nil
CT	18	7	11
CVT	12	5	7
Lightening Arrestor	21	21	Nil
PLCC Panel & EPABX	PLCC in 2 lines	PLCC in 2 lines	Nil
Air conditioner	For Durgapur SS	All	Nil
Civil work of pathway along boundary wall	Lot	All	Nil



DG Set	1	1	Nil
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14. The petitioner also submitted that, in the order dated 4.3.2013 in Petition No. 323/2010, the following has been mentioned for few CTs and CVTs which were not considered in tariff calculation during the 2009-14 tariff period:-

“The petitioner is at liberty to approach the Commission in accordance with law after replacement of these equipments when it is felt necessary for efficient and safe operation of the power system.”

15. The petitioner has further submitted that all the equipment tabulated above was part of the original proposal, and further, no new equipment have been added. The proposal was initially prepared in the year 2009-10. During last four years, health of these equipments deteriorated further violating the permissible limits of operation. Hence, the need was felt to replace all these equipments for smooth operation of power system with stability and reliability. Further, the test results were submitted by the petitioner. The breakup of capital cost of each equipment replaced during the 2009-14 tariff period and proposed to be replaced during the 2014-19 tariff period clearly indicating the cost of replacement of few more CT/CVT replaced/proposed to be carried out have also been submitted by the petitioner.

16. The petitioner was directed to clarify the de-capitalization amount of ₹13.50 lakh which has not been properly reflected in the Auditor Certificate filed along with the petition. In response, the petitioner vide affidavit dated 10.3.2016 has submitted that the de-capitalization amount of ₹13.50 lakh pertaining to PLCC during 2013-14 has been inadvertently shown against sub-station in the



Auditor's Certificate. The petitioner has accordingly revised the additional capitalization and de-capitalization as given below:-

(₹ in lakh)

Year/Item	Land	Building & Civil works	Transmission Line	Sub-station	PLCC	Total
2013-14						
Add-cap	-	90.97	150.18	221.56	55.14	517.86
De-cap	-	-	-	103.94	13.50	117.44
Net Add-cap	-	90.97	150.18	117.62	41.64	400.41

17. As the actual net additional capitalisation during 2009-14 period is lower than the additional capitalisation approved by the Commission in order dated 4.3.2013, we have considered the same for truing up of tariff for 2009-14 period.

18. The capital cost for the purpose of truing up of tariff for 2009-14 period has been worked out as under:-

(₹ in lakh)

Particulars	Admitted capital cost as on 31.3.2009	Net Additional capitalization		Total additional capitalization	Total capital cost including additional capitalization
		2012-13	2013-14		
Approved in order dated 4.3.2013	32730.94	137.03	541.89	678.92	33409.86
As submitted by Petitioner	32730.94	-	400.41	400.41	33131.35
As approved in this order	32730.94	-	400.41	400.41	33131.35

Debt: Equity

19. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides as follows:-

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



20. The petitioner has claimed true up Annual Fixed Charge based on admitted debt:equity ratio of 53.25:46.75 as on 31.3.2009. The transmission assets covered in the instant petition were commissioned prior to 1.4.2009. In Petition No. 323/2010, we have considered admitted debt:equity ratio as on 31.3.2009 vide order dated 4.3.2013 in accordance with Clause 2 of Regulation 12 of the 2009 Tariff Regulations. Accordingly, the admitted debt:equity ratio of 53.25:46.75 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff for the 2009-14 tariff period as given under:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	17430.44	53.25
Equity	15300.50	46.75
Total	32730.94	100.00

21. The petitioner submitted that the debt:equity ratio considered for additional capitalization for the 2009-14 is 70:30. The petitioner was directed to submit that the actual equity infused in the additional capitalization is not less than 30%. The petitioner, in its reply, has submitted that the entire additional capitalisation has been funded through equity and therefore the actual equity infused is more than 30%.

22. The debt:equity ratio as on 31.3.2014 including net additional capitalization for the 2009-14 tariff period is as follows:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	17710.73	53.46
Equity	15420.62	46.54
Total	33131.35	100.00



Interest on Loan (“IOL”)

23. The petitioner has not claimed any interest on loan for the tariff period 2009-14, as the complete loan has already been repaid before 1.4.2009. With regard to additional capital expenditure during the tariff period 2009-14, the petitioner has submitted that the funding has been done through debt:equity ratio of 70:30 and it has claimed debt corresponding to 70% of the additional capitalization. It is observed that the petitioner has not claimed any interest on loan as the loan amount added corresponding to year-wise additional capitalization is less than the depreciation allowed for the respective years and therefore, the same is getting repaid in the same year. The petitioner has therefore, not claimed any IOL during 2009-14. Accordingly, Interest on Loan has been considered as NIL for the purpose of tariff.

Return on Equity (“ROE”)

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

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

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

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

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

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:



Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

25. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 4.3.2013. However, for truing up purpose, the computation of ROE for the 2009-14 tariff period has been worked out on the basis of actual MAT rate applicable during relevant year of 2009-14 period. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

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

26. Accordingly, the ROE as trued up is as shown in the table below:-

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 4.3.2013	2674.68	2674.68	2674.68	2678.27	2696.08
As claimed by the petitioner	2857.22	2961.87	2964.78	2964.78	3012.21
Allowed after trued up	2857.22	2961.87	2964.78	2964.78	3012.21

27. The return on equity allowed in the instant order is more than the return on equity allowed vide order 4.3.2013 due to increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.



Depreciation

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

"17. Depreciation:

...

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

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

29. The Commission in its order dated 4.3.2013, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations considering useful life of the asset as 33 years. As per the order dated 5.1.2006 in Petition No. 126/2004 balance useful life of the asset was 15 years as on 1.4.2009, and depreciation was spread over the balance useful life. Accordingly, the same approach has been adopted in the instant order.

30. It is observed that the petitioner has not carried out the adjustment in the cumulative depreciation on account of de-capitalization during 2013-14. However, we have worked out the depreciation for the 2009-14 tariff period considering the adjustment of de-capitalisation in cumulative depreciation. As the part assets have been de-capitalized during 2013-14, the proportionate accumulated depreciation has been reduced from the accumulated depreciation. In accordance with Regulation 17 of the 2009 Tariff Regulations depreciation is calculated based on admitted capital expenditure and net additional capitalization as under:-



(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 4.3.2013	558.23	558.23	558.23	563.36	593.61
As claimed by the petitioner	558.21	558.22	558.21	558.23	574.61
Allowed after trued up	558.23	558.23	558.23	558.23	582.17

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

31. The petitioner has computed O&M Expenses for the assets mentioned in the petition, in accordance with the O&M norms specified in Regulation 19(g) of the 2009 Tariff Regulations.

32. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the order dated 4.3.2013 in Petition No. 323/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 4.3.2013	1415.42	1496.01	1581.99	1672.56	1767.90
As claimed by the petitioner	1415.42	1496.01	1581.99	1672.56	1767.90
Allowed after trued up	1415.42	1496.01	1581.99	1672.56	1767.90

Interest on working capital (“IWC”)

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



34. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

35. The Commission in its order dated 4.3.2013 in Petition No. 323/2010 approved rate of interest on working capital of 12.25% applicable for 2008-09. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to work out the interest on working capital in the instant case.

36. The IWC trued up is as under:-

(₹ in lakh)					
Interest on Working Capital	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	212.31	224.40	237.30	250.88	265.18
O & M Expenses	117.95	124.67	131.83	139.38	147.32
Receivables	828.81	860.72	876.26	892.11	920.94
Total	1159.07	1209.79	1245.39	1282.37	1333.45
Rate of Interest(%)	12.25	12.25	12.25	12.25	12.25
Interest	141.99	148.20	152.56	157.09	163.35



(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 4.3.2013	138.18	142.21	146.51	151.23	157.00
As claimed by the petitioner	141.99	148.20	152.56	157.09	163.19
Allowed after trued up	141.99	148.20	152.56	157.09	163.35

37. The variation in IWC is on account of variation in receivables due to variation in ROE on account of applicable MAT rate during the 2009-14 tariff period and variation in IOL, depreciation and ROE because of reduction in actual net additional capitalization than that approved.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

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

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block					
Opening Gross Block	32730.94	32730.94	32730.94	32730.94	32730.94
Additional Capitalization	-	-	-	-	400.41
Closing Gross block	32730.94	32730.94	32730.94	32730.94	33131.35
Average Gross block	32730.94	32730.94	32730.94	32730.94	32931.15
Depreciation					
Rate of Depreciation (%)	1.706	1.706	1.706	1.706	1.768
Depreciable Value	28899.98	28899.98	28899.98	28899.98	29080.17
Elapsed Life of the assets at beginning of the year	18	19	20	21	22
Weighted Balance Useful life of the assets	15	14	13	12	11
Remaining Depreciable Value	8373.40	7815.17	7256.95	6698.72	6403.92
Depreciation	558.23	558.23	558.23	558.23	582.17



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Interest on Loan					
Gross Normative Loan	-	-	-	-	-
Cumulative Repayment u	-	-	-	-	-
Net Loan-Opening	-	-	-	-	-
Additions	-	-	-	-	-
Repayment during the year	-	-	-	-	-
Net Loan-Closing	-	-	-	-	-
Average Loan	-	-	-	-	-
Weighted Average Rate of Interest on Loan (%)	-	-	-	-	-
Interest	-	-	-	-	-
Return on Equity					
Opening Equity	15300.50	15300.50	15300.50	15300.50	15300.50
Additions	0.00	0.00	0.00	0.00	120.12
Closing Equity	15300.50	15300.50	15300.50	15300.50	15420.62
Average Equity	15300.50	15300.50	15300.50	15300.50	15360.56
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	2857.22	2961.87	2964.78	2964.78	3012.21
Interest on Working Capital					
Maintenance Spares	212.31	224.40	237.30	250.88	265.18
O & M Expenses	117.95	124.67	131.83	139.38	147.32
Receivables	828.81	860.72	876.26	892.11	920.94
Total	1159.07	1209.79	1245.39	1282.37	1333.45
Interest	141.99	148.20	152.56	157.09	163.35
Annual Transmission Charges					
Depreciation	558.23	558.23	558.23	558.23	582.17
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	2857.22	2961.87	2964.78	2964.78	3012.21
Interest on Working Capital	141.99	148.20	152.56	157.09	163.35
O & M Expenses	1415.42	1496.01	1581.99	1672.56	1767.90
Total	4972.85	5164.31	5257.55	5352.65	5525.62



DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	608.67	626.50	626.51	626.50	626.51
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3034.47	3044.96	3044.96	3044.96	3044.96
Interest on Working Capital	173.18	176.84	179.91	183.06	186.33
O&M Expenses	1616.96	1671.32	1726.87	1783.91	1843.21
Total	5433.28	5519.62	5578.25	5638.43	5701.01

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	242.54	250.70	259.03	267.59	276.48
O & M Expenses	134.75	139.28	143.91	148.66	153.60
Receivables	905.55	919.94	929.71	939.74	950.17
Total	1282.84	1309.92	1332.65	1355.99	1380.25
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	173.18	176.84	179.91	183.06	186.33

Capital Cost

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

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

“(3) The Capital cost of an existing project shall include the following:
(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;



(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”

42. The petitioner has claimed capital cost of ₹33131.35 lakh as on 31.3.2014.

43. The trued up capital cost of ₹33131.35 lakh as on 1.4.2014 is considered for the purpose of tariff for the 2014-19 tariff period.

Additional Capital Expenditure

44. The petitioner has claimed the additional capitalization of ₹255.58 lakh, ₹132.77 lakh, ₹38.80 lakh for transmission line, sub-station and PLCC respectively for 2014-15, and de-capitalisation of ₹61.02 lakh and ₹9.50 lakh for sub-station and PLCC respectively, for 2014-15 under Clause (3)(ix) of Regulation 14 of the 2014 Tariff Regulations.

45. Clause (3)(ix) of Regulation 14 of the 2014 Tariff Regulations provides as follows:-

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

.....

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

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:....



Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.”

46. The petitioner also submitted that, there was delay in tower strengthening of 400 kV S/C Farakka – Durgapur I, 400 kV S/C Durgapur – Jamshedpur & 400 kV Farakka – Sagardighi – Jeerat lines as, tower strengthening work was taken after approval of the Commission in order dated 4.3.2013. The work of Farakka-Durgapur line and Durgapur-Jamshedpur line has been taken up and is likely to be completed by 2014-15. Further, there is lead time of procurement of tower parts of about 6 months and further these lines passes through cultivated land and farmers/land owners did not permitted strengthening work due to standing crop and the work was stalled due to ROW problem. In case of 400 kV Farakka-Sagardighi-Jeerat line, the petitioner submitted that it will approach the Commission after completion of the same.

47. The petitioner was directed, vide ROP dated 4.12.2015, to furnish a copy of administrative approval if any, for additional capitalization proposed in the 2014-19 tariff period. In response, the petitioner has submitted, vide affidavit dated 10.3.2016 that all the equipment are part of the original proposal submitted in the 2009-14 tariff period wherein most of them were already approved by the Commission except a few number of equipments for which direction has been given. Replacement of the equipment is being carried out and the petitioner has requested to approve the proposal as submitted.



48. The petitioner, vide affidavit dated 10.3.2013, has submitted that the projected additional capitalization figures are based on the estimated values of balance payments and PVs (price variations). However, actual payments are as per documentary evidences (actual works & bills) submitted by vendors. The payments are made to the contractor as per the contractual payment terms and conditions such as on account payments and final payments. Certain payments are kept under retention for successful completion of the performance warranty period. Thereafter, the contract is closed after giving due considerations to time delay, quantity variation, price variation claims if any. It is submitted that the due to above explained reasons, the estimated add-cap is subject to change after actual add-cap payments are made leading to variations (increase or decrease).

49. We have considered the submissions of the petitioner. The total capital cost of the transmission asset including additional capitalization and de-capitalization incurred during 2014-15 works out to ₹33487.98 lakh. The additional capitalization of ₹427.15 lakh and decapitalization of ₹70.52 lakh for 2014-15 is allowed on account of replacement of sub-station equipments and PLCC under Clause (3)(ix) of Regulation 14 of the 2014 Tariff Regulations. The additional capitalization for the 2014-19 tariff period shall be finally approved after the detailed scrutiny of additional capitalization at the time of truing up.

50. The total capital cost including additional capitalisation during the 2014-19 period considered is given in table below:-



(₹ in lakh)

Particulars	Capital cost as on 31.3.2014	Additional Net capitalisation (after adjusting de-capitalization)	Total Net additional capitalization	Total capital cost as on 31.3.2019
		2014-15		
Asset	33131.35	356.63	356.63	33487.98

Debt: Equity Ratio

51. Clause 3 and 4 of Regulation 19 of the 2014 Tariff Regulations provides as under:-

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

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.”

52. The petitioner has considered debt:equity ratio as 53.25:46.75 as on 31.3.2009. Debt equity ratio of 53.25:46.75 as on 31.3.2009 was considered by the Commission in its order dated 4.3.2013 in Petition No. 323/2010. The debt:equity ratio as on 31.3.2014 works out as 53.46:46.54 including additional capitalization for the 2009-14 tariff period. Accordingly, we have considered the debt-equity ratio of 53.46:46.54 as on 31.3.2014, as the debt-equity ratio as on 1.4.2014. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

Funding	Amount	(%)
Debt	17710.73	53.46
Equity	15420.62	46.54
Total	33131.35	100.00



53. The petitioner has further submitted that the additional capitalisation has been funded through debt:equity ratio of 70:30. The debt:equity ratio as on 31.3.2019 after taking into consideration the additional capitalization during the 2014-19 period is as shown below:-

(₹ in lakh)		
Funding	Amount	(%)
Debt	17960.37	53.63
Equity	15527.61	46.37
Total	33487.98	100.00

Interest on Loan (“IOL”)

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

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

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

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

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

55. The petitioner has not claimed any interest on loan for the tariff period 2014-19 as the complete loan has already been repaid before the tariff period 2014-19. With regard to additional capital expenditure projected during the tariff period 2014-19, the petitioner has submitted that the funding has been done through debt:equity ratio of 70:30 and it has claimed debt corresponding to 70% of the additional capitalization. It is observed that the petitioner has not claimed



any interest on loan as the loan amount added corresponding to year-wise additional capitalization is less than the depreciation allowed for the respective years and therefore, the same is getting repaid in the same year. The petitioner has therefore, not claimed any IOL during the 2014-19 tariff period. Accordingly, Interest on Loan has been considered as NIL for the purpose of tariff.

Return on Equity (“ROE”)

56. Clause (1) and (2) of Regulations 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specifies 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....
.....”

“25. Tax on Return on Equity:
(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t)
Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

57. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period



2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

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

59. 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 return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of allowing return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	15420.62	15527.61	15527.61	15527.61	15527.61
Addition due to Additional Capitalization	106.99	-	-	-	-
Closing Equity	15527.61	15527.61	15527.61	15527.61	15527.61
Average Equity	15474.12	15527.61	15527.61	15527.61	15527.61
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	3034.47	3044.96	3044.96	3044.96	3044.96

Depreciation

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

"27. Depreciation:

...(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis

...

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

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

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

61. The petitioner has computed depreciation considering capital expenditure of ₹33131.35 lakh as on 31.3.2014 and additional capitalisation during 2014-19 period.

62. It is observed that the petitioner has not carried out the adjustment in the cumulative depreciation on account of de-capitalization during 2014-15. The Commission has however, considered the same while computing the cumulative



depreciation. As the part assets have been de-capitalized during 2014-15 the proportionate accumulated depreciation has been reduced from the accumulated depreciation. Depreciation is allowed as provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Details of Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	33131.35	33487.98	33487.98	33487.98	33487.98
Additions during the year due to projected additional capitalization	356.63	0.00	0.00	0.00	0.00
Closing Gross block	33487.98	33487.98	33487.98	33487.98	33487.98
Average Gross block	33309.67	33487.98	33487.98	33487.98	33487.98
Rate of Depreciation (%)	1.865	1.909	1.909	1.909	1.909
Depreciable Value	29420.83	29581.32	29581.32	29581.32	29581.32
Elapsed Life of the assets at beginning of the year	23	24	25	26	27
Weighted Balance Useful life of the assets	10	9	8	7	6
Remaining Depreciable Value	6213.17	5752.34	5113.19	4474.04	3834.89
Depreciation	621.32	639.15	639.15	639.15	639.15

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

63. The petitioner has computed normative O&M Expenses as per sub clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M Expenses has been worked out as given hereunder:-



Particulars		2014-15	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	Double Circuit (Twin & Triple Conductor)	296	296	296	296	296
	Single Circuit (Twin & Triple Conductor)	947	947	947	947	947
Actual (No. of bays)	400 kV Bays	17	17	17	17	17
Norms as per Regulation	Double Circuit (Twin & Triple Conductor) (₹lakh/km)	0.707	0.731	0.755	0.78	0.806
	Single Circuit (Twin & Triple Conductor) (₹lakh/km)	0.404	0.418	0.432	0.446	0.461
	400 kV Bays (₹lakh/bay)	60.30	62.30	64.37	66.51	68.71
Total		1616.96	1671.32	1726.87	1783.91	1843.21

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

65. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, we would like to clarify that any application filed by the petitioner in this



regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

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

Particulars	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses allowed	1616.96	1671.32	1726.87	1783.91	1843.21

Interest on Working Capital (“IWC”)

67. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:-

“28. Interest on Working Capital

- (c)(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”

“(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;”

68. The petitioner has submitted that it has computed IWC for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered for the purpose of computation of tariff is 13.50%.

69. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as determined is shown in the table below:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	242.54	250.70	259.03	267.59	276.48
O & M expenses	134.75	139.28	143.91	148.66	153.60
Receivables	907.70	922.09	931.86	941.90	952.33
Total	1285.00	1312.07	1334.80	1358.14	1382.41
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	173.47	177.13	180.20	183.35	186.63

Annual Transmission Charges

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	33131.35	33487.98	33487.98	33487.98	33487.98
Additional Capitalisation	356.63	0.00	0.00	0.00	0.00
Closing Gross Block	33487.98	33487.98	33487.98	33487.98	33487.98
Average Gross Block	33309.67	33487.98	33487.98	33487.98	33487.98
Depreciation					
Rate of Depreciation	1.865	1.909	1.909	1.909	1.909
Depreciable Value	29420.83	29581.32	29581.32	29581.32	29581.32
Elapsed Life of the assets at beginning of the year	23	24	25	26	27
Weighted Balance Useful life of the assets	10	9	8	7	6
Remaining Depreciable Value	6213.17	5752.34	5113.19	4474.04	3834.89
Depreciation	621.32	639.15	639.15	639.15	639.15
Interest on Loan					
Gross Normative Loan	0.00	0.00	0.00	0.00	0.00
Cumulative Repayment upto Previous Year	-	-	-	-	-
Net Loan-Opening	-	-	-	-	-
Additions	-	-	-	-	-



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Repayment during the year	-	-	-	-	-
Net Loan-Closing	-	-	-	-	-
Average Loan	-	-	-	-	-
Weighted Average Rate of Interest on Loan (%)	-	-	-	-	-
Interest	-	-	-	-	-
Return on Equity					
Opening Equity	15420.62	15527.61	15527.61	15527.61	15527.61
Additions	106.99	-	-	-	-
Closing Equity	15527.61	15527.61	15527.61	15527.61	15527.61
Average Equity	15474.12	15527.61	15527.61	15527.61	15527.61
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	3034.47	3044.96	3044.96	3044.96	3044.96
Interest on Working Capital					
Maintenance Spares	242.54	250.70	259.03	267.59	276.48
O & M expenses	134.75	139.28	143.91	148.66	153.60
Receivables	907.70	922.09	931.86	941.90	952.33
Total	1285.00	1312.07	1334.80	1358.14	1382.41
Interest	173.47	177.13	180.20	183.35	186.63
Annual Transmission Charges					
Depreciation	621.32	639.15	639.15	639.15	639.15
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	3034.47	3044.96	3044.96	3044.96	3044.96
Interest on Working Capital	173.47	177.13	180.20	183.35	186.63
O & M Expenses	1616.96	1671.32	1726.87	1783.91	1843.21
Total	5446.23	5532.56	5591.19	5651.37	5713.95

Filing Fee and Publication Expenses

71. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees



and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

72. The petitioner has requested to allow the petitioner to bill and recover licence fee and RLDC fees and charges, separately from the respondents. The petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

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

Deferred Tax Liability

74. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations.

75. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover



the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

Foreign Exchange Rate Variation

76. The petitioner has sought recovery of FERV on foreign loans deployed as provided in Clause 50 of the 2014 Tariff Regulations. The petitioner is entitled to recover the FERV directly from the beneficiaries or the long term transmission customers/DICs as the case may be, in accordance with Clause 1 of Regulation 51 of the 2014 Tariff Regulations.

Sharing of Transmission Charges

77. 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.

78. This order disposes of Petition No. 12/TT/2015.

Sd/-

(Dr. M. K. Iyer)
Member

Sd/-

(A.S. Bakshi)
Member

