

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 145/TT/2015

Coram:

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

**Date of Hearing : 08.02.2016
Date of Order : 25.04.2016**

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 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for combined assets of (i) LILO connectivity to DVC's Andal TPS (portion of 400 kV Durgapur-Jamshedpur TL), (ii) 400 kV D/C Baripada-Mendhasal T/L and associated bays at Baripada and Mendhasal Sub-station, (iii) 400 kV D/C Andal(DVC)-Jamshedpur section of Durgapur-Jamshedpur TL and associated bays at Jamshedpur, (iv) 400 kV D/C Baripada-DVC (Jamshedpur) TL (part of 400 kV D/C Jamshedpur-Baripada TL) and associated bays at Baripada Sub-station under ERSS-I 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. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board- BSEB)
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
Kolkata- 700 054
5. Power Department
Govt. of Sikkim, Gangtok- 737 101
6. Jharkhand State Electricity Board
In front of Main Secretariat,
Doranda, Ranchi- 834002

.....**Respondents**

The following were present:-

For Petitioner: Shri Subhash C. Taneja, PGCIL
 Shri S.K Venkatesan, PGCIL
 Shri M. M. Mondal, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri S. S. Raju, PGCIL
 Shri Jasbir Singh, PGCIL

For Respondent: None

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ("the petitioner") for truing up of capital expenditure and tariff for combined assets of (i) LILO connectivity to DVC's Andal TPS (portion of 400 kV Durgapur-Jamshedpur TL), (ii) 400 kV D/C Baripada-Mendhasal T/L and associated bays



at Baripada and Mendhasal Sub-station, (iii) 400 kV D/C Andal(DVC)-Jamshedpur section of Durgapur-Jamshedpur TL and associated bays at Jamshedpur, (iv) 400 kV D/C Baripada-DVC (Jamshedpur) TL (part of 400 kV D/C Jamshedpur-Baripada TL) and associated bays at Baripada Sub-station under ERSS-I 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 from COD of the assets 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 Combined Assets for the period from 1.4.2014 to 31.3.2019.

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

3. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of Electricity Act, 2003 (“the Act”). 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 8.2.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.



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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner's company vide letter No. 12/4/2005-PG dated 4.10.2006 at an estimated cost of ₹97596 lakh, which included IDC of ₹4572 lakh (based on 2nd quarter, 2006 price level). The Revised Cost Estimate (RCE) for the asset was accorded by Board of Directors of the petitioner's company vide letter dated 11.3.2016, at an estimated cost of ₹106159 lakh and IDC of ₹7558 lakh. The date of the commercial operation and approved apportioned cost of the instant assets is as follows:-

Asset	COD	Approved apportioned cost (RCE) (₹ in lakh)
Asset-I	1.2.2011	2666.05
Asset-II	1.9.2011	36028.82
Asset-III	1.5.2012	25520.60
Asset-IV	1.6.2012	15660.23

(b) The tariff from COD to 31.3.2014 for Asset-I was allowed vide order dated 24.2.2012 in Petition No. 30/TT/2011, vide order dated 12.10.2011 in Petition No.112/TT/2011 for Asset-II, vide order dated 21.2.2014 in Petition No. 185/TT/2011 for Asset-III and tariff for Asset-IV vide order dated 9.5.2013 in Petition No.150/TT/2011 in accordance with the 2009 Tariff Regulations. The tariff allowed for the 2009-14 tariff period is as under:-



(₹ in lakh)

Asset-I	2010-11 (Pro-rata)	2011-12	2012-13	2013-14
Depreciation	18.22	122.07	134.79	134.79
Interest on Loan	6.78	43.45	44.02	39.32
Return on Equity	18.10	121.24	133.88	133.88
Interest on Working Capital	0.90	5.95	6.47	6.42
O&M Expenses	2.11	13.36	14.12	14.93
Total	46.11	306.08	333.29	329.35

(₹ in lakh)

Asset- II	2011-12 (Pro-rata)	2012-13	2013-14
Depreciation	990.25	1736.02	1738.66
Interest on Loan	343.71	560.57	505.65
Return on Equity	983.03	1723.35	1725.97
Interest on Working Capital	59.83	104.84	105.25
O&M Expenses	282.55	512.04	541.22
Total	2659.36	4636.82	4616.75

(₹ in lakh)

Asset- III	2012-13 (Pro-rata)	2013-14
Depreciation	918.45	1001.94
Interest on Loan	239.74	241.86
Return on Equity	912.02	994.93
Interest on Working Capital	59.81	65.55
O&M Expenses	220.12	253.79
Total	2350.14	2558.07

(₹ in lakh)

Asset- IV	2012-13 (Pro-rata)	2013-14
Depreciation	549.54	659.45
Interest on Loan	142.75	158.98
Return on Equity	545.67	654.80
Interest on Working Capital	37.89	45.83
O&M Expenses	170.07	215.71
Total	1445.91	1734.77



(c) 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.

(d) The petitioner was directed to submit the information vide Record of Proceedings (ROP) dated 10.2.2016 and the petitioner has submitted the information vide affidavit dated 11.3.2016.

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

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

Capital Cost

6. The Commission had determined the tariff considering the capital cost as on COD of ₹2070.86 lakh, ₹31456.30 lakh, ₹18971.66 lakh and ₹12485.99 lakh respectively for the Assets I to IV respectively. For Asset-III and Asset-IV the capital cost was restricted to the approved apportioned cost. However, in the instant petition, the petitioner has claimed capital cost as on COD for the assets as ₹2070.86 lakh, ₹31456.30 lakh, ₹22159.82 lakh and ₹13596.31 lakh for Assets-I, II, III and IV respectively.

7. Regulation 7(1) of the 2009 Tariff Regulations provides that:-

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

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of



the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;

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

(c) additional capital expenditure determined under regulation 9:

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

8. The petitioner has submitted the Auditor’s Certificate dated 21.11.2014 for Asset-I, Auditor’s Certificate dated 19.5.2015 for Asset-II and Asset-III, Auditor’s Certificate dated 20.11.2014 for Asset-IV certifying the capital cost as on COD and additional capitalization claimed herein.

9. As per investment approval accorded on 4.10.2006, the transmission project was to be commissioned within 36 months from the date of investment approval i.e. by October 2009. However, there was time over-run in commissioning of all the assets. The details of time over-run and time over-run condoned by the Commission in the previous orders is as follows:-

Asset	Actual COD	Delay in months	Delay in months (condoned)	Approved in Order
Asset-I	1.2.2011	16	16	In Petition No. 30/TT/2011, in order dated 24.2.2012
Asset-II	1.9.2011	22	22	In Petition No. 112/TT/2011, in order dated 12.10.2012
Asset-III	1.5.2012	30	30	In Petition No.



Asset	Actual COD	Delay in months	Delay in months (condoned)	Approved in Order
Asset-IV	1.6.2012	31	31	In Petition No. 150/TT/2011, in order dated 9.5.2013

10. After completion of 400 kV D/C Andal (DVC)- Jamshedpur section of Durgapur-Jamshedpur transmission line the petitioner vide affidavit dated 21.4.2016 submitted that tariff for Asset-I was claimed separately from 1.2.2011 till the commissioning of Asset-III (i.e. up to 1.5.2012). From 1.5.2012 onwards, the completion cost of Asset-I was merged with Asset-III and combined tariff has been claimed thereafter.

11. There was a cost overrun pertaining to Asset-I, Asset-III and Asset-IV with reference to apportioned approved cost as per original cost estimate. The petitioner was directed vide ROP dated 10.2.2016 to submit the reasons for increase in capital cost of Asset-I, Asset-III and Asset-IV as compared to the approved apportioned cost (FR cost). The petitioner vide affidavit dated 11.3.2016 submitted that-

- a. The actual completion cost is higher than corresponding FR (Feasibility Report) cost due to increase in awarded cost (obtained via competitive bidding under price discovery mechanism).



- b. The forest and tree compensation had increased due to involvement of forest area from 18.4 Ha to 44.62 Ha.
- c. 15 nos. multi circuit towers have been included which were not considered in FR and also due to increase in hardware fittings. Tower quantity increased from 7273 MT to 10648.24 MT.
- d. FERV- There was variation in exchange rates for foreign loans.

12. The petitioner has submitted the revised apportionment as follows:

(₹ in lakh)			
Asset	Feasibility Report (FR) Apportioned Cost	Estimated Completion Cost claimed	Approved apportioned cost (RCE)
Asset-I	2166.92	2552.86	2666.05
Asset-II	39177.00	33046.24	36028.82
Asset-III	18971.66	24271.87	25520.6
Asset-IV	12485.99	14427.31	15660.23
Total	72801.57	74298.28	79875.70

Initial Spares

13. The petitioner has not claimed any initial spares for Asset-I and Asset-II. The petitioner has claimed initial spares of ₹117.10 lakh for transmission line and ₹18.08 lakh for sub-station for Asset-III and ₹133.63 lakh for transmission line and ₹19.57 lakh for sub-station for Asset-IV.

14. Regulation 8 of the 2009 tariff Regulations provides that:-

“Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%



(c) Series Compensation devices and HVDC Station - 3.5%”

15. The calculation for the treatment of initial spares has been shown in the table given below:-

(₹ in lakh)

Description	Capital cost as on cut-off date i.e. 31.3.2015	Initial spares claimed	Ceiling limits as per Regulation 8 of the 2009 Tariff Regulation	Initial spares worked out and allowed	Excess initial spares claimed
	(a)	(b)	(c)	$(d) = \frac{(a-b) \times c}{(100-c)\%}$	$(e) = (d) - (b)$
Asset-III (Transmission Line)	235.24	0.00	0.75%	1.78	0.00
Asset-III (Sub-station)	23071.87	0.00	2.50%	591.59	0.00
Asset-IV (Transmission Line)	13779.13	133.63	0.75%	103.11	30.52
Asset-IV (Sub-station)	648.18	19.57	2.50%	16.12	3.45

16. The initial spares claimed by the petitioner for Asset-III is within the specified ceiling limits and it is in excess in case of Asset-IV. The excess initial spares in case of Asset-IV is deducted from the capital cost.

17. The petitioner's claim of capital cost of the instant assets as on COD is supported by Auditor's Certificate dated 21.11.2014 for Asset-I, Auditor's Certificate dated 19.5.2015 for Asset-II and Asset-III, Auditor's Certificate dated 20.11.2014 for Asset-IV.

18. The capital cost as on COD claimed by the petitioner is allowed, except in case of Asset-IV, where the excess initial spares is deducted from the capital



cost as stated in para 16 and accordingly trued up tariff for the 2009-14 tariff period. The capital cost considered for the instant assets is as follows:-

(₹ in lakh)			
Asset	Approved apportioned cost (as per RCE)	As claimed by the petitioner	Capital cost as on COD approved
Asset-I	2666.05	2070.86	2070.86
Asset-II	36028.82	31456.30	31456.30
Asset-III	25520.60	24712.68	24712.68
Asset-IV	15660.23	13596.31	13562.34
Total	79875.70	71836.15	71802.18

Additional Capital Expenditure

19. The petitioner has claimed additional capitalization under Regulation 9(1)(i) of the 2009 Tariff Regulations.

20. Clause (1), sub-clause(i) of Regulation 9 of the 2009 Tariff Regulations provides that:-

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

(i) Undischarged liabilities...;”

21. Further, the 2009 Tariff Regulations define cut-off date as:-

“cut-off date means 31st march of the year closing after 2 years of the year of commercial operation of the project, and incase 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 3 years of the year of commercial operation”.



The COD of Asset-I, Asset-II, Asset-III and Asset-IV is 1.2.2011, 1.9.2011, 1.5.2012 and 1.6.2012. Accordingly, the cut-off date for the Asset-I and Asset-II is 31.3.2014 and for Asset-III and Asset-IV is 31.3.2015.

22. The petitioner has claimed total additional capitalization of ₹482.00 lakh, ₹1172.54 lakh, ₹626.81 lakh and ₹489.80 lakh for Asset-I, Asset-II, Asset-III and Asset- IV respectively from COD to 31.3.2014 towards balance and retention payment for works executed within cut-off date.

23. We have considered the submissions of the petitioner. The total capital cost including additional capitalization of the instant assets is within the revised approved apportioned cost and is allowed under Regulation 9(1)(i) of the 2009 Tariff Regulations as shown below:-

(₹ in lakh)								
Particulars	Asset	Revised approved apportioned cost (RCE)	Capital cost as on COD	Additional Capital Expenditure (2009-14)				Capital cost as on 31.3.2014
				2011-12	2012-13	2013-14	Total additional capitalization	
Approved in order dated 24.2.2012	Asset-I	2666.05	2070.86	482.06	-	-	482.06	2552.92
Actual incurred as per auditor certificate			2070.86	482.00	-	-	482.00	2552.86
Approved in order dated 12.10.2012	Asset-II	36028.82	31456.30	1355.00	100.00	-	1455.00	32911.30
Actual incurred as per auditor certificate			31456.30	558.33	221.27	392.94	1172.54	32628.84



Particulars	Asset	Revised approved apportioned cost (RCE)	Capital cost as on COD	Additional Capital Expenditure (2009-14)				Capital cost as on 31.3.2014
				2011-12	2012-13	2013-14	Total additional capitalization	
Approved in order dated 21.2.2014	Asset-III	25520.60	18971.66	-	-	-	-	18971.66
Actual incurred as per auditor certificate			24712.68*	500.28	126.53	626.81	25339.49	
Approved in order dated 9.5.2013	Asset-IV	15660.23	12485.99	-	-	-	-	12485.99
Actual incurred as per auditor certificate			13562.34	0.00	197.74	292.06	489.80	14052.14
Total Approved			64984.81	1837.06	100.00	0.00	1937.06	66921.87
Actual incurred Combined Assets		79875.70	69731.32	558.33	919.29	811.53	2771.15	72020.47

*Combined Asset I and Asset III

Debt: Equity

24. Clause 1 & 3 of Regulation 12 of the 2009 Tariff Regulations provide that:-

“(1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

.....

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”



25. The petitioner has claimed true up Annual Fixed Charge based on debt-equity ratio of 70:30 as admitted by the Commission in the earlier orders.

26. With respect to additional capitalization, the petitioner has claimed the debt:equity ratio of 70:30 as on COD for the instant assets. The petitioner was directed to confirm that the actual equity infused for additional capitalization during the 2009-14 tariff period is not less than 30%. In response, the petitioner vide affidavit dated 11.3.2016 has submitted that entire additional capitalisation has been funded through debt and no equity has been employed.

27. The debt:equity ratio of 70:30 as on COD and actual debt:equity ratio for additional capitalisation for the instant assets have been considered for the purpose of trueing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)

Particulars	Capital cost as on COD		Capital Cost as on 31.3.2014	
	Amount	(%)	Amount	(%)
Asset-I				
Debt	1449.60	70.00	1931.60	75.66
Equity	621.26	30.00	621.26	24.34
Total	2070.86	100.00	2552.86	100.00
Asset- II				
Debt	22019.41	70.00	23191.95	71.08
Equity	9436.89	30.00	9436.89	28.92
Total	31456.30	100.00	32628.84	100.00
Asset- III				
Debt	18390.94	74.42	19017.75	75.05
Equity	6321.74	25.58	6321.74	24.95
Total	24712.68	100.00	25339.49	100.00
Asset-IV				



Particulars	Capital cost as on COD		Capital Cost as on 31.3.2014	
	Debt	9493.64	70.00	9983.44
Equity	4068.70	30.00	4068.70	28.95
Total	13562.34	100.00	14052.14	100.00

Interest on Loan (“IOL”)

28. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan.

29. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)				
Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Approved vide order dated 24.2.2012	6.78	43.45	44.02	39.32
As claimed by the petitioner	6.66	43.22	4.03	-
Allowed after trued up	6.66	43.25	4.04	-

(₹ in lakh)			
Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 12.10.2012	343.71	560.57	505.65
As claimed by the petitioner	350.35	582.15	488.13
Allowed after trued up	350.19	582.15	488.12



(₹ in lakh)		
Asset-III	2012-13 (Pro-rata)	2013-14
Approved vide order dated 21.2.2014	239.74	241.86
As claimed by the petitioner	334.47	299.73
Allowed after trued up	334.47	299.73

(₹ in lakh)		
Asset-IV	2012-13 (Pro-rata)	2013-14
Approved vide order dated 9.5.2013	142.75	158.98
As claimed by the petitioner	151.52	151.52
Allowed after trued up	151.15	151.14

30. There is variation in interest on loan due to variation in capital cost as on COD for Asset-III and Asset-IV and variation in actual additional capitalization for the assets during the 2009-14 tariff period.

Return on Equity (“ROE”)

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

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

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

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

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

(5) The generating company or the transmission licensee, as the case maybe, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to



time) of the respective financial year directly without making any application before the Commission:

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

32. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the previous orders. 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))
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

33. We have considered the year-wise revised MAT rate for grossing up ROE and the approved ROE is as shown in the table below:-

Asset-I	(₹ in lakh)			
	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Approved vide order dated 24.2.2012	18.10	121.24	133.88	133.88
As claimed by the petitioner	20.04	120.38	10.03	-
Allowed after trued up	20.04	120.38	10.03	-

Asset-II	(₹ in lakh)		
	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 12.10.2012	983.03	1723.35	1725.97
As claimed by the petitioner	1066.68	1828.59	1850.57
Allowed after trued up	1066.68	1828.59	1850.57

(₹ in lakh)



Asset-III	2012-13 (Pro-rata)	2013-14
Approved vide order dated 21.2.2014	912.02	994.93
As claimed by the petitioner	1122.88	1239.69
Allowed after trued up	1122.88	1239.69

(₹ in lakh)

Asset-IV	2012-13 (Pro-rata)	2013-14
Approved vide order dated 9.5.2013	545.67	654.80
As claimed by the petitioner	658.64	799.87
Allowed after trued up	656.99	797.87

34. The variation in return on equity is on account of increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity, variation in capital cost and actual additional capitalization for both the assets.

Depreciation

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

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

.....

- | | |
|------------------------------|-----------|
| (c) AC and DC sub-station | 25 years |
| (d) Hydro generating station | 35 years |
| (e) Transmission line | 35 years” |

36. 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.”

37. The weighted average useful life of the transmission asset has been considered as per Regulations 3 (42) and 17 (4) of the 2009 Tariff Regulations. For the purpose of calculation, the weighted average useful life of the asset as on COD has been considered as 35, 34, 35 and 35 years for Asset-I, Asset-II, Asset-III and Asset- IV. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure as under:-

(₹ in lakh)

Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Approved vide order dated 24.2.2012	18.22	122.07	134.79	134.79
As claimed by the petitioner	18.22	122.07	11.23	-
Allowed after trued up	18.22	122.07	11.23	-

(₹ in lakh)

Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dated 12.10.2012	990.25	1736.02	1738.66
As claimed by the petitioner	977.95	1697.08	1713.29
Allowed after trued up	977.95	1697.07	1713.29

(₹ in lakh)

Asset-III	2012-13 (Pro-rata)	2013-14
Approved vide order dated 21.2.2014	918.45	1001.94
As claimed by the petitioner	1208.46	1334.87
Allowed after trued up	1208.46	1334.87



(₹ in lakh)		
Asset-IV	2012-13 (Pro-rata)	2013-14
Approved vide order dated 9.5.2013	549.54	659.45
As claimed by the petitioner	602.75	736.24
Allowed after trued up	601.26	734.44

38. The variation in depreciation is on account of variation in capital cost as on COD for Asset-III and Asset-IV and variation in additional capitalization for the assets.

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

39. The petitioner has computed O&M expenses for the assets mentioned in the petition and in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are as follows:-

(₹ in lakh)				
Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Approved vide order dated 24.2.2012	2.11	13.36	14.12	14.93
As claimed by the petitioner	2.11	13.36	1.18	
Allowed after trued up	2.11	13.36	1.18	-

(₹ in lakh)			
Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Approved vide order dtd 12.10.2012	282.55	512.04	541.22
As claimed by the petitioner	282.55	512.04	541.22
Allowed after trued up	282.55	512.04	541.22



(₹ in lakh)		
Asset-III	2012-13 (Pro-rata)	2013-14
Approved vide order dated 21.2.2014	220.12	253.79
As claimed by the petitioner	220.11	253.80
Allowed after trued up	220.11	253.80

(₹ in lakh)		
Asset-IV	2012-13 (Pro-rata)	2013-14
Approved vide order dated 9.5.2013	170.07	215.71
As claimed by the petitioner	170.07	215.71
Allowed after trued up	170.07	215.71

Interest on working capital (“IWC”)

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

41. The petitioner submitted the rate of interest on working capital as 13.50% for Asset-III and Asset-IV for the period COD to 31.3.2014, 11.75% for Asset-II for the period COD to 31.3.2014 and 11.00% for Asset-I 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.

42. Rate of interest in working capital is considered on normative basis in accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations. It is calculated equal to State Bank of India Base Rate as applicable as on 1.4.2013



plus 350 basis points. State Bank of India Base Rate on 1.4.2010 was 7.50%, as on 1.4.2011 was 8.25% and as on 1.4.2012 was 10.00%. Therefore, interest rate of 13.50% (10.00% plus 350 basis points) for Asset-III and Asset-IV, 11.75% (8.25% plus 350 basis points) for Asset-II and 11.00% (7.50% plus 350 basis points) has been considered to work out the interest on working capital in the instant case.

43. The IWC trued up is as under:-

(₹ in lakh)				
Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Maintenance Spares	0.32	2.00	0.18	0.00
O & M expenses	0.18	1.11	0.10	0.00
Receivables	7.99	50.83	4.50	0.00
Total	8.49	53.95	4.78	0.00
Rate of Interest (%)	11.00	11.00	11.00	11.00
Interest	0.93	5.93	0.53	0.00

(₹ in lakh)			
Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Maintenance Spares	42.38	76.81	81.18
O & M expenses	23.55	42.67	45.10
Receivables	456.46	787.74	783.35
Total	522.38	907.22	909.63
Rate of Interest (%)	11.75	11.75	11.75
Interest	61.38	106.60	106.88

(₹ in lakh)		
Asset-III	2012-13 (Pro-rata)	2013-14
Maintenance Spares	33.02	38.07
O & M expenses	18.34	21.15
Receivables	493.24	534.71
Total	544.60	593.93
Rate of Interest (%)	13.50	13.50
Interest	73.52	80.18



(₹ in lakh)

Asset-IV	2012-13 (Pro-rata)	2013-14
Maintenance Spares	25.51	32.36
O & M expenses	14.17	17.98
Receivables	270.22	324.97
Total	309.90	375.31
Rate of Interest (%)	13.50	13.50
Interest	41.84	50.67

44. The variation in IWC is on account of variation in IOL, depreciation and ROE due to variation in capital cost, actual additional capitalization and further increase in ROE on account of applicable MAT rate during 2009-14 tariff period.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

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

(₹ in lakh)

Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Gross Block				
Opening Gross Block	2070.86	2070.86	2552.86	2552.86
Additional Capitalization	0.00	482.00	0.00	0.00
Closing Gross block	2070.86	2552.86	2552.86	2552.86
Average Gross block	2070.86	2311.86	2552.86	2552.86
Depreciation				
Rate of Depreciation (%)	5.280	5.280	5.280	5.280
Depreciable Value	1863.77	2080.67	2297.57	2297.57
Elapsed Life of the assets at beginning of the year	0	1	2	3
Weighted Balance Useful life of the assets	35	34	32	29
Remaining Depreciable Value	1863.77	2062.45	2157.28	2146.05
Depreciation	18.22	122.07	11.23	0.00



Asset-I	2010-11 (Pro-rata)	2011-12	2012-13 (Pro-rata)	2013-14
Interest on Loan				
Gross Normative Loan	1449.60	1449.60	1931.60	0.00
Cumulative Repayment upto Previous Year	0.00	18.22	140.29	0.00
Net Loan-Opening	1449.60	1431.38	1791.31	0.00
Additions	0.00	482.00	0.00	0.00
Repayment during the year	18.22	122.07	11.23	0.00
Net Loan-Closing	1431.38	1791.31	1780.08	0.00
Average Loan	1440.49	1611.35	1785.70	0.00
Weighted Average Rate of Interest on Loan (%)	2.7722	2.6842	2.7122	2.4721
Interest	6.66	43.25	4.04	0.00
Return on Equity				
Opening Equity	621.26	621.26	621.26	0.00
Additions	0.00	0.00	0.00	0.00
Closing Equity	621.26	621.26	621.26	0.00
Average Equity	621.26	621.26	621.26	0.00
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax)(%)	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	20.04	120.38	10.03	0.00
Interest on Working Capital				
Maintenance Spares	0.32	2.00	0.18	0.00
O & M Expenses	0.18	1.11	0.10	0.00
Receivables	7.99	50.83	4.50	0.00
Total	8.49	53.95	4.78	0.00
Interest	0.93	5.93	0.53	0.00
Annual Transmission Charges				
Depreciation	18.22	122.07	11.23	0.00
Interest on Loan	6.66	43.25	4.04	0.00
Return on Equity	20.04	120.38	10.03	0.00
Interest on Working Capital	0.93	5.93	0.53	0.00
O & M Expenses	2.11	13.36	1.18	0.00
Total	47.96	305.00	27.01	0.00



(₹ in lakh)

Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Gross Block			
Opening Gross Block	31456.30	32014.63	32235.90
Additional Capitalization	558.33	221.27	392.94
Closing Gross block	32014.63	32235.90	32628.84
Average Gross block	31735.47	32125.27	32432.37
Depreciation			
Rate of Depreciation (%)	5.283	5.283	5.283
Depreciable Value	28561.92	28912.74	29189.13
Elapsed Life of the assets at beginning year	0	1	2
Weighted Balance Useful life of the assets	34	33	32
Remaining Depreciable Value	28561.92	27934.79	26514.11
Depreciation	977.95	1697.07	1713.29
Interest on Loan			
Gross Normative Loan	22019.41	22577.74	22799.01
Cumulative Repayment upto Previous Year	0.00	977.95	2675.02
Net Loan-Opening	22019.41	21599.79	20123.99
Additions	558.33	221.27	392.94
Repayment during the year	977.95	1697.07	1713.29
Net Loan-Closing	21599.79	20123.99	18803.64
Average Loan	21809.60	20861.89	19463.81
Weighted Average Rate of Interest on Loan (%)	2.7526	2.7905	2.5078
Interest	350.19	582.15	488.12
Return on Equity			
Opening Equity	9436.89	9436.89	9436.89
Additions	0.00	0.00	0.00
Closing Equity	9436.89	9436.89	9436.89
Average Equity	9436.89	9436.89	9436.89
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT rate for the respective year (%)	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.377	19.610
Return on Equity (Pre Tax)	1066.68	1828.59	1850.57
Interest on Working Capital			
Maintenance Spares	42.38	76.81	81.18
O & M Expenses	23.55	42.67	45.10



Asset-II	2011-12 (Pro-rata)	2012-13	2013-14
Receivables	456.46	787.74	783.35
Total	522.38	907.22	909.63
Interest	61.38	106.60	106.88
Annual Transmission Charges			
Depreciation	977.95	1697.07	1713.29
Interest	350.19	582.15	488.12
Return on Equity (Pre Tax)	1066.68	1828.59	1850.57
Interest	61.38	106.60	106.88
O & M Expenses	282.55	512.04	541.22
Total	2738.74	4726.45	4700.07

(₹ in lakh)

Particulars	Asset-III		Asset-IV	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Gross Block				
Opening Gross Block	24712.68	25212.96	13562.34	13760.08
Additional Capitalization	500.28	126.53	197.74	292.06
Closing Gross block	25212.96	25339.49	13760.08	14052.14
Average Gross block	24962.82	25276.23	13661.21	13906.11
Depreciation				
Rate of Depreciation (%)	5.281	5.281	5.281	5.281
Depreciable Value	22466.54	22748.60	12295.09	12515.50
Elapsed Life of the assets at beginning of the year	0	1	0	1
Weighted Balance Useful life of the assets	35	34	35	34
Remaining Depreciable Value	22466.54	21540.14	12295.09	11914.24
Depreciation	1208.46	1334.87	601.26	734.44
Interest on Loan				
Gross Normative Loan	18390.94	18891.22	9493.64	9691.38
Cumulative Repayment upto Previous Year	151.52	1359.98	0.00	601.26
Net Loan-Opening	18239.42	17531.24	9493.64	9090.12
Additions	500.28	126.53	197.74	292.06
Repayment during the year	1208.46	1334.87	601.26	734.44
Net Loan-Closing	17531.24	16322.90	9090.12	8647.73



Particulars	Asset-III		Asset-IV	
	2012-13 (Pro-rata)	2013-14	2012-13 (Pro-rata)	2013-14
Average Loan	17885.33	16927.07	9291.88	8868.93
Weighted Average Rate of Interest on Loan (%)	2.0401	1.7707	1.9520	1.7041
Interest	334.47	299.73	151.15	151.14
Return on Equity				
Opening Equity	6321.74	6321.74	4068.70	4068.70
Additions	0.00	0.00	0.00	0.00
Closing Equity	6321.74	6321.74	4068.70	4068.70
Average Equity	6321.74	6321.74	4068.70	4068.70
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT rate for the respective year (%)	20.008	20.961	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	19.377	19.610	19.377	19.610
Return on Equity (Pre Tax)	1122.88	1239.69	656.99	797.87
Interest on Working Capital				
Maintenance Spares	33.02	38.07	25.51	32.36
O & M Expenses	18.34	21.15	14.17	17.98
Receivables	493.24	534.71	270.22	324.97
Total	544.60	593.93	309.90	375.31
Interest	73.52	80.18	41.84	50.67
Annual Transmission Charges				
Depreciation	1208.46	1334.87	601.26	734.44
Interest on Loan	334.47	299.73	151.15	151.14
Return on Equity	1122.88	1239.69	656.99	797.87
Interest on Working Capital	73.52	80.18	41.84	50.67
O & M Expenses	220.11	253.80	170.07	215.71
Total	2959.45	3208.27	1621.31	1949.84

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

46. The petitioner has claimed the transmission charges for the Combined Assets for the 2014-19 tariff period as under:-



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3827.86	3887.10	3924.29	3924.29	3924.29
Interest on Loan	850.39	781.09	705.23	619.75	535.48
Return on equity	3914.70	3999.99	4041.63	4041.63	4041.63
Interest on Working Capital	248.80	252.24	254.06	253.89	253.82
O & M Expenses	923.37	954.29	985.84	1018.56	1052.36
Total	9765.12	9874.71	9911.04	9858.12	9807.58

47. 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	138.51	143.14	147.88	152.78	157.85
O & M expenses	76.95	79.52	82.15	84.88	87.70
Receivables	1627.52	1645.79	1651.84	1643.02	1634.60
Total	1842.98	1868.45	1881.87	1880.68	1880.15
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	248.80	252.24	254.05	253.89	253.82

Capital Cost

48. Clause (1) & (3) of Regulation 9 of the 2014 Tariff Regulations specify 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.”



49. The petitioner has claimed capital cost of ₹72054.44 lakh as on 31.3.2014 and additional capitalization of ₹2243.84 lakh for the 2014-19 tariff period.

50. We have considered the submissions of the petitioner. After completion of 400 kV D/C Andal (DVC)- Jamshedpur section of Durgapur- Jamshedpur transmission line the petitioner vide affidavit dated 21.4.2016 submitted that, tariff for Asset-I was claimed separately from 1.2.2011 till the commissioning of Asset-III (i.e. up to 1.5.2012). From 1.5.2012 onwards, the completion cost of Asset-I was merged with Asset-III and combined tariff has been claimed thereafter.

51. Accordingly, capital cost of combined assets is ₹72020.47 lakh as on 31.3.2014 has been considered to work out the tariff for the 2014-19 tariff period.

Additional Capital Expenditure

52. The petitioner has proposed additional capitalization of ₹2243.84 lakh for 2014-19 tariff period i.e. ₹835.14 lakh and ₹1408.70 lakh for 2014-15 and 2015-16 respectively towards balance and retention payments under Clause 1, sub-clause (i) of Regulation 14 and sub-clause (iv) of Clause 2 of Regulation 14 of the 2014 Tariff Regulations. However, it is observed that, since the project is an existing project, the additional capitalization towards balance and retention payments beyond cut-off date is covered under Clause 3, sub-clause (v) of Regulation 14 of the 2014 Tariff Regulations.

53. Clause 1, sub-clause (i) of Regulation 14 and Clause 3, sub-clause (v) of Regulation 14 of the 2014 Tariff Regulations provides as follows:



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

.....

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

.....

(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:

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

54. The petitioner was directed vide affidavit dated 30.1.2016 to submit the amount of balance and retention amount yet to be made, details of contract for which payment has been retained along with the amount retained. In response the petitioner vide affidavit dated 11.3.2016 submitted the balance and retention amount is ₹835.14 lakh in 2014-15 and ₹1408.70 lakh in 2015-16.

55. The total capital cost of the transmission asset including additional capitalization incurred during the 2014-19 tariff period works out to ₹74264.31 lakh. We have considered the petitioner’s submission. It is observed that the additional capitalization proposed is mainly towards balance and retention payments due to undischarged liabilities for works executed within and beyond cut-off date. Further, the total completion cost is within the approved apportioned cost of the instant assets. Accordingly, the capital cost claimed by the petitioner is allowed in accordance with Clause 1, sub-clause (i) and Clause 3, sub-clause (v) of Regulation 14 of the 2014 Tariff Regulations. The additional capitalisation



for tariff period 2014-19 shall be finally approved after the detailed scrutiny of additional capitalisation while carrying out the true up for 2014-19 tariff period.

56. The total capital cost of the transmission asset including additional capitalization projected to be incurred during 2014-19 is shown below:-

Particulars	Approved apportioned cost	Admitted capital cost as on 31.3.2014	Additional capitalization		Total additional capitalization	Total capital cost including additional capitalization
			2014-15	2015-16		
Combined Assets	79875.70	72020.47	835.14	1408.70	2243.84	74264.31

(₹ in lakh)

Debt:Equity Ratio

57. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies 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.”

58. The petitioner has considered debt: equity ratio as 70:30 as on 31.3.2014. The admitted debt:equity ratio of 70:30 after true-up for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the debt:equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-



(₹ in lakh)

Particulars	Capital cost as on 31.3.2014	(%)	Addition al Capitalization 2014-19	(%)	Capital Cost as on 31.3.2019	(%)
Debt	52193.14	72.47	1570.69	70.00	53763.83	72.40
Equity	19827.33	27.53	673.15	30.00	20500.48	27.60
Total	72020.47	100.00	2243.84	100.00	74264.31	100.00

Interest on Loan (“IOL”)

59. 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.”

60. We have considered the petitioner submissions. Accordingly, we have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-II** and the IOL has been worked out and allowed as follows:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross loan opening	52193.14	52777.74	53763.83	53763.83	53763.83
Cumulative Repayment up to previous year	8418.87	12244.94	16130.25	20052.75	23975.25
Net Loan-Opening	43774.27	40532.80	37633.58	33711.08	29788.58
Additions during the year	584.60	986.09	0.00	0.00	0.00
Repayment during the year	3826.07	3885.31	3922.50	3922.50	3922.50
Net Loan-Closing	40532.80	37633.58	33711.08	29788.58	25866.08
Average Loan	42153.53	39083.19	35672.33	31749.83	27827.33
Rate of Interest (%)	2.0193	2.0006	1.9794	1.9548	1.9276
Interest	851.19	781.92	706.09	620.66	536.40

Return on Equity (“ROE”)

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

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system”

“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.”

62. The petitioner has submitted ROE at the rate of 19.610% for 2014-15 and 19.705% for 2015-19 after grossing up the ROE of 15.50% with MAT rate of



20.961% for 2014-15 and 21.34% for 2015-19 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.

63. 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.

64. 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 return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE allowed is given below:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	19827.33	20077.87	20500.48	20500.48	20500.48
Additional Capitalization	250.54	422.61	0.00	0.00	0.00
Closing Equity	20077.87	20500.48	20500.48	20500.48	20500.48
Average Equity	19952.60	20289.18	20500.48	20500.48	20500.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT rate for the year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	3912.71	3978.71	4020.15	4020.15	4020.15

Depreciation

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

"27. Depreciation:

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

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

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

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



66. The petitioner has computed depreciation considering capital expenditure of ₹72054.44 lakh as on 31.3.2014 with additional capitalization of ₹2243.84 lakh for the 2014-19 tariff period. The effective date of commercial operation has been considered in accordance to Regulation 26 of the 2014 Tariff Regulations considering actual COD and capital cost of all the elements of the transmission system for working out the depreciation of for the Combined Assets.

67. We have considered the submissions of the petitioner and have allowed depreciation considering capital expenditure of ₹72020.47 lakh as on 31.3.2014 and approved additional capitalisation under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	72020.47	72855.62	74264.32	74264.32	74264.32
Additional Capitalization	835.14	1408.70	0.00	0.00	0.00
Gross block at the end of the year	72855.62	74264.32	74264.32	74264.32	74264.32
Average gross block	72438.05	73559.97	74264.32	74264.32	74264.32
Rate of Depreciation (%)	72020.47	72855.62	74264.32	74264.32	74264.32
Depreciable Value	835.14	1408.70	0.00	0.00	0.00
Elapsed Life of the assets at beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	32	31	30	29	28
Remaining Depreciable Value	56775.37	53959.02	50707.63	46785.13	42862.63
Depreciation	3826.07	3885.31	3922.50	3922.50	3922.50

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

68. 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:-

		(₹ in lakh)				
Particulars		2014-15	2015-16	2016-17	2017-18	2018-19
Norms as per Regulation	Double Circuit (Twin Conductor) (in ₹lakh/km)	0.707	0.731	0.755	0.780	0.806
	Single circuit (Double conductor) (in ₹lakh/km)	0.404	0.418	0.432	0.446	0.461
	400 kV Bays (in ₹lakh/bay)	60.30	62.30	64.37	66.51	68.71
	Double Circuit (Twin Conductor) (in ₹lakh/km)	537.028	537.028	537.028	537.028	537.028
Actual	Double Circuit (Single Conductor)	2.443	2.443	2.443	2.443	2.443
	400 kV Bays (in ₹ lakh/bay)	9	9	9	9	9
	Total	923.37	954.29	985.84	1018.56	1052.36

69. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of its employees is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. The norms for O&M Expenses for transmission system has been specified under Regulation 29(3)(a) of the 2014 Tariff Regulations after considering (i) normalized actual O&M expenses of the petitioner on its various projects and various regions during the year 2008-13.



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

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

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	923.37	954.29	985.84	1018.56	1052.36

Interest on Working Capital (“IWC”)

72. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify 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;”

73. The petitioner has submitted that it has computed Interest on working capital 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 is 13.50%.



74. 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 worked is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	138.50	143.14	147.88	152.78	157.85
O & M Expenses	76.95	79.52	82.15	84.88	87.70
Receivables	1627.01	1641.99	1648.02	1639.21	1630.79
Total	1842.46	1864.66	1878.05	1876.87	1876.34
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	248.73	251.73	253.54	253.38	253.31

Annual Transmission Charges

75. 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	72020.47	72855.62	74264.32	74264.32	74264.32
Additional Capitalisation	835.14	1408.70	0.00	0.00	0.00
Closing Gross Block	72855.62	74264.32	74264.32	74264.32	74264.32
Average Gross Block	72438.05	73559.97	74264.32	74264.32	74264.32
Rate of Depreciation	5.282	5.282	5.282	5.282	5.282
Depreciable Value	65194.24	66203.97	66837.88	66837.88	66837.88
Elapsed Life of the assets at beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	32	31	30	29	28
Remaining Depreciable Value	56775.37	53959.02	50707.63	46785.13	42862.63
Depreciation	3826.07	3885.31	3922.50	3922.50	3922.50
Interest on Loan					



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	52193.14	52777.74	53763.83	53763.83	53763.83
Cumulative Repayment upto Previous Year	8418.87	12244.94	16130.25	20052.75	23975.25
Net Loan-Opening	43774.27	40532.80	37633.58	33711.08	29788.58
Additions	584.60	986.09	0.00	0.00	0.00
Repayment during the year	3826.07	3885.31	3922.50	3922.50	3922.50
Net Loan-Closing	40532.80	37633.58	33711.08	29788.58	25866.08
Average Loan	42153.53	39083.19	35672.33	31749.83	27827.33
Weighted Average Rate of Interest on Loan (%)	2.0193	2.0006	1.9794	1.9548	1.9276
Interest	851.19	781.92	706.09	620.66	536.40
Return on Equity					
Opening Equity	19827.33	20077.87	20500.48	20500.48	20500.48
Additions	250.54	422.61	0.00	0.00	0.00
Closing Equity	20077.87	20500.48	20500.48	20500.48	20500.48
Average Equity	19952.60	20289.18	20500.48	20500.48	20500.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	3912.71	3978.71	4020.15	4020.15	4020.15
Interest on Working Capital					
Maintenance Spares	138.50	143.14	147.88	152.78	157.85
O & M expenses	76.95	79.52	82.15	84.88	87.70
Receivables	1627.01	1641.99	1648.02	1639.21	1630.79
Total	1842.46	1864.66	1878.05	1876.87	1876.34
Interest	248.73	251.73	253.54	253.38	253.31
Annual Transmission Charges					
Depreciation	3826.07	3885.31	3922.50	3922.50	3922.50
Interest on Loan	851.19	781.92	706.09	620.66	536.40
Return on Equity	3912.71	3978.71	4020.15	4020.15	4020.15
Interest on Working Capital	248.73	251.73	253.54	253.38	253.31
O & M Expenses	923.37	954.29	985.84	1018.56	1052.36
Total	9762.07	9851.95	9888.12	9835.24	9784.72



Filing Fee and Publication Expenses

76. 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.

77. The petitioner is 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

78. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We have considered the submissions of the petitioner's submissions. 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

79. 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 of Service Tax is premature.



Foreign Exchange Rate Variation

80. 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

81. 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.

82. This order disposes of Petition No. 145/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



ANNEXURE-I**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2009-14****(₹ in lakh)**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XXVIII-DOCO DRAWL ON 01-	9.33	200.00	0.00	200.00
IBRD IV-DOCO DRAWL ON 01-FEB-2011-46.38	1.92	927.60	0.00	927.60
IBRD IV ADDL-ADD CAP FOR 2011-12 add cap loan-54.45	1.98	0.00	482.00	482.00
IBRD IV ADDL-doco loan-46.38	1.98	321.97	0.00	321.97
Total		1449.57	482.00	1931.57

(₹ in lakh)

Asset-II	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
ADB III- DOCO DRAWL ON 01-SEP-	1.95	2092.95	0.00	2092.95
BOND XXVIII-DOCO DRAWL ON 01-SEP-2011-	9.33	2423.00	0.00	2423.00
IBRD IV-DOCO DRAWL ON 01-SEP-2011-46.51	1.86	13850.68	0.00	13850.68
IBRD IV ADDL-ADD CAP FOR 2011-2012 add cap loan 1-55.62	1.82	0.00	558.33	558.33
IBRD IV ADDL-ADD CAP FOR 2012-2013 add cap loan 2-55.62	1.98	0.00	221.27	221.27
IBRD IV ADDL-ADD CAP FOR 2013-2014 add cap loan 3-55.62	1.68	0.00	392.94	392.94
IBRD IV ADDL-DOCO DRAWL ON 01-SEP-2011-46.51	0.02	3430.58	0.00	3430.58
BOND XXXVI-DOCO DRAWL ON 01-SEP-2011-	9.35	222.00	0.00	222.00
		22019.21	1172.54	23191.75



(₹ in lakh)

Asset-III	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
ADB III-Loan 3-53.14	2.10	1746.23	0.00	1746.23
IBRD IV-Loan 1-53.14	1.92	5348.86	0.00	5348.86
BOND XXVIII-Doco loan 12-	1.97	0.00	500.28	500.28
IBRD IV ADDL-ADD CAP FOR 2013-14 addcap loan 2-55.91	8.90	0.00	126.53	126.53
IBRD IV ADDL-doco loan-53.14	1.97	9364.28	0.00	9364.28
BOND XXVIII-DOCO DRAWL ON 01-	9.33	200.00	0.00	200.00
IBRD IV-DOCO DRAWL ON 01-FEB-2011-46.38	1.92	927.60	0.00	927.60
IBRD IV ADDL- Doco loan 11-46.38	1.97	321.97	0.00	321.97
IBRD IV ADDL-Doco loan 12-54.45	1.97	482.00	0.00	482.00
		18390.94	626.81	19017.75

(₹ in lakh)

Asset-IV	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
ADB III- DOCO DRAWL ON 01-Jun-	2.09	1290.85	0.00	1290.85
IBRD IV-DOCO DRAWL ON 01-JUN-2012-56.32	9.20	4708.92	0.00	4708.92
IBRD IV ADDL- ADDCAP FOR 2012-13 addcap loan 1-55.62	8.80	0.00	197.74	197.74
IBRD IV ADDL-doco loan-56.32	8.90	3517.63	0.00	3517.63
IBRD IV ADDL-ADD CAP FOR 2013-2014 add cap loan 2-56.09	8.90	0.00	292.06	292.06
		9517.40	489.80	10007.20

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

(₹ in lakh)

Asset-I	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	1449.57	1449.57	1931.57	1931.57
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00	0.00



Asset-I	2010-11	2011-12	2012-13	2013-14
Net Loans Opening	1449.57	1449.57	1931.57	1931.57
ADD: Drawl(s) During the year	0.00	482.00	0.00	0.00
Less: Repayment(s) of Loan During the year	0.00	0.00	0.00	0.00
Net Closing Loan	1449.57	1931.57	1931.57	1931.57
Average Net Loan	1449.57	1690.57	1931.57	1931.57
Rate of Interest on Loan	2.7722	2.6842	2.7122	2.4721
Interest on Loan	40.18	45.38	52.39	47.75

(₹ in lakh)

Asset-II	2011-12	2012-13	2013-14
Gross Opening Loan	22019.21	22577.54	22798.81
Cumulative Repayments of Loans upto Previous Year	126.67	164.02	519.13
Net Loans Opening	21892.54	22413.52	22279.68
ADD: Drawl(s) During the year	558.33	221.27	392.94
Less: Repayment(s) of Loan During the year	37.35	355.11	756.80
Net Closing Loan	22413.52	22279.68	21915.82
Average Net Loan	22153.03	22346.60	22097.75
Rate of Interest on Loan	2.7526	2.7905	2.5078
Interest on Loan	609.78	623.58	554.17

(₹ in lakh)

Asset-III	2012-13	2013-14
Gross Opening Loan	18390.94	18891.22
Cumulative Repayments of Loans upto Previous Year	132.62	397.87
Net Loans Opening	18258.32	18493.35
ADD: Drawl(s) During the year	500.28	126.53
Less: Repayment(s) of Loan During the year	265.25	600.15
Net Closing Loan	18493.35	18019.73
Average Net Loan	18375.84	18256.54
Rate of Interest on Loan (%)	2.0401	1.7707
Interest on Loan	374.88	323.27



	(₹ in lakh)	
Asset-IV	2012-13	2013-14
Gross Opening Loan	9517.40	9715.14
Cumulative Repayments of Loans upto Previous Year	101.16	214.55
Net Loans Opening	9416.24	9500.59
ADD: Drawl(s) During the year	197.74	292.06
Less: Repayment(s) of Loan During the year	113.39	297.22
Net Closing Loan	9500.59	9495.43
Average Net Loan	9458.42	9498.01
Rate of Interest on Loan	1.9520	1.7041
Interest on Loan	184.63	161.86



ANNEXURE-II**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)**

(₹ in lakh)

Combined Asset	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
ADB III- DOCO loan-56.32	1.88	1290.85	0.00	1290.85
ADB III- DOCO loan-53.14	1.88	1746.23	0.00	1746.23
ADB III- DOCO loan-46.51	1.88	2092.95	0.00	2092.95
BOND XXVIII- DOCO loan 10-	9.33	200.00	0.00	200.00
BOND XXVIII- DOCO loan 1-	9.33	2423.00	0.00	2423.00
IBRD IV- DOCO loan- 56.32	1.68	4708.92	0.00	4708.92
IBRD IV-DOCO loan-53.14	1.68	5348.86	0.00	5348.86
IBRD IV-DOCO loan 11-46.38	1.68	927.60	0.00	927.60
IBRD IV-doco loan 3-46.51	1.68	13850.68	0.00	13850.68
IBRD IV ADDL- DOCO loan- 56.32	1.68	3517.63	0.00	3517.63
IBRD IV ADDL- DOCO loan- 53.14	1.68	9364.28	0.00	9364.28
IBRD IV ADDL-Doco loan 12-46.38	1.68	321.97	0.00	321.97
IBRD IV ADDL- Doco loan 13-54.45	1.68	482.00	0.00	482.00
IBRD IV ADDL- Doco loan 1-55.62	1.68	1870.56	0.00	1870.56
IBRD IV ADDL-doco loan 2-55.91	1.68	126.53	0.00	126.53
IBRD IV ADDL-doco loan 3-56.09	1.68	292.06	0.00	292.06
IBRD IV ADDL- doco loan 4-46.51	1.68	3430.58	0.00	3430.58
BOND XXXVI-doco loan 2-	9.35	222.00	0.00	222.00
		52216.70	0.00	52216.70

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	52216.70	52216.70	52216.70	52216.70	52216.70
Cumulative Repayments of Loans upto Previous Year	2777.33	5054.71	7425.31	9912.59	12507.79
Net Loans Opening	49439.37	47161.99	44791.39	42304.11	39708.91
ADD: Drawl(s) During the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	2277.38	2370.60	2487.28	2595.20	2707.53
Net Closing Loan	47161.99	44791.39	42304.11	39708.91	37001.38
Average Net Loan	48300.68	45976.69	43547.75	41006.51	38355.15
Rate of Interest on Loan	2.0193	2.0006	1.9794	1.9548	1.9276
Interest on Loan	975.32	919.83	861.98	801.61	739.34

