

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 537/TT/2014**

**Coram:**

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

**Date of Hearing : 16.11.2015  
Date of Order : 11.12.2015**

**In the matter of:**

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for transmission system associated with Auraiya Gas Power Project in Northern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**And in the matter of:**

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

.....**Petitioner**

**Versus**

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd.  
Vidyut Bhawan, Vidyut Marg,  
Jaipur-302 005
2. Ajmer Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur
3. Jaipur Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur
4. Jodhpur Vidyut Vitran Nigam Ltd.  
400 kV GSS Building (Ground Floor), Ajmer Road  
Heerapura, Jaipur



5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan,  
Kumar House Complex Building II  
Shimla-171004
6. Punjab State Power Corporation Ltd.  
Thermal Shed T1 A, Near 22 Phatak  
Patiala-147001
7. Haryana Power Purchase Centre  
Shakti Bhawan, Sector-6  
Panchkula (Haryana) 134 109
8. Power Development Deptt.  
Govt. of Jammu & Kashmir  
Mini Secretariat, Jammu
9. Uttar Pradesh Power Corporation Ltd.  
Shakti Bhawan, 14, Ashok Marg  
Lucknow- 226001
10. Delhi Transco Ltd.  
Shakti Sadan, Kotla Road  
New Delhi- 110002
11. BSES Yamuna Power Ltd.  
BSES Bhawan, Nehru Place  
New Delhi
12. BSES Rajdhani Power Ltd.  
BSES Bhawan, Nehru Place  
New Delhi
13. North Delhi Power Ltd.  
Power Trading & Load Dispatch Group  
Cennet Building  
Pitampura, New Delhi-110034
14. Chandigarh Administration  
Sector-9, Chandigarh
15. Uttarakhand Power Corporation Ltd.  
Urja Bhawan, Kanwali Road  
Dehradun
16. North Central Railway  
Allahabad



17. New Delhi Municipal Council  
Palika Kendra, Sansad Marg  
New Delhi-110002

....**Respondents**

The following were present:

For Petitioner:           Shri S.K. Narayan, PGCIL  
                                  Shri Jasbir Singh, PGCIL  
                                  Shri S.S. Raju, PGCIL  
                                  Shri R.K. Arora, PGCIL  
                                  Ms. Sangeeta Edwards, PGCIL  
                                  Shri S.C. Taneja, PGCIL  
                                  Shri M.M. Mondal, PGCIL  
                                  Shri S.K. Venkatesan, PGCIL  
                                  Shri Sashi Bhushan, PGCIL  
                                  Shri Ved Prakash Rastogi, PGCIL  
                                  Shri Pramod Kumar, PGCIL

For Respondent:         Shri S. K. Aggarwal, Advocate, JVVNL,  
                                  Shri Tarun Ahuja, JVVNL,  
                                  Shri B.L. Sharma, JVVNL

**ORDER**

The present petition has been preferred by Power Grid Corporation of India Ltd. ('the petitioner'), a transmission licensee, for trueing up of capital expenditure and tariff for transmission System associated with Auraiya Gas Power Project in Northern 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 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 mostly distribution licensees or centralised power procurement companies of States, who are procuring transmission service from the petitioner, mainly beneficiaries of Northern 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 16.11.2015. During the hearing, the learned counsel for the Rajasthan Discoms requested for two weeks time to file their reply and the Commission granted the same. The Commission during the hearing observed that in case no information is filed within the due date, the matter shall be considered based on the available records. Reply has been filed by Respondents No. 2, 3 & 4, vide affidavit dated 25.12.2014. The concerns expressed by respondents are being addressed in the respective paras of this order. 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 setting up transmission associated with Gas Turbine Projects at Kawas, Auraiya, and Anta was accorded by Ministry of



Power vide its letter dated 21.10.1986 at an estimated cost of ₹18918.00 lakh, including IDC of ₹810.00 lakh. The apportioned cost in respect of transmission system associated with Auraiya Gas Power Project included in the above approval was ₹10061.00 lakh, including IDC of ₹450.00 lakh. Subsequently, the investment approval for setting up transmission associated with Auraiya Gas Power Project was accorded by Ministry of Power vide its letter dated 5.3.1993 at an estimated cost of ₹10543.00 lakh, including IDC of ₹650.00 lakh. The revised investment approval for setting up the transmission system associated with Auraiya Gas Power Project was accorded by Ministry of Power vide its letter dated 16.3.1995 at a fresh revised cost of ₹12013.00 lakh, including O&M of ₹943.00 lakh and exchange rate variation (non-plan) of ₹1193.00 lakh.

- b. The petitioner has built the transmission asset in the Northern Region and put under commercial operation as stated below:

S. No.	Particulars	COD	Actual line length in km
	<b>Name of Transmission Asset</b>		
(i)	220 kV Auraiya-Sikandara D/C transmission line ckt-I ckt-II	1.4.1989 1.7.1989	182.176
(ii)	400 kV Auraiya-Agra D/C transmission line ckt-I ckt-II	7.3.1990 19.12.1990	165.835
(iii)	400 kV Agra-Ballabgarh S/C transmission line	1.12.1991	181.137
	<b>Name of Sub-station</b>	<b>COD</b>	<b>No. of Bays</b>
	Agra Sub-station		
(i)	400 kV Auraiya-I Bay	7.3.1990	1
(ii)	400 kV Auraiya-II Bay	19.12.1990	1
(iii)	400 kV BLB	16.12.1991	1
	Sikandra Sub-station		
(i)	220 kV Auraiya-I Bay	27.3.1989	1
(ii)	2200 kV Auraiya-II Bay	9.6.1989	1
	Ballabgarh Sub-station		
(i)	400 kV Agra Bay	26.12.1991	1



- c. The capital cost of ₹9863.00 lakh was considered by Ministry of Power, Government of India vide its notification dated 16.11.1998, for the transmission asset covered in the instant petition. The capital cost was further revised to ₹10162.00 lakh by Ministry of Power vide its notification dated 14.5.1999, after taking into account the additional capitalisation of ₹299.00 lakh and the tariff for the same was valid upto 31.3.2002.
- d. The tariff for 2001-04 period was allowed vide order dated 31.7.2003 in Petition No. 8/2002 by considering the gross block of ₹11454.80 lakh, including FERV of ₹1291.94 lakh upto 31.3.2001.
- e. The tariff for the 2004-09 tariff period was initially allowed vide order dated 12.12.2005 in Petition No. 105/2004 by considering the gross block of ₹11733.84 lakh and the same was subsequently revised vide Order dated 29.2.2008 by way of implementation of the Judgment of the Appellate Tribunal for Electricity dated 4.10.2006 in Appeal No. 135 of 2005.
- f. The tariff for tariff period 2009-14 was allowed vide order dated 15.9.2011 in Petition No. 108/2009 in accordance with the 2009 Tariff Regulations. The tariff allowed vide order dated 15.9.2011 for the tariff period 2009-14 is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	216.72	216.72	222.34	236.60	245.49
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	888.28	888.28	892.87	903.67	909.89
Interest on Working Capital	48.08	49.51	51.25	53.37	55.37
O & M Expenses	500.79	529.32	559.82	591.80	625.51
<b>Total</b>	<b>1653.88</b>	<b>1683.83</b>	<b>1726.27</b>	<b>1785.43</b>	<b>1836.25</b>



- g. The Commission, in its order dated 15.9.2011 in Petition No. 108/2009, has admitted capital cost as ₹11733.84 lakh as on 31.3.2009 and additional capital expenditure of ₹174.81 lakh and ₹237.08 lakh proposed during 2011-12 and 2012-13, respectively, for the tariff period 2009-14.
- h. 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 2009-14 tariff period.
- i. The instant petition was filed on 5.12.2014.

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

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

6. Respondents No. 2, 3 & 4, have submitted that the revised transmission tariff as submitted by the petitioner at para 11 is on higher side as compared to tariff approved by the Commission. Accordingly, it is requested that the Commission should scrutinize the petition thoroughly and should not allow the higher expenses. Further, the Commission should scrutinize the various components of tariff such as O&M expenses, Interest on Working Capital and accordingly allow the components as per the norms mentioned in the regulations.



## **Capital Cost**

7. The petitioner has claimed admitted capital cost of ₹11733.84 lakh as on 31.3.2009 for the purpose of tariff.

8. 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 15.9.2011 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 ₹11733.84 lakh as on 1.4.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.

## **Additional Capital Expenditure**

10. The petitioner has claimed additional capitalisation of ₹203.20 lakh, ₹168.46 lakh, ₹143.92 lakh, and ₹269.88 lakh for 2009-10, 2010-11, 2012-13 and 2013-14, respectively, for expenditure incurred after cut-off date against transmission line under Clause (2)(v) of Regulation 9 of the 2009 Tariff Regulations. The amount for 2009-10 and 2010-11 is net of de-capitalisation of ₹70.25 lakh and ₹83.98 lakh, respectively, as approved in order dated 7.2.2013 in Petition No. 305/2010. During 2009-10 and 2010-11, old porcelain insulators amounting to ₹70.25 lakh and ₹83.98 lakh have been replaced by new polymer





insulators amounting to ₹273.45 lakh and ₹252.44 lakh, respectively. Therefore, the net add-cap on account of replacement of polymer insulators is ₹203.20 lakh and ₹168.46 lakh for 2009-10 and 2010-11, respectively.

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

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

12. The Commission vide its order dated 7.2.2013 in Petition No. 305/2010 approved the additional capitalisation for replacement of insulators in fog and pollution affected stretches of existing Northern Region transmission lines in NCR and around and other polluted stretches by polymer (composite long rod) insulators in Northern Region. The additional capitalisation approved by the Commission in the said order for this asset is ₹273.45 lakh and ₹252.44 lakh during 2009-10 and 2010-11 respectively. The Commission in the said order also approved the de-capitalisation amounting to ₹70.25 lakh and ₹83.98 lakh during 2009-10 and 2010-11 towards old porcelain insulators. Further, the Commission at para 43 in its order dated 7.2.2013 in Petition No. 305/2010 also directed the petitioner as follows:



“The petitioner is directed to approach the Commission alongwith the details of Gross Block of dismantled insulators, their accumulated depreciation, dates of removal from the original transmission lines and dates on which they are capitalized at other places/regions. The petitioner is also directed to provide cost details of remaining porcelain insulators.”

13. The petitioner in instant petition has claimed actual additional capitalisation and de-capitalisation in 2009-10 and 2010-11 on account of replacement of porcelain insulators which is same as that approved by the Commission vide its Order dated 7.2.2013 in Petition No. 305/2010. Further, the petitioner has submitted the Auditor’s Certificate to verify the actual additional capital expenditure incurred in 2009-10 and 2010-11 on account of replacement of porcelain insulators with polymer insulators and there is no variation in figures. As the Commission, vide its order dated 7.2.2013, had approved the additional capitalisation and de-capitalisation amounts considering the gross block of the removed porcelain insulators and new polymer insulators, therefore, the Commission has considered the petitioner’s submission and allows additional capitalisation of ₹273.45 lakh and ₹252.44 lakh and de-capitalisation of ₹70.25 lakh and ₹83.98 lakh during 2009-10 and 2010-11, respectively, towards old porcelain insulators in accordance with Clause 2(v) of Regulation 9 of the 2009 Tariff Regulations.

14. Further, the petitioner has claimed the additional capitalization of ₹143.92 lakh in 2012-13 and ₹269.88 lakh in 2013-14, totalling to ₹413.80 lakh, on account of tower strengthening necessitated due to change in the wind zone. The Commission vide its order dated 15.9.2011 in Petition No. 108/2009 had approved the additional capitalization of ₹174.81 lakh and ₹237.08 lakh in 2011-12 and 2012-13, totalling to ₹411.89 lakh, on account of tower strengthening. In



this regard, the petitioner has also submitted the Auditor's Certificate to verify the actual additional capital expenditure incurred in 2009-14. As the actual additional capitalisation in 2012-13 and 2013-14 on account of tower strengthening is only marginally higher than the additional capitalisation approved by the Commission on this account, the Commission has considered the petitioner's submission and allows additional capitalisation of ₹143.92 lakh and ₹269.88 lakh for 2012-13 and 2013-14, respectively, in accordance with Clause 2(v) of Regulation 9 of the 2009 Tariff Regulations.

15. The total capital cost of the transmission asset including additional capitalisation incurred during 2009-10 to 2013-14 works out to ₹12519.29 lakh. The summary of capital cost including additional capitalization is shown in Table below:-

**(₹ in lakh)**

Particulars	Admitted capital cost as on 31.3.2009	Additional Net capitalisation (after deducting de-capitalisation)					Total additional capitalisation	Total capital cost including additional capitalisation
		2009-10	2010-11	2011-12	2012-13	2013-14		
Approved in order dated 15.09.2011	11733.84	-	-	174.81	237.08	0.00	411.89	12517.39
Approved in order dated 7.2.2013 in petition 305/2010	-	203.20*	168.46*	-	-	-	371.66	371.66
Actual	11733.84	203.20	168.46	0.00	143.92	269.88	785.46	12519.30

\*Approved vide Order dated 7.2.2013 in Petition No. 305/2010

### **Debt: Equity**

16. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides that:



“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.”

17. The petitioner has claimed trued up Annual Fixed Charge based on debt:equity ratio of 56.69:43.31 as considered by the Commission in its order dated 15.9.2011 in Petition No. 108/2009. The transmission assets covered in the instant petition were commissioned prior to 1.4.2009. In Petition No. 108/2009, the Commission has considered admitted debt:equity ratio as on 31.3.2009 vide order dated 29.2.2008. The admitted debt:equity ratio of 56.69:43.31 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 tariff period 2009-14 as given under:-

Funding	Amount (₹ in lakh)	(%)
Debt	6652.41	56.69
Equity	5081.43	43.31
<b>Total</b>	<b>11733.84</b>	<b>100.00</b>

18. With respect to additional capitalization, the petitioner has submitted the debt:equity ratio of 70:30 for 2009-10, 2010-11, 2012-13 and 2013-14. In this regard, the Commission vide its letter dated 16.11.2015 asked the petitioner to submit an undertaking on affidavit that the actual equity infused for the additional capital expenditure in tariff period 2009-14 is not less than 30%. The petitioner in response vide its affidavit dated 27.11.2015 submitted that as per Clause 3 of Regulation 12 of the 2009 Tariff Regulations, additional expenditure in tariff period 2009-14 is to be serviced in debt:equity ratio of 70:30. Since actual loan deployed for all the years are at 70%, balance 30% amount has been deployed



as equity. Further, the actual debt and equity infused during tariff period 2009-14 as given below:

S. No.	Financial Year	Total additional capitalisation (in ₹ lakh)	Actual debt (in ₹ lakh)	Actual equity (in ₹ lakh)	Debt : Equity
1	2009-10	203.20	142.24	60.96	70:30
2	2010-11	168.46	117.92	50.54	70:30
3	2011-12	0.00	0.00	0.00	70:30
4	2012-13	143.92	100.74	43.18	70:30
5	2013-14	269.88	188.92	80.96	70:30

19. Debt-equity ratio is allowed in accordance with Clause 2 of Regulation 12 of the 2009 Tariff Regulations. The overall debt equity as on 31.3.2014 including additional capitalization is as under:-

Funding	Amount (in ₹ lakh)	(%)
Debt	7202.23	57.53
Equity	5317.07	42.47
<b>Total</b>	<b>12519.30</b>	<b>100.00</b>

### **Interest on Loan (“IOL”)**

20. The petitioner has not claimed any interest on loan for the tariff period 2009-14, as the complete loan has already been repaid before 1.4.2004. Consequent to the additional capital expenditure during the tariff period 2009-14, there is an addition to the normative loan amounting to ₹142.24 lakh, ₹117.92 lakh, ₹100.74 lakh and ₹188.92 lakh during 2009-10, 2010-11, 2012-13 and 2013-14, respectively. However, this loan too gets repaid during the same year as depreciation has been considered as repayment and the net loan closing is zero at the end of the above stated periods.

21. There is no actual loan corresponding to the additional capital expenditure in the tariff period 2009-14. Accordingly, domestic loan for additional capital



expenditure for the years 2009-10, 2010-11, 2012-13 and 2013-14 has not been taken in to consideration for calculating weighted average rate of interest.

22. In view of the fact that the average loan during the tariff period 2009-14 is zero, the concept of weighted average rate of interest is not applicable in this case. Accordingly, IOL has been considered as NIL for the purpose of truing up of tariff.

### **Return on Equity (“ROE”)**

23. 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.”

24. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 15.9.2011. However, for truing up



purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. 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%

25. 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 15.9.2011	888.28	888.28	892.87	903.67	909.89
As claimed by the petitioner	954.60	1000.36	1006.23	1010.42	1034.74
Allowed after trued up	954.60	1000.36	1006.23	1010.42	1034.74

26. The return on equity allowed in the instant order is more than the return on equity allowed vide order 15.9.2011 due to increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

### **Depreciation**

27. 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."



28. The Commission, in its order dated 15.9.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations considering useful life of the asset as 34 years. As per the order dated 12.12.2005 in Petition No. 105/2004 and order dated 15.9.2011 in Petition No. 108/2009, elapsed life of the asset was 12 years as on 1.4.2003, and depreciation was spread over the balance useful life. Accordingly, the same approach has been continued in the instant order.

29. 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 and additional capitalisation as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.9.2011	216.72	216.72	222.34	236.60	245.49
As claimed by the petitioner	222.43	233.58	238.99	243.98	259.49
Allowed after trued up	222.43	233.58	239.00	243.98	259.50

30. The depreciation allowed in the instant order is more than the depreciation allowed vide order 15.9.2011 due to increased additional capitalization for 2009-14. The total actual additional capitalisation of ₹785.46 lakh is more than the approved additional capitalisation of ₹411.89 lakh for the tariff period 2009-14.

### **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 for 400 kV D/C twin conductor transmission line, 220 kV D/C single conductor transmission line, 400 kV S/C twin conductor transmission line, 400 kV bay and 220 kV bay specified in





Regulation 19(g) of the 2009 Tariff Regulations. The petitioner has claimed O&M Expenses for 400 kV D/C twin conductor Auraiya-Agra ckt I & II transmission line of 165.835 km line length, 220 kV D/C single conductor Auraiya-Sikandra ckt I & II transmission line of 182.176 km line length, 400 kV S/C twin conductor Agra-Ballabgarh transmission line of 181.137 km line length, 4 bays of 400 kV level and 2 bays of 220 kV level. Accordingly, the O&M Expenses have been worked out as given below:-

		(₹ in lakh)				
Particulars		2009-10	2010-11	2011-12	2012-13	2013-14
Actual line length (km)	Double Circuit (Twin & Triple Conductor)	165.835	165.835	165.835	165.835	165.835
	Double Circuit (Single Conductor)	182.176	182.176	182.176	182.176	182.176
	Single Circuit (Twin & Triple Conductor)	181.137	181.137	181.137	181.137	181.137
Actual (No. of bays)	400 kV Bays	4	4	4	4	4
	220 kV Bays	2	2	2	2	2
Norms as per Regulation	Double Circuit (Twin & Triple Conductor) (₹lakh/km)	0.627	0.663	0.701	0.741	0.783
	Double Circuit (Single Conductor) (₹lakh/km)	0.269	0.284	0.301	0.318	0.336
	Single Circuit (Twin & Triple Conductor) (₹lakh/km)	0.358	0.378	0.4	0.423	0.447
	400 kV Bays (₹lakh/bay)	52.40	55.40	58.57	61.92	65.46
	220 kV Bays (₹lakh/bay)	36.68	38.78	41.00	43.34	45.82
<b>Total (₹ in lakh)</b>		<b>500.79</b>	<b>529.32</b>	<b>559.82</b>	<b>591.80</b>	<b>625.51</b>

32. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 15.9.2011 in Petition No.



108/2009. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.9.2011	500.79	529.32	559.82	591.80	625.51
As claimed by the petitioner	500.79	529.32	559.82	591.80	625.51
Allowed after trued up	500.79	529.32	559.82	591.80	625.51

### **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 15.9.2011 in Petition No. 108/2009 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	75.12	79.40	83.97	88.77	93.83
O & M Expenses	41.73	44.11	46.65	49.32	52.13
Receivables	287.90	302.58	309.83	316.99	329.67
Total	404.75	426.08	440.46	455.08	475.62
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest	49.58	52.20	53.96	55.75	58.26

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.9.2011	48.08	49.51	51.25	53.37	55.37
As claimed by the petitioner	49.58	52.20	53.96	55.75	58.26
Allowed after trued up	49.58	52.20	53.96	55.75	58.26

37. The IWC has increased on account of increase in receivables due to variation in ROE on account of applicable MAT rate during the 2009-14 tariff period.

### **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
<b>Gross Block</b>					
Opening Gross Block	11733.83	11937.03	12105.49	12105.49	12249.41
Additional Capitalization	203.20	168.46	0.00	143.92	269.88
Closing Gross block	11937.03	12105.49	12105.49	12249.41	12519.29



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Average Gross block	11835.43	12021.26	12105.49	12177.45	12384.35
<b>Depreciation</b>					
Rate of Depreciation (%)	1.879	1.943	1.974	2.004	2.095
Depreciable Value	10651.89	10819.13	10894.94	10959.71	11145.92
Elapsed Life at the beginning of the year	18	19	20	21	22
Weighted Balance Useful life of the assets	16	15	14	13	12
Remaining Depreciable Value	3558.95	3503.76	3345.98	3171.75	3113.98
Depreciation	222.43	233.58	239.00	243.98	259.50
<b>Interest on Loan</b>					
Gross Normative Loan	0.00	142.24	260.16	260.16	360.91
Cumulative Repayment upto Previous Year	0.00	142.24	260.16	260.16	360.91
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions	142.24	117.92	0.00	100.74	188.92
Repayment during the year	142.24	117.92	0.00	100.74	188.92
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	0.0000	0.0000	0.0000	0.0000	0.0000
Interest	0.00	0.00	0.00	0.00	0.00
<b>Return on Equity</b>					
Opening Equity	5081.43	5142.39	5192.93	5192.93	5236.10
Additions	60.96	50.54	0.00	43.18	80.96
Closing Equity	5142.39	5192.93	5192.93	5236.10	5317.07
Average Equity	5111.91	5167.66	5192.93	5214.52	5276.59
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)	954.60	1000.36	1006.23	1010.42	1034.74
<b>Interest on Working</b>					



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Capital</b>					
Maintenance Spares	75.12	79.40	83.97	88.77	93.83
O & M Expenses	41.73	44.11	46.65	49.32	52.13
Receivables	287.90	302.58	309.83	316.99	329.67
Total	404.75	426.08	440.46	455.08	475.62
Interest	49.58	52.20	53.96	55.75	58.26
<b>Annual Transmission Charges</b>					
Depreciation	222.43	233.58	239.00	243.98	259.50
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	954.60	1000.36	1006.23	1010.42	1034.74
Interest on Working Capital	49.58	52.20	53.96	55.75	58.26
O & M Expenses	500.79	529.32	559.82	591.80	625.51
<b>Total</b>	<b>1727.41</b>	<b>1815.45</b>	<b>1859.01</b>	<b>1901.94</b>	<b>1978.01</b>

### **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	273.14	276.00	284.54	305.27	317.93
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1044.54	1046.41	1051.44	1062.27	1068.07
Interest on Working Capital	61.89	63.05	64.45	66.29	67.88
O&M Expenses	571.24	590.38	610.08	630.13	651.24
<b>Total</b>	<b>1950.81</b>	<b>1975.84</b>	<b>2010.51</b>	<b>2063.96</b>	<b>2105.12</b>

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	85.69	88.56	91.51	94.52	97.69
O & M Expenses	47.60	49.20	50.84	52.51	54.27
Receivables	325.14	329.31	335.09	343.99	350.85
Total	458.42	467.06	477.44	491.02	502.81



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
<b>Interest</b>	<b>61.89</b>	<b>63.05</b>	<b>64.45</b>	<b>66.29</b>	<b>67.88</b>

### **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 expenditure of ₹12519.30 lakh as on 31.3.2014 including additional capitalization of ₹939.69 lakh and de-capitalization of ₹154.23lakh during the 2009-14 tariff period.

43. The trued up capital cost of ₹12519.30 lakh as on 1.4.2014 is considered for the purpose of tariff for tariff period 2014-19.

### **Additional Capital Expenditure**

44. The petitioner has claimed the additional capitalization of ₹66.62 lakh, ₹171.00 lakh, and ₹212.00 lakh for 2014-15, 2016-17, and 2017-18, respectively, and de-capitalisation of ₹3.18 lakh and ₹14.73 lakh for 2014-15 and 2017-18, respectively, on account of replacement of sub-station equipments under Clause (3)(ix) of Regulation 14 of the 2014 Tariff Regulations. The petitioner has further



submitted that additional capitalisation for 2014-15, 2016-17, and 2017-18 is on account of retrofitment and replacement of equipments and spares as they are completing 25 years of service. In this regard, the Commission vide its letter dated 6.11.2015 asked the petitioner to provide justification of such old and obsolete equipments and basis of cost estimates of items considered for additional capitalisation.

45. The petitioner in response vide its affidavit dated 13.11.2015 submitted the justification as follows:

**(i) Replacement of Circuit Breakers:**

The petitioner has submitted that circuit breakers (CBs) are in service for more than 25 years. In case of BHEL make CBs, problems in hydraulic operating system, non-operation of PIR, and time discrepancy have been observed. In 2012, similar two BHEL make CBs failed in Agra Sub-station. Accordingly, these circuit breakers may be replaced with new circuit breakers for smooth and reliable operation of grid.

**(ii) Replacement of PLCC panels:**

The petitioner has submitted that PLCC panels are in service for more than 25 years of service. ABB make ETI-21 carrier equipment and NSD-60/61 Protection coupler is installed at Agra Sub Station under Auraiya Transmission System. Similar component failures in ETI panels have been experienced in number of cases and matter has been taken up with M/s ABB for repair/procurement of the same. M/s ABB vide their communication dated 26.09.2012 intimated that that these products were phased out from their regular manufacturing range since



many years ago and it is very difficult to support users for both ETI 21/22 and NSD-60/61. Accordingly, these old and obsolete ETI panels are proposed to be replaced with new panels for smooth and reliable operation of grid.

**(iii) Replacement of WSI make CT/CVT:**

The petitioner has submitted that various problems, which include fire, spillage of oil, hot spot at EMU Tank, and secondary voltage variation have been experienced in WSI make CVT. WSI make CTs at Agra are violating DGA norms ( $H_2$ ,  $C_2H_6$ , CO,  $CO_2$ ) and have become vulnerable and may affect stability of the grid in case of failure and hence, it is prudent to replace the same. Further, M/s ALSTOM has taken over WSI. Therefore, matter was taken up with M/s ALSTOM for repair/ rectification such CTs. In this regard, M/s ALSTOM vide its email dated 25.8.2015 intimated that WSI make CTs are obsolete and no rework / repair will be carried out at their works. On account of high concentration of DGA gases ( $C_2H_2 > 20ppm$ ), some WSI make CTs have already been replaced.

**(iv) Retrofitment of S&S make isolator at Agra:**

The petitioner has submitted that S&S Power make isolators are in service for more than 25 years. Further, S&S Power has closed down and no supply and service support is available. Various maintenance activities were carried out in S&S since 2008 due to problem of high contact resistance, contact assembly, motor drive, misalignment, etc. In some extreme cases, problem could only be rectified by replacement of isolator arm/ contract assembly/ motor. Accordingly, retro-fitment of isolator is proposed for smooth operation of system.





46. Further, with regard to the basis of cost estimates of items considered for additional capitalisation, the petitioner vide its affidavit dated 13.11.2015 replied that the budgetary estimates are based on the price in recent LOAs of similar equipments at time of submission of petition. .

47. 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 obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; 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:....”

The total capital cost of the transmission asset including additional capitalisation and de-capitalisation incurred during 2014-15, 2016-17 and 2017-18 works out to ₹12951.01 lakh. We have considered the petitioner’s submission as the additional capital expenditure proposed is mainly towards the replacement of old equipment due to obsolesce of technology, the Commission has provisionally allowed the additional capitalisation of ₹66.62 lakh, ₹171.00 lakh and ₹212.00 lakh for 2014-15, 2016-17 and 2017-18, respectively, and de-capitalisation of ₹3.18 lakh and ₹14.73 lakh for 2014-15 and 2017-18, respectively, as claimed by



the petitioner in accordance with Clause 3(ix) 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 in true up petition.

### **Debt: Equity Ratio**

48. 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.”

49. The petitioner has considered debt:equity ratio as 57.53:42.47. Debt equity ratio of 56.69:43.31 as on 31.3.2009 was considered by the Commission in its order dated 15.9.2011 in Petition No. 108/2009. In respect of additional capital expenditure in tariff period 2009-14, debt-equity ratio of 70:30 has been adopted as mandated under Clause 3 of Regulation 12 of the 2009 Tariff Regulations. Accordingly, we have considered the debt-equity ratio of 57.53:42.47 as on 31.3.2014, as the debt-equity ratio as on 01.04.2014. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

Funding	Amount (in ₹ lakh)	(%)
Debt	7202.23	57.53%
Equity	5317.07	42.47%
<b>Total</b>	<b>12519.30</b>	<b>100.00%</b>



### **Interest on Loan (“IOL”)**

50. The petitioner has not claimed any interest on loan for the tariff period 2009-14 as the entire loan has already been repaid before 1.4.2009. Consequent to the additional capital expenditure during the tariff period 2014-19, there is an addition to the normative loan amounting to ₹44.41 lakh, ₹119.07 lakh and ₹138.09 lakh during 2014-15, 2016-17 and 2017-18, respectively. However, this loan too gets repaid during the same year as depreciation has been considered as repayment and the net loan closing is zero at the end of the above stated periods.

51. Accordingly, Interest on Loan has been considered as NIL for the purpose of tariff computation.

### **Return on Equity (“ROE”)**

52. 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.”

53. 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.

54. 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.

55. 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

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with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE determined by the Commission is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	5317.07	5336.10	5336.10	5387.40	5446.58
Addition due to Additional Capitalisation	19.03	0.00	51.30	59.18	0.00
Closing Equity	5336.10	5336.10	5387.40	5446.58	5446.58
Average Equity	5326.584	5336.1	5361.75	5416.9905	5446.581
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
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
<b>Return on Equity (Pre Tax)</b>	<b>1044.54</b>	<b>1046.41</b>	<b>1051.44</b>	<b>1062.27</b>	<b>1068.07</b>

### Depreciation

56. 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."



57. The petitioner has computed depreciation considering capital expenditure of ₹ 12519.30 lakh as on 31.3.2014.

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

(₹ in lakh)					
Details of Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	12519.29	12582.73	12582.73	12753.73	12951.00
Additions during the year due to projected additional capitalization	63.44	0.00	171.00	197.27	0.00
Closing Gross block	12582.73	12582.73	12753.73	12951.00	12951.00
Rate of Depreciation (%)	2.176	2.193	2.246	2.375	2.455
Depreciable Value	11295.91	11324.46	11401.41	11567.13	11655.90
Remaining Depreciable Value	3004.47	2759.89	2560.85	2442.03	2225.55
<b>Depreciation</b>	<b>273.13</b>	<b>275.99</b>	<b>284.54</b>	<b>305.25</b>	<b>317.94</b>

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

59. Respondents No. 2, 3 & 4. have submitted that the 2014 Tariff Regulations have been framed after detailed discussion and consultation. Thus, sanctity of the regulations should be maintained and any request by the petitioner for revision in O&M norms should not be entertained. Further, the Commission should properly scrutinize the expected wage rise in future and, accordingly, allow the additional changes in accordance with the law.

60. 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)	165.835	165.835	165.835	165.835	165.835
	Double Circuit (Single Conductor)	182.176	182.176	182.176	182.176	182.176
	Single Circuit (Twin & Triple Conductor)	181.137	181.137	181.137	181.137	181.137
Actual (No. of bays)	400 kV Bays	4	4	4	4	4
	220 kV Bays	2	2	2	2	2
Norms as per Regulation	Double Circuit (Twin & Triple Conductor) (₹ lakh/km)	0.707	0.731	0.755	0.78	0.806
	Double Circuit (Single Conductor) (₹ lakh/km)	0.303	0.313	0.324	0.334	0.346
	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
	220 kV Bays (₹ lakh/bay)	42.21	43.61	45.06	46.55	48.10
<b>Total (₹ in lakh)</b>		<b>571.24</b>	<b>590.38</b>	<b>610.08</b>	<b>630.13</b>	<b>651.24</b>

61. 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.

62. 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.

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

**(₹ in lakh)**

Particulars	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
<b>O&amp;M Expenses allowed</b>	<b>571.24</b>	<b>590.38</b>	<b>610.08</b>	<b>630.13</b>	<b>651.24</b>

### **Interest on Working Capital (“IWC”)**

64. 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;”

65. 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%.

66. 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	85.69	88.56	91.51	94.52	97.69
O & M expenses	47.60	49.20	50.84	52.51	54.27
Receivables	325.13	329.31	335.09	343.99	350.85
Total	458.43	467.06	477.44	491.02	502.81
Rate of Interest	13.500%	13.500%	13.500%	13.500%	13.500%
Interest	61.89	63.05	64.45	66.29	67.88

### Annual Transmission Charges

67. The Annual Transmission Charges allowed for the transmission asset is given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	273.13	275.99	284.54	305.25	317.94
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1044.54	1046.41	1051.44	1062.27	1068.07
Interest on WC	61.89	63.05	64.45	66.29	67.88
O&M Expenses	571.24	590.38	610.08	630.13	651.24
<b>Total</b>	<b>1950.81</b>	<b>1975.83</b>	<b>2010.51</b>	<b>2063.94</b>	<b>2105.13</b>

68. The detailed computation of various components of annual fixed charges for the tariff period 2014-19 is summarized below:-

(₹ in lakh)



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Gross Block</b>					
Opening Gross Block	12519.29	12582.73	12582.73	12753.73	12951.00
Additional Capitalisation	63.44	0.00	171.00	197.27	0.00
Closing Gross Block	12582.73	12582.73	12753.73	12951.00	12951.00
Average Gross Blcok	12551.01	12582.73	12668.23	12852.37	12951.00
<b>Depreciation</b>					
Rate of Depreciation (%)	2.176	2.193	2.246	2.375	2.455
Depreciable Value	11295.91	11324.46	11401.41	11567.13	11655.90
Elapsed Life at the beginning of the year	23	24	25	26	27
Weighted Balance Useful life of the assets	11	10	9	8	7
Remaining Depreciable Value	3004.47	2759.89	2560.85	2442.03	2225.55
Depreciation	273.13	275.99	284.54	305.25	317.94
<b>Interest on Loan</b>					
Gross Normative Loan	549.82	594.23	594.23	713.93	852.02
Cumulative Repayment upto Previous Year	549.82	594.23	594.23	713.93	852.02
Net Loan-Opening	0.00	0.00	0.00	0.00	0.00
Additions	44.41	0.00	119.70	138.09	0.00
Repayment during the year	44.41	0.00	119.70	138.09	0.00
Net Loan-Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	0.0000	0.0000	0.0000	0.0000	0.0000
Interest	0.00	0.00	0.00	0.00	0.00
<b>Return on Equity</b>					
Opening Equity	5317.07	5336.10	5336.10	5387.40	5446.58
Additions	19.03	0.00	51.30	59.18	0.00
Closing Equity	5336.10	5336.10	5387.40	5446.58	5446.58
Average Equity	5326.58	5336.10	5361.75	5416.99	5446.58
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



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity (Pre Tax)	1044.54	1046.41	1051.44	1062.27	1068.07
<b>Interest on Working Capital</b>					
Maintenance Spares	85.69	88.56	91.51	94.52	97.69
O & M expenses	47.60	49.20	50.84	52.51	54.27
Receivables	325.13	329.31	335.09	343.99	350.85
Total	458.43	467.06	477.44	491.02	502.81
Interest	61.89	63.05	64.45	66.29	67.88
<b>Annual Transmission Charges</b>					
Depreciation	273.13	275.99	284.54	305.25	317.94
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	1044.54	1046.41	1051.44	1062.27	1068.07
Interest on Working Capital	61.89	63.05	64.45	66.29	67.88
O & M Expenses	571.24	590.38	610.08	630.13	651.24
<b>Total</b>	<b>1950.81</b>	<b>1975.83</b>	<b>2010.51</b>	<b>2063.94</b>	<b>2105.13</b>

### **Filing Fee and Publication Expenses**

69. 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**

70. 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**

71. 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. In this regard, Respondents No. 2, 3 & 4, have submitted that this is on presumption basis and should not be allowed.

72. We are of the view that the petitioner's prayer is premature.

### **Deferred Tax Liability**

73. 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. 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.

### **Sharing of Transmission Charges**

74. 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.



75. This order disposes of Petition No. 537/TT/2014.

sd/-

**(Dr. M. K. Iyer)**  
**Member**

sd/-

**(A.S. Bakshi)**  
**Member**

