

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 413/TT/2014

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 22.03.2016

In the matter of:

Determination of transmission tariff for Bachau-Varsana (GETCO) 400 kV D/C Transmission Line along with Extension of 400 kV Bachau Sub-station and Extension of 400 kV Varsana (GETCO) Sub-station under Western Region System Strengthening Scheme-XIII (WRSS-XIII) for 2014-19 Tariff block period in Western Region for the 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and 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. Madhya Pradesh Power Management Company Ltd.
Shakti Bhawan, Rampur,
Jabalpur-482008
2. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor, Andheri(East),
Mumbai-400052
3. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road
Vadodara- 390007



4. Electricity Department
Govt. Of GOA,
Vidyut Bhawan, Panaji- 403001
5. Electricity Department
Administration of Daman & Diu,
Daman- 396210
6. Electricity Department
Administration of Dadar Nagar Haveli,
U.T., Silvassa- 396230
7. Chhattisgarh State Electricity Board
P.O Sunder Nagar, Dangania, Raipur
Chhatisgaarh-492013
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay road
Indore-452008

.....Respondents

The following were present:-

For Petitioner: Shri A. M. Pavgi, PGCIL
 Shri P.V. Nath, PGCIL
 Smt. Archana Kumari, PGCIL
 Shri Amit Yadav, PGCIL
 Shri S.S. Raju, PGCIL
 Shri Rakesh Prasad, PGCIL
 Shri Jashbir Singh, PGCIL
 Shri Aryaman Saxena, PGCIL
 Shri M.M. Mondal, PGCIL

For Respondent: None.

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for Bachau -Varsana (GETCO) 400 kV D/C Transmission Line along with Extension of 400 kV Bachau Sub-station and Extension of 400 kV Varsana (GETCO) Sub-station under Western Region



System Strengthening Scheme-XIII (WRSS-XIII) (herein referred as transmission asset) for 2014-19 Tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 8.1.2015 to 31.3.2019.

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

3. 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 company vide memorandum no. C/CP/WRSS-XIII dated 12.12.2011 at an estimated cost of ₹4993 lakh, which included IDC of ₹194 lakh. Further, RCE for the project was approved by Board of Directors of the petitioner company vide memorandum C/CP/RCE/RCE-WRSS-XIII dated 11.3.2016 at an estimated cost of ₹6436 lakh including IDC of ₹297 lakh.

(b) The scope of the instant project is as under:-

Transmission Line:

- (i) Bachau-Varsana(GETCO) 400 kV D/C line

Sub-station:

- (i) Extension of 400 kV Bachau Sub-station
(ii) Extension of 400 kV Varsana (GETCO) Sub-station



(c) The date of the commercial operation of the instant transmission asset was 8.1.2015. The petitioner has submitted RLDC certificate in support of the claim of commercial operation in accordance with 2014 Tariff Regulations.

DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	56.24	276.94	315.54	321.95	321.95
Interest on Loan	65.8	309.44	328.55	307.79	279.47
Return on Equity	62.51	309.39	352.62	359.79	359.79
Interest on Working Capital	7.41	34.76	37.55	37.87	37.72
O&M Expenses	57.28	255.98	264.48	273.27	282.31
Total	249.24	1186.51	1298.74	1300.67	1281.24

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

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	37.17	38.4	39.67	40.99	42.35
O & M Expenses	20.65	21.33	22.04	22.77	23.53
Receivables	179.69	197.75	216.46	216.78	213.54
Total	237.51	257.48	278.17	280.54	279.42
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	7.41	34.76	37.55	37.87	37.72

6. The Annual Fixed Charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 24.12.2014. The petitioner has submitted additional information



vide affidavits dated 11.12.2014, 11.3.2016 and 18.3.2016. The petitioner has submitted the revised tariff forms vide affidavit dated 18.3.2016 along with the Auditor's Certificate dated 18.1.2016.

7. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the 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 14.3.2016. None of the respondents have filed their reply. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Commercial Operation Date (COD)

8. The petitioner has claimed the date of the commercial operation of the instant transmission asset as 8.1.2015. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx"



9. The petitioner has submitted RLDC certificate issued by WRLDC, POSOCO vide letter dated 30.1.2015 in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations indicating completion of successful trial operation. Accordingly, the commercial operation date of the transmission asset has been considered as 8.1.2015 and the tariff is worked out from 8.1.2015 to 31.3.2019.

Capital Cost

10. The petitioner initially claimed capital cost of ₹3392.59 lakh as on COD in the petition. Later, vide affidavit dated 18.3.2016, the petitioner has submitted the revised tariff forms. In the revised tariff forms, the petitioner has claimed capital cost of ₹4568.14 lakh as on 8.1.2015. The details of the capital cost claimed by the petitioner is given as under:-

Particulars	Capital cost as on COD	Additional capitalization			Total estimated completion cost
		2014-15	2015-16	2016-17	
Transmission Assets	4568.14	55.77	1219.70	242.73	5928.81

11. Regulation 9 (1) and (2) and 10 (1) of the 2014 Tariff Regulations specify as follows:-

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

(2) The Capital Cost of a new project shall include the following:

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in



- excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
 - d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;
 - e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
 - f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
 - g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
 - h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

“10. Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time: Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff.”

Time over-run

12. As per the investment approval, the commissioning schedule of the project is 21 months from the date of investment approval. The investment approval was accorded on 12.12.2011 and the schedule date of commercial operation was 11.9.2013 against which the asset was commissioned on 8.1.2015. Hence there is a time over-run of 484 days in commissioning of the asset. The reasons submitted by the petitioner for the time over-run are discussed in subsequent paragraphs.



13. The petitioner has submitted that initially the construction activities could not be taken up due to severe ROW issues. Even though the length of the line is about 10 km, there are 11 nos. of EHV line crossings (i.e. 66 kV to 400 kV Triple Snowbird) and the line also crosses some 220 kV Multi Circuit transmission lines of STU network. Due to various crossings, the availability of corridor for 400 kV D/C Bachau-Versana line is very restricted and more over the severe RoW in the area has seriously hampered the survey works. The petitioner further submitted that the power line crossings required the approvals of GETCO and other utilities. In order to cross 220kV Multi Circuit tower, POWERGRID has developed special type of towers/configurations such as multi circuit towers with 25 meters. body extension and 3 meters. of raised chimney. In view of the above technical constraints and severe RoW, the detailed survey, profiling and tower spotting of the line could be completed by the end of November, 2013. Construction works were interrupted frequently after commencement of work.

14. The petitioner has further submitted that the Hon'ble High Court of Gujarat vide its judgment dated 29.8.2013, in the matter of SCA 2744/2012 and SCA 871/2012 gave following directions to all the transmission licensee including POWERGRID:

- (i) To issue 15 days notice before entering the field of the land owners and mention amount of compensation and extent of damage etc on the notice itself.



(ii) To withdraw from the property of the land owners, once objection is received from the land owners.

(iii) Licensee to file application u/s 16 of the Telegraph Act, once the objection is received from the land owners and during pendency of such application the licensee should not initiate any work.

15. Consequent to above decision, there was a delay in detailed survey, profiling and tower spotting which took around 2 years from the date of I A i.e. from December, 2011 to November, 2013. There was a severe ROW problem, the work could not commence despite requests for police protection, which was given in January 2014. due to ROW problem. The major reason submitted for this delay was technical constraints and severe RoW problems. Further, the petitioner has submitted that Gujarat High Court has given such directions to all transmission licensees including the petitioner, vide Judgment dated 29.8.2013 which has adversely affected the projects of the petitioner. In this regard, the Hon'ble Supreme court of India vide its order dated 23.9.2013 has stayed the operation of the Hon'ble High Court judgment. Further, petitioner submits that due to severe ROW problem, the work could not commence despite requests for police protection, which was given in January 2014. The petitioner has submitted the detailed chronology of events leading to delay dated from 21.1.13 to 8.7.14. It is noticed that the petitioner has completed the work on 8.1.2015 within six months after these events from 8.7.2014. The petitioner has submitted supporting documents to justify their claim for time over-run. Hence the time over-run of 15 months and 27 days in commissioning of the asset is condoned.



We have considered the submission of the petitioner and the documents submitted by the petitioner on record. The delay is mainly on account of ROW problem and judgment passed by High Court of Gujarat which was subsequent development after investment approval and is not attributable to the petitioner. Hence the time over run in the commissioning of subject assets has been condoned.

Cost over-run

16. The petitioner has submitted that the cost variation is mainly due to increase in cost of compensation, variation in award cost received in competitive bidding. In this regard the petitioner was directed to submit the approval of Revised Cost Estimate (RCE). The petitioner has submitted the approval of RCE vide affidavit dated 11.3.2016. We have considered the revised apportioned approved cost as per RCE for the computation of tariff.

17. The petitioner has considered cash IDC till COD and balance accrued IDC as additional capitalization for 2015-16. The petitioner has considered ₹4568.14 lakh after adjusting ₹13.82 lakh from the capital cost of ₹4581.96 lakh (as per Auditor's Certificate) as on COD. We have considered the capital cost of ₹4581.96 lakh as on 8.1.2015 after adjusting the IDC of ₹13.82 lakh to be discharged during 2015-16 for determination of tariff for the 2014-19 tariff period.



Treatment of Initial spares:

18. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

- “(a) Coal-based/lignite-fired thermal generating stations - 4.0%
(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%
(c) Hydro generating stations including pumped storage hydro generating station. - 4.0%
(d) Transmission system
(i) Transmission line - 1.00%
(ii) Transmission Sub-station (Green Field) - 4.00%
(iii) Transmission Sub-station (Brown Field) - 6.00%
(iv) Series Compensation devices and HVDC Station - 4.00%
(v) Gas Insulated Sub-station (GIS) - 5.00%
(vi) Communication system - 3.5%”

19. The petitioner has claimed initial spares of 0.95% and 5.97% for transmission line and sub-station (brown field) respectively which is within the ceiling limit specified in the 2014 Tariff Regulations.

IDC and IEDC

20. As discussed in foregoing paragraphs, since we have condoned the entire time over-run of 15 months and 27 days in commissioning of subject assets, there is no deduction of IDC and IEDC from capital cost. Accordingly, the details of the capital cost considered as on the date of COD after adjustment IDC to be discharged during 2015-16 are as follows:

Particulars	Amount
Capital cost claimed as on COD	4581.96
Accrued IDC	13.82
Capital cost considered as on COD for tariff computation	4568.14



Additional Capital Expenditure

21. The details of apportioned approved cost, capital cost as on date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the instant asset covered in the petition are as under:-

Approved cost as per FR	Approved cost as per RCE	Capital cost as on COD	Additional capitalization			Total estimated completion cost
			2014-15	2015-16	2016-17	
4992.86	6436.00	4568.14	55.77	1219.70	242.73	6086.34

22. The petitioner has proposed additional capitalization of ₹55.77 lakh, ₹1219.70 lakh and ₹242.73 lakh for the years 2014-15, 2015-16 and 2016-17 respectively towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. The petitioner has considered accrued IDC of ₹13.82 lakh as additional capitalization for 2015-16 in addition to proposed additional capitalization of ₹1205.88 lakh as per Auditor's Certificate dated 18.1.2016. It is observed that total estimated completion cost of ₹6086.34 lakh including the additional capitalization of ₹55.77 lakh, ₹1219.70 lakh and ₹242.73 lakh is within the approved apportioned cost of ₹6436 lakh. Accordingly, additional capitalization proposed by the petitioner is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations. The following additional capitalisation for tariff period 2014-19 has been considered :-



Cost as per revised Investment Approval is ₹6436lakh							
Capital cost as on 8.1.2015 (COD)	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
	2014-15	2015-16	2016-17	2017-18	2018-19		
4568.14	55.77	1219.70	242.73	0.00	0.00	1518.20	6086.34

Debt:Equity Ratio

23. Regulation 19 (1) of the 2014 Tariff Regulations specifies as under:-

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

Provided that:

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

24. The petitioner has considered debt:equity ratio as 70:30 as on COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2014-15 and 2015-16. The details of the debt:equity as on the date of COD, i.e 8.1.2015 and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

Asset	(₹ in lakh)					
	As on 8.1.2015		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	3197.70	70.00	1062.74	70.00	4260.44	70.00
Equity	1370.44	30.00	455.46	30.00	1825.90	30.00
Total	4568.14	100.00	1518.20	100.00	6086.34	100.00



Interest on Loan (“IOL”)

25. Clause (5) & (6) of Regulation 26 of the 2014 Tariff Regulations provides 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.”

26. We have considered the weighted average rate of IOL on the basis of rate prevailing as on 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out as follows:-



(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	3197.70	3236.74	4090.53	4260.44	4260.44
Cumulative Repayment upto previous year	0.00	55.32	332.25	647.79	969.73
Net Loan-Opening	3197.70	3181.42	3758.28	3612.65	3290.70
Additions during the year	39.04	853.79	169.91	0.00	0.00
Repayment during the year	55.32	276.93	315.54	321.95	321.95
Net Loan-Closing	3181.42	3758.28	3612.65	3290.70	2968.76
Average Loan	3189.56	3469.85	3685.47	3451.68	3129.73
Rate of Interest (%)	8.9251	8.9204	8.9171	8.9197	8.9324
Interest	64.73	309.52	328.64	307.88	279.56

Return on Equity("ROE")

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

xxx"

"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."



28. The petitioner has claimed ROE at the rate of 19.610% for 2014-15 and 19.705% for 2015-16 to 2018-19 after grossing up the ROE of 15.5% with MAT rate of 20.96% for 2014-15 and 21.34% for 2015-16 to 2018-19. 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.

29. 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.

30. 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. The ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	1370.44	1387.17	1753.08	1825.90	1825.90
Additional Capitalization	16.73	365.91	72.82	0.00	0.00
Closing Equity	1387.17	1753.08	1825.90	1825.90	1825.90
Average Equity	1378.81	1570.13	1789.49	1825.90	1825.90
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
Tax 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)	61.48	307.90	350.92	358.06	358.06

Depreciation

31. 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."



32. Clause (67) of Regulation 3 of the 2014 Tariff Regulations defines useful life as follows:-

“(67) ‘Useful life’ in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:

- (a) Coal/Lignite based thermal generating station 25 years
- (b) Gas/Liquid fuel based thermal generating station 25 years
- (c) AC and DC sub-station 25 years
- (d) Gas Insulated Substation (GIS) 25 years
- (d) Hydro generating station including pumped Storage hydro generating stations 35 years
- (e) Transmission line (including HVAC & HVDC) 35 years
- (f) Communication system 15 years”

33. The petitioner has claimed depreciation considering capital expenditure of ₹4568.14 lakh as on 8.1.2015 with additional capitalization of ₹55.77 lakh, ₹1219.69 lakh and ₹242.73 lakh for the 2014-19 tariff period.

34. We have computed depreciation considering capital expenditure of ₹4568.14 lakh as on 8.1.2015 and additional capitalization of ₹55.77 lakh, ₹1219.69 lakh and ₹242.73 lakh for 2014-15, 2015-16 and 2016-17 respectively. The weighted average useful life of the asset has been considered as 31 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	4568.14	4623.91	5843.61	6086.34	6086.34
Additional Capitalization	55.77	1219.70	242.73	0.00	0.00
Closing Gross block	4623.91	5843.61	6086.34	6086.34	6086.34
Average Gross block	4596.03	5233.76	5964.98	6086.34	6086.34
Rate of Depreciation (%)	5.293%	5.291%	5.290%	5.290%	5.290%
Depreciable Value	4136.42	4710.38	5368.48	5477.71	5477.71



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	31	30	29	28	27
Remaining Depreciable Value	4136.42	4655.07	5036.23	4829.92	4507.97
Depreciation	55.32	276.93	315.54	321.95	321.95

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

35. The petitioner has computed normative O&M Expenses as per Regulation 29(4)(a) of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M expenses have been worked out as given hereunder:-

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Norm (₹ lakh/km)					
Double Circuit (Twin & Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Line (kms)					
400 kV D/C Bachau (PG) - Versana (GETCO)	9.274	9.274	9.274	9.274	9.274
Total O&M expense (Line) (₹ lakh)	1.49	6.78	7.00	7.23	7.47
Norm (₹ lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71
Bays					
400 kV	4	4	4	4	4
Total O&M expense (Bays) (₹ lakh)	54.85	249.20	257.48	266.04	274.84
Total O&M expense (Ckt kms and bays)	56.34	255.98	264.48	273.27	282.31



36. 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 the employees of the petitioner 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.

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

Interest on Working Capital (“IWC”)

38. As per 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

(i) Receivables

As per Regulation 28(1) (c) (i) of the 2014 Tariff Regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months transmission charges claimed



in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance Spares

Regulation 28 (1) (c) (ii) of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses from 1.4.2014. The petitioner has claimed maintenance spares for the instant asset and value of maintenance spares has accordingly been worked out as 15% of O&M Expenses.

(iii) O & M Expenses

Regulation 28 (1) (c) (iii) of the 2014 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O & M Expenses for the instant asset and value of O & M Expenses has accordingly been worked out by considering 1 month O&M Expenses.

(iv) Rate of interest on working capital

Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later. Further, the 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. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

39. The interest on working capital allowed is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	8.45	38.40	39.67	40.99	42.35
O & M expenses	4.69	21.33	22.04	22.77	23.53
Receivables	40.86	197.51	216.18	216.50	213.26
Total	54.01	257.24	277.89	280.26	279.13
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	7.29	34.73	37.52	37.84	37.68

Annual Transmission Charges

40. 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 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	4568.14	4623.91	5843.61	6086.34	6086.34
Additional Capitalization	55.77	1219.70	242.73	0.00	0.00
Closing Gross Block	4623.91	5843.61	6086.34	6086.34	6086.34
Average Gross Block	4596.03	5233.76	5964.98	6086.34	6086.34
Depreciation					
Rate of Depreciation (%)	5.293	5.291	5.290	5.290	5.290
Depreciable Value	4136.42	4710.38	5368.48	5477.71	5477.71



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	31	30	29	28	27
Remaining Depreciable Value	4136.42	4655.07	5036.23	4829.92	4507.97
Depreciation	55.32	276.93	315.54	321.95	321.95
Interest on Loan					
Gross Normative Loan	3197.70	3236.74	4090.53	4260.44	4260.44
Cumulative Repayment upto Previous Year	0.00	55.32	332.25	647.79	969.73
Net Loan-Opening	3197.70	3181.42	3758.28	3612.65	3290.70
Additions	39.04	853.79	169.91	0.00	0.00
Repayment during the year	55.32	276.93	315.54	321.95	321.95
Net Loan-Closing	3181.42	3758.28	3612.65	3290.70	2968.76
Average Loan	3189.56	3469.85	3685.47	3451.68	3129.73
Weighted Average Rate of Interest on Loan (%)	8.9251	8.9204	8.9171	8.9197	8.9324
Interest	64.73	309.52	328.64	307.88	279.56
Return on Equity					
Opening Equity	1370.44	1387.17	1753.08	1825.90	1825.90
Additions	16.73	365.91	72.82	0.00	0.00
Closing Equity	1387.17	1753.08	1825.90	1825.90	1825.90
Average Equity	1378.81	1570.13	1789.49	1825.90	1825.90
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 (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	61.48	307.90	350.92	358.06	358.06
Interest on Working Capital					
Maintenance Spares	8.45	38.40	39.67	40.99	42.35
O & M expenses	4.69	21.33	22.04	22.77	23.53
Receivables	40.86	197.51	216.18	216.50	213.26
Total	54.01	257.24	277.89	280.26	279.13
Interest	7.29	34.73	37.52	37.84	37.68
Annual Transmission Charges					
Depreciation	55.32	276.93	315.54	321.95	321.95
Interest on Loan	64.73	309.52	328.64	307.88	279.56



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Return on Equity	61.48	307.90	350.92	358.06	358.06
Interest on Working Capital	7.29	34.73	37.52	37.84	37.68
O & M Expenses	56.34	255.98	264.48	273.27	282.31
Total	245.16	1185.06	1297.09	1299.00	1279.56

Filing Fee and Publication Expenses

41. 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

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

Service Tax

43. 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.



Sharing of Transmission Charges

44. 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.

45. This order disposes of Petition No. 413/TT/2014.

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

sd/-
(A.S. Bakshi)
Member



ANNEXURE-I**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO 2014-19**

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BOND XL-Loan 1-	9.30%	750	0.00	750.00
BOND - XLI-Loan 2-	8.85%	500	0.00	500.00
BOND - XLIII-Loan 3-	7.93%	700	0.00	700.00
BOND XLVI -Loan 4-	9.30%	1247.7	0.00	1247.70
BOND XLIX-ADDCAP FOR 2014-2015 Loan 5-	8.15%	0.00	39.04	39.04
Total		3197.70	39.04	3236.74

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	3197.7	3236.74	3236.74	3236.74	3236.74
Cumulative Repayment of loan upto previous year	0.00	0.00	0.00	104.17	266.67
Net Loan Opening	3197.7	3236.74	3236.74	3132.57	2970.07
Additions during the year	39.04	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	104.17	162.5	162.5
Net Loan Closing	3236.74	3236.74	3132.57	2970.07	2807.57
Average Loan	3217.22	3236.74	3184.655	3051.32	2888.82
Rate of Interest (%)	8.9251	8.9204	8.9171	8.9197	8.9324
Interest	287.14	288.73	283.98	272.17	258.04

