CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 241/TT/2016

Coram:

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

Date of Order : 21.06.2018

In the matter of:

Determination of transmission tariff under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014 for 400/220 kV Kankroli Sub-station: (+) 400 MVAR/(-) 300 MVAR SVC under "Static VAR Compensator (SVCs) in Northern Region".

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122001(Haryana) …**Petitioner**

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,
   Vidyut Bhawan, Vidyut Marg,Jaipur

2. Ajmer Vidyut Vitran Nigam Limited
   400 kV GSS Building, Ajmer Road,
   Heerapura,Jaipur

3. Jaipur Vidyut Vitran Nigam Ltd
   400 kV GSS Building, Ajmer Road,
   Heerapura, Jaipur.

4. Jodhpur Vidyut Vitran Nigam Ltd 400
   kV GSS Building, Ajmer Road,
   Heerapura, Jaipur

5. Himachal Pradesh State Electricity Board

Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171004

6. Punjab State Power Corporation Limited
Thermal Shed T-1A, Near 22 Phatak
Patiala-147001

7. Haryana Power Purchase Centre, II Floor
Shakti Bhawan,Sector-6
Panchkula (Haryana) 134109

8. Power Development Deptt.
Govt. of Jammu & Kashmir,
Mini Secretariat, Jammu

9. Uttar Pradesh Power Corporation Ltd.
10th Floor Shakti Bhawan, 14, Ashok Marg
Lucknow - 226001

10. Delhi TranscoLtd
Shakti Sadan, Kotla Road,
NewDelhi-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 PowerLtd.
Power Trading & Load Dispatch Group Cennet Building,
Adjacent to 66/11 kV, Pitampura, Grid Building, Near PP
Jewellers, Pitampura, NewDelhi-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**

For Petitioner:	Shri S. S. Raju, PGCIL Shri Rakesh Prasad, PGCIL Shri S.K. Venketsan, PGCIL Shri Vivek Kumar Singh, PGCIL Shri S.K. Venkatesan,PGCIL Shri V.P. Rastogi, PGCIL
For Respondent:	Shri R.B. Sharma, Advocate, BRPL

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for 400/220 kV Kankroli Sub-station: (+) 400 MVAR/(-) 300 MVAR SVC (hereinafter referred to as "Asset") under "Static VAR Compensator (SVCs) in Northern Region" (hereinafter referred to as "Transmission Project") under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "2014 Tariff Regulations") for the period from date of commercial operation 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 Northern Region.

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

(a) Provision of SVC was approved in the 30th Standing Committee meeting held on 19.12.2011. The investment approval for the project was accorded by Board of Directors of the petitioner company, vide Memorandum dated 16.5.2014 with an estimated cost of ₹82998 lakh including an IDC of ₹4527 lakh, based on price level of February, 2014. As per the investment approval, the transmission assets were scheduled to be commissioned within 27 months from the date of investment approval, i.e. by 15.8.2016.

(b) The transmission charges claimed by the petitioner vide affidavit dated 20.2.17 are as under:-

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	194.84	923.43	975.73
Interest on Loan	215.26	969.89	948.07
Return on Equity	217.09	1028.89	1087.17
Interest on Working Capital	14.58	67.18	69.23
O&M Expenses	17.30	66.51	68.71
Total	**659.07**	**3055.90**	**3148.91**

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
O & M Expenses	5.36	5.54	5.73
Maintenance Spares	9.65	9.98	10.31
Receivables	408.62	509.32	524.82
Total	423.64	524.84	540.85
Rate of Interest (%)	12.80%	12.80%	12.80%
Interest	**54.23**	**67.18**	**69.23**

4. The petitioner has served the petition on the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of 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. BSES Rajdhani Power Limited ("BRPL"), Respondent No. 12, has filed reply vide affidavit dated 16.12.2018. BRPL has raised issues of time over-run, cost variation, effective tax rate, reimbursement of expenditure towards filing fee, license fee etc. The petitioner has filed rejoinder to the reply vide affidavit dated 4.5.2018. The hearing in this matter was held

on 8.5.2018. The objections raised by the respondent and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

5. Annual Fixed Charges (AFC) was allowed for the instant transmission asset vide order dated 25.1.2017 / 22.3.2018 under the first proviso to Regulation 7(7) of the 2014 Tariff Regulations, subject to adjustment as per the said Regulation.

6. Having heard the representatives of the parties and perused the material available on record we proceed to dispose of the petition.

Commercial Operation Date ("COD")

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

> "**4. Date of Commercial Operation:** The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:
>
> xxx
>
> (3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:
>
> xxxx
> xx"

8. The petitioner has submitted that instant asset was anticipated to be put into commercial operation on 30.11.2016. Later, vide affidavit dated 20.2.2017, the petitioner has submitted that the date of actual commercial operation was 25.12.2016. The petitioner has submitted revised forms vide affidavit dated 20.2.2017. The petitioner vide affidavit dated 20.2.2017 has also submitted the COD letter, RLDC trial run certificate in accordance with Regulation 5(2) of the 2014 Tariff Regulations and vide affidavit dated

4.5.2018 has submitted CEA clearance certificate and CMD letter certifying charging of instant asset. Accordingly, the date of commercial operation for instant asset is considered as 25.12.2016 and the tariff for the instant asset is worked out from 25.12.2016 (COD) to 31.3.2019.

Capital Cost

9. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provides 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 thefollowing:
>
> a) the expenditure incurred or projected to be incurred up to the date of commercial operation of theproject;
> 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 fundsdeployed;
> c) Increase in cost in contract packages as approved by theCommission;
> 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 theseregulations;
> f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of theseregulations;
> 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; andadjustment of any revenue earned by the transmission licensee by using the assets beforeCOD."
>
> **"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:"

10. The petitioner has claimed the capital cost ₹11170.51 lakh as on COD. The details of approved apportioned cost, capital cost on COD, additional capital expenditure projected to be incurred and estimated completion cost claimed by the petitioner are given below:-

(₹ in lakh)

Apportioned approved cost as per FR	Capital cost as on COD	Estimated addition capital expenditure			Total estimated capital cost as on 31.3.2019
		2016-17	2017-18	2018-19	
25266.30	11170.51	5523.66	1785.65	-	18479.82

Cost over-run

11. The petitioner, vide Auditor certificate dated 17.2.2017 has submitted that total estimated completion cost as on 31.3.2019 is ₹18479.82 lakh against apportioned approved cost of ₹25266.30 lakh.

12. The respondent, BRPL vide affidavit dated 16.2.2018 has submitted that the over estimation by petitioner in preparation of cost estimates have resulted in overall cost savings even though there is high escalation in cost of various items such as switchgear, control, relay and protection panel, outdoor lighting and structure for switchyard. In response, the petitioner in its rejoinder has submitted that cost estimates have been prepared as per relevant practices and reasons for item wise cost variation have been provided in Form 5. The petitioner in its rejoinder has further submitted that the completion cost of the asset is within the apportioned approved cost.

13. We have considered the submission of the petitioner and the respondent. It is noted that there is over-estimation in the completion cost of the instant asset. The petitioner is

directed to adopt better ways to prepare the cost estimates. As such, the estimated completion cost as on 31.3.2019 of the instant asset claimed by the petitioner being within the apportioned approved cost,would be allowed/considered for the purpose of tariff provided associated time overrun is not attributable to the petitioner.

Time over-run

14. As per the investment approval, the commissioning schedule of the project was 27 months from the date of investment approval. The investment approval was accorded on 16.5.2014 and hence the schedule date of commercial operation of the instant asset was 15.8.2016. COD of the project as approved in paragraph 8 is 25.12.2016. Hence, there is time over-run of 136 days in commissioning of the instant asset.

15. The petitioner has submitted reasons for time over-run as follows:-

a) The instant project for SVC was first of kind in world which was to be established in India under "MAKE IN INDIA" initiative and the MV bus rating of SVC is approximately 12000 Ampere and on MV side such higher rating was to be used for first time in India. The petitioner submitted that it took time to evaluate and finalize the type of bus bar arrangement. Ultimately a combination of ‘C’ channel and 8" Indian pipe standard tube has been used, the ‘C’ channel is also used in pair and made up of Aluminium.

b) That this ‘C’ channel is made in India for the first time and was manufactured by the supplier also for the first time. Similarly, this rating was to be used for the first time ever hence required special skills. The clamp and connector of these MV buses were also developed for first time and considerable time was spent in developing the same.

c) The principle SVC manufacturer company, Siemens, in their projects anywhere in the world never came across with requirement of such current rating. This high current capacity bus design is indigenously developed for SVC projects in India with the first time use of C-Channel bus arrangement.

d) For above SVC project, Coupling transformers, control and protection panel, SVC thyristor, etc were supplied from factory developed by Siemens in its setup at Goa which will cater to the requirement of upcoming new SVC and FACT projects in India.

e) In addition to the above, even though the project got delayed, there would be no additional bearing on account of IDC and IEDC on the beneficiaries as the actual IDC and IEDC incurred have been below the corresponding envisaged cost.

16. The petitioner vide affidavit dated 4.5.2018 and 25.5.2018 has submitted CPM and PERT chart, CEA certificate and CMD certificate.

17. BRPL vide affidavit dated 16.2.2018 has submitted that the reason given by the petitioner for time over-run is very casual and it shows relaxed supervisory control. The delay is unjustified and should have been settled between the petitioner and supplier. Further, the respondent has submitted that the petitioner has not furnished DPR, CPM analysis and PERT chart/ Bar chart and also TSA and CMD Certificate.

18. We have considered the submissions of the petitioner and respondent. The instant asset is commissioned on 25.12.2016 and there is 136 days of delay in commissioning

of the asset.The petitioner in its submission has provided the Form 12, PERT chart and CPM chart which compares the time consumed in execution of various activities vis-à-vis planned. Upon perusal of the same, it is observed that the petitioner had awarded the LOA (Letter of Award) as per planned schedule. There is delay in subsequent activity of supplies against which the petitioner has submitted that delay is mainly on account of design, development and testing of special type of high current capacity C channel bus arrangement and its associated clamp connectors which took around five to six months more than the planned schedule. In furtherance, the petitioner submitted that this had a cascading effect on the subsequent activities that included civil works, erection and final testing and commissioning which also got delayed.

19. The petitioner has further described in detail that the C channel arrangement required to execute the Middle Voltage (MV) Bus in SVC was yet to be conceived anywhere in the world. In this regard, the petitioner has mentioned that for SVC MV bus rating is around 12000 Amperes and for such high rating system the petitioner had to come up for a suitable arrangement that required using C channel in combination with the usual Aluminum bus bar arrangement. The petitioner has further added that since this high rating for SVC Bus was to be used for the first time in India, the arrangement required special skills that had been developed indigenously in association with principle SVC manufacturer, Siemens. This development consumed more time than envisaged and ultimately led to the delay of 136 days. As regards this contention of the petitioner, we are of the view that it was prerogative of the petitioner to factor in the time required for developing this suitable arrangement. However, there is no doubt that conceiving and executing this arrangement was a challenging task. We have noted the difficulties faced by petitioner on account of developing this high rating C channel arrangement

indigenously. We also acknowledge that formulation of design and execution of such new arrangement requires a process comprising of various stages of testing and modifications which may involve multiple iterations to achieve the desired result. In the instant case, the petitioner had to go through numerous such activities to achieve the required technological knowhow though at the expense of stretching time beyond the planned schedule. The Commission is of view that development of this technology may also pave way for use of this technology in similar upcoming projects to be completed a time bound manner. Thus, it calls for a forbearing approach on our part and accordingly the time overrun of 136 days in the instant case is condoned. Accordingly, IDC and IEDC for 136 days of time over-run are allowed to be capitalized.

Treatment of IDC and IEDC

20. The petitioner vide affidavit dated 20.2.2017 has submitted Auditor's certificate dated 17.2.2017 with respect to the capital cost. As per the certificate, IDC and IEDC claimed upto COD are as below:-

(₹ in lakh)

IEDC up to COD	IDC up to COD
258.58	533.56

21. The petitioner has also submitted a statement showing details of loan drawls, rate of interest, amounts and due dates of the interest payment. Based on these details, the interest accrued till COD has been calculated. The IDC calculated till the respective date of interest payment of each loan has been allowed for the purpose of capital cost on cash basis as on COD. The calculation is as below:-

(₹ in lakh)

IDC allowed on accrual basis till COD	533.56
IDC discharged till COD	318.96
IDC to be discharged post COD	**215.78**

22. The petitioner has submitted that the IDC accrued till COD but not paid shall be discharged as ₹19.08 lakhduring 2016-17 and ₹195.52 lakh during 2017-18. The same has been considered as additional capitalisation during the respective years on projected basis.

23. As the time over-run is condoned, there is no deduction of IEDC and IDC claimed by the petitioner. As such, following IDC and IEDC has been allowed as on COD:-

(₹ in lakh)

IEDC up to COD	IDC up to COD
258.58	533.56

Initial Spares

24. Regulation 13 of the 2014 Tariff Regulations provide for ceiling norms for capitalization of initial spares. Regulation 13 of the 2014 Tariff Regulations specify as follows:-

> "13. Initial Spares: Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:
> .
> .
> .(d) Transmission system
> (i) Transmission line - 1.00%
> (ii) Transmission Sub-station (Green Field) -4.00%
> (iii) Transmission Sub-station (Brown Field) -6.00%
> (iv) Series Compensation devices and HVDC Station - 4.00%
> (v) Gas Insulated Sub-station (GIS) -5.00%
> (vi) Communication system -3.5%
>
> Provided that:
> ....
> ....
> iv. for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break up of head wise IDC & IEDC in its tariff application."

25. The petitioner has claimed initial spares of ₹1078.80 lakh pertaining to sub-stations on the "cut-off" date of 31.3.2019. The petitioner has also submitted Auditor certificate dated 17.2.2017 in support of its claim. The petitioner has also made a prayer for

seeking relief for allowing initial spares claimed beyond the ceiling limit.

26. We have considered the submission of the petitioner. We are considering the initial spares of the instant asset under Regulation 13(d)(iv) as the asset falls under the definition of "series compensation device" and the ceiling limit for the same is 4.00%. Accordingly, the initial spares are allowed as specified in the 2014 Tariff Regulations and it is as under:-

(₹ in lakh)

Particulars	Sub-station
Plant and Machinery cost claimed as on cut-off date after deducting IDC,IEDC and civil works	17687.68
Initial spares as per Auditor`s Certificate	1078.80
Ceiling limit as per Regulation 13 (d) (iv) of 2014 Tariff Regulations	4.00%
Initial spares worked out as per norms	692.04
Excess initial spares claimed	386.76

27. Accordingly, ₹692.04 lakh are allowed towards initial spares for the instant asset.

<u>Capital Cost as on COD</u>

28. Based on the above, the capital cost of ₹10569.15 lakh as on COD is considered for tariff computation.

<u>Additional Capital Expenditure</u>

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

> "(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
>
> (i) Undischarged liabilities recognized to be payable at a future date;
> (ii) Works deferred for execution;
> (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation13;
> (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
> (v) Change in law or compliance of any existing law:
>
> Provided that the details of works asset wise/work wise included in the original scope

of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff."

30. The petitioner has proposed additional capitalization of ₹7309.31 lakh towards balance and retention payment under Regulation 14(1) (i) of the 2014 Tariff Regulations.

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

> "cut-off date" means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation".
>
> Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;"

32. The cut-off date of the instant transmission asset is 31.3.2019.

33. BRPL vide affidavit dated 16.2.2018 has submitted that undischarged liabilities recognized to be payable at a future date, works deferred for execution, procurement of initial capital spares within the original scope of work and liabilities to meet award of arbitration etc. which are all presumptive in nature and far away from the actual concerns. Even if that be taken into consideration, the steep hike in completion cost from the original approval remains unexplained in an un-ambiguous term.

34. The petitioner has submitted that additional capital expenditure claimed is due to balance and retention payment pertaining to the instant assets and the claim is as per the 2014 Tariff Regulations.

35. We have considered the submission of the petitioner and the respondent. The petitioner's claim of additional capital expenditure for 2016-17, 2017-18 is towards

balance and retention and within the apportioned approved cost. Hence, it is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations, subject to true up on actual basis and it is as follows:-

(₹ in lakh)

Approved apportioned cost	Exp. up to COD	Additional capital expenditure				Total estimated completion cost
		2016-17	2017-18	2018-19	Total	
25266.30	10569.15	5542.74	1981.17	-	7523.91	**18093.06**

Debt: Equity Ratio

36. 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:
> i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
> ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
> iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio."

37. The petitioner has considered debt:equity ratio as 70:30 as on COD and debt:equity ratio as 70:30 for additional capitalization during 2016-17, 2017-18 and 2018-19. Accordingly, we have considered the same for the purpose of tariff computation for the 2014-19 tariff period. The details of debt:equity as on COD, as on 31.3.2019 and for additional capital expenditure is as follows:-

(₹ in lakh)

Particulars	As on COD (25.12.16)		Additional capitalization during 2014-19		As on 31.3.19	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	7398.40	70.00	5266.74	70.00	12665.14	70.00
Equity	3170.75	30.00	2257.17	30.00	5427.92	30.00
Total	**10569.15**	**100.00**	**7523.91**	**100.00**	**18093.06**	**100.00**

Return on Equity ("ROE")

38. 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:
>
> Provided that:
> i. in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
>
> ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
>
> iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:
> xxx
> 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."

39. The petitioner has claimed ROE at the rate of 19.61% during 2016-17 to 2018-19 after grossing up the ROE of 15.50% with MAT rate as per the above said Regulation. 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.

40. BRPL has submitted that the petitioner sought tariff as per of MAT Rate while ROE and Service Tax etc. on the basis of norms that would not be tenable. In reply, the petitioner has submitted that ROE has been claimed by grossing up with MAT rate for 2014-15 in line with the 2014 Tariff Regulations.

41. 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 claimed that MAT rate of 20.96% is applicable to the petitioner's company during 2016-17. Accordingly, the MAT rate applicable during 2016-17 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	**2016-17 (pro-rata)**	**2017-18**	**2018-19**
Opening Equity	3170.75	4833.57	5427.92
Additional Capitalization	1662.82	594.35	0.00
Closing Equity	4833.57	5427.92	5427.92
Average Equity	4002.16	5130.74	5427.92
Return on Equity (Base Rate) (%)	15.50%	15.50%	15.50%
Tax rate for the year (%)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax) (%)	19.610%	19.610%	19.610%
Return on Equity	**208.57**	**1006.14**	**1064.41**

Interest on Loan ("IOL")

42. 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."

43. We have considered the weighted average rate of IOL on the basis of rate prevailing as on COD. 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 petitioner has claimed proposed loan for 2014-19 tariff period. We have considered the proposed loan and the petitioner is hereby directed to submit details with regard to the proposed loan at the time of truing up. The details of weighted average rate of interest are placed at **Annexure** and the IOL has been worked out as follows:-

(₹ in lakh)

Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Gross loan opening	7398.40	11278.32	12665.14
Cumulative Repayment upto previous year	0.00	187.19	1090.20
Net Loan-Opening	7398.40	11091.13	11574.94
Additions during the year	3879.92	1386.82	0.00
Repayment during the year	187.19	903.01	955.31

Net Loan-Closing	11091.13	11574.94	10619.62
Average Loan	9244.77	11333.03	11097.28
Rate of Interest (%)	8.4186%	8.3713%	8.3680%
Interest on Loan	**206.83**	**948.72**	**928.62**

Depreciation

44. 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."

45. 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:
>
> (d) Coal/Lignite based thermal generating station 25years
> (e) Gas/Liquid fuel based thermal generating station 25years
> (f) AC and DC sub-station 25years
> (g) Gas Insulated Substation (GIS) 25years
> (d) Hydro generating station including pumped Storage hydro generating stations 35years
> (e) Transmission line (including HVAC & HVDC) 35years
> (f) Communication system 15years"

46. The weighted average useful life of the instant asset has been considered as 25 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)

Particulars	**2016-17 (pro-rata)**	**2017-18**	**2018-19**
Opening Gross block	10569.15	16111.89	18093.06
Additional Capitalization	-	1981.17	0.00
Closing Gross block	16111.89	18093.06	18093.06
Average Gross block	13340.52	17102.47	18093.06
Rate of Depreciation (%)	5.28%	5.28%	5.28%
Depreciable Value	12006.46	15392.22	16283.75
Balance useful life of the assets	12006.46	15205.03	15193.55
Depreciation during the year	**187.19**	**903.01**	**955.31**
Cumulative depreciation	187.19	1090.20	2045.52

Operation & Maintenance Expenses ("O&M Expenses")

47. The norms for O&M Expenses specified for the instant asset in Regulation 29 of the 2014 Tariff Regulations is as follows:-

(₹ in lakh)

Particulars	**2016-17**	**2017-18**	**2018-19**
400 kV Bay			
Norms bays (₹ lakh per Bay)	64.37	66.51	68.71

48. The total allowable O&M Expenses for the instant assets as per the above norms are as follows:-

(₹ in lakh)

Particulars	**2016-17 (Pro-rata)**	**2017-18**	**2018-19**
400 kV Bay			
One Bay	**17.11**	**66.51**	**68.71**
Total O&M Expenses	**17.11**	**66.51**	**68.71**

49. The petitioner has 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 from a future date has also not been factored in fixation of the normative O&M

rate specified for the 2014-19 tariff period. The petitioner has also submitted that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

50. BRPL has submitted that the impact of wage revision should be taken care by the petitioner by improving the productivity levels of the petitioner. In reply the, the petitioner has submitted that O&M Expenses have been computed in line with the 2014 Tariff Regulations.

51. We have considered the submissions of the petitioner and the respondent. Any application filed by the petitioner for revision of O&M Expenses on account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission assets as per the prevailing norms.

Interest on Working Capital ("IWC")

52. 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) MaintenanceSpares

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 & MExpenses

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 workingcapital

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 plus 350 basis points. Accordingly, the rate of interest on working capital considered is 12.80% (SBI Base Rate as on 1.4.2016 9.30% plus 350 basis points).

53. The interest on working capital allowed is given below:-

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
O & M expenses	9.66	9.98	10.31
Maintenance Spares	5.37	5.54	5.73
Receivables	397.44	498.36	514.15
Total	412.47	513.88	530.19
Interest on Working Capital	**14.03**	**65.78**	**67.86**

Annual Transmission Charges

54. The annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)

Particulars	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	187.19	903.01	955.31
Interest on Loan	206.83	948.72	928.62
Return on Equity	208.57	1006.14	1064.41
Interest on Working Capital	14.03	65.78	67.86
O & M Expenses	17.11	66.51	68.71
Total	**633.73**	**2990.16**	**3084.92**

Filing Fee and Publication Expenses

55. 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. We have considered the submission of the petitioner and the respondent. The petitioner has filed the details of expenditure towards publishing of notices in newspaper vide affidavit dated 23.5.2017. 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 andCharges

56. 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

57. 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 have considered the submission of the petitioner. Service tax is not levied on transmission. Further, service tax is subsumed by GST and hence petitioner's prayer has become infructuous.

Goods and Services Tax

58. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. GST is not levied on transmission at present and we are of the view that petitioner's prayer is premature.

Sharing of Transmission Charges

59. 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.

60. This order disposes of Petition No. 241/TT/2016.

sd/-	sd/-	sd/-	sd/-
(Dr. M. K. Iyer)	**(A. S. Bakshi)**	**(A. K. Singhal)**	**(P. K. Pujari)**
Member	**Member**	**Member**	**Chairperson**

ANNEXURE

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

(₹ in lakh)

Summary	**2016-17**	**2017-18**	**2018-19**
Gross Opening Loan	7669.14	8275.75	8412.62
Cumulative Repayments of Loans upto Previous Year	0.00	0.00	0.00
Net Loans Opening	7669.14	8275.75	8412.62
Add: Draw(s) during the Year	606.61	136.87	0.00
Less: Repayments of Loan during the year	0.00	0.00	0.00
Net Closing Loan	8275.75	8412.62	8412.62
Average Net Loan	7972.45	8344.19	8412.62
Rate of Interest on Loan (%)	**8.4186%**	**8.3713%**	**8.3680%**
Interest on Loan	671.17	698.52	703.97