

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 46/TT/2017

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Order : 22.8.2017

In the matter of:

Determination of transmission tariff for 765 kV line bays and 240 MVAR Switchable Line Reactor at Raichur and Sholapur Sub-stations Under "Line bays and reactor at POWERGRID Sub-station for Raichur-Sholapur transmission line for Synchronous interconnection between SR and WR" under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamani", Plot No.2,
Sector-29, Gurgaon -122 001

.....Petitioner

Vs

1. Madhya Pradesh Power Management Company Ltd.,
Shakti Bhawan, Rampur
Jabalpur-482 008.
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th floor
Andehri (East), Mumbai-400 052.
3. Gujarat Urja Vikas Nigam Ltd.,
Sardar Patel Vidyut Bhawan,
Race Course Road, Vadodara-390 007.



4. Electricity Department, Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001.
5. Electricity Department,
Administration of Daman and Diu,
Daman-396210.
6. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T. Silvassa-396 230.
7. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur
Chhattisgarh-492 013.
8. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.,
3/54, Press Complex, Agra-Bombay Road
Indore-452 008.
9. Karnataka Power Transmission Corporation Ltd. (KPTCL),
Kaveri Bhawan, Bangalore-560 009.
10. Transmission Corporation of Andhra Pradesh Ltd. (APTRANSCO),
Vidyut Soudha,
Hyderabad-500 082.
11. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram-695 004.
12. Tamil Nadu Generation and Distribution Corporation Limited
NPKRR Maaligai, 800, Anna Salai,
Chennai-600 002.
13. Electricity Department,
Government of Goa
Vidyuti Bhawan, Panaji
Goa 403001
14. Electricity Department,
Government of Pondicherry,
Pondicherry-605 001.



15. Eastern Power Distribution Company of Andhra Pradesh Ltd. (APEPDCL),
APEPDCL, P&T Colony,
Seethmmadhara, Vishakhapatnam,
Andhra Pradesh.
16. Southern Power Distribution Company of Andhra Pradesh Ltd. (APSPDCL),
Srinivasasa Kalyana Mandapam Backside,
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501.
17. Central Power Distribution Company of Andhra Pradesh Ltd. (APCPDCL),
Corporate Office, Mint Compound, Hyderabad-500 063.
18. Northern Power Distribution Company of Andhra Pradesh Ltd. (APNPDCL),
Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet,
Warangal-506 004.
19. Bangalore Electricity Supply Company Ltd. (BESCOM),
Corporate Office, K. R. Circle,
Bangalore-560 001.
20. Gulbarga Electricity Supply Company Ltd. (GESCOM),
Station Main Road, Gulbarga.
Karnataka.
21. Hubli Electricity Supply Company Ltd. (HESCOM),
Navanagar, PB Road,
Hubli, Karnataka.
22. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore-575 001.
23. Chamundeswari Electricity Supply Corporation Ltd. (CESC),
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road,
Saraswatipuram, Mysore-570 009.

....Respondents

For Petitioner : Shri S.S. Raju, PGCIL
Shri S.K. Venkatesan
Shri Rakesh Prasad, PGCIL

For Respondents : None



ORDER

The instant petition has been filed by Power Grid Corporation of India Ltd. (PGCIL) for 765 kV Line bays and 240 MVAR Switchable Line Reactor at Raichur and Sholapur Sub-stations under “Line bays and reactor at PGCIL Sub-station for Raichur-Sholapur transmission line for Synchronous interconnection between SR and WR” for tariff block 2014-19 period in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter "the 2014 Tariff Regulations").

2. Earlier, the petitioner had filed the Petition No. 291/TT/2013 for approval of transmission tariff for instant asset and claimed tariff for 2009-14 period, considering the COD of the instant asset as 1.2.2014. The Commission, vide order dated 24.11.2015 in Petition No. 291/TT/2013, observed that the instant assets could be commissioned matching with the Raichur-Solapur Transmission Line II, which was executed by Raichur-Solapur Transmission Company Limited (RSTCL). The Raichur-Solapur Transmission Line II was commissioned on 1.7.2014 and hence the Commission directed the petitioner to file a revised petition under the 2014 Tariff Regulations, considering the COD of the instant assets as 1.7.2014. The relevant portion of the Commission’s order dated 24.11.2015 is extracted hereunder:-

“23. 765 kV Line bays and 240 MVAR Switchable Line Reactor at Raichur and Sholapur Substations operation could be successfully carried out only on commissioning of the Raichur-Solapur Transmission line II, which is stated to have been commissioned on 1.7.2014. Accordingly, the date of commercial operation of the transmission assets could be only during the 2014-19 tariff period and will be governed by the provisions of the 2014 Tariff Regulations. As such, the petitioner is directed to file a fresh petition claiming tariff for the transmission assets as per the 2014 Tariff Regulations within 30 days of issue of this order.”



3. Aggrieved by the above said order, the petitioner filed Review Petition No. 7/RP/2016 seeking review of order dated 24.11.2015 and allow the date of commercial operation of the instant assets as 1.2.2014 as prayed in Petition No.291/TT/2013. The Commission vide order dated 29.9.2016 rejected Review Petition No. 7/RP/2016. The relevant portion of order dated 29.9.2016 is as under:-

“12. The review petitioner has contended that the line reactors at Raichur and Solapur sub-stations are being used as bus reactors. It is observed that the review petitioner had neither stated in the main petition nor submitted any document in support to show that the beneficiaries were taken into confidence for the use of line reactors as bus reactors at Raichur and Solapur Sub-stations. In the review petition, the review petitioner has submitted for the first time that the line reactors are being used as bus reactors to control over voltage at both Raichur and Solapur as per directive issued by POSOCO vide its letter dated 20.11.2012. The review petitioner is trying to reargue the matter by bringing in new facts which is not allowed at the stage of review. Further, we have also perused POSOCO letter dated 20.11.2012 and find that the letter refers to a few specific lines which were already commissioned prior to 20.11.2012 and neither contains the instant assets nor any principle that in future, line reactors should be installed as switchable reactors for voltage control. It is clarified that whenever the petitioner intends to put any asset into any alternate use that is originally envisaged, it should approach the respective Regional Power Committee for its approval in terms of Regulation 2.4.2 of Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010.”

4. As per the directions of the Commission in order dated 24.11.2015 in Petition No.291/TT/2013, the petitioner has filed the instant petition seeking tariff for the instant assets as per the 2014 Tariff Regulations.

5. The scope of works for inter-state transmission system was firmed up in the meeting of the Standing Committee on Power System Planning for Southern Region on 17.7.2007, concurred in the 24th meeting of the standing committee held on 18.6.2017 at SRPC, Bangalore.



6. The investment approval for the instant transmission assets was accorded by the Board of Directors of the petitioner company vide letter dated 4.6.2012, at an estimated cost of ₹7574 lakh including IDC of ₹316 lakh (based on February, 2012 price level). The Board of Directors of the petitioner company approved the Revised Cost Estimates (RCE) in its 304th meeting held on 4.8.2014 (memorandum dated 11.9.2014) at an estimated cost of ₹9323 lakh including IDC of ₹110 lakh (price level- December, 2013). As per the investment approval dated 4.6.2012, the transmission assets were scheduled to be commissioned within 21 months from the date of investment approval i.e. by 1.4.2014, against which the assets were put into commercial operation w.e.f. 1.7.2014.

7. The scope of the work as per the Investment Approval is as follows:-

Sub-Stations:

- (i) Extension of 765/400 kV Sub-station at Raichur to accommodate following:
- 765 kV Line Bays : 1
 - 240 MVAR 765 kV Switchable Line Reactor : 1
- (ii) Extension of 765/400 kV Sub-station at Sholapur to accommodate following:
- 765 kV Line Bays : 1
 - 240 MVAR 765 kV Switchable Line Reactor : 1

8. The entire scope of the project is covered under instant petition.

9. This order has been issued after considering the petitioner's affidavit dated 13.6.2017.



Date of Commercial operation (COD)

10. As stated above, as per the investment approval dated 4.6.2012, the instant assets were scheduled to be commissioned on 1.4.2014. However, the petitioner claimed instant assets were ready for commissioning on 1.1.2014 and 1.2.2014 and accordingly prayed for approval of COD of the assets. As the instant assets can be put to use only on commissioning of the Raichur-Solapur Transmission Line II, which was commissioned on 1.7.2014, the Commission approved the COD of the instant assets as 1.7.2014 in order dated 24.11.2015 in Petition No. 291/TT/2013 and the same was confirmed vide order dated 29.9.2016 in Review Petition No.7/RP/2016. Accordingly, the COD of the instant assets is considered as 1.7.2014 in the instant order.

11. The petitioner has claimed transmission charges for the instant asset as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	262.69	384.35	405.49	417.93	417.93
Interest on Loan	335.02	453.33	441.73	418.10	377.18
Return on equity	294.77	431.73	456.33	471.01	471.01
Interest on Working Capital	34.53	48.49	49.92	50.66	50.40
O & M Expenses	253.26	348.88	360.48	372.44	384.80
Total	1180.27	1666.78	1713.95	1730.14	1701.32

12. 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	50.65	52.33	54.07	55.87	57.72
O & M expenses	28.14	29.07	30.04	31.04	32.07
Receivables	262.28	277.80	285.66	288.36	283.55
Total	341.07	359.20	369.77	375.27	373.34
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	34.53	48.49	49.92	50.66	50.40



13. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. None of the respondents have filed any reply.

14. Having heard the representatives of the petitioner present at the hearing and after perusing the material on record, we proceed to dispose of the petition.

Capital cost

15. Clause (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

"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 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."

16. The petitioner has submitted Auditor's certificate dated 5.12.2016 for the actual capital cost up to COD (1.7.2014) and actual/projected additional capital



expenditure. Further, the petitioner has also submitted the RCE along with re-apportionment of approved estimated cost. The details of the apportioned cost as per original IA, revised apportioned cost as per RCE, actual capital cost claimed as on actual COD and estimated additional capital expenditure incurred or to be incurred as per Auditor's Certificate dated 5.12.2016 are summarised below:-

(₹ in lakh)						
Apportioned cost as per original IA	Revised apportioned cost as per RCE	Capital cost up to COD (1.7.2014) as per Auditor certificate	Additional capital expenditure claimed as per Auditor certificate			Total estimated cost claimed
			2014-15 (actual)	2015-16 (actual)	2016-17 (estimated)	
7573.00	9323.00	6230.51	939.61	336.94	499.33	8006.39

17. The estimated completion cost of ₹8006.39 lakh is within the RCE of ₹9323 lakh. Hence, there is no cost over-run.

Time over-run

18. The instant assets were scheduled to achieve COD on 1.4.2014. Even though the assets were ready, they could not be put into commercial operation as the corresponding transmission line namely Raichur-Solapur Transmission Line II being executed by RSTCL was not ready for commercial operation as on 1.4.2014. After completion of Raichur-Solapur Transmission Line II, the line bays and reactors at the sub-station of PGCIL and the transmission line of RSTCL were declared under commercial operation on 1.7.2014. Therefore, the delay in commercial operation by 3 months was solely attributable to RSTCL and therefore, the charges for the period cannot be recovered through POC charges. Accordingly, IDC and IEDC for 3 months have not been allowed in this petition. Since, RSTCL is not a party to the petition, the petitioner is directed to move a separate application by making RSTCL



as a party for claiming IDC and IEDC from RSTCL for the said three months which shall be decided in accordance with law.

Treatment of IDC

19. The petitioner vide Auditor's Certificate dated 5.12.2016 has claimed Interest during Construction (IDC) of ₹166.47 lakh. IDC has been worked out based on the loans deployed for the instant asset as per Form-12 B of the petition on cash basis. As the time over-run of three months is disallowed, the IDC for 3 months of time over-run is disallowed. The details of the IDC claimed and allowed are as follows:-

(₹ in lakh)

IDC claimed as per the Auditor's certificate dated 5.12.2016	IDC entitled up to SCOD (i.e. 1.4.2014)	Un-discharged entitled IDC as on actual COD	IDC on cash basis considered for tariff as on actual COD	IDC for time over run period disallowed
1	2	3	4=(2-3)	5=(1-2)
166.47	96.62	14.38	82.24	69.85

20. The un-discharged IDC of ₹14.38 lakh as on COD has been reduced from the capital cost as on COD. The same has been considered as additional capital expenditure during 2014-15.

Treatment of IEDC

21. The petitioner vide Auditor's certificate dated 5.12.2016 has claimed IEDC of ₹67.33 lakh. Total IEDC claimed is within the percentage on hard cost as indicated in the abstract cost estimate therefore, the same has been allowed. IEDC for 3 months due to time over-run has not been considered (i.e. from SCOD to Actual COD). Accordingly, the IEDC for the time over-run period has been worked out on pro-rata basis as ₹8.17 lakh which is not considered for tariff purpose. Hence, the IEDC allowed is ₹59.16 lakh (i.e. ₹67.33 lakh - ₹8.17 lakh).



Treatment of initial spares

22. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system is as under:-

“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:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:

(iii) once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(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.”

23. The petitioner, vide Auditor's Certificate dated 5.12.2016 has claimed ₹306.70 lakh for initial spares pertaining to sub-station (Brown field). The initial spares claimed for sub-station are within ceiling limits specified under Regulation 13 of the



2014 Tariff Regulations. Accordingly, the petitioner's claim is allowed.

Capital cost as on COD

24. Details of capital cost as on COD considered for the purpose of tariff computation is summarized below:-

(₹ in lakh)					
Capital cost as on COD claimed by petitioner	IDC for time over-run period disallowed	IEDC for time over-run period disallowed	Un-discharged IDC as on COD.	Excess initial spare	Capital cost as on COD considered for tariff calculation
1	2	3	4	5	6 = (1-2-3-4)
6230.51	69.85	8.17	14.38	0.00	6138.11

25. The element wise break-up of capital cost as on COD are as follows:-

(₹ in lakh)		
Particulars	Capital cost as on COD as per Auditor's certificate dated 5.12.2016	Admitted capital cost
Freehold Land	0.00	0.00
Leasehold Land	0.00	0.00
Building & Other Civil Works	135.07	133.07
Transmission Line	0.00	0.00
Sub-Station Equipments	6042.81	5953.19
PLCC	52.63	51.85
Total	6230.51	6138.11

Projected additional capital expenditure

26. 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 recognised 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 Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or



- decree of a court; 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.”

27. 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”.

28. The petitioner vide Auditor certificate dated 5.12.2016 has claimed additional capital expenditure ₹939.61 lakh, ₹336.94 lakh and ₹499.33 lakh for 2014-15, 2015-16 and 2016-17 respectively. The un-discharged IDC of ₹14.38 lakh as on COD has been reduced from the capital cost as on COD and the same was added in additional capital expenditure of 2014-15 on discharge of the liability towards IDC. Detail of the actual/projected additional capital expenditure allowed from COD to 31.3.2019 for the assets are as follows:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Freehold Land	0.00	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	56.19	24.91	86.10	0.00	0.00
Transmission Line	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipments	874.99	305.19	396.56	0.00	0.00
PLCC	22.81	6.84	16.67	0.00	0.00
Total	953.99	336.94	499.33	0.00	0.00



Capital cost as on 31.3.2019

29. Detail of the capital cost considered as on 31.3.2019 are as follows:-

Particulates	As on COD	Actual/Projected additional capital expenditure			As on 31.3.2019
		2014-15	2015-16	2016-17	
Freehold Land	0.00	0.00	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00	0.00	0.00
Building & Other Civil Works	133.07	56.19	24.91	86.10	300.27
Transmission Line	0.00	0.00	0.00	0.00	0.00
Sub-Station Equipments	5953.19	874.99	305.19	396.56	7529.93
PLCC	51.85	22.81	6.84	16.67	98.17
Total	6138.11	953.99	336.94	499.33	7928.37

Debt- equity ratio

30. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:-

“(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.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal



resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation”

31. Details of debt-equity in respect of the asset as on the date of commercial operation and as on 31.3.2019 are as follows:-

Particular	Capital cost as on COD	Additional capital expenditure for 2014-19			Capital cost as on 31.3.2019	%
		2014-15	2015-16	2016-17		
Debt	4296.68	667.79	235.86	349.53	5549.86	70.00
Equity	1841.43	286.20	101.08	149.80	2378.51	30.00
Total	6138.11	953.99	336.94	499.33	7928.37	100.00

(₹ in lakh)

Return on equity

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system 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:
- (iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- (v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- (vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

“25. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

33. The petitioner has computed RoE at the rate of 19.610% after grossing up the RoE with MAT rate of 20.961% as per the above Regulations. 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.

34. 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.

35. 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. 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.

36. The details of return on equity calculated are as follows:-



(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	1841.43	2127.63	2228.71	2378.51	2378.51
Addition due to Additional Capitalization	286.20	101.08	149.80	0.00	0.00
Closing Equity	2127.63	2228.71	2378.51	2378.51	2378.51
Average Equity	1984.53	2178.17	2303.61	2378.51	2378.51
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	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)	292.14	427.14	451.74	466.43	466.43

Interest on loan

37. Regulation 26 of the 2014 Tariff Regulations provides as under:-

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(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.”



38. In keeping with the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner's entitlement to interest on loan has been calculated on the following basis:-

(i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;

(ii) The repayment for the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for that period;

(iii) Notwithstanding moratorium period availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the asset and shall be equal to the annual depreciation allowed;

(iv) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the Normative average loan during the year to arrive at the interest on loan.

(v) As per Regulation 26(5) only actual loans have been considered for computation of weighted average rate of interest.

(vi) It is observed that, the actual loan amount as on 1.7.2014 (i.e. approved COD) mentioned in Form 6, Form 9C and Form 12B are not



matching. The petitioner is directed to submit these forms duly reconciled with each other at the time of truing up.

39. Detailed calculations in support of the weighted average rates of interest have been given in Annexure to this order.

40. Based on the above, interest on loan has been calculated are given as follows:-

(₹ in lakh)					
Particulars	2014-165	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	4296.68	4964.47	5200.33	5549.86	5549.86
Cumulative Repayment upto Previous Year	0.00	260.35	640.61	1042.00	1455.83
Net Loan-Opening	4296.68	4704.12	4559.71	4507.86	4094.03
Addition due to Additional Capitalization	667.79	235.86	349.53	0.00	0.00
Repayment during the year	260.35	380.26	401.39	413.82	413.82
Net Loan-Closing	4704.12	4559.71	4507.86	4094.03	3680.21
Average Loan	4500.40	4631.92	4533.79	4300.94	3887.12
Weighted Average Rate of Interest on Loan	9.83%	9.68%	9.64%	9.63%	9.61%
Interest	332.03	448.47	437.28	414.05	373.53

Depreciation

41. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.



(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

xxx

xxx

(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.”

42. The instant transmission assets were put under commercial operation during 2014-15. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2014 Tariff Regulations.

43. Based on the above, the depreciation has been considered are as follows:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	6138.11	7092.10	7429.04	7928.37	7928.37
Additional Capital Expenditure	953.99	336.94	499.33	0.00	0.00
Closing Gross Block	7092.10	7429.04	7928.37	7928.37	7928.37
Average Gross Block	6615.10	7260.57	7678.70	7928.37	7928.37
Rate of Depreciation	5.2428%	5.2374%	5.2273%	5.2195%	5.2195%
Depreciable Value	5953.59	6534.51	6910.83	7135.53	7135.53
Remaining Depreciable Value	5953.59	6274.16	6270.22	6093.53	5679.71
Depreciation	260.35	380.26	401.39	413.82	413.82



Operation & Maintenance Expenses (O&M Expenses)

44. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for O & M Expenses for the transmission system based on the type of sub-station and the transmission line. The norms specified in 2014 Tariff Regulations are as follows:-

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
84.42	87.22	90.12	93.11	96.2

45. O&M Expenses claimed by the petitioner is as follows:-

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
253.26	348.88	360.48	372.44	384.8

46. The O&M Expenses have been calculated as given below:-

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
253.26	348.88	360.48	372.44	384.8

47. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.



48. 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 appropriate provisions of the 2014 Tariff Regulations.

Interest on working capital

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

“28. Interest on Working Capital

(c)(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”

50. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:-

(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months' annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.



(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The value of maintenance spares has accordingly been worked out.

(iii) O & M Expenses

Operation and Maintenance Expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M Expenses for one month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points).

51. The interest on working capital as determined is shown in the following table:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	50.61	52.33	54.07	55.87	57.72
O & M expenses	28.11	29.07	30.04	31.04	32.07
Receivables	260.24	275.49	283.42	286.18	281.45
Total	338.96	356.89	367.53	373.09	371.24
Interest	34.35	48.18	49.62	50.37	50.12

Transmission charges

52. The transmission charges being allowed for the transmission asset are as follows:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	260.35	380.26	401.39	413.82	413.82
Interest on Loan	332.03	448.47	437.28	414.05	373.53
Return on equity	292.14	427.14	451.74	466.43	466.43
Interest on Working Capital	34.35	48.18	49.62	50.37	50.12
O & M Expenses	253.26	348.88	360.48	372.44	384.80
Total	1172.13	1652.93	1700.50	1717.11	1688.70

53. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, or any other kind of impositions etc. The same, if imposed shall be borne and additionally paid by the respondents. We have considered the submissions of the petitioner. The petitioner is entitled for late payment surcharge and FERV as per Regulations 45 and 50 respectively of the 2014 Tariff Regulations.

Filing fee and the publication expenses

54. 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

55. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We are of the view that 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.

Sharing of Transmission Charges

56. 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.

57. This order disposes of Petition No. 46/TT/2017.

sd/-

(M.K. Iyer)
Member

sd/-

(A.S. Bakshi)
Member

sd/-

(A.K. Singhal)
Member

sd/-

(Gireesh B. Pradhan)
Chairperson



Annexure
(₹ in lakh)

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN						
	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI (Oct-13 - Dec13)					
	Gross loan opening	1609.13	1609.13	1609.13	1609.13	1609.13
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	146.28	292.57
	Net Loan-Opening	1609.13	1609.13	1609.13	1462.85	1316.56
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	146.28	146.28	146.28
	Net Loan-Closing	1609.13	1609.13	1462.85	1316.56	1170.28
	Average Loan	1609.13	1609.13	1535.99	1389.70	1243.42
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	164.94	164.94	157.44	142.44	127.45
	Rep Schedule	22 semiannual installments from 31.8.2016				
2	SBI (2014-15)					
	Gross loan opening	443.15	443.15	443.15	443.15	443.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	443.15	443.15	443.15	443.15	443.15
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	443.15	443.15	443.15	443.15	443.15
	Average Loan	443.15	443.15	443.15	443.15	443.15
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	45.42	45.42	45.42	45.42	45.42
	Rep Schedule	20 half yearly equal installments from 15.6.2019				
3	Bond XLVIII					
	Gross loan opening	0.00	257.00	257.00	257.00	257.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	257.00	257.00	257.00	257.00
	Additions during the year	257.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	257.00	257.00	257.00	257.00	257.00
	Average Loan	128.50	257.00	257.00	257.00	257.00
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	10.54	21.07	21.07	21.07	21.07
	Rep Schedule	4 equal installment on 23.1.2020, 23.1.2022, 23.1.2025 and 23.1.2030				
4	Bond XLVII					
	Gross loan opening	0.00	427.00	427.00	427.00	427.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	427.00	427.00	427.00	427.00



	Additions during the year	427.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	28.29
	Net Loan-Closing	427.00	427.00	427.00	427.00	398.71
	Average Loan	213.50	427.00	427.00	427.00	412.86
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	19.07	38.13	38.13	38.13	36.87
	Rep Schedule	Redeemable in 12 equal annual installments from 20.10.2018				
5	Bond XLV					
	Gross loan opening	1600.00	1600.00	1600.00	1600.00	1600.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	133.33
	Net Loan-Opening	1600.00	1600.00	1600.00	1600.00	1466.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	133.33	133.33
	Net Loan-Closing	1600.00	1600.00	1600.00	1466.67	1333.33
	Average Loan	1600.00	1600.00	1600.00	1533.33	1400.00
	Rate of Interest	9.65%	9.65%	9.65%	9.65%	9.65%
	Interest	154.40	154.40	154.40	147.97	135.10
	Rep Schedule	Redeemable in 12 equal annual installments from 28.2.2018				
6	Bond XLVI					
	Gross loan opening	0.00	682.80	682.80	682.80	682.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	682.80	682.80	682.80	682.80
	Additions during the year	682.80	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	682.80	682.80	682.80	682.80	682.80
	Average Loan	341.40	682.80	682.80	682.80	682.80
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	31.75	63.50	63.50	63.50	63.50
	Rep Schedule	Redeemable at par in 3 equal installments on 4.9.2019, 4.9.2024 & 4.9.2029				
7	Bond L ADD CAP 2015-16					
	Gross loan opening	0.00	0.00	86.86	86.86	86.86
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	86.86	86.86	86.86
	Additions during the year	0.00	86.86	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	86.86	86.86	86.86	86.86
	Average Loan	0.00	43.43	86.86	86.86	86.86
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	3.65	7.30	7.30	7.30
	Rep Schedule	Redeemable in 12 equal annual installments from 27.5.2019				



8	BOND LI ADD CAP 2015-16					
	Gross loan opening	0.00	0.00	149.00	149.00	149.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	149.00	149.00	149.00
	Additions during the year	0.00	149.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	149.00	149.00	149.00	149.00
	Average Loan	0.00	74.50	149.00	149.00	149.00
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	6.26	12.52	12.52	12.52
	Rep Schedule	Redeemable in 12 equal annual installments from 14.9.2019				
	Total Loan					
	Gross loan opening	3652.28	5019.08	5254.94	5254.94	5254.94
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	146.28	425.90
	Net Loan-Opening	3652.28	5019.08	5254.94	5108.66	4829.04
	Additions during the year	1366.80	235.86	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	146.28	279.62	315.20
	Net Loan-Closing	5019.08	5254.94	5108.66	4829.04	4513.84
	Average Loan	4335.68	5137.01	5181.80	4968.85	4671.44
	Rate of Interest	9.828%	9.682%	9.645%	9.627%	9.610%
	Interest	426.11	497.37	499.78	478.35	448.90

