

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 267/TT/2015

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 29.03.2016

In the matter of:

Determination of transmission tariff for 400kV, Double Circuit Silchar-Purba Kanchanbari Transmission Line (charged at 132kV) along with its associated bays at Silchar (new) and Purba Kanchanbari (TSECL) Sub-station under "Transmission system associated with Pallatana GBPP and Bongaigaon TPS" for 2014-19 tariff period in North-Eastern Region 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. Assam Electricity Grid Corporation Limited,
(Formerly Assam State Electricity Board),
Bijulee Bhavan, Paltan Bazar,
Guwahati-781 001, Assam
2. Meghalaya Energy Corporation Limited,
(Formerly Meghalaya State Electricity Board),
Short Round Road, "Lumjingshai",
Shillong-793 001, Meghalaya
3. Government of Arunachal Pradesh,
Itanagar, Arunachal Pradesh
4. Power and Electricity Department,



Government of Mizoram,
Aizwal, Mizoram

5. Manipur State Electricity Distribution Company Limited,
(Formerly Electricity Department, Government of Manipur),
Keishampat, Imphal
6. Department of Power,
Government of Nagaland,
Kohima, Nagaland
7. Tripura State Electricity Corporation Limited,
Vidyut Bhawan, North Banamalipur,
Agartala, Tripura (W)-799 001 , Tripura
8. OTPC (ONGC Tripura Power Corporation Limited)
6th Floor, A Wing, IFCI Towers,
New Delhi – 110003
9. NTPC
NTPC Bhawan,
Scope Complex, Institutional Area,
Lodi road, New Delhi – 110003
Gangtok-737101

....Respondents

The following were present:-

For Petitioner: Shri S.S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Jasbir 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 400kV, Double Circuit Silchar-Purba Kanchanbari Transmission Line (charged at 132kV) along with its associated bays at Silchar (new) and Purba Kanchanbari (TSECL) Sub-station (“the



transmission assets”) under “Transmission system associated with Pallatana GBPP and Bongaigaon TPS” for 2014-19 tariff period in North-Eastern under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.8.2015 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 North Eastern Region.

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

(a) The investment approval of the project was accorded by Board of Directors of the petitioner company vide the Memorandum no. C/CP/Pallatana Bongaigaon dated 26.2.2010 with an estimated cost of ₹214400.00 lakh including IDC of ₹17835.00 lakh, at 3rd Quarter, 2009 price level. The approved apportioned cost for the instant asset is ₹26818.07 lakh. Further, RCE for the project was accorded by Board of Directors of the petitioner company vide memorandum C/CP/RCE: PB dated 29.1.2016 at an estimated cost of ₹293288.00 lakh including IDC of ₹38804.00 lakh based on October, 2015 price level. The revised apportioned cost for the instant asset as submitted vide affidavit dated 5.2.2016 is ₹48838.97 lakh.

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



The scope of work covered under the project “Transmission system associated with Pallatana GBPP and Bongaigaon TPS” in North-Eastern Region are as follows:-

Transmission Line

- a. Bongaigaon TPS - Bongaigaon 400kV D/C Line - 3 km
- b. Silchar-Badarpur (PG) Switching Station Interconnecting 132kV D/C line - 21 km
- c. Pallatana-Surajmaninagar (TSECL) 400kV D/C line (charged at 132 kV) - 35km.
- d. Silchar-Purba Kanchanbari (TSECL)400kV D/Cline(charged at 132kV) – 122km
- e. Silchar-Melriat (New) 400kV D/C Line (charged at 132kV) -160km
- f. Silchar-Imphal (New) 400kV D/C Line (charged at 132kV) – 140km
- g. Melriat (New)- Melriat (Mizoram) interconnecting 132kV DIC Line – 30km
- h. Silchar-Srikona (AEGCL) 132kV D/C Line - 3 km
- i. Silchar - Hailakandi (AEGCL) 132kV D/C line – 25km
- j. LILO of Loktak-Imphal (POWERGRID) 132kVS/C Line at Imphal (New) – 6km
- k. LILO of 400kVS/C Misa-Kathalguri Line at Mariani (New)(chrgd at 220kV)- 2km
- l. Mariani (New)-Mokokchung (POWERGRID) 220kV D/C Transmsn Line- 56km
- m. Mokokchung (PG)-Mokokchung (NG)132kVD/C line (with Zebra conductor) -1 km
- n. Pasighat-Roing 132kVS/C Line (on D/C Tower) – 70km
- o. Roing - Tezu 132kV S/C Line (on D/C Tower) – 60km
- p. Tezu - Namsai 132kV S/C Line (on D/C Tower) – 90km

Sub-station

- q. 2x200MVA, 400/132kV New Sub-station at Silchar
- r. 2x50MVA, 132/.33kV New Sub-station at Melriat (New) (upgradable to 400kV)
- s. 2x50MVA, 132/33kV New Sub-station at Imphal (New)
- t. 220kV New Switching Station at Mariani
- u. 2x50MVA, 220/132kV New Sub-stationat Mokokchung
- v. 2x15MVA, 132/33kV New Sub-stationat Roing
- w. 2x15MVA, 132/33kV New Sub-stationat Tezu



- x. 2x15MVA, 132/33kV New Sub-stationat Namsai
- y. Bongaigaon 400 kV Sub-stationExtension
- z. 132 kV Badarpur (PG) Sub-stationExtension
- aa. 132 kV Melriat (Mizoram) Sub-station Extension
- bb. 132 kV Mokokchung (NG) Sub-stationExtension
- cc. 132 kV Ziro (PG) Sub-stationExtension
- dd. 132 kV Pasighat (Gov of Arunachal) Sub-stationExtension
- ee. 132 kV Surajmaninagar (TSECL) Sub-stationExtension
- ff. 132 kV Purba Kanchan Bari (TSECL) Sub-stationExtension
- gg. 132 kV Hailakandi (AEGCL) Sub-stationExtension

(c) The transmission system was scheduled to be commissioned within 34 months from the date of Investment Approval in a progressive manner.

The scheduled date of commissioning of the transmission system was 27.12.2012. However, actual date of commissioning was 1.8.2015 with a delay of 31 months.

(d) The tariff was approved for the years and 2015-16 and 2016-17 for inclusion in PoC charges as per Regulation 7(7) of the 2014 Tariff Regulations vide its order dated 17.12.2015.

(e) The petitioner has claimed a capital cost of ₹37920.16 lakh as on DOCO (1.8.2015) and additional capital expenditure of ₹3598.18 lakh in 2014-19 tariff period.

(f) 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/objections have been received from the public in response to the notice published in newspaper. No submission has been made by the respondents. The



hearing in this matter was held on 14.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to determine the tariff in accordance with the Tariff Regulations, 2014.

(g) The petitioner has claimed the transmission charges as under:-

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	1381.53	2167.07	2191.15	2191.15
Interest on Loan	1641.19	2413.58	2240.59	2040.16
Return on Equity	1539.90	2415.69	2442.52	2442.52
Interest on Working Capital	113.08	173.52	171.13	166.94
O & M Expenses	145.82	225.94	233.44	241.23
Total	4821.52	7395.80	7278.83	7082.00

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

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M expenses	18.23	18.82	19.45	20.10
Maintenance Spares	32.81	33.89	35.02	36.18
Receivables	1205.38	1232.63	1213.14	1180.33
Total	1256.42	1285.35	1267.61	1236.62
Rate of Interest (%)	13.50	13.50	13.50	13.50
Total	113.08	173.52	171.13	166.94

4. The petitioner has submitted additional information vide affidavits dated 5.2.2016. The petitioner has submitted the revised cost estimates vide affidavit dated 5.2.2015 as follows:-

Approved apportioned cost(RCE)	Capital cost as on DOCO	Additional capital expenditure			Estimated completion cost
		2016-17	2017-18	Total	
48838.97	37920.16	2685.90	912.28	3598.18	41518.34



Date of Commercial Operation (“COD”)

5. The petitioner has claimed the date of the commercial operation of the instant transmission asset as 1.8.2015. 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
xxx”

6. The petitioner has submitted RLDC certificate, issued by NERLDC, POSOCO vide letter dated 5.8.2015 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 1.8.2015 and the tariff is worked out from 1.8.2015 to 31.3.2019.

Capital Cost

7. The petitioner, vide Auditor`s Certificate dated 14.10.2015, has claimed the capital cost as on COD ₹37920.16 lakh and additional capitalization of ₹2685.90 lakh and ₹912.28 lakh for the years 2015-16 and 2016-17.



8. 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.”

9. We have considered the submissions of the petitioner with regard to the capital cost. The capital cost of the transmission assets admitted as on COD



have been worked out in the subsequent paragraphs taking into consideration the time overrun, IEDC/IDC and initial spares allowed for the instant assets.

Time Over-run

10. As per the investment approval, the transmission assets were scheduled to be commissioned within 34 months of the sanction date i.e. on 26.2.2010, Hence the commissioning schedule works out to 27.12.2010 (SCOD). However, the transmission assets were commissioned on 1.8.2015. Thus, there is a time over-run of 31 months.

11. The petitioner has submitted following reasons for delay in commissioning of the asset:-

- a) **Statutory clearances:** Out of 128.766 km (approx.) of 400 kV D/C Silchar–Purba Kanchanbari transmission line 60 km line passes through reserve forest, dense forest area, highly disturbed area, which required number of clearance to be obtained before starting the work of construction of transmission line in these areas. The work in the forest area could not be commenced on time due to late receipt of forest clearance. Forest clearance proposal for the subject line was submitted to Government of Assam in July, 2010 (13.80 ha). For Tripura portion the forest clearance proposal was submitted in July, 2010. However, forest clearance of the line was accorded by MoEF (Central) only on 8.4.2013 (13.80 ha) for Assam portion and on 29.1.2013 (6.89 ha) for Tripura portion after 32 months of submission of proposal which



generally takes 10-14 months. This resulted in delay of about 18-22 months.

- b) **Right of Way:** The right of problems persisted almost till July, 2015. The line was commissioned in August, 2015 by resolving the RoW issues and diverting the route of the line from loc-56/0 locations. Mainly in Assam portion landowners have come forward in organized manner physically stopping works of the line in numerous occasions and demanding exorbitantly high compensation. There were number of occasions of physical violence towards the personnel of the petitioner and contractor at site. Though security was provided by Government, the same was not found to be effective. Due to frequent stoppage of works, gangs deployed by the contractor had to remain idle for days due to RoW problems at locations. Mobilization and demobilization of gangs slows down the work and also leads to contractual issues.
- c) **Critical weather conditions:** There was high flood during 2011 and 2012 and the flood levels in the Barak Valley (Assam) were higher than usual and road communication was severely affected. These floods affected transportation of materials as well as the erection works.

12. Regulation 12 of the 2014 Tariff Regulations, provides as follows:-

12. Controllable and Uncontrollable factors: The following shall be considered as controllable and uncontrollable factors leading to cost escalation impacting Contract Prices, IDC and IEDC of the project :

(1) The “controllable factors” shall include but shall not be limited to the following:

(a) Variations in capital expenditure on account of time and/or cost over-runs on account of land acquisition issues;



- (b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
 - (c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.
- (2) The “uncontrollable factors” shall include but shall not be limited to the following:
- (i) Force Majeure events; and
 - (ii) Change in law.

Provided that no additional impact of time overrun or cost over-run shall be allowed on account of non-commissioning of the generating station or associated transmission system by SCOD, as the same should be recovered through Implementation Agreement between the generating company and the transmission licensee:

Provided further that if the generating station is not commissioned on the SCOD of the associated transmission system, the generating company shall bear the IDC [and IEDC] 6 or transmission charges if the transmission system is declared under commercial operation by the Commission in accordance with second proviso of Clause 3 of Regulation 4 of these regulations till the generating station is commissioned:

Provided also that if the transmission system is not commissioned on SCOD of the generating station, the transmission licensee shall arrange the evacuation from the generating station at its own arrangement and cost till the associated transmission system is commissioned."

13. We have considered the submissions of the petitioner and the documentary evidence submitted to justify the time over-run. The investment approval for the instant asset was granted on 26.2.2010. The petitioner submitted the proposal for forest clearance in July, 2010 and MoEF accorded forest clearance on 8.4.2013 for Assam portion and on 29.1.2013 for Tripura portion i.e. after 32 months of submission of proposal. We are of the view that the time taken for obtaining the forest clearance is beyond the control of the petitioner and not attributable to the petitioner.



14. As regards ROW issues, the petitioner has submitted the documents with respect to the action taken to resolve the ROW issues. The petitioner has placed on record the FIR`s filed by the petitioner with the police. The petitioner has filed the last FIR on 18.6.2015. Based on these documents it is evident that there were severe ROW issue in the region and the petitioner has perused the matter diligently to resolve the same.

15. The petitioner has also submitted the meteorological data during southwest monsoon season in 2011, 2012 and 2013 along with various flood reports, media reports and damage reports prepared by the field offices on monthly basis for various states in the region to show that rains delayed the commissioning of the asset. We have considered the submissions of the petitioner and are of the view that there were heavy rains and floods during 2011 to 2013.

16. We have considered the submissions of the petitioner. As per Regulation 12 (1) of the 2014 Tariff Regulations, time and cost over-runs due to land acquisition issues are controllable factors as stated below:-

“(1) The “controllable factors” shall include but shall not be limited to the following:

- a) Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;
- b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
- c) Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.”



17. However the force majeure events are classified as uncontrollable factors as per the Regulation 12 (2) (i) of the 2014 Tariff Regulations.

18. In the instant case, the forest clearance, RoW are not within the control of the petitioner and it is a force majeure event. We are of the view that the time over-run due to ROW problems and statutory clearance is not attributable to the petitioner. Therefore, the time over-run of 31 months in the instant case is condoned.

IDC and IEDC

19. The petitioner has submitted the IDC and IEDC upto COD as ₹5511.03 lakh and ₹2282.78 lakh respectively and the same is certified by the Auditor's Certificate dated 14.10.2015. Further the petitioner has submitted the statement showing the IDC discharged upto COD wherein out of total IDC of ₹5511.03 lakh, ₹5087.73 lakh and IEDC of ₹ 2282.78 lakh has been discharged upto COD. Remaining IDC of ₹423.30 lakh has been discharged in 2015-16. We have considered the submission of the petitioner and the capital cost of ₹37496.86 lakh as on COD, after deducting IDC of ₹423.30 lakh, has been considered for determination of tariff for the 2014-19 tariff period.

20. The petitioner has submitted the IDC and IEDC amount on cash basis as on COD and balance IDC and IEDC to be discharged thereafter as under:-



(₹ in lakh)

Details of IDC and IEDC		
Period	IDC	IEDC
Up to COD 1.8.2015	5087.73	2282.78
To be discharged during 2015-16	423.30	0
Total	5511.03	2282.78

The IDC and IEDC on cash basis have been included in the capital cost.

21. The capital cost as on COD is as follows:-

(₹ in lakh)

Capital cost (As per Auditor's Certificate dated 14.10.2015)	IDC and IEDC not discharged till COD (cash basis)	Capital cost as on COD (Cash basis)
37920.16	423.30	37496.86

Initial Spares

22. The petitioner has claimed initial spares of ₹199.49 lakh for the transmission asset as submitted vide Auditor's Certificate dated 14.10.2015. The details of initial spares claimed by the petitioner and allowed as per 2014 Tariff Regulations are as follows:-

(₹ in lakh)

Particulars	Transmission line	Sub-station	PLCC
Capital cost(plant and machinery cost excluding IDC and IEDC, land and civil works cost)	29707.87	383.51	34.97
Additional capital expenditure 2015-16	2595.37	85.59	4.94
Additional capital expenditure 2016-17	889.28	23.00	-
Additional capital expenditure 2017-19	-	-	-
Total	33192.52	492.1	39.91
Initial spares claimed	199.49	23.00	-



Particulars	Transmission line	Sub-station	PLCC
Norms (%)	1%	6%	3.5%
Initial Spares worked out as per norms	333.26	29.94	-
Excess Initial Spares	0.00	0.00	

23. The initial spares claimed are within the ceiling norms as per Regulation 13 (d) of 2014 Tariff Regulations. The capital cost as on COD considered for the purpose of computation of tariff is as follows:-

(₹ in lakh)	
Particulars	Amount
Capital cost as on COD (Cash basis)	37496.86
IDC and IEDC disallowed	0.00
Excess initial spares	0.00
Capital cost as on COD considered for tariff determination	37496.86

Additional Capital Expenditure

24. 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.

25. 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;”

26. The cut-off date of the transmission asset is 31.3.2018. The petitioner has proposed additional capitalization of ₹2685.90 lakh and ₹912.28 lakh for the years 2015-16 and 2016-17 respectively towards balance and retention payment under Regulation 14(1) (i) of the 2014 Tariff Regulations.

27. The IEDC & IDC disallowed from the capital cost of the transmission asset as on COD as mentioned in Para No. 20 has been considered as additional capital expenditure during 2015-16.

28. Accordingly, additional capitalization of ₹2685.90 lakh and ₹912.28 lakh is within the cut-off dated and it is allowed under Regulation 14(1) (i) of 2014 Tariff Regulations as mentioned below subject to true up on actual basis:-



(₹ in lakh)

Approved apportioned cost(RCE)	Capital cost as on DOCO	Additional Capital Expenditure			Estimated completion cost on 31.3.2019
		2015-16	2016-17	Total	
48838.97	37496.86* (37920.16-423.30)	3109.20** (2685.90+423.30)	912.28	4021.48	41518.34

* IDC of ₹423.30 lakh not discharged as on COD, hence reduced from capital cost.

** IDC of ₹423.30 lakh added as it is discharged on 2015-16

Debt:Equity Ratio

29. 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.”

30. The petitioner has considered the debt: equity ratio of 70.00:30.00, which is in line with the 2014 Tariff Regulations, hence same is considered for calculation of tariff. We have considered debt:equity ratio of 70.00:30.00 for additional capitalization during 2015-16 and 2016-17. The details of the debt:equity as on the date of COD i.e. 1.8.2015 and 31.3.2019 considered for the purpose of tariff computation for the 2014-19 tariff period is as follows:-

(₹ in lakh)

Asset	As on 1.8.2015		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	26247.80	70.00	2815.04	70.00	29062.84	70.00
Equity	11249.06	30.00	1026.44	30.00	12455.50	30.00
Total	37496.86	100.00	4021.48	100.00	41518.34	100.00



Interest on Loan (“IOL”)

31. 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.”

32. We have considered the weighted average rate of IOL on the basis of rate prevailing as on COD. 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)

Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Gross Normative Loan	26247.80	28424.24	29062.84	29062.84
Cumulative Repayment upto Previous Year	0.00	1374.08	3541.15	5732.30
Net Loan-Opening	26247.80	27050.16	25521.69	23330.54



Interest on Loan	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Additions	2176.44	638.60	0.00	0.00
Repayment during the year	1374.08	2167.07	2191.15	2191.15
Net Loan-Closing	27050.16	25521.69	23330.54	21139.38
Average Loan	26648.98	26285.93	24426.11	22234.96
Weighted Average Rate of Interest on Loan (%)	9.1880%	9.1846%	9.1757%	9.1785%
Interest on Loan	1632.34	2414.26	2241.27	2040.84

Return on Equity("ROE")

33. Clause (1) and (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

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."



34. The petitioner has claimed ROE at the rate of 19.61% after grossing up the ROE of 15.5% with MAT rate as per the above said Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

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. 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)

Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	11249.06	12181.82	12455.50	12455.50
Additions	932.76	273.68	0	0
Closing Equity	12181.82	12455.5	12455.5	12455.5
Average Equity	11715.44	12318.66	12455.5	12455.5
Return on Equity (Base Rate)	15.500	15.500	15.500	15.500
MAT rate for the respective year	20.961	20.961	20.961	20.961



Return on Equity	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Rate of Return on Equity	19.610	19.610	19.610	19.610
Return on Equity	1531.60	2415.69	2442.52	2442.52

Depreciation

36. 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."

37. 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"



38. The weighted average useful life of the asset has been considered as 35 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	37496.86	40606.06	41518.34	41518.34
Additional Capitalisation	3109.20	912.28	-	-
Closing Gross Block	40606.06	41518.34	41518.34	41518.34
Average Gross Block	39051.46	41062.20	41518.34	41518.34
Freehold Land (Av. Cost)	-	-	-	-
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	35146.31	38355.12	37777.03	37366.51
Balance useful life of the asset	35	34	33	32
Elapsed life	-	1	2	3
Remaining Depreciable Value	35146.31	35581.90	33825.36	31634.20
Depreciation during the year	1374.08	2167.07	2191.15	2191.15
Depreciation upto previous year	0.00	1374.08	3541.15	5732.30
Cumulative depreciation	1374.08	3541.15	5732.30	7923.46

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

39. The instant petition covers one 400 kV D/C Transmission line of 128.766 KM and 4 bays of 132 kV voltage level. Regulation 29(3)(a) of the 2014 Tariff Regulations specifies the following norms for O&M Expenses for a 132 kV bay:-

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Norm (₹ lakh/bay)				
132 kV	41.53	64.37	66.51	68.71
Transmission Line (₹ lakh/Km)				
400kV D/C Twin Conductor	0.487	0.755	0.780	0.806

40. 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.

41. 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.

42. The petitioner has claimed O&M Expenses as specified in sub-clause (a) of clause (3) of Regulation 29 of the 2014 Tariff Regulations. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)

Asset	Year			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
132 kV bay (4 No.)	83.07	128.72	133.00	137.44
400 kV Transmission Line (128.766 km)	62.75	97.22	100.44	103.79
Total	145.82	225.94	233.44	241.23

Interest on Working Capital (“IWC”)

43. 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).

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

(₹ in lakh)				
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	18.22	18.82	19.45	20.09
Maintenance Spares	32.81	33.89	35.02	36.18
Receivables	1199.09	1232.75	1213.25	1180.45
Total Working Capital	1250.12	1285.46	1267.72	1236.73
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	112.51	173.54	171.14	166.96

Annual Transmission Charges

45. 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	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Gross Block	37496.86	40606.06	41518.34	41518.34
Additional Capitalisation	3109.20	912.28	0.00	0.00
Closing Gross Block	40606.06	41518.34	41518.34	41518.34
Average Gross Block	39051.46	41062.20	41518.34	41518.34
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	35146.31	38355.12	37777.03	37366.51
Balance Useful life of the asset	35	34	33	32
Elapsed Life	0	1	2	3
Remaining Depreciable Value	35146.31	35581.90	33825.36	31634.20
Depreciation	1374.08	2167.07	2191.15	2191.15
Cumulative depreciation	1374.08	3541.15	5732.30	7923.46
Interest on Loan				
Gross Normative Loan	26247.80	28424.24	29062.84	29062.84
Cumulative Repayment upto Previous Year	0.00	1374.08	3541.15	5732.30
Net Loan-Opening	26247.80	27050.16	25521.69	23330.54
Additions	2176.44	638.60	0.00	0.00
Repayment during the year	1374.08	2167.07	2191.15	2191.15
Net Loan-Closing	27050.16	25521.69	23330.54	21139.38
Average Loan	26648.98	26285.93	24426.11	22234.96
Weighted Average Rate of Interest on Loan (%)	9.1880	9.1846	9.1757	9.1785
Interest	1632.34	2414.26	2241.27	2040.84
Return on Equity				
Opening Equity	11249.06	12181.82	12455.50	12455.50
Additions	932.76	273.68	0.00	0.00
Closing Equity	12181.82	12455.50	12455.50	12455.50
Average Equity	11715.44	12318.66	12455.50	12455.50
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
MAT rate for the respective year %)	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610
Return on Equity	1531.60	2415.69	2442.52	2442.52
Interest on Working Capital				
O & M expenses	18.22	18.82	19.45	20.09
Maintenance Spares	32.81	33.89	35.02	36.18
Receivables	1199.09	1232.75	1213.25	1180.45
Total	1250.12	1285.46	1267.72	1236.73
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on working capital	112.51	173.54	171.14	166.96
Annual Transmission Charges				
Depreciation	1374.08	2167.07	2191.15	2191.15
Interest on Loan	1632.34	2414.26	2241.27	2040.84
Return on Equity	1531.60	2415.69	2442.52	2442.52
Interest on Working Capital	112.51	173.54	171.14	166.96



Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O & M Expenses	145.82	225.94	233.44	241.23
Total	4796.35	7396.50	7279.52	7082.70

Filing Fee and Publication Expenses

46. 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

47. 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

48. 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

49. 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.

50. This order disposes of Petition No. 267/TT/2015.

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

Sd/-
(A.S. Bakshi)
Member



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

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on COD	Additions during the tariff period	Total
BONDS XXXIII	8.64%	400.00	0.00	400.00
BOND XXXIV	8.84%	650.00	0.00	650.00
BOND XXXV	9.64%	52.00	0.00	52.00
BOND XXXVI	9.35%	1000.00	0.00	1000.00
BOND XXVII	9.25%	6316.00	0.00	6316.00
BOND XL	9.30%	2000.00	0.00	2000.00
SBI (21.03.2012) - CHILD 1	9.95%	2176.00	0.00	2176.00
BOND XLII	8.80%	718.00	0.00	718.00
BOND XLIII - CHILD 1	7.93%	500.00	0.00	500.00
BOND XLV	9.65%	3575.00	0.00	3575.00
BOND XLIV - CHILD 1	8.70%	4200.00	0.00	4200.00
BOND XLVI	9.30%	1000.00	0.00	1000.00
BOND XLVII	8.93%	1000.00	0.00	1000.00
BOND XLVIII	8.20%	728.93	0.00	728.93
SBI 10000 (01.05.2014)	10.10%	1000.00	0.00	1000.00
Proposed Loan 2015-16 10.10%	8.40%	828.18	0.00	828.18
Bond XXXI	8.90%	400.00	0.00	400.00
Total		26544.11	0.00	26544.11



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

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	26544.11	26544.11	26544.11	26544.11
Cumulative Repayments of Loans upto Previous Year	37.66	651.49	1734.14	3156.38
Net Loans Opening	26506.45	25892.62	24809.97	23387.73
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	613.83	1082.65	1422.24	2822.24
Net Closing Loan	25892.62	24809.97	23387.73	20565.49
Average Net Loan	26199.54	25351.30	24098.85	21976.61
Rate of Interest on Loan (%)	9.1880	9.1846	9.1757	9.1785
Interest on Loan	2407.22	2328.42	2211.24	2017.13

