

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 137/TT/2015

Coram:

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

Date of Hearing : 14.03.2016

Date of Order : 28.03.2016

In the matter of:

Determination of transmission tariff for LILO of 2nd Ckt. of 400 kV Nathpa Jhakri-Nalagarh (Triple Snowbird) Line at Rampur under Transmission System associated with Rampur HEP in Northern Region for 2014-19 Tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.

And in the matter of:

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

.....**Petitioner**

Versus

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



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



16. North Central Railway
Allahabad

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

....Respondents

The following were present:-

For Petitioner: Smt. Sangeeta Edwards, PGCIL
Shri S.S. Raju, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Jashbir Singh, PGCIL
Shri Aryaman Saxena, PGCIL
Shri M.M. Mondal, PGCIL

For Respondent: Shri Manoj Kumar Sharma, Advocate, Rajasthan Discoms
Shri Pradeep Mishra, Advocate, Rajasthan Discoms

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("the petitioner") for determination of tariff for LILO of 2nd Ckt. of 400 kV Nathpa Jhakri-Nalagarh (Triple Snowbird) Line at Rampur under Transmission System associated with Rampur HEP in Northern Region (herein referred as "the transmission asset") for 2014-19 Tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for the period from 20.10.2014 to 31.3.2019.



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

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

(a) The investment approval for the project was accorded by Board of Directors of the petitioner company vide memorandum no. C/CP/Rampur HEP/14 dated 20.2.2009 at an estimated cost of ₹18419 lakh, which included IDC of ₹1416 lakh. Further, RCE for the project was accorded by Board of Directors of the petitioner company vide memorandum C/CP/TS for Rampur HEP dated 11.3.2016 at an estimated cost of ₹17027 lakh including IDC of ₹1183 lakh.

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

Transmission Line:

- i) Patiala-Ludhiana 400 kV D/C Line-78 km.
- ii) LILO of 400 kV D/C NapthaJhakri-Nalagarh (Triple Snowbird) line at Rampur- 4 km.
- iii) LILO of Patiala-Hisar 400 kV (Triple Snowbird) line at Kaithal-33 km.

Sub-station:

- i) Patiala 400/220 kV (POWERGRID) Sub-station (Extension)
- ii) Ludhiana 400/220 kV (POWERGRID) Sub-station (Extension)
- iii) Kaithal 400/220 kV (POWERGRID) Sub-station (Extension)



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

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	8.73	21.76	24.83	26.37	26.37
Interest on Loan	10.43	24.54	26.15	25.65	23.19
Return on Equity	9.59	24.03	27.47	29.19	29.19
Interest on Working Capital	0.68	1.66	1.84	1.91	1.85
O&M Expenses	0.29	0.67	0.69	0.71	0.74
Total	29.72	72.66	80.98	83.83	81.34

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

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.10	0.10	0.10	0.11	0.11
O & M Expenses	0.05	0.06	0.06	0.06	0.06
Receivables	11.03	12.11	13.5	13.97	13.56
Total	11.18	12.27	13.66	14.14	13.73
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	0.68	1.66	1.84	1.91	1.85

6. The Annual Fixed Charges for the instant asset was allowed under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC charges vide order dated 7.7.2015. The petitioner has submitted additional information vide affidavits dated 10.3.2016 and 11.3.2016. The petitioner has submitted the revised tariff forms vide affidavit dated 10.3.2016 along with the Auditor's Certificate dated 4.12.2015.



7. The petitioner has served the petition to the respondents and notice of this application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003 ("the Act"). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 14.3.2016. Rajasthan Discoms during the hearing sought time to file the reply to the petition and they were granted time till 18.3.2016 to file reply. However, Rajasthan Discoms have not filed their reply within the stipulated time. BSES Rajdhani Power Limited (BRPL) has filed the reply vide affidavit dated 4.6.2015 and the petitioner has filed the rejoinder vide affidavit dated 23.3.2016. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

Commercial Operation Date ("COD")

8. The petitioner has claimed the date of the commercial operation of the instant transmission asset as 20.10.2014. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:-

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

xxx

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

xxx"



9. The petitioner has submitted RLDC certificate issued by NRLDC, POSOCO vide letter dated 24.11.2014 in support of the successful trial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations for claiming commercial operation date. Accordingly, the commercial operation date of the transmission asset has been considered as 20.10.2014 and the tariff is worked out from 20.10.2014 to 31.3.2019.

Capital Cost

10. The petitioner has claimed capital cost of ₹339.84 lakh as on COD in the petition. Later, vide affidavit dated 10.3.2016, the petitioner has claimed revised capital cost of ₹348.64 lakh as on 20.10.2014 along with the revised tariff forms. The petitioner has also submitted the Auditor's Certificate dated 4.12.2015 certifying the capital cost claimed.

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

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

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

- a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
- b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
- c) Increase in cost in contract packages as approved by the Commission;
- d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;



- e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;
- f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;
- g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and
- h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.”

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

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

Time over-run

12. As per the investment approval, the commissioning schedule of the project is 33 months from the date of investment approval. The investment approval was accorded on 20.2.2009. Accordingly, the schedule date of commercial operation was 19.11.2011 against which the asset was commissioned on 20.10.2014. Hence, there is a time over-run of 35 months in commissioning of the asset. The reasons submitted by the petitioner for delay are discussed in subsequent paras.

Delay in commissioning of the Rampur HEP

13. The petitioner has submitted that during 29th Meeting of Standing Committee on Transmission System Planning of Northern Region held on 29.12.2010, it was agreed that LILO of Nathpa Jhakri - Nalagarh 400 kV D/C line



at Rampur would be commissioned, matching with the commissioning schedule of Rampur HEP. Further, petitioner has submitted that as per minutes issued on 16.12.2010 for 17th meeting of TCC and 18th meeting of NRPC, commissioning schedule of Rampur HEP was revised to September, 2013 from March, 2012. SJVNL, vide letter dated 31.10.2013, has mentioned that commissioning date of first unit was revised to February, 2014 and remaining units by April, 2014. The same matter was also discussed by the Ministry of Power in the meeting on 31.1.2014 and the revised date of commissioning was taken February, 2014. Rampur HEP was getting delayed hence LILO of Natpha Jhakri - Nalagarh at Rampur HEP was delayed to match generation.

Delay in Forest Clearance:

14. The petitioner has further submitted that the delay in commissioning of the asset was also due to delay in the forest clearance in Anni Division (area=12.5924 hectare) and Rampur Division (area=0.8589 hectare). As regards the land in Anni division, the proposal was submitted to forest division on 15.6.2011 and the clearance for Stage-I was obtained on 13.2.2013 and the clearance for stage-II was obtained on 3.4.2013.

Court case at one location

15. The petitioner submitted that stay order was imposed by High Court on loc AP-10 (in) on 27.12.2012 and it was cleared on 22.10.2013 i.e. total time taken was 10 months. Therefore, works could not be executed on the location before clearance of court case.



ROW problems

16. The petitioner submitted that at loc AP-2 (out) & AP-3 (out): Locs AP- 2 (out) & AP-3 (out) have been under ROW. The petitioner approached the villagers vide letter dated 20.10.2011. However, there was a stiff resistance from the villagers of Nirsu while execution of the foundation works. The issue was taken up to various levels Deputy Commissioner, Principal Secretary (Power) Government of Himachal Pradesh. The matter was discussed with higher authorities up to Chief Minister. The Office Order was issued by District Magistrate, Shimla on 23.11.2013 to allow the petitioner to place the line as per the Indian Telegraph Act. The petitioner submitted that to resolve RoW issues at locations AP-2 out and AP-3 out, it took them 19 months from 25.6.2011 to 2.2.2014. Due to the stiff resistance of the villagers the foundation work at this location could be resumed on 2.2.2014 by involving higher authorities.

Shutdown of lines

17. The petitioner has submitted that in a span AP-2 out to AP-3 out there was crossing of 220 kV transmission line of HPSEB linked to the generation of 120 MW Bhabha Hydro Electric Plant. For the shutdown of this line the petitioner submitted the shutdown request on 25.4.2014 and on was given by HPSEBL from 23.7.2014 to 24.7.2014 i.e. after a period of 2 months. Further, in the span AP-1 out to AP-2 out there was a crossing of 66 kV line of HPSEBL, on which the water supply of the complete Shimla city is dependent. As there was no alternative to this, the shutdown of 66 kV line could not be arranged till an



alternate was made available by HPSEBL. The shutdown request for this 66 kV line was given on 16.6.2014 and was approved from 12.8.2014 to 14.8.2014 i.e. almost after 2 months only then the stringing of the span AP-1 out to AP-2 out was completed on 14.8.2014. For the final tapping of the LILO line with the already existing 400 kV D/C Jhakri-Nalagarh transmission line, the shutdown of 400 kV D/C Jhakri-Nalagarh transmission line was required. NRLDC and SJVNL refused to give the shutdown in the peak season. The shutdown request for this 400 kV D/C line was given on 25.4.2014 and was approved on 18.10.2014 i.e. almost after 5 months. Therefore, the total time involved in getting approval for shutdown was almost 6 months from 25.4.2014 to 18.10.2014.

Other Reasons for delay

18. The petitioner has submitted various other reasons like tough hilly terrain, huge volume of benching, accessibility of locations from road and minimal use of machinery. The petitioner has also submitted site photographs.

As regards the time over-run, there is delay of 35 months in commissioning of the instant asset. The petitioner has submitted documents indicating the detailed chronology of events.

19. We have considered the submissions of the petitioner. The petitioner has submitted that the time over-run in case of the instant assets was due to delay in obtaining forest clearance, court case, RoW issues, delay in getting shutdowns, tough terrain and delay in commissioning of Rampur HEP. The commissioning of the Rampur HEP was revised to February, 2014 and the petitioner has tried to



match the commissioning of the instant asset with the commissioning of Rampur HEP. The delay in obtaining forest clearance, court cases and RoW issues has been subsumed by the delay in commissioning of the Rampur HEP. No purpose would be served by commissioning the instant asset without the commissioning of Rampur HEP and hence the petitioner was right in trying to match the commissioning of the instant asset with the commissioning Rampur HEP. Similar view was adopted by the Commission in case of the 1st ckt. Of 400 kV Natpha Jhakri-Nalagarh Line in order dated 25.8.2015 in Petition No. 288/TT/2013 order dated 25.8.2015 in Petition No. 288/TT/2013. Accordingly, the time over-run in case of the instant asset upto commissioning of first unit of Rampur HEP, i.e. 12.5.2014 is condoned.

20. The delay from 12.5.2014 to 18.10.2014 is due to delay in getting the approval for the shutdown of the line for the purpose of line crossing and final tapping of the LILO line and it cannot be attributed to the petitioner. Therefore, the delay from 12.5.2014 to 18.10.2014 is also condoned. In view of above, the transmission charges have been worked out by capitalizing IDC and IEDC for entire delay period.

Cost over-run

21. The petitioner has submitted that cost variation is due to variation in award cost received in competitive bidding. Due to site conditions there is increase in tower steel, erection, stringing and civil works cost including foundation. The petitioner has also submitted the RCE vide affidavit dated 11.3.2016. BRPL submitted that the reasons mentioned for cost variations in Form 5 are very



casual reasons and the cost over-run is mainly due to cost escalation owing to the delayed completion of the transmission project. In response, the petitioner vide affidavit dated 23.3.2016, has submitted that the price variation is attributable to the inflationary trend and market forces prevailing during execution of project and has also submitted the trend of variation in indices of various major raw materials. Further, the petitioner submits that the contracts for various packages were awarded to the lowest evaluated and responsive bidder, on the basis of competitive bidding. The petitioner has also submitted that the line length, type of various towers and foundations were estimated on the basis of walk-over/preliminary survey at the time of preparation of FR. However, the same has been considered as per actual requirement on the basis of detailed survey during execution of the project. The cost variation is beyond the petitioner's control and accordingly the cost variation is allowed.

22. We have considered the capital cost of ₹348.64 lakh as on 20.10.2014 for determination of tariff for the 2014-19 tariff period.

23. The petitioner has not claimed any initial spares for the transmission asset. Accordingly, we have not allowed any initial spares for the instant transmission asset.

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:

Undischarged liabilities recognised to be payable at a future date;

(i) Works deferred for execution;

(ii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

(iv) 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 in the case of instant transmission assets is 31.3.2017.



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

(₹ in lakh)						
Approved cost as per FR	Approved cost as per RCE	Capital cost as on COD	Additional capitalization			Total estimated completion cost
			2014-15	2015-16	2016-17	
314.16	499.57	348.64	28.68	58.24	58.24	493.80

28. The petitioner has proposed additional capitalization of ₹28.68 lakh, ₹58.24 lakh and ₹58.24 lakh for the years 2014-15, 2015-16 and 2016-17 respectively towards balance and retention payment under Regulation 14(1)(i) of 2014 Tariff Regulations. It is observed that total estimated completion cost of ₹493.80 lakh including the additional capitalization of ₹28.68 lakh, ₹58.24 lakh and ₹58.24 lakh is within the approved apportioned cost of ₹499.57 lakh. Further, additional capitalization proposed by the petitioner is within the cut-off date and accordingly it is allowed under Regulation 14(1)(i) of 2014 Tariff Regulations.

Cost as per revised Investment Approval is ₹499.57 lakh							
Capital cost as on 20.10.2014 (COD)	Additional capitalisation projected					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2019
	2014-15	2015-16	2016-17	2017-18	2018-19		
348.64	28.68	58.24	58.24	0.00	0.00	145.16	493.80

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:

- 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.”

30. The petitioner has claimed normative debt:equity ratio as 70:30 as on COD. We have considered debt:equity ratio of 70:30 as on COD and for additional capitalization during 2014-15, 2015-16 and 2016-17. The details of the debt:equity as on the date of COD, i.e 20.10.2014 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 20.10.2014		Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	244.05	70.00	101.62	70.00	345.67	70.00
Equity	104.59	30.00	43.54	30.00	148.13	30.00
Total	348.64	100.00	145.16	100.00	493.80	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 1.4.2014. Further, the petitioner has prayed to allow it to bill and adjust impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period, if any from the respondents. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The petitioner’s prayer to bill and adjust the impact on interest on loan due to change in interest rate on account of floating rate of interest applicable during 2014-19 period from the respondents will be considered at the time of truing up. The details of weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out as follows:-

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross loan opening	244.05	264.13	304.90	345.67	345.67
Cumulative Repayment upto previous year	0.00	8.69	30.44	55.27	81.64
Net Loan-Opening	244.05	255.44	274.45	290.39	264.03
Additions during the year	20.08	40.77	40.77	0.00	0.00
Repayment during the year	8.69	21.75	24.83	26.37	26.37
Net Loan-Closing	255.44	274.45	290.39	264.03	237.66
Average Loan	249.74	264.94	282.42	277.21	250.84
Rate of Interest (%)	9.3038	9.2606	9.2597	9.2537	9.2467
Interest	10.38	24.54	26.15	25.65	23.19



Return on Equity("ROE")

33. Clause (1) & (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:

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 19.610% for 2014-15 and 19.705% for 2015-16 to 2018-19 after grossing up the ROE of 15.5% with MAT rate of 20.96% for 2014-15 and 21.34% for 2015-16 to 2018-19. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-



recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

35. 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.

36. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. The ROE allowed for the instant transmission asset is given below:-

(₹ in lakh)					
Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	104.59	113.19	130.66	148.13	148.13
Additional Capitalization	8.60	17.47	17.47	0.00	0.00
Closing Equity	113.19	130.66	148.13	148.13	148.13
Average Equity	108.89	121.93	139.40	148.13	148.13
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
Tax rate for the year (%)	20.961	20.961	20.961	20.961	20.961



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	9.54	23.91	27.34	29.05	29.05

Depreciation

37. 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.”

38. 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 pumpedStorage hydro generating stations
35 years
(e) Transmission line (including HVAC & HVDC) 35 years
(f) Communication system 15 years”

39. The petitioner has claimed depreciation considering capital expenditure of ₹348.64 lakh as on 20.10.2014 with additional capitalization of ₹28.68 lakh, ₹58.24 lakh and ₹58.24 lakh for the 2014-15, 2015-16 and 2016-17 respectively.

40. We have considered the submissions of the petitioner and have computed depreciation considering capital expenditure of ₹348.64 lakh as on 20.10.2014 with additional capitalization of ₹28.68 lakh, ₹58.24 lakh and ₹58.24 lakh for the 2014-15, 2015-16 and 2016-17 respectively. The weighted average useful life of the asset has been considered as 33 years in accordance with the above regulation. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15(pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Gross block	348.64	377.32	435.56	493.80	493.80
Additional Capitalization	28.68	58.24	58.24	0.00	0.00
Closing Gross block	377.32	435.56	493.80	493.80	493.80
Average Gross block	362.98	406.44	464.68	493.80	493.80
Rate of Depreciation (%)	5.361	5.352	5.343	5.339	5.339
Depreciable Value	326.68	365.80	418.21	444.42	444.42
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	33	32	31	30	29
Remaining Depreciable Value	326.68	357.11	387.77	389.15	362.78
Depreciation	8.69	21.75	24.83	26.37	26.37



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

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

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Norm (Rs. lakh/km)					
Double Circuit (Twin & Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Line (kms)					
400 kV D/C LOLO of 2 nd Ckt of Nathpa-Jhakri Nalagarh line at Rampur	0.915	0.915	0.915	0.915	0.915
Total O&M expense (Line) (₹ lakh)	0.29	0.67	0.69	0.71	0.74

42. BRPL submitted that the increase in the employee cost, if any, due to wage revision must be taken care by improvement in their productivity levels so that the beneficiaries are not unduly burdened. In response, the petitioner vide affidavit dated 23.3.2016 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.



43. BRPL has submitted that there is no provisions in 2014 Tariff Regulations for payment of levies, duties, cess, or any other statutory taxes etc. as these charges are generally included in the O&M expenses and respondents however are already paying as part of tariff towards tax on income etc. as per 2014 Tariff Regulations. In response the petitioner submitted that the Transmission Charges and other related Charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee, RLDC fees and charges or any other kind of imposition(s) and/ or other surcharges etc., whatsoever imposed/ charged by any Government (Central/State) and/ or any other local bodies/authorities/regulatory authorities in relation to transmission of electricity, environmental protection, and/or in respect of any of its installation associated with the transmission system and the same shall be borne and additionally paid by the respondent(s) to the petitioner and the same shall be charged, billed separately by the petitioner on the respondents.

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

Interest on Working Capital (“IWC”)

45. 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).

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

Particulars	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	0.04	0.10	0.10	0.11	0.11
O & M expenses	0.02	0.06	0.06	0.06	0.06
Receivables	4.93	12.09	13.47	13.95	13.53
Total	4.99	12.24	13.64	14.11	13.71
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	0.67	1.65	1.84	1.91	1.85



Annual Transmission Charges

47. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	348.64	377.32	435.56	493.80	493.80
Additional Capitalization	28.68	58.24	58.24	0.00	0.00
Closing Gross Block	377.32	435.56	493.80	493.80	493.80
Average Gross Block	362.98	406.44	464.68	493.80	493.80
Depreciation					
Rate of Depreciation (%)	5.361	5.352	5.343	5.339	5.339
Depreciable Value	326.68	365.80	418.21	444.42	444.42
Elapsed Life of the assets at beginning of the year	0	1	2	3	4
Weighted Balance Useful life of the assets	33	32	31	30	29
Remaining Depreciable Value	326.68	357.11	387.77	389.15	362.78
Depreciation	8.69	21.75	24.83	26.37	26.37
Interest on Loan					
Gross Normative Loan	244.05	264.13	304.90	345.67	345.67
Cumulative Repayment upto Previous Year	0.00	8.69	30.44	55.27	81.64
Net Loan-Opening	244.05	255.44	274.45	290.39	264.03
Additions	20.08	40.77	40.77	0.00	0.00
Repayment during the year	8.69	21.75	24.83	26.37	26.37
Net Loan-Closing	255.44	274.45	290.39	264.03	237.66
Average Loan	249.74	264.94	282.42	277.21	250.84
Weighted Average Rate of Interest on Loan (%)	9.3038	9.2606	9.2597	9.2537	9.2467
Interest	10.38	24.54	26.15	25.65	23.19
Return on Equity					
Opening Equity	104.59	113.19	130.66	148.13	148.13
Additions	8.60	17.47	17.47	0.00	0.00



Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Closing Equity	113.19	130.66	148.13	148.13	148.13
Average Equity	108.89	121.93	139.40	148.13	148.13
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14(%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	9.54	23.91	27.34	29.05	29.05
Interest on Working Capital					
Maintenance Spares	0.04	0.10	0.10	0.11	0.11
O & M expenses	0.02	0.06	0.06	0.06	0.06
Receivables	4.93	12.09	13.47	13.95	13.53
Total	4.99	12.24	13.64	14.11	13.71
Interest	0.67	1.65	1.84	1.91	1.85
Annual Transmission Charges					
Depreciation	8.69	21.75	24.83	26.37	26.37
Interest on Loan	10.38	24.54	26.15	25.65	23.19
Return on Equity	9.54	23.91	27.34	29.05	29.05
Interest on Working Capital	0.67	1.65	1.84	1.91	1.85
O & M Expenses	0.29	0.67	0.69	0.71	0.74
Total	29.57	72.52	80.85	83.69	81.20

Filing Fee and Publication Expenses

48. 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. BRPL submitted that the petitioners claim should be rejected in line with the order dated 11.9.2008 in Petition No. 129 of 2005 where it was held that Central Power Sector undertakings (CPSUs) in furtherance of their business interests, are statutory required to approach CERC for determination and approval of the tariff and hence declined the claim of the CPSUs for allowing the



reimbursement of the application fee. In response the petitioner vide affidavit dated 23.3.2016 submitted that the Commission in order dated 1.9.2010 in Petition No. 71/2010 has allowed the recovery of petition filing fee and publication of notices from the beneficiaries on pro-rata basis. 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

49. 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

50. 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

51. The billing, collection and disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (Sharing of Inter-state Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

52. This order disposes of Petition No. 137/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
BOND XXXVI-DOCO-	9.35%	242.2	0	242.20
BOND XXXVIII-DOCO-	9.25%	1.85	0	1.85
BOND - XLVIII-ADDCAP FOR 2014-2015 Add Cap	8.20%	0	20.08	20.08
Total		244.05	20.08	264.13

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	244.05	264.13	264.13	264.13	264.13
Cumulative Repayment of loan upto previous year	0	0	0	16.15	32.3
Net Loan Opening	244.05	264.13	264.13	247.98	231.83
Additions during the year	20.08	0	0	0	0
Repayment during the year	0	0	16.15	16.15	16.15
Net Loan Closing	264.13	264.13	247.98	231.83	215.68
Average Loan	254.09	264.13	256.055	239.905	223.755
Rate of Interest (%)	9.3038%	9.2606%	9.2597%	9.2537%	9.2467%
Interest	23.64	24.46	23.71	22.2	20.69

