

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 196/TT/2017

Coram:

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

Date of Order: 29.6.2018

In the matter of:

Approval of transmission tariff for LILO of both circuits of Mundra UMPP–Limbdi 400 kV D/C line (triple snowbird) at Bachau Sub-station alongwith extension of 400 kV Bachau Sub-station under “Transmission System Strengthening associated with Mundra UMPP (Part-A)” for tariff block 2014-19 in Western Region 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,
“Saudamini”, Plot No. 2,
Sector 29, Gurgaon-122001
Haryana

....Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur
Jabalpur-482 008.
2. Maharashtra State Electricity Distribution Company Limited,
Prakashganga, 4th Floor,
Bandra (East) Mumbai-400 052.
3. Gujarat Urja Vikas Nigam Limited,
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-396 210.
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.

...Respondents

For Petitioner : Shri Vivek Kumar Singh, PGCIL
Shri S. S. Raju, PGCIL
Shri B. Dash, PGCIL
Shri Rakesh Prasad, PGCIL

For Respondents : None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for LILO of both circuits of Mundra UMPP–Limbdli 400 kV D/C line (triple snowbird) at Bachau Sub-station alongwith extension of 400 kV Bachau Sub-station (hereinafter referred to as "transmission assets") under "Transmission System Strengthening associated with Mundra UMPP (Part-A)" for 2014-19 tariff block in Western Region (hereinafter referred to as "transmission system") under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The Investment Approval (IA) for the said system was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/Mundra UMPP-



Part A dated 14.1.2016 at an estimated cost of ₹24419 lakh including an IDC of ₹1509 lakh (based on August, 2015 price level). The project is scheduled to be commissioned within 30 months from the date of approval of Board of Directors i.e. 12.1.2016. Thus, SCOD of the instant asset is 12.7.2018.

3. The scheme was approved in the 36th Standing Committee meeting of Power System Planning of western region constituents held on 29.8.2013, further ratified on 9.10.2013 in the 24th WRPC meeting. The said scheme was further discussed in the 38th Standing Committee Meeting of Power System Planning of Western region held on 17.7.2015. The scope of work covered under the transmission system is broadly as follows:-

- (i) LILO of both circuits of Mundra UMPP-Limbdi 400 kV D/C line (triple snowbird) at Bachau Sub-station
- (ii) Extension of 400 kV Bachau Sub-station-Line bays: 4 nos.

4. Annual Fixed Charges was allowed for the instant asset in order dated 10.10.2017 under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC computation.

5. The details of the transmission charges claimed by the petitioner are as under:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Depreciation	297.93	833.81
Interest on Loan	302.24	803.95
Return on Equity	331.81	929.39
Interest on working capital	26.57	71.28
O & M Expenses	119.62	292.82
Total	1078.17	2931.25



6. The details submitted by the petitioner in support of its claim for interest on working capital are as under:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Maintenance Spares	42.51	43.92
O & M Expenses	23.62	24.40
Receivables	425.78	488.54
Total	491.91	556.86
Rate of Interest	12.80%	12.80%
Interest	26.57	71.28

7. 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, 2003. MPPMCL, Respondent No. 1 has filed reply vide affidavit dated 16.11.2017 and the petitioner vide affidavit dated 12.1.2018 has filed its rejoinder to the said reply. The objections raised by the respondent and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

8. Having heard the petitioner and perused the material on record, we proceed to dispose of the petition.

9. MPPMCL, Respondent No. 1 has submitted that the claim of the petitioner with regard to IA is doubtful as the petitioner, on affidavit is quoting the date of approval of scheme as 14.1.2016, whereas the date of investment approval in the petition is given as 12.1.2016. In response, the petitioner in its rejoinder has submitted that the approval for investment in the subject was accorded by the petitioner Board of Director in their 324th Board Meeting which was held on 12.1.2016. However, the memorandum to the same was issued on 14.1.2016



vide letter ref no. C/CP/Mundra UMPP- Part A with information to all stakeholders.

10. We have considered the submissions of the petitioner and MPPMCL. The investment approval was accorded on 12.1.2016. However, the memorandum to this effect was issued on 14.1.2016 by the petitioner. Accordingly, the actual date of IA of 12.1.2016 is considered.

Date of commercial operation (COD)

11. We have considered the submissions of the petitioner and the respondents. As per Regulation 5(2), a transmission licensee, including the petitioner is required to submit a certificate from the concerned RLDC certifying the successful charging of the transmission system or an element thereof for 24 hours at continuous flow of power and transmission of communication signal from the sending end to the receiving end and with requisite metering system, telemetry and protection system in service. Further, as per the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2016, the CMD/CEO/MD of the Company shall certify that the transmission line, sub-station and communication system conform to the relevant Grid Standard and Grid Code and are capable of operation to their full capacity.

12. The petitioner, initially in the petition has submitted that the anticipated COD of the instant assets was 1.10.2017. Subsequently, the petitioner vide affidavit dated 30.11.2017 has submitted that the instant assets were put into commercial operation on 30.10.2017.

13. The petitioner vide affidavits dated 30.11.2017 and 11.1.2018 has furnished COD letter dated 9.11.2017, CEA certificate under Regulation 43 of



CEA (Measures Related to Safety and Electricity supply) Regulations, 2010 dated 26.10.2017, WRLDC Certificate dated 6.11.2017 and CMD Certificate. The petitioner has complied with all the requirements for declaration of COD as mandated under the 2014 Tariff Regulations. Accordingly, the COD of the instant transmission assets is approved as 30.10.2017.

Capital cost

14. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provides as follows:-

“(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; 39

(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.”

15. The petitioner has submitted Auditor Certificate dated 18.11.2017 which shows the capital cost claimed by the petitioner as on actual COD and estimated



additional capitalization projected to be incurred for the instant asset. The details as submitted by the petitioner and considered for the purpose of tariff are as follows:-

Approved apportioned cost (FR)	Expenditure as on COD	Projected Cost during			Total estimated completion cost
		2017-18	2018-19	2019-20	
24418.19	12732.01	1662.44	2907.23	662.78	17964.46

16. The details of cost of the elements covered in instant petition is as under:-

Srl. No	Element	Approved cost	Completion cost
1	LILO of both circuits of Mundra UMPP-Limbdi 400 kV D/C Line (triple snowbird) at Bachau Sub-station	21341.06	15244.27
2	Extension of 400/220 kV Bachau Sub-station	3077.83	2720.19
	Total project cost	24418.19	17964.46

17. The petitioner in the instant petition has claimed approved cost for tariff of four bays. Cost of four 400 kV line bays is ₹3077.83 lakh and the estimated completion cost of the bays is ₹2720.19 lakh. Therefore, the estimated completion cost of each bay is ₹680.04 lakh. The Commission in Petition No.101/TT/2016 has admitted the cost per bay as ₹537 lakh. Further, in case of 209/TT/2016, the cost of 400 kV bay was admitted as ₹807 lakh per bay. The approved cost and completion cost of the instant bays is comparable to the cost of the bays approved by the Commission in case of other transmission systems. Moreover, it appears to be reasonable considering price level of August, 2015. Accordingly, the same is allowed.

Cost variation

18. The total estimated completion cost including additional capital expenditure of the instant asset is ₹17964.46 lakh against approved cost of ₹24418.19 lakh. Accordingly there is no cost over-run. However, there is a cost variation in certain items. The petitioner vide affidavit dated 13.4.2018 has submitted that the cost variation is due to variation in the cost of Preliminary Investigation, Right of way, forest clearance, PTCC, general civil works etc, Towers steel, Conductor, Earth wire, Insulators, Hardware Fittings, Conductor and Earth wire accessories, Erection, stringing and Civil works including foundation, Site preparation, Misc. civil works, Switchgear (CT, PT, Circuit Breaker, isolator etc.), Control, Relay & Protection panel, PLCC, Bus Bars/Conductors/insulators, Structure for switchyard, Auxiliary system and Establishment.

19. We have considered the submissions of the petitioner. The cost variation is due to decrease in the length of the Double Circuit portion of the line and increase in the Multi Circuit portion of the line. Further, the variation is due to variation in the cost of the elements. The cost variation is beyond the control of the petitioner and the total cost is lower than the approved cost. Accordingly, it is allowed.

Implementation schedule

20. As per Investment Approval, the commissioning schedule of the project is 30 months from the date of Investment Approval dated 12.1.2016. The schedule date of commercial operation was 12.7.2018 against which the subject asset was put under commercial operation on 30.10.2017. Accordingly, there is no time over-run.



Interest During Construction (IDC)

21. The petitioner has claimed IDC of ₹458.66 lakh on accrual basis and has submitted the Auditor Certificate dated 18.11.2017. The petitioner has further submitted that IDC discharged up to COD was ₹160.20 lakh and balance IDC of ₹198.05 lakh and ₹100.41 lakh has been discharged during 2017-18 and 2018-19 respectively. The IDC statement includes SBI and HDFC loan pertaining to first quarter of 2017-18 and the petitioner has shown multiple draws with floating rate of interest for SBI and HDFC loan. However, no interest rate has been mentioned. Hence, we have considered the interest rate as given in Form 9C for all the drawl of SBI and HDFC loan. Accordingly, the IDC claimed and allowed are summarized as under:-

(₹ in lakh)

IDC Claimed as per the Auditor's Certificate	Entitled IDC as on COD as worked out	IDC Dis-Allowed as on COD due to computation difference (A-B)	Un-discharged portion of Entitled IDC as on COD*	IDC Allowed on cash basis as on COD
a	b	c=a-b	d	E=a-c-d
458.66	455.24	3.42	295.04	160.20

* The undischarged portion of IDC has been considered as ACE during the year of discharge

22. The IDC allowed shall be reviewed at the time of truing up, subject to the submission of interest rate for SBI and HDFC loan and discharge of IDC liability.

Incidental Expenditure During Construction (IEDC)

23. The petitioner vide Auditor certificate dated 18.11.2017 has claimed



Incidental Expenditure during Construction (IEDC) of ₹184.24 lakh. The IEDC as per the abstract cost estimate is 10.75% of the estimated hard cost which has been considered as the maximum limit for allowing IEDC. Thus, the claimed IEDC of ₹184.24 lakh is within limit and the same has been allowed.

Treatment of Initial Spares

24. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system 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%

(i) 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.”



25. The petitioner has claimed ₹143.27 lakh and ₹147 lakh as initial spare for Sub-station and transmission line respectively. MPPMCL has submitted that the petitioner has claimed more than 1% of the cost of transmission line as initial spares. Initial spares may be allowed as per ceiling limit in terms of the 2014 Tariff Regulation.

26. The Commission vide order dated 10.10.2017 has directed the petitioner to clarify whether entire liability pertaining to initial spares has been discharged as on COD. In response, the petitioner vide affidavit dated 30.11.2017 has submitted the year wise details of initial spares discharged as under:-

(₹ in lakh)

Transmission Line		Sub-Station	
Details	Amount	Details	Amount
Paid upto COD	132.30	Paid upto COD	47.59
Projected for 2017-18	14.70	Projected for 2017-18	95.68
Total (As per Audited Cost certificate)	147.00	Total (As per Audited Cost certificate)	143.27

27. We have considered the submissions of the petitioner and MPPMCL. The petitioner has submitted details for initial spares discharged as on COD and during various periods. The petitioner has claimed 1% of the cost of the transmission line and 6% of the cost of sub-station as initial spares. The petitioner has also submitted the details of the initial spares discharged up to COD and after COD. The claim made by the petitioner is as per the limits specified under the 2014 Tariff Regulations. As the petitioner's claim is as per the regulations, it is allowed. Accordingly, the details of initial spares claimed and allowed are as under:

(₹ in lakh)



Particulars	Total Cost (P&M cost excluding IDC, IEDC, Land cost and cost of civil works for the purpose of initial spares) as on cut-off date based on Auditors Certificate dated 18.11.2017 (a)	Initial spares claimed upto cut-off date (b)	Ceiling limit (%) as per Regulation 13 of the 2014 Tariff Regulation (c)	Ceiling limit of Initial Spares (d)=((a-b) *c) / (100-c)%	Excess initial Spares (e)= (d)-(b)	Initial Spares Allowed =Min value between claimed and calculated as per Regulation 13 of the 2014 Tariff Regulation
Transmission Line	14700.00	147.00	1.00%	147.00	0.00	147.00
Substation	2491.56	143.27	6.00%	149.89	0.00	143.27

Capital cost as on COD and 31.3.2019

28. Based on the above, the details of capital cost as on COD considered for computation of tariff is as under:-

(₹ in lakh)					
Capital cost claimed by petitioner	IDC dis-allowed due to computational difference	Un-discharged IDC as on COD	IEDC disallowed on COD	Excess initial spares	Capital cost as on COD considered for tariff calculation
1	2	3	4	5	6= (1-2-3-4-5)
12732.01	3.42	295.04	0.00	0.00	12433.55

Additional capital expenditure

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

“(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities 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.”

30. 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”.

31. The cut-off date in the case of instant combined transmission asset is 31.3.2020.

32. The petitioner has claimed ACE based on the cost certified by Auditor. In addition, the petitioner has claimed IDC discharged after the COD as ACE. The details of the additional capital expenditure claimed by the petitioner are as follows:-

Particulars	(₹ In lakh)	
	2017-18	2018-19
Add cap claimed as per CA certificate.	1662.44	2907.23
IDC discharged during the year (As per IDC statement)	198.05	100.41
Total add cap claimed	1860.49	3007.64

33. MPPMCL has prayed that the claim of the petitioner as regards additional capital expenditure may be rejected on account of non-submission of the specific sub-clauses of Regulation 14 under which the claim has been made by the petitioner. In response, the petitioner vide affidavit dated 28.2.2018 has submitted that the claims for additional capitalization has been made under Regulation 14(1)(i) of the 2014 Tariff Regulations.



34. The petitioner in Form 7 has claimed ACE under Regulation 14(1)(i) of undischarged liabilities (i.e. ₹1860.49 lakh for 2017-18 and ₹3007.64 lakh for 2018-19). However, it is observed that the petitioner vide affidavit dated 13.4.2018 has submitted Form 4A which shows the undischarged liability as on COD as only ₹458.66 lakh against which the petitioner in Form 7 has claimed entire ACE towards discharge of liability. The Form 4A further shows that an addition to gross block during 2017-18 and 2018-19 as ₹148.95 lakh and ₹2907.23 lakh respectively but the petitioner in Form 7 has not mentioned the Regulation under which the addition to Gross block has been claimed. It is observed that the petitioner has claimed entire amount (i.e. addition to gross block and discharge of liability) under Regulation 14(1)(i) of the 2014 Tariff Regulations which is meant for undischarged liability. Therefore, the claimed ACE is provisionally allowed as follows:-

a. The worked out undischarged IDC as on COD has been allowed as ACE under Regulation 14(1)(i) of the 2014 Tariff Regulations during the year of discharge. The balance liability has been considered as liability on hard cost which is provisionally allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations. Both shall be reviewed at the time of true up based on actual discharge of liability as certified by Auditor.

b. The addition into gross block is provisionally allowed under Regulation 14(1)(ii) of the 2014 Tariff Regulations as works deferred for execution. The petitioner is directed to submit the clarification for the deviations in ACE claim and the liability as per Form 4A, at the time of true up, accordingly the allowable ACE shall be reviewed at the time of true up.



35. Based on the above, the provisionally allowed ACE is summarized as hereunder:-

(₹ in lakh)			
Particulars	Regulation	2017-18 (pro-rata)	2018-19
1. Discharge of liabilities on Hard cost	14(1)(i)	1513.49	0.00
2. Add cap towards works deferred for execution (by addition into gross block)	14(1)(ii)	148.95	2907.23
3. Discharge of IDC Liability	14(1)(i)	198.05	96.99
4. Total add-cap provisionally allowed (1+2+3)		1860.49	3004.22

Capital cost summary from COD to 31.3.2019

36. Based on the above, the summary of capital cost considered for tariff from COD to 31.3.2019 is as under:-

(₹ in lakh)			
Capital Cost allowed as on COD	Additional capital expenditure for 2017-18	Additional capital expenditure for 2018-19	Total estimated completion cost as on 31.3.2019
12433.55	1860.49	3004.22	17298.26

Debt- Equity Ratio

37. 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 debtequity 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.”

38. The petitioner has claimed debt-equity ratio of 70:30 as on the date of commercial operation of the instant assets. The details of debt- equity in respect of the assets covered in the instant petition as on COD and as on 31.3.2019 are as under:-

Asset	(₹ in lakh)			
	As on COD		As on 31.3.2019	
	Capital Cost	%	Capital Cost	%
Debt	8703.49	70.00	12108.79	70.00
Equity	3730.06	30.00	5189.47	30.00
Total	12433.55	100.00	17298.26	100.00

39. Additional Capital Expenditure has been considered in the debt: equity ratio of 70:30, which is in line with 2014 Tariff Regulations and the same is considered for calculation of tariff.

Return on Equity (RoE)

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

“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:

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 nongeneration 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.”



41. The petitioner has submitted ROE at the rate of 19.610% after grossing up the ROE of 15.50% with MAT rate as per the above 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.

42. 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, RoE has been computed @19.610 % per annum on average equity. The MAT rate for the year 2013-14 is considered for computing RoE which is subject to truing-up. Accordingly, the RoE allowed is as follows:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Equity	3730.06	4288.21
Addition due to Additional Capitalisation	558.15	901.26
Closing Equity	4288.21	5189.47
Average Equity	4009.13	4738.84
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
Return on Equity (Pre-tax)	329.55	929.29

Interest on Loan (IoL)

43. Regulation 26 of the 2014 Tariff Regulations are 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 decapitalization 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.”

44. In these calculations, interest on loan has been worked out as hereinafter:-

- (i) The Gross Normative loan has been considered as per the Loan amount determined based on the debt equity ratio applied on the allowed capital cost;
- (ii) The depreciation allowed has been considered as Normative repayment of loan;

- (iii) The weighted average rate of interest on actual loan portfolio has been worked out by considering the Gross amount of loan, repayment & rate of interest as mentioned in the petition;
- (iv) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.

45. Detailed calculations in support of IOL have been given in the **Annexure** to this order. Based on above, details of IOL calculated are as follows:-

Particulars	₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	8703.49	10005.84
Cumulative Repayment upto Previous Year	0.00	295.88
Net Loan-Opening	8703.49	9709.96
Addition due to Additional Capitalisation	1302.34	2102.95
Repayment during the year	295.88	833.55
Net Loan-Closing	9709.96	10979.37
Average Loan	9206.73	10344.66
Weighted Average Rate of Interest on Loan	7.7792%	7.7724%
Interest	300.22	804.03

Depreciation

46. Regulation 27 of the 2014 Tariff Regulations provides as under:-

"27. Depreciation:

(1) 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.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(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.”

47. The COD of the assets fall in financial year 2017-18. Thus, the depreciation has been annually based on Straight Line Method and at the rates specified in Appendix-III to the 2014 Tariff Regulations.

48. Details of the depreciation allowed are as under:-



Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Gross Block	12433.55	14294.04
Additional Capital expenditure	1860.49	3004.22
Closing Gross Block	14294.04	17298.26
Average Gross Block	13363.80	15796.15
Rate of Depreciation	5.2818%	5.2769%
Depreciable Value	12027.22	14216.14
Remaining Depreciable Value	12027.22	13920.26
Depreciation	295.88	833.55

Operation & Maintenance Expenses (O & M Expenses)

49. 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. Norms specified in respect of the elements covered in the instant assets are as under:-

Particulars	2017-18	2018-19
Double circuit (Twin & Triple Conductor) (₹ in lakh per Km)	0.780	0.806
Multi circuit (Twin & Triple Conductor) (₹ in lakh per Km)	1.368	1.413
400KV (₹ in lakh per bay)	66.51	68.71

50. The O&M Expenses claimed by the petitioner based on actual COD is as under:-

Particulars	(₹ in lakh)	
	2017-18	2018-19
O&M Expenses	119.62	292.82

51. The petitioner in the main petition dated 28.8.2017 has submitted that O&M Expenses for 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. It 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 prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact wage hike during 2014-19, if any.

52. MPPMCL vide affidavit dated 16.11.2017 has submitted that that no order for wage revision has been passed for 2017 by Ministry of Heavy industries and Public Enterprises and hence the prayer of the petitioner for wage revision is premature and not justified. It has further submitted that the Commission has no control over the wage hike allowed by the petitioner to its employees and hence no blanket approval may be accorded for enhancement in O&M expenses at a later stage. The petitioner, being a CPSE has to bear the additional financial implication on account of pay revision from their own resources.

53. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards the 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.

54. The details of the elements included in the instant assets and the total allowable O&M Expenses for the instant assets are as follows:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata*)	2018-19
LILO of Mundra UMPP- Limbdi at Bachau S/S		
Line length (km)	17.36	17.36
Double circuit (Twin & Triple Conductor)	0.780	0.806



Calculated O&M Expenses	5.67	13.99
Total O&M Expenses (A)	5.67	13.99
LILO of Mundra UMPP- Limbdī at Bachau S/S		
Line length (km)	2.82	2.82
Multi circuit (Twin & Triple Conductor)	1.368	1.413
Calculated O&M Expenses	1.61	3.98
Total O&M Expenses (B)	1.61	3.98
400 kV	66.51	68.71
No. of Bays	4	4
Calculated O&M Expenses	111.51	274.84
Total O&M Expenses (C)	111.51	274.84
TOTAL O&M Expenses Allowed=(A+B+C)	118.79	292.51

* Pro-rata= 30.10.2017 to 31.3.2018

Interest on Working Capital (IWC)

55. 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

(1) The working capital shall cover:

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(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”

(3) 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 generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.

“(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;”



56. 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 of annual 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 1 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 petitioner has considered 12.80% as rate of interest for calculation of working capital. As per Proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate 9.30% as on 1.4.2017 plus 350 Bps shall be considered as the rate of interest on working capital. We have considered SBI Base rate as on 1.4.2017 as 9.10% plus Bps i.e. 12.60% as rate of interest for calculating interest on working capital.

57. Based on the above, the interest on working capital as determined is shown as below:-



Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Maintenance Spares	42.51	43.88
O & M expenses	23.62	24.38
Receivables	425.60	488.25
Total	491.72	556.50
Interest	25.97	70.12

Annual Transmission charges

58. The transmission charges being allowed for the instant assets are summarized hereunder:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Depreciation	295.88	833.55
Interest on Loan	300.22	804.03
Return on equity	329.55	929.29
Interest on Working Capital	25.97	70.12
O & M Expenses	118.79	292.51
Total	1070.41	2929.49

Filing Fee and Publication Expenses

59. 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 has submitted that filing fee and other expenses may not be allowed. 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

60. 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.

Goods and Services Tax

61. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow to recover GST from the beneficiaries, if imposed on transmission charges under the proposed GST when implemented by Government of India. GST is not imposed in transmission services at present. We are of the view that petitioner's prayer is premature.

Sharing of Transmission Charges

62. The transmission charges shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

63. This order disposes of Petition No. 196/TT/2017.

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

sd/-
(A. S. Bakshi)
Member

sd/-
(A. K. Singhal)
Member

sd/-
(P. K. Pujari)
Chairperson



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2017-18	2018-19
1	Bond LIII		
	Gross loan opening	580.00	580.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	580.00	580.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	580.00	580.00
	Average Loan	580.00	580.00
	Rate of Interest	8.13%	8.13%
	Interest	47.15	47.15
	Rep Schedule	12 annual installments from 25.4.2020	
2	Bond LIV		
	Gross loan opening	754.00	754.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	754.00	754.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	754.00	754.00
	Average Loan	754.00	754.00
	Rate of Interest	7.97%	7.97%
	Interest	60.09	60.09
	Rep Schedule	12 annual installments from 15.7.2021	
3	Bond LVIII		
	Gross loan opening	3701.00	3701.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	3701.00	3701.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	3701.00	3701.00
	Average Loan	3701.00	3701.00
	Rate of Interest	7.89%	7.89%
	Interest	292.01	292.01
	Rep Schedule	12 annual installments from 21.12.2021	
4	SBI Loan 1.5.2014		
	Gross loan opening	1200.00	1200.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1200.00	1200.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1200.00	1200.00
	Average Loan	1200.00	1200.00



	Rate of Interest	7.95%	7.95%
	Interest	95.40	95.40
	Rep Schedule	NA	
5	Bond LIX		
	Gross loan opening	2068.47	2078.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	2068.47	2078.00
	Additions during the year	9.53	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	2078.00	2078.00
	Average Loan	2073.24	2078.00
	Rate of Interest	7.30%	7.30%
	Interest	151.35	151.69
	Rep Schedule	NA	
6	Bond LX		
	Gross loan opening	0.00	129.10
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	129.10
	Additions during the year	129.10	70.28
	Repayment during the year	0.00	0.00
	Net Loan-Closing	129.10	199.38
	Average Loan	64.55	164.24
	Rate of Interest	7.20%	7.20%
	Interest	4.65	11.83
	Rep Schedule	NA	
7	HDFC(2017-18) Q1		
	Gross loan opening	400.02	400.02
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	400.02	400.02
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	400.02	400.02
	Average Loan	400.02	400.02
	Rate of Interest	7.95%	7.95%
	Interest	31.80	31.80
	Rep Schedule	NA	
	Total Loan		
	Gross loan opening	8703.49	8842.12
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	8703.49	8842.12
	Additions during the year	138.63	70.28
	Repayment during the year	0.00	0.00
	Net Loan-Closing	8842.12	8912.40
	Average Loan	8772.81	8877.26
	Rate of Interest	7.7792%	7.7724%
	Interest	682.45	689.98

