

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 22/TT/2015

Coram:

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

**Date of Hearing: 06.10.2015
Date of Order : 22.02.2016**

In the matter of:

Approval of Transmission Tariff for Asset-1: 765 kV D/C Wardha-Aurangabad Line-2 alongwith bays and equipment at both ends (Anticipated COD: 1.1.2015) under Transmission System Strengthening in Wardha-Aurangabad corridor for IPP projects in Chhattisgarh (IPP-G) in Western Region for tariff block 2014-19 under Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulation 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014.

And in the matter of:

Power Grid Corporation of India Limited
"Soudamini", Plot No. 2, Sector 29
Gurgaon -122001

....Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur, Jabalpur-482 008
2. Maharashtra State Electricity Distribution Company Limited,
Hongkong Bank Building, 3rd floor,
M.G. Road, Fort, Mumbai-400 001
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) Limited,
3/54, Press Complex, Agra-Bombay Road
Indore-452 008

.....Respondents

For petitioner : Ms. Sangeeta Edwards, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri M.M. Mondal, PGCIL
Shri S.S. Raju, PGCIL
Shri Jasbir Singh, PGCIL
Shri Subash C. Taneja, PGCIL
Shri K.K. Jain, PGCIL
Shri A.M. Pavgi, PGCIL
Shri Mohd. Mohsin, PGCIL

For respondents: None

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for Asset-1: 765 kV D/C Wardha-Aurangabad Line-2 alongwith bays and equipment at both ends



(hereinafter referred to as “transmission asset”) under Transmission System Strengthening in Wardha-Aurangabad corridor for IPP projects in Chhattisgarh (IPP-G) in Western Region, from the date of commercial operation to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. This order has been issued after considering petitioner’s affidavits dated 11.2.2015, 29.7.2015 and 24.10.2015.

3. The petitioner has been entrusted with the implementation of System Strengthening in Wardha-Aurangabad Corridor for IPP projects in Chhattisgarh (IPP-G). The scope of the scheme was discussed and agreed in the 30th SCM of Western Region Constituents held on 8.7.2010. The Investment Approval (IA) was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/Chhattisgarh-IPP dated 9.2.2012 at an estimated cost of ₹131085 lakh including an IDC of ₹8183 lakh (based on 4th Qtr 2011 price level). The transmission system was scheduled to be commissioned within 36 months from the date of IA. Therefore, the scheduled date of commissioning of the transmission system was 8.2.2015. The scope of work covered under the scheme is broadly as follows:-

Transmission Lines:

a) Wardha-Aurangabad 765 kV second D/C line



Sub-stations:

a) Bay extension at 765 kV Wardha-Aurangabad Sub-station.

4. Annual Fixed Cost was granted for the transmission asset vide order dated 22.4.2015 under the first proviso to Regulation 7(7) of the 2014 Tariff Regulations, subject to proviso (iii) and (iv) of the said Regulation.

5. Initially, the petitioner claimed transmission charges for the transmission asset as a whole from the anticipated date of commercial operation (COD). However, the petitioner vide affidavit dated 24.10.2015 submitted that the instant asset has been split into Asset-1 and Asset-2 as detailed in the table below:-

| Particulars | Anticipated COD | Actual COD |
|---|-----------------|------------|
| Asset-1: 765 kV D/C Wardha-Aurangabad line-II alongwith 2 nos. 330 MVAR switchable line reactor at Wardha end and 1 no. 240 MVAR line reactor for Ckt.-III at Aurangabad end and associated bays | 1.1.2015 | 1.4.2015 |
| Asset-2: 1 no. 240 MVAR 765 kV line reactor for Wardha-Aurangabad Ckt.-IV at Aurangabad end | | 19.4.2015 |

6. The petitioner has claimed revised tariff based on actual COD after splitting the single transmission asset. The details of the transmission charges claimed by the petitioner are as under:-

| Particulars | (₹ in lakh) | | | |
|------------------|-------------|---------|---------|---------|
| | Asset-1 | | | |
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 6666.63 | 7086.54 | 7158.94 | 7158.94 |
| Interest on Loan | 7740.80 | 7621.72 | 7053.61 | 6400.89 |



| | | | | |
|-----------------------------|-------------------------------|-----------------|-----------------|-----------------|
| Return on Equity | 7686.91 | 8174.56 | 8258.98 | 8258.98 |
| Interest on Working Capital | 558.58 | 578.38 | 570.63 | 557.38 |
| O & M Expenses | 905.30 | 935.23 | 966.40 | 998.52 |
| Total | 23558.22 | 24396.43 | 24008.56 | 23374.71 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 109.20 | 145.91 | 152.49 | 152.49 |
| Interest on Loan | 128.11 | 163.07 | 158.24 | 144.97 |
| Return on Equity | 132.25 | 178.41 | 186.54 | 186.54 |
| Interest on Working Capital | 8.51 | 11.22 | 11.45 | 11.14 |
| O & M Expenses | - | - | - | - |
| Total | 378.07 | 498.61 | 508.72 | 495.14 |

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

(₹ in lakh)

| Particulars | Asset-1 | | | |
|--------------------|-----------------------|----------------|----------------|----------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 135.80 | 140.28 | 144.96 | 149.78 |
| O & M expenses | 75.44 | 77.94 | 80.53 | 83.21 |
| Receivables | 3926.37 | 4006.07 | 4001.43 | 3895.79 |
| Total | 4137.61 | 4224.29 | 4226.92 | 4128.78 |
| Interest Rate | 13.50% | 13.50% | 13.50% | 13.50% |
| Interest | 558.58 | 578.38 | 570.63 | 557.38 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | - | - | - | - |
| O & M expenses | - | - | - | - |
| Receivables | 66.33 | 83.10 | 84.79 | 82.52 |
| Total | 66.33 | 83.10 | 84.79 | 82.52 |
| Interest Rate | 13.50% | 13.50% | 13.50% | 13.50% |
| Interest | 8.51 | 11.22 | 11.45 | 11.14 |



8. 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 and no respondent has filed reply.

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

Capital cost

10. 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;”



(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.”

11. The details of the revised apportioned approved capital cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the transmission assets as submitted by the petitioner are as given hereunder:-

| | | | | | (₹ in lakh) |
|-------------|---------------------------------|----------------|--|---------|---------------------------------|
| Particulars | Apportioned approved cost (RCE) | Cost as on COD | Additional capital expenditure incurred/projected to be incurred | | Total estimated completion cost |
| | | | 2015-16 | 2016-17 | |
| Asset-1 | 144439.23 | 119937.56 | 13279.47 | 2780.33 | 135997.36 |
| Asset-2 | 3101.68 | 1780.64 | 1023.36 | 267.68 | 3071.68 |

Time over-run

12. The project was scheduled to be commissioned within 36 months from the date of investment approval of 9.2.2012. Accordingly, the scheduled COD works out to 8.2.2015 against which the Asset-1 and Asset-2 have been commissioned on 1.4.2015 and 19.4.2015 respectively. Thus, there is time over-run of approximately two months in the commissioning of the instant assets.

13. In response to queries of the Commission, the petitioner vide affidavit dated 24.10.2015 has submitted the actual COD of the instant assets alongwith the RLDC certificate regarding charging of assets and CEA certificate under



Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010. The petitioner has further submitted the details of time over-run alongwith documentary evidence and chronology of the activities. The petitioner has submitted that the time over-run is due to RoW issues. The work was stopped by villagers at various locations at Wardha side and at Aurangabad side, which affected the progress of construction work of Wardha-Aurangabad transmission line. Applications were filed with the District Magistrate under Section 16 of Indian Telegraph Act 1885, to resolve the RoW issues. The petitioner has submitted that the foundation, erection and stringing work was delayed for about 11 months (March, 2014 to February, 2015).

14. We have considered the submission of the petitioner and note that the delay in commissioning of the instant assets is due to RoW issues at 7 locations in Wardha and 11 locations in Aurangabad. The issue was taken up with the District Magistrate on 16.1.2015 under Indian Telegraph, Act, 1885 and clearance was given by the District Magistrate on 11.3.2015. The period of two months taken for clearing RoW issues by the District Magistrate is considered to be beyond the control of the petitioner. Therefore, the time over-run of approximately 2 months in commissioning of the instant assets is condoned.

Cost over-run

15. The petitioner was directed to submit the reasons for overall cost variation including variations under certain heads and to explain the difference in estimated



FR cost and actual cost. The petitioner vide affidavit dated 24.10.2015, has submitted as under:-

- i. The price variation of approx. ₹13000 lakh from the FR (i.e. 4th quarter of 2011) upto October, 2014 (i.e. the period of major supplies) is attributable to inflationary trends prevalent during the execution of project and also market forces prevailing at the time of bidding process of various packages.
- ii. As regards price variation between FR cost and award cost, the contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder, on the basis of Open Competitive Bidding. Thus, the award prices represent the lowest prices available at the time of bidding of various packages under price discovery mechanism on which there is no control. The price variation from award to final execution is mainly on the basis of Price Variation based on indices as per the provision of respective contracts.

16. The petitioner has further submitted the revised apportioned approved cost of ₹144439.23 lakh and ₹3101.68 lakh against which the estimated completion cost is ₹135997.36 lakh and ₹3071.68 lakh for Asset-1 and Asset-2 respectively. Thus, there is no cost over-run in case of instant assets.



Treatment of IDC and IEDC

17. The petitioner has claimed Interest During Construction (IDC) of ₹9683.37 lakh and ₹192.83 lakh for Asset-1 and Asset-2 respectively. The petitioner was directed to submit computation of actual IDC on cash basis along with editable soft copy of computation in Excel Format. The petitioner vide affidavit dated 24.10.2015 submitted the details of IDC, as on COD on cash basis, amounting to ₹9102.25 lakh and ₹108.44 lakh in the case of Asset-1 and Asset-2 respectively but without computation in soft copy.

18. Accordingly, IDC of ₹9102.25 lakh and ₹108.44 lakh in the case of Asset-1 and Asset- 2 respectively, as on respective COD, have been considered for the purpose of tariff determination in this order. IDC discharged after COD shall be considered at the time of truing-up, on submission of adequate information along with computation in soft copy in excel format subject to review by the Commission.

19. The petitioner has claimed ₹325.69 lakh and ₹17.66 lakh for Asset-1 and Asset-2 respectively as Incidental expenditure During Construction (IEDC) as having being paid upto COD. Thus, the amount of claim i.e. ₹325.69 lakh and ₹17.66 lakh has been allowed for Asset-1 and Asset-2 respectively for the purpose of tariff in this order.

Initial Spares

20. 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%
- (v) Gas Insulated Sub-station (GIS)-5.00%
- (vi) Communication system-3.5%

Provided that:

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

21. The petitioner has claimed initial spares amounting to ₹407.44 lakh for Asset-1 only. Initial spares in respect of Asset-1 are within the ceiling limit as specified in the 2014 Tariff Regulations and thus are allowed for tariff purpose in this order.

22. Accordingly, capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC/IEDC and initial spares is



considered as per Regulation 9(2) of the 2014 Tariff Regulations as given hereinafter:-

| (₹ in lakh) | | |
|------------------------------|---|--|
| Asset-1 | | |
| Particulars | Capital cost as on COD as per Auditor's certificate dated 14.10.2015 (affidavit dated. 24.10.2015) | Capital cost considered after adjusting IDC on cash basis |
| Freehold Land | - | - |
| Leasehold Land | - | - |
| Building & Other Civil Works | 751.63 | 747.99 |
| Transmission Line | 112217.92 | 111674.21 |
| Sub-Station Equipments | 6872.54 | 6839.24 |
| PLCC | 95.47 | 95.01 |
| Total | 119937.56 | 119356.44 |
| Asset-2 | | |
| Particulars | Capital cost as on COD as per Auditor's certificate dated 14.10.2015 (affidavit dated. 24.10.2015) | Capital cost considered after adjusting IDC on cash basis |
| Freehold Land | - | - |
| Leasehold Land | - | - |
| Building & Other Civil Works | 177.99 | 170.48 |
| Transmission Line | - | - |
| Sub-Station Equipments | 1602.65 | 1535.07 |
| PLCC | - | - |
| Total | 1780.64 | 1705.55 |

Additional Capitalisation and De-capitalisation

23. 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.”

24. 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;”

25. The cut-off date in the case of instant transmission assets is 31.3.2016.

26. The additional capital cost claimed by the petitioner in respect of Asset-1 is ₹13279.47 lakh and ₹2780.33 lakh and in respect of Asset-2 is ₹1023.36 lakh and ₹267.68 lakh for 2015-16 and 2016-17 respectively is within the cut-off date and is on account of balance payments. The details of additional capital expenditure claimed and allowed for the purpose of tariff are as overleaf:-



(₹ in lakh)

| Particulars | Asset-1 | | Asset-2 | |
|------------------------------|-----------------|----------------|----------------|---------------|
| | 2015-16 | 2016-17 | 2015-16 | 2016-17 |
| Freehold Land | - | - | - | - |
| Leasehold Land | - | - | - | - |
| Building & Other Civil Works | 369.33 | 107.94 | 271.57 | 50.11 |
| Transmission Line | 9407.28 | 2111.22 | - | - |
| Sub-Station Equipments | 3406.13 | 551.42 | 751.79 | 217.57 |
| PLCC | 96.73 | 9.75 | - | - |
| Total | 13279.47 | 2780.33 | 1023.36 | 267.68 |

27. Based on the above, gross block as on 31.3.2019 has been considered as per details given as under:-

(₹ in lakh)

| Particulars | Asset-1 | | | |
|------------------------------|------------------|-----------------|----------------|----------------------|
| | Cost as on COD | Add-Cap | | Cost as on 31.3.2019 |
| | | 2015-16 | 2016-17 | |
| Freehold Land | - | - | - | - |
| Leasehold Land | - | - | - | - |
| Building & Other Civil Works | 747.99 | 369.33 | 107.94 | 1225.26 |
| Transmission Line | 111674.21 | 9407.28 | 2111.22 | 123192.71 |
| Sub-Station Equipments | 6839.24 | 3406.13 | 551.42 | 10796.79 |
| PLCC | 95.01 | 96.73 | 9.75 | 201.49 |
| Total | 119356.44 | 13279.47 | 2780.33 | 135416.24 |

| Particulars | Asset-2 | | | |
|------------------------------|----------------|----------------|---------------|----------------------|
| | Cost as on COD | Add-Cap | | Cost as on 31.3.2019 |
| | | 2015-16 | 2016-17 | |
| Freehold Land | - | - | - | - |
| Leasehold Land | - | - | - | - |
| Building & Other Civil Works | 170.48 | 271.57 | 50.11 | 492.16 |
| Transmission Line | - | - | - | - |
| Sub-Station Equipments | 1535.07 | 751.79 | 217.57 | 2504.43 |
| PLCC | - | - | - | - |
| Total | 1705.55 | 1023.36 | 267.68 | 2996.59 |

Debt- Equity ratio

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



“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

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

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

29. The capital cost on the dates of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. The details of debt-equity as on dates of commercial operation, add-cap and as on 31.3.2019 considered on normative basis are as overleaf:-



| Asset-1 | As on COD | | Add-cap | | As on 31.3.2019 | |
|--------------|-----------------------|---------------|-----------------------|----------------|-----------------------|---------------|
| Particulars | Amount (₹ in lakh) | % age | Amount (₹ in lakh) | | Amount (₹ in lakh) | % age |
| | | | 2015-16 | 2016-17 | | |
| Debt | 83549.51 | 70.00 | 9295.63 | 1946.23 | 94791.37 | 70.00 |
| Equity | 35806.93 | 30.00 | 3983.84 | 834.10 | 40624.87 | 30.00 |
| Total | 119356.44 | 100.00 | 13279.47 | 2780.33 | 135416.24 | 100.00 |
| Asset-2 | As on COD | | Add-cap | | As on 31.3.2019 | |
| Particulars | Amount (₹ in lakh) | % age | Amount (₹ in lakh) | | Amount (₹ in lakh) | % age |
| | | | 2015-16 | 2016-17 | | |
| Debt | 1193.89 | 70.00 | 716.35 | 187.38 | 2097.61 | 70.00 |
| Equity | 511.66 | 30.00 | 307.01 | 80.30 | 898.98 | 30.00 |
| Total | 1705.55 | 100.00 | 1023.36 | 267.68 | 2996.59 | 100.00 |

Return on equity

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

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

- 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**:
- the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- 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 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.”

31. The petitioner has submitted that RoE has been calculated at the rate of 20.243% after grossing up the RoE with MAT rate as per the above Regulations.



The petitioner has further submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

32. 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.

33. The petitioner has also claimed Additional RoE of 0.5% for the instant assets. The petitioner was directed to submit reason/justification initially for claiming the additional RoE on the basis of anticipated COD in the petition. The petitioner vide affidavit dated 24.10.2015 submitted that the whole project has been actually commissioned within the timeline for claiming additional RoE under Regulation 24(2) of the 2014 Tariff Regulations. It is observed that the instant assets have been put under commercial operation within the timeline of 40 months specified for 765 kV D/C line and thus, additional RoE of 0.5% is allowed.

34. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating



company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE allowed is given below:-

| (₹ in lakh) | | | | |
|---|-----------------------|----------------|----------------|----------------|
| Particulars | Asset-1 | | | |
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 35806.93 | 39790.77 | 40624.87 | 40624.87 |
| Addition due to Additional Capitalization | 3983.84 | 834.10 | - | - |
| Closing Equity | 39790.77 | 40624.87 | 40624.87 | 40624.87 |
| Average Equity | 37798.85 | 40207.82 | 40624.87 | 40624.87 |
| Return on Equity (Base Rate) | 16.00% | 16.00% | 16.00% | 16.00% |
| Tax rate for the year 2013-14 (MAT) | 20.961% | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 20.243% | 20.243% | 20.243% | 20.243% |
| Return on Equity (Pre Tax) | 7651.62 | 8139.27 | 8223.69 | 8223.69 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 511.67 | 818.67 | 898.98 | 898.98 |
| Addition due to Additional Capitalization | 307.01 | 80.30 | - | - |
| Closing Equity | 818.67 | 898.98 | 898.98 | 898.98 |
| Average Equity | 665.17 | 858.83 | 898.98 | 898.98 |
| Return on Equity (Base Rate) | 16.00% | 16.00% | 16.00% | 16.00% |
| Tax rate for the year 2013-14 (MAT) | 20.961% | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 20.243% | 20.243% | 20.243% | 20.243% |
| Return on Equity (Pre Tax) | 128.38 | 173.85 | 181.98 | 181.98 |

Interest on loan

35. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-



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

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

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

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

5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.”

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



- (a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;
- (b) The yearly repayment for the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for that year;
- (c) Notwithstanding moratorium availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed;
- (d) Weighted average rate of interest on actual average loan worked out as per (a) above is applied on the notional average loan during the year to arrive at the interest on loan;
- (e) As per Regulation 26(5) only actual loans have been considered for computation of weighted average rate of interest.

37. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on 1.4.2014 and the change in interest due to floating rate of interest applicable, if any, for the project needs to be claimed/adjusted over the tariff block 2014-19. We would like to clarify that the interest on loan has been calculated on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.



38. Detailed calculations in support of interest on loan have been calculated as given at Annexure I to Annexure II of this order.

39. The details of Interest on Loan calculated are as under:-

| (₹ in lakh) | | | | |
|---|-----------------------|----------------|----------------|----------------|
| Particulars | Asset-1 | | | |
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 83549.51 | 92845.14 | 94791.37 | 94791.37 |
| Cumulative Repayment upto Previous Year | - | 6636.01 | 13691.93 | 20820.25 |
| Net Loan-Opening | 83549.51 | 86209.13 | 81099.44 | 73971.12 |
| Addition due to Additional Capitalisation | 9295.63 | 1946.23 | - | - |
| Repayment during the year | 6636.01 | 7055.92 | 7128.32 | 7128.32 |
| Net Loan-Closing | 86209.13 | 81099.44 | 73971.12 | 66842.79 |
| Average Loan | 84879.32 | 83654.28 | 77535.28 | 70406.96 |
| Weighted Average Rate of Interest on Loan | 9.08% | 9.07% | 9.06% | 9.05% |
| Interest on Loan | 7705.26 | 7588.98 | 7023.69 | 6373.76 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 1193.89 | 1910.24 | 2097.61 | 2097.61 |
| Cumulative Repayment upto Previous Year | - | 105.95 | 248.04 | 396.72 |
| Net Loan-Opening | 1193.89 | 1804.28 | 1849.57 | 1700.90 |
| Addition due to Additional Capitalisation | 716.35 | 187.38 | - | - |
| Repayment during the year | 105.95 | 142.09 | 148.67 | 148.67 |
| Net Loan-Closing | 1804.28 | 1849.57 | 1700.90 | 1552.23 |
| Average Loan | 1499.08 | 1826.93 | 1775.23 | 1626.56 |
| Weighted Average Rate of Interest on Loan | 8.70% | 8.70% | 8.70% | 8.70% |
| Interest on Loan | 124.35 | 158.94 | 154.45 | 141.51 |

Depreciation

40. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:-



"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.”

41. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with Regulation 27 extracted above.

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

43. The details of the depreciation worked out are as under:-

| Particulars | Asset-1 | | | |
|--|----------------|----------------|----------------|----------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Block as on COD | 119356.44 | 132635.91 | 135416.24 | 135416.24 |
| Addition during 2014-19 due to Projected Additional Capitalisation | 13279.47 | 2780.33 | - | - |
| Gross Block as on 31 st March | 132635.91 | 135416.24 | 135416.24 | 135416.24 |
| Average Gross Block | 125996.18 | 134026.08 | 135416.24 | 135416.24 |
| Rate of Depreciation | 5.2668% | 5.2646% | 5.2640% | 5.2640% |
| Depreciable Value | 113396.56 | 120623.47 | 121874.62 | 121874.62 |
| Remaining Depreciable Value | 113396.56 | 113987.46 | 108182.69 | 101054.37 |
| Depreciation | 6636.01 | 7055.92 | 7128.32 | 7128.32 |



| Particulars | Asset-2 | | | |
|--|-----------------------|---------------|---------------|---------------|
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Gross Block as on COD | 1705.55 | 2728.91 | 2996.59 | 2996.59 |
| Addition during 2014-19 due to Projected Additional Capitalisation | 1023.36 | 267.68 | - | - |
| Gross Block as on 31 st March | 2728.91 | 2996.59 | 2996.59 | 2996.59 |
| Average Gross Block | 2217.23 | 2862.75 | 2996.59 | 2996.59 |
| Rate of Depreciation | 5.0120% | 4.9635% | 4.9614% | 4.9614% |
| Depreciable Value | 1995.51 | 2576.48 | 2696.93 | 2696.93 |
| Remaining Depreciable Value | 1995.51 | 2470.52 | 2448.89 | 2300.22 |
| Depreciation | 105.95 | 142.09 | 148.67 | 148.67 |

Operation & maintenance expenses (O&M Expenses)

44. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for operation and maintenance 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 petition are as under:-

| Elements | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------------------|---------|---------|---------|---------|---------|
| D/C quad conductor T/L (₹ lakh/km) | 1.062 | 1.097 | 1.133 | 1.171 | 1.210 |
| 765 kV bay (₹ lakh per bay) | 84.42 | 87.22 | 90.12 | 93.11 | 96.20 |

45. The petitioner has claimed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner's entitlement to O&M Expenses has been worked out as given hereunder:-

| Particulars |
|--|
| 765 kV D/C Wardha-Aurangabad line-II along with bays at both ends, 2 nos. 330 MVAR line reactors at Wardha S/S and 1 no. 240 MVAR line reactor at Aurangabad S/S for 765 kV Wardha-Aurangabad line-III |



| Name of Element | COD |
|--|----------|
| 348.2 km, 765 kV D/C quad conductor T/L Wardha-Aurangabad line-II | 1.4.2015 |
| 6 nos. 765 kV bays, one each for Wardha bay-I & II, Aurangabad bay-I & II and switchable line reactor bay-I & II | |

46. The allowable O&M expenses for the instant transmission assets are as under:-

| (₹ in lakh) | | | | |
|---|---------------|---------------|---------------|---------------|
| Particulars | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 348.2 km, D/C quad Wardha-Aurangabad line-II | 381.98 | 394.51 | 407.74 | 421.32 |
| 6 nos. 765 kV bays | 523.32 | 540.72 | 558.66 | 577.20 |
| Total | 905.30 | 935.23 | 966.40 | 998.52 |

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

48. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, we would like to clarify that 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

49. Clause 1 (c) and 3 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;”

50. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as determined is shown in the table below:-



(₹ in lakh)

| Particulars | Asset-1 | | | |
|--------------------|-----------------------|----------------|----------------|---------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | 135.80 | 140.28 | 144.96 | 149.78 |
| O & M expenses | 75.44 | 77.94 | 80.53 | 83.21 |
| Receivables | 3909.07 | 4049.25 | 3985.09 | 3879.92 |
| Total | 4120.31 | 4267.47 | 4210.58 | 4112.91 |
| Interest Rate | 13.50% | 13.50% | 13.50% | 13.50% |
| Interest | 556.24 | 576.11 | 568.43 | 555.24 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares | - | - | - | - |
| O & M expenses | - | - | - | - |
| Receivables | 61.09 | 80.97 | 82.71 | 80.51 |
| Total | 61.09 | 80.97 | 82.71 | 80.51 |
| Interest Rate | 13.50% | 13.50% | 13.50% | 13.50% |
| Interest | 7.86 | 10.93 | 11.17 | 10.87 |

Transmission charges

51. The transmission charges allowed for the transmission assets are summarized as under:-

(₹ in lakh)

| Particulars | Asset-1 | | | |
|-----------------------------|-----------------------|-----------------|-----------------|-----------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 6636.01 | 7055.92 | 7128.32 | 7128.32 |
| Interest on Loan | 7705.26 | 7588.98 | 7023.69 | 6373.76 |
| Return on Equity | 7651.62 | 8139.27 | 8223.69 | 8223.69 |
| Interest on Working Capital | 556.24 | 576.11 | 568.43 | 555.24 |
| O & M Expenses | 905.30 | 935.23 | 966.40 | 998.52 |
| Total | 23454.43 | 24295.51 | 23910.54 | 23279.54 |
| Particulars | Asset-2 | | | |
| | 2015-16 (pro-rata) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 105.95 | 142.09 | 148.67 | 148.67 |
| Interest on Loan | 124.35 | 158.94 | 154.45 | 141.51 |
| Return on Equity | 128.38 | 173.85 | 181.98 | 181.98 |
| Interest on Working Capital | 7.86 | 10.93 | 11.17 | 10.87 |
| O & M Expenses | - | - | - | - |
| Total | 366.54 | 485.82 | 496.26 | 483.03 |



Filing Fee and the Publication Expenses

52. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC fees and Charges

53. 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

54. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. The petitioner has further prayed that if any taxes and duties including cess etc. are imposed by any statutory/Government/municipal authorities, it shall be allowed to be recovered from the beneficiaries. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.



Deferred Tax Liability

55. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended from time to time. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

Sharing of Transmission Charges

56. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.

57. This order disposes of Petition No. 22/TT/2015.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B Pradhan)
Chairperson



Annexure-I

(₹ in lakh)

| CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN | | | | | |
|---|--|----------------|----------------|----------------|----------------|
| | Details of Loan | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 1 | Bond -XLII | | | | |
| | Gross loan opening | 8450.00 | 8450.00 | 8450.00 | 8450.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 8450.00 | 8450.00 | 8450.00 | 8450.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 8450.00 | 8450.00 | 8450.00 | 8450.00 |
| | Average Loan | 8450.00 | 8450.00 | 8450.00 | 8450.00 |
| | Rate of Interest | 8.80% | 8.80% | 8.80% | 8.80% |
| | Interest | 743.60 | 743.60 | 743.60 | 743.60 |
| | Rep Schedule | | | | |
| 2 | Bond XLVII | | | | |
| | Gross loan opening | 5279.00 | 5279.00 | 5279.00 | 5279.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 5279.00 | 5279.00 | 5279.00 | 5279.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 439.92 |
| | Net Loan-Closing | 5279.00 | 5279.00 | 5279.00 | 4839.08 |
| | Average Loan | 5279.00 | 5279.00 | 5279.00 | 5059.04 |
| | Rate of Interest | 8.93% | 8.93% | 8.93% | 8.93% |
| | Interest | 471.41 | 471.41 | 471.41 | 451.77 |
| | Rep Schedule | | | | |
| 3 | Bond XLVIII | | | | |
| | Gross loan opening | 6852.00 | 6852.00 | 6852.00 | 6852.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 6852.00 | 6852.00 | 6852.00 | 6852.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 6852.00 | 6852.00 | 6852.00 | 6852.00 |
| | Average Loan | 6852.00 | 6852.00 | 6852.00 | 6852.00 |
| | Rate of Interest | 8.20% | 8.20% | 8.20% | 8.20% |
| | Interest | 561.86 | 561.86 | 561.86 | 561.86 |
| | Rep Schedule | | | | |
| 4 | Bond XLIX | | | | |
| | Gross loan opening | 7242.52 | 7242.52 | 7242.52 | 7242.52 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 7242.52 | 7242.52 | 7242.52 | 7242.52 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |



| | | | | | |
|----------|--|---------------|-----------------|-----------------|-----------------|
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 7242.52 | 7242.52 | 7242.52 | 7242.52 |
| | Average Loan | 7242.52 | 7242.52 | 7242.52 | 7242.52 |
| | Rate of Interest | 8.15% | 8.15% | 8.15% | 8.15% |
| | Interest | 590.27 | 590.27 | 590.27 | 590.27 |
| | Rep Schedule | | | | |
| 5 | Bond XXXIX | | | | |
| | Gross loan opening | 4008.00 | 4008.00 | 4008.00 | 4008.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 4008.00 | 4008.00 | 4008.00 | 4008.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 4008.00 | 4008.00 | 4008.00 | 4008.00 |
| | Average Loan | 4008.00 | 4008.00 | 4008.00 | 4008.00 |
| | Rate of Interest | 9.40% | 9.40% | 9.40% | 9.40% |
| | Interest | 376.75 | 376.75 | 376.75 | 376.75 |
| | Rep Schedule | | | | |
| 6 | Bond XLIII | | | | |
| | Gross loan opening | 3240.00 | 3240.00 | 3240.00 | 3240.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 270.00 |
| | Net Loan-Opening | 3240.00 | 3240.00 | 3240.00 | 2970.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 270.00 | 270.00 |
| | Net Loan-Closing | 3240.00 | 3240.00 | 2970.00 | 2700.00 |
| | Average Loan | 3240.00 | 3240.00 | 3105.00 | 2835.00 |
| | Rate of Interest | 7.93% | 7.93% | 7.93% | 7.93% |
| | Interest | 256.93 | 256.93 | 246.23 | 224.82 |
| 7 | SBI (21.3.2012) | | | | |
| | Gross loan opening | 10066.00 | 10066.00 | 10066.00 | 10066.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 915.09 | 1830.18 |
| | Net Loan-Opening | 10066.00 | 10066.00 | 9150.91 | 8235.82 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 915.09 | 915.09 | 915.09 |
| | Net Loan-Closing | 10066.00 | 9150.91 | 8235.82 | 7320.73 |
| | Average Loan | 10066.00 | 9608.46 | 8693.37 | 7778.28 |
| | Rate of Interest | 10.25% | 10.25% | 10.25% | 10.25% |
| | Interest | 1031.77 | 984.87 | 891.07 | 797.27 |
| 8 | Bond XL | | | | |
| | Gross loan opening | 700.00 | 700.00 | 700.00 | 700.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 58.33 | 116.66 |
| | Net Loan-Opening | 700.00 | 700.00 | 641.67 | 583.34 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 58.33 | 58.33 | 58.33 |



| | | | | | |
|----------|--|-----------------------------|-----------------|-----------------|-----------------|
| | Net Loan-Closing | 700.00 | 641.67 | 583.34 | 525.01 |
| | Average Loan | 700.00 | 670.84 | 612.51 | 554.18 |
| | Rate of Interest | 9.30% | 9.30% | 9.30% | 9.30% |
| | Interest | 65.10 | 62.39 | 56.96 | 51.54 |
| 9 | Bond XLI | | | | |
| | Gross loan opening | 4003.00 | 4003.00 | 4003.00 | 4003.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 333.58 | 667.16 |
| | Net Loan-Opening | 4003.00 | 4003.00 | 3669.42 | 3335.84 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 333.58 | 333.58 | 333.58 |
| | Net Loan-Closing | 4003.00 | 3669.42 | 3335.84 | 3002.26 |
| | Average Loan | 4003.00 | 3836.21 | 3502.63 | 3169.05 |
| | Rate of Interest | 8.8500% | 8.85% | 8.85% | 8.85% |
| | Interest | 354.27 | 339.50 | 309.98 | 280.46 |
| | SBI LOAN CHILD 1 | | | | |
| | Gross loan opening | 1395.00 | 1395.00 | 1395.00 | 1395.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 1395.00 | 1395.00 | 1395.00 | 1395.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 1395.00 | 1395.00 | 1395.00 | 1395.00 |
| | Average Loan | 1395.00 | 1395.00 | 1395.00 | 1395.00 |
| | Rate of Interest | 10.100% | 10.10% | 10.10% | 10.10% |
| | Interest | 140.90 | 140.90 | 140.90 | 140.90 |
| | Rep Schedule | Bullet payment on 17.1.2023 | | | |
| | Bond XLIV | | | | |
| | Gross loan opening | 11134.57 | 11134.57 | 11134.57 | 11134.57 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 11134.57 | 11134.57 | 11134.57 | 11134.57 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 3711.52 |
| | Net Loan-Closing | 11134.57 | 11134.57 | 11134.57 | 7423.05 |
| | Average Loan | 11134.57 | 11134.57 | 11134.57 | 9278.81 |
| | Rate of Interest | 8.70% | 8.70% | 8.70% | 8.70% |
| | Interest | 968.71 | 968.71 | 968.71 | 807.26 |
| | Rep Schedule | 13.3.2023 Bullet Payment | | | |
| | Bond XLV | | | | |
| | Gross loan opening | 8598.00 | 8598.00 | 8598.00 | 8598.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 716.50 |
| | Net Loan-Opening | 8598.00 | 8598.00 | 8598.00 | 7881.50 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 716.50 | 716.50 |
| | Net Loan-Closing | 8598.00 | 8598.00 | 7881.50 | 7165.00 |



| | | | | | |
|--|--|----------------|-----------------|-----------------|-----------------|
| | Average Loan | 8598.00 | 8598.00 | 8239.75 | 7523.25 |
| | Rate of Interest | 9.65% | 9.65% | 9.65% | 9.65% |
| | Interest | 829.71 | 829.71 | 795.14 | 725.99 |
| | Rep Schedule | | | | |
| | SBI 10000 | | | | |
| | Gross loan opening | 2787.00 | 2787.00 | 2787.00 | 2787.00 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 2787.00 | 2787.00 | 2787.00 | 2787.00 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 2787.00 | 2787.00 | 2787.00 | 2787.00 |
| | Average Loan | 2787.00 | 2787.00 | 2787.00 | 2787.00 |
| | Rate of Interest | 10.10% | 10.10% | 10.10% | 10.10% |
| | Interest | 281.49 | 281.49 | 281.49 | 281.49 |
| | Rep Schedule | | | | |
| | Bond XLVI | | | | |
| | Gross loan opening | 10201.20 | 20402.40 | 20402.40 | 20402.40 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 10201.20 | 10201.20 | 10201.20 | 10201.20 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 10201.20 | 10201.20 | 10201.20 | 10201.20 |
| | Average Loan | 10201.20 | 10201.20 | 10201.20 | 10201.20 |
| | Rate of Interest | 9.30% | 9.30% | 9.30% | 9.30% |
| | Interest | 948.71 | 948.71 | 948.71 | 948.71 |
| | Rep Schedule | | | | |
| | | | | | |
| | | | | | |
| | Total Loan | | | | |
| | Gross loan opening | 83956.29 | 83956.29 | 83956.29 | 83956.29 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 1307.00 | 2884.00 |
| | Net Loan-Opening | 83956.29 | 83956.29 | 82649.29 | 80355.79 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 1307.00 | 1577.00 | 2016.92 |
| | Net Loan-Closing | 83956.29 | 82649.29 | 80355.79 | 73910.85 |
| | Average Loan | 83956.29 | 83302.79 | 81502.54 | 77133.32 |
| | Weighted Average Rate of Interest | 9.0779% | 9.0718% | 9.0587% | 9.0527% |
| | Interest | 7621.47 | 7557.10 | 7383.08 | 6982.69 |



(₹ in lakh)

| CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN | | | | | |
|--|--|--------------------------|----------------|----------------|----------------|
| | Details of Loan | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| | Bond XLIV CHILD 1 | | | | |
| | Gross loan opening | 1246.45 | 1246.45 | 1246.45 | 1246.45 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 1246.45 | 1246.45 | 1246.45 | 1246.45 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 415.48 |
| | Net Loan-Closing | 1246.45 | 1246.45 | 1246.45 | 830.97 |
| | Average Loan | 1246.45 | 1246.45 | 1246.45 | 1038.71 |
| | Rate of Interest | 8.70% | 8.70% | 8.70% | 8.70% |
| | Interest | 108.44 | 108.44 | 108.44 | 90.37 |
| | Rep Schedule | 13.3.2023 Bullet Payment | | | |
| | | | | | |
| | | | | | |
| | Total Loan | | | | |
| | Gross loan opening | 1246.45 | 1246.45 | 1246.45 | 1246.45 |
| | Cumulative Repayment upto DOCO/previous year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Opening | 1246.45 | 1246.45 | 1246.45 | 1246.45 |
| | Additions during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Repayment during the year | 0.00 | 0.00 | 0.00 | 0.00 |
| | Net Loan-Closing | 1246.45 | 1246.45 | 1246.45 | 830.97 |
| | Average Loan | 1246.45 | 1246.45 | 1246.45 | 1038.71 |
| | Weighted Average Rate of Interest | 8.7000% | 8.7000% | 8.7000% | 8.7000% |
| | Interest | 108.44 | 108.44 | 108.44 | 90.37 |

