

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 58/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: 5.7.2018

In the matter of:

Approval for transmission tariff from anticipated COD to 31.3.2019 for 1X125MVAR 400KV Bus reactor at Hassan, Trivandrum, Narendra (New), Gooty, Khammam, Nellore (Existing), Nagarjunasagar, 400/220 kV, 1X500 MVA transformer at Madurai Sub-station along with associated bays and equipments, Replacement of 7X 167 MVA, 400/220 kV ICTs with 2 X 500 MVA ICT at Somanhalli Sub-station (The replaced ICT shall be maintained as a regional spare), Replacement of 1x50 MVAR Bus reactor with 1x125 MVAR Bus reactor at 400/220 kV Narendra Sub-station (The Replaced Bus reactor shall be maintained as a regional spare), 1x63 MVAR Switchable Line reactors at Nellore Pooling Station on each circuit of Nellore pooling station-Gooty 400 kV Quad D/C Line along with associated bays and equipments and Procurement of 01 Nos. 500 MVA, 765/400 kV Regional Spare ICTs at Raichur and Thiruvalem under System Strengthening-XXIII in Southern Region for the 2014-19 tariff period.

And in the matter of

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

....Petitioner

Vs

1. Karnataka Power Transmission Corporation Limited,
(KPTCL), Kaveri Bhawan,
Bangalore – 560009
2. Transmission Corporation of Andhra Pradesh Limited,
(APTRANSCO), Vidyut Soudha,
Hyderabad- 500082
3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam,
Pattom, Thiruvananthapuram - 695 004



4. Tamil Nadu Electricity Board (TNEB)
NPKRR Maaligai, 800, Anna Salai,
Chennai - 600 002
5. Electricity Department
Government of Goa, Vidyuti Bhawan,
3rd Floor, Panaji, Goa-403001
6. Electricity Department,
Government of Pondicherry,
Pondicherry - 605001
7. Eastern Power Distribution Company of Andhra Pradesh Limited,
(APEPDCL) P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh
8. Southern Power Distribution Company of Andhra Pradesh Limited,
(APSPDCL), Srinivasasa Kalyana Mandapam Backside
Tiruchanoor Road, Kesavayana Gunta,
Tirupati-517 501, Chittoor District, Andhra Pradesh
9. Central Power Distribution Company of Andhra Pradesh Limited,
(APCPDCL), Corporate Office, Mint Compound,
Hyderabad - 500 063, Andhra Pradesh
10. Northern Power Distribution Company of Andhra Pradesh Limited,
(APNPDCL), Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet, Warangal - 506 004, Andhra Pradesh
11. Bangalore Electricity Supply Company Ltd.
(BESCOM), Corporate Office, K R. Circle
Bangalore - 560001, Karnataka
12. Gulbarga Electricity Supply Company Ltd
(GESCOM) Station Main Road, Gulbarga, Karnataka
13. Hubli Electricity Supply Company Ltd, (HESCOM)
Navanagar, PB Road, Hubli,
Karnataka
14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575001, Karnataka
15. Chamundeswari Electricity Supply Corporation Ltd.,
(CESC), # 927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore - 570 009, Karnataka



16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad, 500082

....Respondents

For Petitioner : Shri Vivek Kumar Singh, PGCIL
Shri S.S. Raju, PGCIL
Shri S. K. Venkatesan, PGCIL
Shri Rakesh Prasad, PGCIL
Shri V.P. Rastogi, PGCIL

For Respondents : None

ORDER

Power Grid Corporation of India Limited (PGCIL) has filed the instant petition for determination of tariff for 1X125 MVAR 400 kV Bus reactor at Hassan, Trivandrum, Narendra (New), Gooty, Khammam, Nellore (Existing), Nagarjunasagar, 400/220 kV, 1X500 MVA transformer at Madurai Sub-station along with associated bays and equipment, Replacement of 7X 167 MVA, 400/220 kV ICTs with 2 X 500 MVA ICT at Somanhalli Sub-station under System Strengthening-XXVIII in the Southern Region for 2014-19 tariff period Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The petitioner had claimed tariff of the instant assets based on anticipated COD. Later, vide affidavit dated 12.5.2017, the petitioner submitted the actual date of commercial operation of the said assets. The investment approval of the project was accorded by the Board of Directors of the petitioner company at an estimated cost of ₹20328 lakh including IDC of ₹1246 lakh, Price Level-October, 2014 vide Memorandum Ref.: C/CP/SRSS-XXIII dated 3.2.2015. Subsequently, Revised Cost Estimate (RCE) of the project was approved by the Board of Directors of the petitioner company at an estimated cost of ₹26003 lakh including IDC of ₹1330 lakh,



Price Level – August, 2016 vide Memorandum Ref.: C/CP/PA1617-03-0X-RCE-012 dated 31.3.2017. As per the Investment Approval, the transmission asset was scheduled to be commissioned within 30 months from the date of approval (29.1.2015) by the Board of Directors of the petitioner company i.e. by 29.7.2017.

3. The scope of work covered under “System strengthening –XXIII” is as follows:-

Sub Station

a. Extension of 400/220KV Substation at Madurai

- i. Provision of 400/220KV, 1x 500MVA transformer
- ii. 1 number 400KV transformer bay for 1x 500MVA transformer
- iii. 1 number 230KV transformer bay for 1x 500MVA transformer

b. Extension of 400/220KV Substation at Somanhalli

Replacement of 7X 167MVA, 400/220KV ICTs with 2 X 500MVA ICTs (The replaced ICTs shall be maintained as a regional spare)

c. Procurement of 2 No.s 500MVA, 765/400KV Regional spare ICTs

Reactive Compensation

Bus Reactors (400KV)

- 1x125MVAR 400KV Bus reactor at Gooty, Hassan, Khammam, Trivandrum, Nellore (existing), Narendra (New) and Nagarjunasagar substation
- 2X63MVAR bus reactors at Yelahanka Substation
- Replacement of 1 X50MVAR bus reactor with 1X125MVAR bus reactor at 400/220KV Narendra substation (The replaced bus reactor shall be maintained as a regional spare)

Line Reactors (400KV)

- 1X63MVAR Switchable line reactors at Nellore pooling station on each ckt of Nellore pooling Station –Gooty 400KV Quad D/c line

4. The scope of the scheme was discussed and agreed in the 35th & 36th SCM of Southern Region Constituents held on 4.1.2013 & 4.9.2013 respectively. This was ratified by SRPC in the 21st, 22nd and 23rd SRPC meetings held on 2.2.2013, 18.5.2013 and 26.10.2013 respectively. The petitioner has submitted that in the 36th



SCM of Southern Region Constituents held on 4.9.2013, 2 x 80 MVAR switchable line reactors at Nellore Pooling Station for Nellore (PS)-Gooty 400 kV Quad D/C line has been mentioned in place of 2 x 63 MVAR switchable line reactors. This was rectified in the 37th SCM of Southern Region Constituents held on 31.7.2014 and in the 26th SRPC meeting held on 20.12.2014.

5. The Commission vide order dated 7.7.2017 granted transmission tariff for inclusion in the POC charges in terms of proviso (i) of Regulation 7(7) of the 2014 Tariff Regulations for Assets I to IV, VII to X and XI for the year 2016-17, 2017-18 and 2018-19 subject to adjustment as per Regulation 7(7)(iii) and (iv) of the 2014 Tariff Regulations. The list of Assets is at paragraph-6 of this order. In the order dated 7.7.2017, the Commission observed as under:-

“6. We have considered the submissions of the petitioner. The petitioner has submitted the actual date of commissioning of the instant assets vide affidavit dated 12.5.2017. The instant assets were scheduled to be commissioned on 29.7.2017 and they were actually commissioned on various dates before the scheduled commissioning as per the details given in table under para 2. The petitioner has submitted that Asset V has been split in two parts namely Assets V(a) and V(b). However, corresponding tariff forms have not been submitted by the petitioner. Further, Assets V(a) and V(b) i.e. ICTs alongwith associated bays and equipments at Somanhalli Sub-station would replace the existing ICTs and similarly, Asset VI, i.e. the existing Bus Reactor at Narendra Sub-station would also be replaced by 1X125 MVAR 400 kV Bus Reactor. We are of the view that the petitioner should claim tariff for the replaced ICTs and Bus Reactors separately with reference to the tariff of the assets sought to be replaced. Further, we are not inclined to grant AFC for Assets XII and XIII, i.e. Regional Spare ICTs at Raichur and Thiruvallam, at this stage. The petitioner is directed to submit a comprehensive list of Regional Spare ICTs, including Bus Reactors, line reactors, etc. their gross value, year of purchase and petition number in which tariff was granted/claimed. Accordingly, AFC is not allowed for these ICTs and Bus Reactors in this petition. After carrying out a preliminary prudence check of the AFC claimed by the petitioner and taking into consideration the cost variation in case of the assets covered in the instant petition, which shall be looked into in detail at the time of issue of final tariff, the Commission has decided to allow tariff for Assets I, II, III, IV, VII, VIII, IX, X and XI in terms of proviso (i) of Regulation 7(7) of the 2014 Tariff Regulations for the years 2016-17, 2017-18 and 2018-19 for inclusion in the PoC charges as per para 7 of this order.”

6. The details of the elements covered in the petition and their COD is as follows:-



| Srl. No. | Name of the Asset | Scheduled COD | Anticipated COD as per the petition | Actual COD |
|-----------------|---|----------------------|--|-------------------|
| 1. | Asset I 1X 125 MVAR 400 kV Bus reactor at Hassan along with associated bays and equipments | 29.7.2017 | 30.12.2016 | 18.12.2016 |
| 2. | Asset II 400/220 kV, 1X500 MVA transformer at Madurai Sub-station along with associated bays and equipments | 29.7.2017 | 30.12.2016 | 31.12.2016 |
| 3. | Asset III 1x125 MVAR 400 kV Bus reactor at Trivandrum along with associated bays and equipments | 29.7.2017 | 30.12.2016 | 26.1.2017 |
| 4. | Asset IV 1x 125 MVAR 400 kV Bus reactor at Narendra (New) along with associated bays and equipments | 29.7.2017 | 30.12.2016 | 30.12.2016 |
| 5. | Asset V(a) Replacement of 3X 167MVA, 400/220 kV ICTs with 1 X 500 MVA ICT at Somanhalli S/S along with associated bays and equipments | 29.7.2017 | 30.12.2016 | 16.3.2017 |
| | Asset V(b) Replacement of 4X 167MVA, 400/220 kV ICTs with 1 X 500 MVA ICT at Somanhalli S/S along with associated bays and equipments | 29.7.2017 | 15.12.2016 | 31.3.2017 |
| 6. | Asset VI Replacement of 1x50 MVAr Bus reactor with 1x125 MVAr Bus reactor at 400/220 kV Narendra S/S | 29.7.2017 | 15.12.2016 | 25.1.2017 |
| 7. | Asset VII 1X 125 MVAR 400 kV Bus reactor at Gooty along with associated bays and equipments | 29.7.2017 | 1.4.2017 | 28.3.2017 |
| 8. | Asset VIII 1X 125 MVAR 400 kV Bus reactor at Khammam along with associated bays and equipments | 29.7.2017 | 1.4.2017 | 28.3.2017 |
| 9. | Asset IX 1X 125 MVAR 400 kV Bus reactor at Nellore (existing) along with associated bays and equipments | 29.7.2017 | 1.4.2017 | 28.3.2017 |
| 10. | Asset X 1X 125 MVAR 400 kV Bus reactor at Nagarjunasagar along with associated bays and equipments | 29.7.2017 | 1.4.2017 | 28.3.2017 |
| 11. | Asset XI 1x63 MVAr Switchable Line reactors at Nellore Pooling Station on each ckt. of Nellore Pooling Station-Gooty 400 kV Quad D/C Line | 29.7.2017 | 1.4.2017 | 28.3.2017 |
| 12. | Asset XII Procurement of 01 Nos. 500 MVA, 765/400 kV Regional Spare ICTs at Raichur | 29.7.2017 | 1.4.2017 | 31.5.2017 |



| | | | | |
|-----|--|-----------|-----------|-----------|
| 13. | Asset XIII Procurement of 01 Nos. 500 MVA, 765/400 kV Regional Spare ICTs at Thiruvallam | 29.7.2017 | 31.1.2017 | 28.3.2017 |
|-----|--|-----------|-----------|-----------|

7. The petitioner has submitted the CEA inspection certificate, WRLDC certificate, COD letter and CMD certificate for the said assets. Accordingly, the commercial operation date of the transmission assets has been considered as in the above table. The Commission during the hearing of Petition No. 38/TT/2017 filed by the petitioner for approval of transmission tariff from COD to 31.3.2019 for Assets (10 nos.) of ERSS IX Project in Eastern Region on 18.1.2018 directed as under:-

“2. Since the petitioner has not submitted proper reply regarding requirement of regional spares vis a vis their current availability, the Commission directed to submit a proper reply. The Commission further directed to set up a Committee consisting of representatives from PGCIL, NLDC and CEA under the Chairmanship of the Chief (Engineering) of the Commission to assess the requirement of regional spares including bus reactors, line reactors, ICTs, etc., present availability and other related issues and submit a comprehensive report on the requirement of spare bus reactors, line reactors, ICTs and related equipment in different regions of the country to the Commission by 9.3.2018. The Commission also observed that final tariff in the matter would be allowed only after consideration of the Report to be submitted by the Chief (Engineering) of the Commission.”

8. The matter is pending. In view of this, the transmission tariff of Asset V (a), Asset V (b), Asset-VI, Asset-XII and Asset-XIII has been excluded from the scope of the petition. The petitioner is, however, granted liberty to approach the Commission for fixation of tariff of these assets after determination of tariff in Petition No. 38/TT/2017, after considering the report of the said committee. In the meanwhile, we direct the Committee to finalize the report and submit the same to the Commission within two months of this order.

9. Vide order dated 7.7.2017, the petitioner was directed to submit a comprehensive list of Regional Spares including bus reactor, line reactor, ICTs etc.,



their gross value, year of purchase and petition number in which tariff was granted/claimed and the requirement of regional spares vis-a-vis their current availability status. In terms of the directions of the Commission in order dated 7.7.2017 (as stated *supra*) the petitioner vide affidavit dated 4.10.2018, submitted the comprehensive list of regional spares including bus reactors, line reactors and ICTs as tabulated hereunder:-

| (₹ In lakh) | | | | | |
|-------------|---------------------------------------|-----------|------------------|------------------|------------------------------|
| Srl. No | Asset Description | COD | Petition No | Year of Purchase | Gross Value as on 31.03.2014 |
| 1 | 400 kV 80 MVAr Spare Reactor at Gooty | 1.1.2013 | 145/TT/2016 | 2012 | 472.42 |
| 2 | 400/220 kV, 315MVA ICT at Hyderabad | 1.3.2013 | 145/TT/2016 | 2012 | 1112.18 |
| 3 | 3X167 MVA, 400/220 kV ICTs | 2.7.1986 | Current Petition | | |
| 4 | 4X167 MVA, 400/220 kV ICTs | 28.2.1990 | Current Petition | | |
| 5 | 1x50 MVAr 400/220 kV Bus reactor | 1.1.2008 | Current Petition | | |

10. The petitioner has claimed transmission charges for the said assets as follows:-

| (₹ in lakh) | | | |
|-----------------------------|--------------------|---------------|---------------|
| Asset-I | | | |
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 14.05 | 58.93 | 66.00 |
| Interest on Loan | 14.60 | 58.11 | 60.53 |
| Return on equity | 15.65 | 65.66 | 73.54 |
| Interest on Working Capital | 1.93 | 7.46 | 7.96 |
| O & M Expenses | 18.52 | 66.51 | 68.71 |
| Total | 64.75 | 256.67 | 276.74 |

| (₹ in lakh) | | | |
|-----------------------------|--------------------|---------|---------|
| Asset-II | | | |
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 26.38 | 122.21 | 136.53 |
| Interest on Loan | 27.14 | 120.34 | 125.00 |
| Return on equity | 29.39 | 136.16 | 152.12 |
| Interest on Working Capital | 3.25 | 14.17 | 15.13 |



| | | | |
|----------------|---------------|---------------|---------------|
| O & M Expenses | 27.65 | 113.06 | 116.81 |
| Total | 113.81 | 505.94 | 545.59 |

(₹ in lakh)

| Asset-III | | | |
|-----------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 9.97 | 69.43 | 81.40 |
| Interest on Loan | 9.90 | 66.04 | 72.30 |
| Return on equity | 11.11 | 77.36 | 90.70 |
| Interest on Working Capital | 1.29 | 8.12 | 8.92 |
| O & M Expenses | 11.77 | 66.51 | 68.71 |
| Total | 44.04 | 287.46 | 322.03 |

(₹ in lakh)

| Asset-IV | | | |
|-----------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 9.64 | 43.10 | 48.37 |
| Interest on Loan | 9.67 | 41.22 | 43.05 |
| Return on equity | 10.74 | 48.02 | 53.89 |
| Interest on Working Capital | 1.39 | 5.86 | 6.24 |
| O & M Expenses | 14.05 | 56.84 | 58.73 |
| Total | 45.49 | 195.04 | 210.28 |

(₹ in lakh)

| Assets-VII - XI | | | |
|-----------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 2.69 | 307.46 | 364.33 |
| Interest on Loan | 2.81 | 309.43 | 343.34 |
| Return on equity | 3.00 | 343.66 | 408.10 |
| Interest on Working Capital | 0.40 | 41.82 | 45.89 |
| O & M Expenses | 4.15 | 399.06 | 412.26 |
| Total | 13.05 | 1401.43 | 1573.92 |

11. The claim of the petitioner for interest on working capital for the said assets are as under:-

(₹ in lakh)

| Asset-I | | | |
|-----------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| O&M Expenses | 5.37 | 5.54 | 5.73 |
| Maintenance Spares | 9.66 | 9.98 | 10.31 |
| Receivables | 37.52 | 42.78 | 46.12 |
| Total Working Capital | 52.54 | 58.30 | 62.16 |
| Rate of Interest | 12.80% | 12.80% | 12.80% |



| | | | |
|--------------------------------------|------|------|------|
| Interest on Working Capital | 6.73 | 7.46 | 7.96 |
| Pro rata Interest on Working Capital | 1.93 | 7.46 | 7.96 |

(₹ in lakh)

| Asset-II | | | |
|--------------------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| O&M Expenses | 9.12 | 9.42 | 9.73 |
| Maintenance Spares | 16.41 | 16.96 | 17.52 |
| Receivables | 75.07 | 84.32 | 90.93 |
| Total Working Capital | 100.60 | 110.70 | 118.19 |
| Rate of Interest | 12.80% | 12.80% | 12.80% |
| Interest on Working Capital | 12.88 | 14.17 | 15.13 |
| Pro rata Interest on Working Capital | 3.25 | 14.17 | 15.13 |

(₹ in lakh)

| Asset-III | | | |
|--------------------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| O&M Expenses | 5.37 | 5.54 | 5.73 |
| Maintenance Spares | 9.66 | 9.98 | 10.31 |
| Receivables | 40.16 | 47.91 | 53.67 |
| Total Working Capital | 55.18 | 63.43 | 69.70 |
| Rate of Interest | 12.80% | 12.80% | 12.80% |
| Interest on Working Capital | 7.06 | 8.12 | 8.92 |
| Pro rata Interest on Working Capital | 1.29 | 8.12 | 8.92 |

(₹ in lakh)

| Asset-IV | | | |
|--------------------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| O&M Expenses | 4.58 | 4.74 | 4.89 |
| Maintenance Spares | 8.25 | 8.53 | 8.81 |
| Receivables | 29.69 | 32.51 | 35.05 |
| Total Working Capital | 42.53 | 45.77 | 48.75 |
| Rate of Interest | 12.80% | 12.80% | 12.80% |
| Interest on Working Capital | 5.44 | 5.86 | 6.24 |
| Pro rata Interest on Working Capital | 1.39 | 5.86 | 6.24 |

(₹ in lakh)

| Asset-VII to XI | | | |
|------------------------|-------------------------------|----------------|----------------|
| Particulars | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| O&M Expenses | 32.16 | 33.26 | 34.36 |
| Maintenance Spares | 57.89 | 59.86 | 61.84 |



| | | | |
|--------------------------------------|--------|--------|--------|
| Receivables | 202.35 | 233.57 | 262.32 |
| Total Working Capital | 292.40 | 326.69 | 358.51 |
| Rate of Interest | 12.80% | 12.80% | 12.80% |
| Interest on Working Capital | 37.43 | 41.82 | 45.89 |
| Pro rata Interest on Working Capital | 0.40 | 41.82 | 45.89 |

12. 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. KSEB has filed in reply vide affidavit dated 28.6.2017. In response, the Petitioner has filed its rejoinder to the said reply vide affidavit dated 9.1.2018.

Capital cost

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

"The Capital Cost of a new project shall include the following:

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

14. The details of capital cost claimed by the petitioner vide affidavit dated 4.10.2017 as on actual COD and the additional capital expenditure projected to be incurred for the instant transmission assets are summarized below:-



(₹ in lakh)

| Asset No. | Approved Cost (As per FR) | Approved Cost (As per RCE) | Expenditure Up to COD | Projected Expenditure | | | Estimated completion Cost |
|--------------------|---------------------------|----------------------------|-----------------------|-----------------------|---------|---------|---------------------------|
| | | | | 2016-17 | 2017-18 | 2018-19 | |
| Asset-I | 975.12 | 1472.38 | 869.08 | 154.32 | 206.64 | 40 | 1270.04 |
| Asset-II | 1955.26 | 2885.65 | 1920.22 | 186.85 | 451.24 | 55 | 2613.31 |
| Asset-III | 1343.40 | 1818.09 | 976.36 | 144.72 | 403.09 | 35 | 1559.17 |
| Asset-IV | 844.65 | 1059.57 | 707.56 | 37.78 | 153.23 | 35 | 933.57 |
| Assets (VII to XI) | 5784.13 | 7940.88 | 4830.89 | 0.00 | 2106.01 | 0.00 | 6936.90 |

15. According to Auditor's Certificate, the expenditure up to COD has been verified from the books of accounts of the project. The projected expenditure is on the basis of details furnished by the Management.

Time over-run

16. As per the investment approval dated 3.2.2015, the assets covered in the instant petition were scheduled to be commissioned within 30 months from the date of approval of Board of director's i.e. 29.1.2015. The scheduled date of commissioning of the asset works out to 29.7.2017 against which the subject Asset-I to V, VI, VII to XI and XIII are put under commercial operation w.e.f. 18.12.2016, 31.12.2016, 26.1.2017, 30.12.2016, 16.03.2017, 31.3.2017, 25.1.2017 & 28.3.2017 respectively. Accordingly, there is no delay in commissioning of Asset I, II, III, IV, VI, VII, VIII, IX, X and XI.

Cost over-run

17. As compared to RCE, there has been no cost over-run in commissioning of the instant transmission assets. The respondent, KSEB has submitted that there is cost over-run for all assets (8.86 to 30.98%) except Asset-XII and XIII as compared to the original estimated cost. It has further submitted that the petitioner has not



furnished any documentary evidence with respect to price variation allowed as per contract and increase in civil works. KSEB has further submitted that the RCE has not been approved by the Board of Director of the petitioner company. Accordingly, it has submitted that the claim of the petitioner may be disallowed. In response, the petitioner vide affidavit dated 9.1.2018 has explained the variation in cost and has submitted that it had made concerned parties to ensure timely operation of the project, thereby reducing the overall cost of transmission project. The petitioner has added that in certain cases, despite of best efforts of the petitioner, the variation in the cost and time goes beyond the control of the petitioner. The petitioner has pointed out that it has submitted the Board approved RCE vide affidavit dated 4.10.2017. The matter has been examined, it is noticed that the project has been completed within the scheduled COD and there is no cost over-run in the commissioning of the assets. However, the variation in cost is due to price variation during the execution of the project which is beyond the control of the petitioner. Accordingly, we find no merit in the submissions of KSEB.

Treatment of IDC and IEDC

18. The petitioner has claimed Interest during Construction (IDC) on accrual basis and has also submitted the discharge details of IDC as under:-

| (₹ in lakh) | | | |
|------------------|---------------------------------------|---------------------------------|-------------------------------|
| Asset | IDC As per Auditor certificate | IDC Discharged up to COD | IDC Discharged 2017-18 |
| Asset I | 27.36 | 6.25 | 21.11 |
| Asset II | 44.78 | 8.38 | 36.40 |
| Asset III | 22.73 | 7.30 | 15.43 |
| Asset IV | 16.01 | 4.54 | 11.47 |
| Assets VII to XI | 119.96 | 35.16 | 84.79 |
| Total | 230.84 | 61.63 | 169.20 |



19. The petitioner has submitted IDC discharged up to COD for the asset in which the loan-wise drawl date has also been indicated. For the purpose of determining IDC, the loan-wise drawl date as furnished by the petitioner has been assumed as date of infusion of debt fund for the concerned loan. Accordingly, out of total IDC of ₹230.84 lakh, an amount of ₹61.63 lakh (discharged upto COD) has been allowed on cash basis, as on COD.

20. The petitioner has submitted that the entire IEDC claimed in Auditor's Certificate is on cash basis and has been paid up to the COD of the assets. Hence, the entire amount of IEDC has been considered.

Treatment of initial spares

21. 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 capitalized as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

| | |
|---|---------|
| (d) Transmission system | |
| (i) Transmission line | - 1.00% |
| (ii) Transmission Sub-station (Green Field) | - 4.00% |
| (iii) Transmission Sub-station (Brown Field) | - 6.00% |
| (iv) Series Compensation devices and HVDC Station | - 4.00% |
| (v) Gas Insulated Sub-station (GIS) | -5.00% |
| (vi) Communication system | -3.5% |

Provided that:

- (i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:
- (ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as per the ceiling norms specified for transmission system under these regulations:
- (iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the



transmission project at the time of truing up:

- (iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break up of head wise IDC & IEDC in its tariff application.”

22. The details of initial spares claimed by the petitioner are as under:-

(₹ in lakh)

| Asset | Substation | | |
|------------------|-------------------|----------------|-------------------------------------|
| | Cost [#] | Initial Spares | Initial spares as % of Capital Cost |
| Asset-I | 1174.81 | 66.25 | 5.98 |
| Asset-II | 2418.56 | 102.99 | 4.45 |
| Asset-III | 1497.57 | 68.25 | 4.77 |
| Asset-IV | 864.05 | 42.26 | 5.14 |
| Assets-VII to XI | 6694.13 | 333.04 | 5.24 |

#Total Cost (Plant and machinery cost excluding IDC, IEDC, land cost and cost of civil works for the purpose of initial spares).

23. The Petitioner vide affidavit dated 9.3.2018 has submitted the year-wise capitalization and discharge details of initial spares for all assets and the expenditure on initial spares included in the Auditor's certificate as per cash expenditure incurred. Also, the discharge of initial spares as included in the Auditor's certificate is given below:-

(₹ in lakh)

| Name of Assets | Element | Total Spares | Expenditure on initial Spares Upto COD and included in auditor certificate upto COD | Expenditure on initial spares in 2016-17 (Add cap) | Expenditure on initial spares in 2017-18 (Add cap) |
|--------------------|---------|--------------|---|--|--|
| Asset-I | S/S | 66.25 | 50.93 | 0.00 | 15.32 |
| Asset-II | S/S | 102.99 | 77.25 | 12.87 | 12.87 |
| Asset-III | S/S | 68.25 | 51.18 | 0.00 | 17.07 |
| Asset-IV | S/S | 42.26 | 31.70 | 10.56 | 0.00 |
| Assets (VII to XI) | S/S | 333.04 | 238.84 | 0.00 | 94.20 |



24. The expenditure on initial spares has been included in the Auditor's certificate as per cash outflow. The petitioner has claimed initial spares within the ceiling limit of 6% as per the 2014 Tariff Regulations. Since the petitioner's claim of initial spares is in terms of the 2014 Tariff Regulations, the same has been allowed.

Capital Cost as on COD

25. The details of the capital cost considered as on COD after necessary adjustments of IDC and IEDC is as follows:-

| (₹ in lakh) | | | |
|------------------|--|------------------------------|--|
| Asset | Capital cost as on COD claimed by the petitioner | Un-discharged IDC as on COD. | Capital cost as on COD considered for tariff calculation |
| Asset-I | 869.08 | 21.11 | 847.97 |
| Asset-II | 1920.22 | 36.40 | 1883.82 |
| Asset-III | 976.36 | 15.43 | 960.93 |
| Asset-IV | 707.56 | 11.47 | 696.09 |
| Assets-VII to XI | 4830.89 | 84.79 | 4746.10 |

Projected additional capital expenditure

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

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

- (i) Undischarged liabilities recognized to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in Law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”



27. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” date as under:-

“cut-off date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation”.

Accordingly, the cut-off date for Asset-I, II and IV is 31.3.2019 and for Asset-III, VI, VII to XI is 31.03.2020.

28. The details of the additional capital expenditure claimed by the petitioner under Regulation 14(1) of 2014 Tariff Regulations are as under:-

| Asset No. | Projected Expenditure | | | (₹ in lakh) Total |
|------------------|-----------------------|---------|---------|----------------------|
| | 2016-17 | 2017-18 | 2018-19 | |
| Asset-I | 154.32 | 206.64 | 40 | 400.96 |
| Asset-II | 186.85 | 451.24 | 55 | 693.09 |
| Asset-III | 144.72 | 403.09 | 35 | 582.81 |
| Asset-IV | 37.78 | 153.23 | 35 | 226.01 |
| Assets-VII to XI | 0.00 | 2106.01 | 0.00 | 2106.01 |

29. We have considered the submission made by the petitioner and the respondent KSEB. It is noticed that the additional capital expenditure incurred and projected to be incurred for the transmission assets within the cut-off date and also within the approved apportioned cost. Moreover, the said expenditure incurred is on account of balance and retention payments. Accordingly, the claim of the petitioner is allowed under Regulation 14(1) of the 2014 Tariff Regulations.

Capital cost as on 31.3.2019

30. Based on the above, the capital cost considered as on 31.3.2019 (after adjustment of IDC) on cash basis, is as follows:-



(₹ in lakh)

| Assets | Cost on COD | Additional capital expenditure with IDC discharged during 2017-18 | | | Total estimated cost as on 31.3.2019 |
|------------------|-------------|---|---------|---------|--------------------------------------|
| | | 2016-17 | 2017-18 | 2018-19 | |
| Asset-I | 847.97 | 154.32 | 227.75 | 40.00 | 1270.04 |
| Asset-II | 1883.82 | 186.85 | 487.64 | 55.00 | 2613.31 |
| Asset-III | 960.93 | 144.72 | 418.52 | 35.00 | 1559.17 |
| Asset-IV | 696.09 | 37.78 | 164.70 | 35.00 | 933.57 |
| Assets-VII to XI | 4746.10 | 0.00 | 2190.80 | 0.00 | 6936.90 |

Debt- equity ratio

31. 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”

32. The details of debt-equity in respect of the assets as on the date of commercial operation as on COD and as on 31.3.2019 are as under:-



(₹ in lakh)

| Asset-I | | | |
|--------------------|---------------|------------------|------------------------|
| Particulars | % | As on COD | As on 31.3.2019 |
| Debt | 70.00 | 593.58 | 889.03 |
| Equity | 30.00 | 254.39 | 381.01 |
| Total | 100.00 | 847.97 | 1270.04 |

(₹ in lakh)

| Asset-II | | | |
|--------------------|---------------|------------------|------------------------|
| Particulars | % | As on COD | As on 31.3.2019 |
| Debt | 70.00 | 1318.67 | 1829.32 |
| Equity | 30.00 | 565.15 | 783.99 |
| Total | 100.00 | 1883.82 | 2613.31 |

(₹ in lakh)

| Asset-III | | | |
|--------------------|---------------|------------------|------------------------|
| Particulars | % | As on COD | As on 31.3.2019 |
| Debt | 70.00 | 672.65 | 1091.42 |
| Equity | 30.00 | 288.28 | 467.75 |
| Total | 100.00 | 960.93 | 1559.17 |

(₹ in lakh)

| Asset-IV | | | |
|--------------------|---------------|------------------|------------------------|
| Particulars | % | As on COD | As on 31.3.2019 |
| Debt | 70.00 | 487.26 | 653.50 |
| Equity | 30.00 | 208.83 | 280.07 |
| Total | 100.00 | 696.09 | 933.57 |

(₹ in lakh)

| Assets-VII to XI | | | |
|-------------------------|---------------|------------------|------------------------|
| Particulars | % | As on COD | As on 31.3.2019 |
| Debt | 70.00 | 3322.27 | 4855.83 |
| Equity | 30.00 | 1423.83 | 2081.07 |
| Total | 100.00 | 4746.10 | 6936.90 |

33. Also, the additional capital expenditure has been considered in the debt-equity ratio of 70:30.

Return on equity

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



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

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

Provided that:

- (i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
- (ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
- (iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:
- (iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:
- (v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
- (vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

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

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

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

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non- transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”



35. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax, including interest received from IT authorities shall be recoverable/ adjustable after completion of income tax assessment of the financial year.

36. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. Accordingly, ROE has been computed at the rate of 19.610% for the period 2014-19 after grossing up the ROE with MAT rate as per the above Regulations. The said regulation 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 ROE. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of ROE, which is subject to revision based on the actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE allowed is given below:-

(₹ in lakh)

| Asset-I | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-------------------------------|----------------|----------------|
| Opening Equity | 254.39 | 300.69 | 369.01 |
| Addition due to Additional Capitalization | 46.30 | 68.33 | 12.00 |
| Closing Equity | 300.69 | 369.01 | 381.01 |
| Average Equity | 277.54 | 334.85 | 375.01 |
| Return on Equity (Base Rate) | 15.50% | 15.50% | 15.50% |
| Tax rate (MAT for 2013-14) | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 19.610% | 19.610% | 19.610% |
| Return on Equity (Pre Tax) | 15.51 | 65.66 | 73.54 |

(₹ in lakh)

| Asset-II | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-------------------------------|----------------|----------------|
| Opening Equity | 565.15 | 621.20 | 767.49 |
| Addition due to Additional Capitalization | 56.06 | 146.29 | 16.50 |
| Closing Equity | 621.20 | 767.49 | 783.99 |
| Average Equity | 593.17 | 694.35 | 775.74 |
| Return on Equity (Base Rate) | 15.50% | 15.50% | 15.50% |
| Tax rate (MAT for 2013-14) | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 19.610% | 19.610% | 19.610% |
| Return on Equity (Pre Tax) | 29.00 | 136.16 | 152.12 |

(₹ in lakh)

| Asset-III | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-------------------------------|----------------|----------------|
| Opening Equity | 288.28 | 331.70 | 457.25 |
| Addition due to Additional Capitalization | 43.42 | 125.56 | 10.50 |
| Closing Equity | 331.70 | 457.25 | 467.75 |
| Average Equity | 309.99 | 394.47 | 462.50 |
| Return on Equity (Base Rate) | 15.50% | 15.50% | 15.50% |
| Tax rate (MAT for 2013-14) | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 19.610% | 19.610% | 19.610% |
| Return on Equity (Pre Tax) | 10.83 | 77.36 | 90.70 |

(₹ in lakh)

| Asset-IV | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-------------------------------|----------------|----------------|
| Opening Equity | 208.83 | 220.16 | 269.57 |
| Addition due to Additional Capitalization | 11.33 | 49.41 | 10.50 |
| Closing Equity | 220.16 | 269.57 | 280.07 |
| Average Equity | 214.49 | 244.87 | 274.82 |
| Return on Equity (Base Rate) | 15.50% | 15.50% | 15.50% |
| Tax rate (MAT for 2013-14) | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 19.610% | 19.610% | 19.610% |
| Return on Equity (Pre Tax) | 10.60 | 48.02 | 53.89 |

(₹ in lakh)

| Assets-VII to XI | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-------------------------------|----------------|----------------|
| Opening Equity | 1423.83 | 1423.83 | 2081.07 |
| Addition due to Additional Capitalization | 0.00 | 657.24 | 0.00 |
| Closing Equity | 1423.83 | 2081.07 | 2081.07 |
| Average Equity | 1423.83 | 1752.45 | 2081.07 |
| Return on Equity (Base Rate) | 15.50% | 15.50% | 15.50% |
| Tax rate (MAT for 2013-14) | 20.961% | 20.961% | 20.961% |
| Rate of Return on Equity (Pre Tax) | 19.610% | 19.610% | 19.610% |
| Return on Equity (Pre Tax) | 3.06 | 343.66 | 408.10 |



Interest on loan

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

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

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

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization 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 de-capitalization of such asset.

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

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

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

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

38. In line with the above Regulations, the petitioner entitlement to interest on loan has been calculated on the following basis:-

- (i) Gross amount of loan, repayment of installments and rate of interest and weighted average rate of interest on actual average loan have been considered as per Form 9C given in the affidavit dated 21.7.2017;
- (ii) The normative repayment for the tariff period 2014-19 shall deemed to be equal to the depreciation allowed for that period;



- (iii) 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.

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

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

| (₹ in lakh) | | | |
|---|-------------------------------|----------------|----------------|
| Asset-I | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Gross Normative Loan | 593.58 | 701.60 | 861.03 |
| Cumulative Repayment up to Prev. year | 0.00 | 13.92 | 72.85 |
| Net Loan-Opening | 593.58 | 687.68 | 788.18 |
| Addition due to Additional Capitalization | 108.02 | 159.43 | 28.00 |
| Repayment during the year | 13.92 | 58.93 | 66.00 |
| Net Loan-Closing | 687.68 | 788.18 | 750.18 |
| Average Loan | 640.63 | 737.93 | 769.18 |
| WARI on Loan | 7.9254% | 7.8765% | 7.8711% |
| Interest | 14.47 | 58.12 | 60.54 |

| (₹ in lakh) | | | |
|---|-------------------------------|----------------|----------------|
| Asset-II | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Gross Normative Loan | 1318.67 | 1449.47 | 1790.82 |
| Cumulative Repayment up to Prev. year | 0.00 | 26.03 | 148.23 |
| Net Loan-Opening | 1318.67 | 1423.44 | 1642.58 |
| Addition due to Additional Capitalization | 130.80 | 341.35 | 38.50 |
| Repayment during the year | 26.03 | 122.21 | 136.53 |
| Net Loan-Closing | 1423.44 | 1642.58 | 1544.55 |
| Average Loan | 1371.06 | 1533.01 | 1593.57 |
| WARI on Loan | 7.8335% | 7.8515% | 7.8459% |
| Interest | 26.78 | 120.37 | 125.03 |

| (₹ in lakh) | | | |
|---|-------------------------------|----------------|----------------|
| Asset-III | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Gross Normative Loan | 672.65 | 773.96 | 1066.92 |
| Cumulative Repayment up to Prev. year | 0.00 | 9.72 | 79.14 |
| Net Loan-Opening | 672.65 | 764.24 | 987.78 |
| Addition due to Additional Capitalization | 101.30 | 292.96 | 24.50 |
| Repayment during the year | 9.72 | 69.43 | 81.40 |
| Net Loan-Closing | 764.24 | 987.78 | 930.88 |



| | | | |
|--------------|---------|---------|---------|
| Average Loan | 718.45 | 876.01 | 959.33 |
| WARI on Loan | 7.5410% | 7.5412% | 7.5389% |
| Interest | 9.65 | 66.06 | 72.32 |

(₹ in lakh)

| Asset-IV | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-----------------------|---------|---------|
| Gross Normative Loan | 487.26 | 513.71 | 629.00 |
| Cumulative Repayment up to Prev. year | 0.00 | 9.52 | 52.61 |
| Net Loan-Opening | 487.26 | 504.19 | 576.38 |
| Addition due to Additional Capitalization | 26.45 | 115.29 | 24.50 |
| Repayment during the year | 9.52 | 43.10 | 48.37 |
| Net Loan-Closing | 504.19 | 576.38 | 552.52 |
| Average Loan | 495.73 | 540.29 | 564.45 |
| WARI on Loan | 7.6393% | 7.6300% | 7.6280% |
| Interest | 9.55 | 41.22 | 43.06 |

(₹ in lakh)

| Assets-VII to XI | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|---|-----------------------|---------|---------|
| Gross Normative Loan | 3322.27 | 3322.27 | 4855.83 |
| Cumulative Repayment up to Prev. year | 0.00 | 2.75 | 310.21 |
| Net Loan-Opening | 3322.27 | 3319.52 | 4545.62 |
| Addition due to Additional Capitalization | 0.00 | 1533.56 | 0.00 |
| Repayment during the year | 2.75 | 307.46 | 364.33 |
| Net Loan-Closing | 3319.52 | 4545.62 | 4181.29 |
| Average Loan | 3320.90 | 3932.57 | 4363.46 |
| WARI on Loan | 7.8681% | 7.8683% | 7.8685% |
| Interest | 2.86 | 309.43 | 343.34 |

Depreciation

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

"27. Depreciation:

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

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

(2) The value base for the purpose of depreciation shall be the capital cost of the



asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis

(3) 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.

(4) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

42. Depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-III to the 2014 Tariff Regulations. Based on the above, the depreciation has been considered are as follows:-

| (₹ in lakh) | | | |
|-----------------------------------|-----------------------|---------|---------|
| Asset-I | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Opening Gross Block | 847.97 | 1002.29 | 1230.04 |
| Projected Addition during 2014-19 | 154.32 | 227.75 | 40.00 |
| Closing Gross Block | 1002.29 | 1230.04 | 1270.04 |
| Average Gross Block | 925.13 | 1116.17 | 1250.04 |
| Rate of Depreciation | 5.28% | 5.28% | 5.28% |
| Depreciable Value | 832.62 | 1004.55 | 1125.04 |
| Remaining Depreciable Value | 832.62 | 990.63 | 1052.19 |
| Depreciation | 13.92 | 58.93 | 66.00 |

| (₹ in lakh) | | | |
|-----------------------------------|-----------------------|---------|---------|
| Asset-II | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Opening Gross Block | 1883.82 | 2070.67 | 2558.31 |
| Projected Addition during 2014-19 | 186.85 | 487.64 | 55.00 |
| Closing Gross Block | 2070.67 | 2558.31 | 2613.31 |
| Average Gross Block | 1977.25 | 2314.49 | 2585.81 |
| Rate of Depreciation | 5.28% | 5.28% | 5.28% |
| Depreciable Value | 1779.52 | 2083.04 | 2327.23 |
| Remaining Depreciable Value | 1779.52 | 2057.01 | 2178.99 |
| Depreciation | 26.03 | 122.21 | 136.53 |



(₹ in lakh)

| Asset-III | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------------|-------------------------------|----------------|----------------|
| Opening Gross Block | 960.93 | 1105.65 | 1524.17 |
| Projected Addition during 2014-19 | 144.72 | 418.52 | 35.00 |
| Closing Gross Block | 1105.65 | 1524.17 | 1559.17 |
| Average Gross Block | 1033.29 | 1314.91 | 1541.67 |
| Rate of Depreciation | 5.28% | 5.28% | 5.28% |
| Depreciable Value | 929.96 | 1183.42 | 1387.50 |
| Remaining Depreciable Value | 929.96 | 1173.70 | 1308.36 |
| Depreciation | 9.72 | 69.43 | 81.40 |

(₹ in lakh)

| Asset-IV | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------------|-------------------------------|----------------|----------------|
| Opening Gross Block | 696.09 | 733.87 | 898.57 |
| Projected Addition during 2014-19 | 37.78 | 164.70 | 35.00 |
| Closing Gross Block | 733.87 | 898.57 | 933.57 |
| Average Gross Block | 714.98 | 816.22 | 916.07 |
| Rate of Depreciation | 5.28% | 5.28% | 5.28% |
| Depreciable Value | 643.48 | 734.60 | 824.46 |
| Remaining Depreciable Value | 643.48 | 725.08 | 771.85 |
| Depreciation | 9.52 | 43.10 | 48.37 |

(₹ in lakh)

| Assets-VII to XI | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------------|-------------------------------|----------------|----------------|
| Opening Gross Block | 4746.10 | 4746.10 | 6936.90 |
| Projected Addition during 2014-19 | 0.00 | 2190.80 | 0.00 |
| Closing Gross Block | 4746.10 | 6936.90 | 6936.90 |
| Average Gross Block | 4746.10 | 5841.50 | 6936.90 |
| Rate of Depreciation | 5.28% | 5.26% | 5.25% |
| Depreciable Value | 4271.49 | 5257.35 | 6243.21 |
| Remaining Depreciable Value | 4271.49 | 5254.60 | 5933.00 |
| Depreciation | 2.75 | 307.46 | 364.33 |

Operation & Maintenance Expenses (O&M Expenses)

43. Regulation 29 (4) (a) of the 2014 Tariff Regulations provides for O & M Expenses norms for transmission system based on the type of sub-station and the transmission line. Accordingly, the O&M Expenses norms specified for the elements covered this petition are as under:-



| Element | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| 400 kV bay AIS (₹ lakh/bay) | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |
| 400 kV bay GIS (₹ lakh/bay) | 51.54 | 53.25 | 55.02 | 56.84 | 58.73 |
| 220 kV bay (₹ lakh/bay) | 42.21 | 43.61 | 45.06 | 46.55 | 48.10 |

44. The petitioner has computed 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 under:-

| (₹ in lakh) | | | |
|--------------------|----------------|----------------|----------------|
| Assets | 2016-17 | 2017-18 | 2018-19 |
| Asset-I | 18.34 | 66.51 | 68.71 |
| Asset-II | 27.28 | 113.06 | 116.81 |
| Asset-III | 11.46 | 66.51 | 68.71 |
| Asset-IV | 13.87 | 56.84 | 58.73 |
| Assets-VII to XI | 4.23 | 399.06 | 412.26 |

45. The petitioner has submitted that the 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.

46. The O&M Expenses have been worked out and allowed as per the O&M Expense norms specified under the 2014 Tariff Regulations. As regards impact of wage revision, the petitioner is granted liberty to file application and the same will be dealt with in accordance with law.



Interest on working capital

47. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff

Regulations specify as follows:-

“28. Interest on Working Capital

- (c)(i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”

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

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

(i) Receivables

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

(ii) Maintenance spares

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

(iii) O & M expenses

Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M



expenses for 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 rate of interest on working capital considered is 12.80% (SBI Base Rate of 9.30% as on 1.4.2016 plus 350 basis points).

49. Accordingly, interest on working capital worked out and allowed as under:-

(₹ in lakh)

| Asset-I | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|--------------------|-------------------------------|----------------|----------------|
| Maintenance Spares | 9.65 | 9.98 | 10.31 |
| O & M expenses | 5.36 | 5.54 | 5.73 |
| Receivables | 37.52 | 42.78 | 46.13 |
| Total | 52.54 | 58.30 | 62.16 |
| Interest | 1.92 | 7.46 | 7.96 |

(₹ in lakh)

| Asset-II | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|--------------------|-------------------------------|----------------|----------------|
| Maintenance Spares | 16.41 | 16.96 | 17.52 |
| O & M expenses | 9.12 | 9.42 | 9.73 |
| Receivables | 75.07 | 84.33 | 90.94 |
| Total | 100.60 | 110.71 | 118.19 |
| Interest | 3.21 | 14.17 | 15.13 |

(₹ in lakh)

| Asset-III | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|--------------------|-------------------------------|----------------|----------------|
| Maintenance Spares | 9.65 | 9.98 | 10.31 |
| O & M expenses | 5.36 | 5.54 | 5.73 |
| Receivables | 40.16 | 47.91 | 53.68 |
| Total | 55.17 | 63.43 | 69.71 |
| Interest | 1.26 | 8.12 | 8.92 |

(₹ in lakh)

| Asset-IV | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|--------------------|-------------------------------|----------------|----------------|
| Maintenance Spares | 8.25 | 8.53 | 8.81 |
| O & M expenses | 4.59 | 4.74 | 4.89 |
| Receivables | 29.69 | 32.51 | 35.05 |
| Total | 42.53 | 45.77 | 48.75 |
| Interest | 1.37 | 5.86 | 6.24 |



(₹ in lakh)

| Assets-VII to XI | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|--------------------|-----------------------|--------------|--------------|
| Maintenance Spares | 57.90 | 59.86 | 61.84 |
| O & M expenses | 32.17 | 33.26 | 34.36 |
| Receivables | 202.42 | 233.57 | 262.32 |
| Total | 292.48 | 326.68 | 358.51 |
| Interest | 0.41 | 41.82 | 45.89 |

Transmission charges

50. The transmission charges allowed for the said assets are as under:-

(₹ in lakh)

| Asset-I | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------|-----------------------|---------------|---------------|
| Depreciation | 13.92 | 58.93 | 66.00 |
| Interest on Loan | 14.47 | 58.12 | 60.54 |
| Return on Equity | 15.51 | 65.66 | 73.54 |
| Interest on Working Capital | 1.92 | 7.46 | 7.96 |
| O & M Expenses | 18.34 | 66.51 | 68.71 |
| Total | 64.15 | 256.69 | 276.75 |

(₹ in lakh)

| Asset-II | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------|-----------------------|---------------|---------------|
| Depreciation | 26.03 | 122.21 | 136.53 |
| Interest on Loan | 26.78 | 120.37 | 125.03 |
| Return on Equity | 29.00 | 136.16 | 152.12 |
| Interest on Working Capital | 3.21 | 14.17 | 15.13 |
| O & M Expenses | 27.28 | 113.06 | 116.81 |
| Total | 112.30 | 505.96 | 545.62 |

(₹ in lakh)

| Asset-III | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|-----------------------------|-----------------------|---------------|---------------|
| Depreciation | 9.72 | 69.43 | 81.40 |
| Interest on Loan | 9.65 | 66.06 | 72.32 |
| Return on Equity | 10.83 | 77.36 | 90.70 |
| Interest on Working Capital | 1.26 | 8.12 | 8.92 |
| O & M Expenses | 11.46 | 66.51 | 68.71 |
| Total | 42.91 | 287.47 | 322.05 |

(₹ in lakh)

| Asset-IV | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
|------------------|-----------------------|---------|---------|
| Depreciation | 9.52 | 43.10 | 48.37 |
| Interest on Loan | 9.55 | 41.22 | 43.06 |



| | | | |
|-----------------------------|--------------|---------------|---------------|
| Return on Equity | 10.60 | 48.02 | 53.89 |
| Interest on Working Capital | 1.37 | 5.86 | 6.24 |
| O & M Expenses | 13.87 | 56.84 | 58.73 |
| Total | 44.90 | 195.04 | 210.29 |

| (₹ in lakh) | | | |
|-----------------------------|-------------------------------|----------------|----------------|
| Assets-VII to XI | 2016-17 (pro-rata) | 2017-18 | 2018-19 |
| Depreciation | 2.75 | 307.46 | 364.33 |
| Interest on Loan | 2.86 | 309.43 | 343.34 |
| Return on Equity | 3.06 | 343.66 | 408.10 |
| Interest on Working Capital | 0.41 | 41.82 | 45.89 |
| O & M Expenses | 4.23 | 399.06 | 412.26 |
| Total | 13.31 | 1401.42 | 1573.91 |

Filing fee and the publication expenses

51. The petitioner has sought reimbursement of filing 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.

License fee and RLDC Fees and Charges

52. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We are of the view that the petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service tax

53. The petitioner has prayed to 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. Service Tax is not levied on transmission. Further, Service Tax is subsumed by GST and hence the prayer of the petitioner is infructuous.

Sharing of Transmission Charges

54. 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.

55. This order disposes of Petition No. 58/TT/2017.

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

**Sd/-
(A. S. Bakshi)
Member**

**Sd/-
(A. K. Singhal)
Member**

**Sd/-
(P. K. Pujari)
Chairperson**



Annexure – I**Calculation of Weighted Average Rate of Interest on Loan for Asset-I**

(₹ in lakh)

| | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|
| Bond LI | | | |
| Gross loan opening | 74.35 | 74.35 | 74.35 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 74.35 | 74.35 | 74.35 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 74.35 | 74.35 | 74.35 |
| Average Loan | 74.35 | 74.35 | 74.35 |
| Rate of Interest | 8.40% | 8.40% | 8.40% |
| Interest | 6.25 | 6.25 | 6.25 |
| Bond LIII | | | |
| Gross loan opening | 200.00 | 200.00 | 200.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 200.00 | 200.00 | 200.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 200.00 | 200.00 | 200.00 |
| Average Loan | 200.00 | 200.00 | 200.00 |
| Rate of Interest | 8.13% | 8.13% | 8.13% |
| Interest | 16.26 | 16.26 | 16.26 |
| Bond LIV | | | |
| Gross loan opening | 221.07 | 221.07 | 221.07 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 221.07 | 221.07 | 221.07 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 221.07 | 221.07 | 221.07 |
| Average Loan | 221.07 | 221.07 | 221.07 |
| Rate of Interest | 7.97% | 7.97% | 7.97% |
| Interest | 17.62 | 17.62 | 17.62 |
| Bond LVI | | | |
| Gross loan opening | 98.16 | 98.16 | 98.16 |



| | | | |
|---|--------|--------|--------|
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 98.16 | 98.16 | 98.16 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 98.16 | 98.16 | 98.16 |
| Average Loan | 98.16 | 98.16 | 98.16 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 7.22 | 7.22 | 7.22 |
| | | | |
| Bond LVI | | | |
| Gross loan opening | 0.00 | 108.02 | 108.02 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 108.02 | 108.02 |
| Additions during the year | 108.02 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 108.02 | 108.02 | 108.02 |
| Average Loan | 54.01 | 108.02 | 108.02 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 3.98 | 7.95 | 7.95 |
| | | | |
| Bond LVI | | | |
| Gross loan opening | 0.00 | 0.00 | 14.78 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 14.78 |
| Additions during the year | 0.00 | 14.78 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 14.78 | 14.78 |
| Average Loan | 0.00 | 7.39 | 14.78 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 0.00 | 0.54 | 1.09 |
| | | | |
| Total Loan | | | |
| Gross loan opening | 593.58 | 701.60 | 716.38 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 593.58 | 701.60 | 716.38 |
| Additions during the year | 108.02 | 14.78 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 701.60 | 716.38 | 716.38 |
| Average Loan | 647.59 | 708.99 | 716.38 |



| | | | |
|------------------|---------|---------|---------|
| Rate of Interest | 7.9254% | 7.8765% | 7.8711% |
| Interest | 51.32 | 55.84 | 56.39 |



Annexure – II**Calculation of Weighted Average Rate of Interest on Loan for Asset-II****(₹ in lakh)**

| | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|
| Bond LI | | | |
| Gross loan opening | 99.72 | 99.72 | 99.72 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 99.72 | 99.72 | 99.72 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 99.72 | 99.72 | 99.72 |
| Average Loan | 99.72 | 99.72 | 99.72 |
| Rate of Interest | 8.40% | 8.40% | 8.40% |
| Interest | 8.38 | 8.38 | 8.38 |
| | | | |
| Bond LIII | | | |
| Gross loan opening | 48.00 | 48.00 | 48.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 48.00 | 48.00 | 48.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 48.00 | 48.00 | 48.00 |
| Average Loan | 48.00 | 48.00 | 48.00 |
| Rate of Interest | 8.13% | 8.13% | 8.13% |
| Interest | 3.90 | 3.90 | 3.90 |
| | | | |
| Bond LIV | | | |
| Gross loan opening | 826.72 | 826.72 | 826.72 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 826.72 | 826.72 | 826.72 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 826.72 | 826.72 | 826.72 |
| Average Loan | 826.72 | 826.72 | 826.72 |
| Rate of Interest | 7.97% | 7.97% | 7.97% |
| Interest | 65.89 | 65.89 | 65.89 |
| | | | |
| SBI | | | |
| Gross loan opening | 0.00 | 60.95 | 60.95 |



| | | | |
|---|--------|--------|--------|
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 60.95 | 60.95 |
| Additions during the year | 60.95 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 60.95 | 60.95 | 60.95 |
| Average Loan | 30.48 | 60.95 | 60.95 |
| Rate of Interest | 8.90% | 8.90% | 8.90% |
| Interest | 2.71 | 5.42 | 5.42 |
| | | | |
| Bond LVII | | | |
| Gross loan opening | 344.23 | 344.23 | 344.23 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 344.23 | 344.23 | 344.23 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 344.23 | 344.23 | 344.23 |
| Average Loan | 344.23 | 344.23 | 344.23 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 24.78 | 24.78 | 24.78 |
| | | | |
| Bond LVII | | | |
| Gross loan opening | 0.00 | 0.00 | 25.48 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 25.48 |
| Additions during the year | 0.00 | 25.48 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 25.48 | 25.48 |
| Average Loan | 0.00 | 12.74 | 25.48 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 0.00 | 0.92 | 1.83 |
| | | | |
| Bond LIV | | | |
| Gross loan opening | 0.00 | 0.00 | 0.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 0.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 0.00 | 0.00 |
| Average Loan | 0.00 | 0.00 | 0.00 |



| | | | |
|---|---------------|---------------|---------------|
| Rate of Interest | 0.00% | 7.97% | 7.97% |
| Interest | 0.00 | 0.00 | 0.00 |
| Bond LVIII | | | |
| Gross loan opening | 0.00 | 69.85 | 69.85 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 69.85 | 69.85 |
| Additions during the year | 69.85 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 69.85 | 69.85 | 69.85 |
| Average Loan | 34.93 | 69.85 | 69.85 |
| Rate of Interest | 7.89% | 7.89% | 7.89% |
| Interest | 2.76 | 5.51 | 5.51 |
| Total Loan | | | |
| Gross loan opening | 1318.67 | 1449.47 | 1474.95 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 1318.67 | 1449.47 | 1474.95 |
| Additions during the year | 130.80 | 25.48 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 1449.47 | 1474.95 | 1474.95 |
| Average Loan | 1384.07 | 1462.21 | 1474.95 |
| Rate of Interest | 7.8335% | 7.8515% | 7.8459% |
| Interest | 108.42 | 114.81 | 115.72 |



Annexure – III**Calculation of Weighted Average Rate of Interest on Loan for Asset-III****(₹ in lakh)**

| | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|
| Bond LI | | | |
| Gross loan opening | 86.95 | 86.95 | 86.95 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 86.95 | 86.95 | 86.95 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 86.95 | 86.95 | 86.95 |
| Average Loan | 86.95 | 86.95 | 86.95 |
| Rate of Interest | 8.40% | 8.40% | 8.40% |
| Interest | 7.30 | 7.30 | 7.30 |
| Bond LIV | | | |
| Gross loan opening | 56.31 | 56.31 | 56.31 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 56.31 | 56.31 | 56.31 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 56.31 | 56.31 | 56.31 |
| Average Loan | 56.31 | 56.31 | 56.31 |
| Rate of Interest | 7.97% | 7.97% | 7.97% |
| Interest | 4.49 | 4.49 | 4.49 |
| Bond LVI | | | |
| Gross loan opening | 498.00 | 498.00 | 498.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 498.00 | 498.00 | 498.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 498.00 | 498.00 | 498.00 |
| Average Loan | 498.00 | 498.00 | 498.00 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 36.65 | 36.65 | 36.65 |
| Bond LVII | | | |
| Gross loan opening | 31.39 | 31.39 | 31.39 |



| | | | |
|---|-------|-------|-------|
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 31.39 | 31.39 | 31.39 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 31.39 | 31.39 | 31.39 |
| Average Loan | 31.39 | 31.39 | 31.39 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 2.26 | 2.26 | 2.26 |
| | | | |
| Bond LVII | | | |
| Gross loan opening | 0.00 | 45.44 | 45.44 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 45.44 | 45.44 |
| Additions during the year | 45.44 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 45.44 | 45.44 | 45.44 |
| Average Loan | 22.72 | 45.44 | 45.44 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 1.64 | 3.27 | 3.27 |
| | | | |
| Bond LVII | | | |
| Gross loan opening | 0.00 | 0.00 | 10.80 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 10.80 |
| Additions during the year | 0.00 | 10.80 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 10.80 | 10.80 |
| Average Loan | 0.00 | 5.40 | 10.80 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 0.00 | 0.39 | 0.78 |
| | | | |
| Bond LVIII | | | |
| Gross loan opening | 0.00 | 55.86 | 55.86 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 55.86 | 55.86 |
| Additions during the year | 55.86 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 55.86 | 55.86 | 55.86 |
| Average Loan | 27.93 | 55.86 | 55.86 |



| | | | |
|---|---------|---------|---------|
| Rate of Interest | 7.89% | 7.89% | 7.89% |
| Interest | 2.20 | 4.41 | 4.41 |
| | | | |
| Total Loan | | | |
| Gross loan opening | 672.65 | 773.95 | 784.75 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 672.65 | 773.95 | 784.75 |
| Additions during the year | 101.30 | 10.80 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 773.95 | 784.75 | 784.75 |
| Average Loan | 723.30 | 779.35 | 784.75 |
| Rate of Interest | 7.5410% | 7.5412% | 7.5389% |
| Interest | 54.54 | 58.77 | 59.16 |



Annexure – IV**Calculation of Weighted Average Rate of Interest on Loan for Asset-IV****(₹ in lakh)**

| | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|
| Bond LI | | | |
| Gross loan opening | 54.09 | 54.09 | 54.09 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 54.09 | 54.09 | 54.09 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 54.09 | 54.09 | 54.09 |
| Average Loan | 54.09 | 54.09 | 54.09 |
| Rate of Interest | 8.40% | 8.40% | 8.40% |
| Interest | 4.54 | 4.54 | 4.54 |
| Bond LIII | | | |
| Gross loan opening | 47.70 | 47.70 | 47.70 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 47.70 | 47.70 | 47.70 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 47.70 | 47.70 | 47.70 |
| Average Loan | 47.70 | 47.70 | 47.70 |
| Rate of Interest | 8.13% | 8.13% | 8.13% |
| Interest | 3.88 | 3.88 | 3.88 |
| Bond LIV | | | |
| Gross loan opening | 76.77 | 76.77 | 76.77 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 76.77 | 76.77 | 76.77 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 76.77 | 76.77 | 76.77 |
| Average Loan | 76.77 | 76.77 | 76.77 |
| Rate of Interest | 7.97% | 7.97% | 7.97% |
| Interest | 6.12 | 6.12 | 6.12 |
| Bond LVI | | | |
| Gross loan opening | 308.71 | 308.71 | 308.71 |



| | | | |
|---|--------|--------|--------|
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 308.71 | 308.71 | 308.71 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 308.71 | 308.71 | 308.71 |
| Average Loan | 308.71 | 308.71 | 308.71 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 22.72 | 22.72 | 22.72 |
| | | | |
| Bond LVI | | | |
| Gross loan opening | 0.00 | 26.45 | 26.45 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 26.45 | 26.45 |
| Additions during the year | 26.45 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 26.45 | 26.45 | 26.45 |
| Average Loan | 13.23 | 26.45 | 26.45 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 0.97 | 1.95 | 1.95 |
| | | | |
| Bond LVI | | | |
| Gross loan opening | 0.00 | 0.00 | 8.02 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 8.02 |
| Additions during the year | 0.00 | 8.02 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 8.02 | 8.02 |
| Average Loan | 0.00 | 4.01 | 8.02 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 0.00 | 0.30 | 0.59 |
| | | | |
| Total Loan | | | |
| Gross loan opening | 487.27 | 513.72 | 521.74 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 487.27 | 513.72 | 521.74 |
| Additions during the year | 26.45 | 8.02 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 513.72 | 521.74 | 521.74 |
| Average Loan | 500.50 | 517.73 | 521.74 |



| | | | |
|------------------|---------|---------|---------|
| Rate of Interest | 7.6393% | 7.6300% | 7.6280% |
| Interest | 38.23 | 39.50 | 39.80 |



Annexure – V

Calculation of Weighted Average Rate of Interest on Loan for Combined Assets-VII to XI

(₹ in lakh)

| | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|
| Bond LI | | | |
| Gross loan opening | 334.72 | 334.72 | 334.72 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 334.72 | 334.72 | 334.72 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 334.72 | 334.72 | 334.72 |
| Average Loan | 334.72 | 334.72 | 334.72 |
| Rate of Interest | 8.40% | 8.40% | 8.40% |
| Interest | 28.12 | 28.12 | 28.12 |
| | | | |
| Bond LIII | | | |
| Gross loan opening | 155.00 | 155.00 | 155.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 155.00 | 155.00 | 155.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 155.00 | 155.00 | 155.00 |
| Average Loan | 155.00 | 155.00 | 155.00 |
| Rate of Interest | 8.13% | 8.13% | 8.13% |
| Interest | 12.60 | 12.60 | 12.60 |
| | | | |
| Bond LIV | | | |
| Gross loan opening | 429.00 | 429.00 | 429.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 429.00 | 429.00 | 429.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 429.00 | 429.00 | 429.00 |
| Average Loan | 429.00 | 429.00 | 429.00 |
| Rate of Interest | 7.97% | 7.97% | 7.97% |
| Interest | 34.19 | 34.19 | 34.19 |
| | | | |
| Bond LVI | | | |



| | | | |
|---|---------|---------|---------|
| Gross loan opening | 279.00 | 279.00 | 279.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 279.00 | 279.00 | 279.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 279.00 | 279.00 | 279.00 |
| Average Loan | 279.00 | 279.00 | 279.00 |
| Rate of Interest | 7.36% | 7.36% | 7.36% |
| Interest | 20.53 | 20.53 | 20.53 |
| Bond LVII | | | |
| Gross loan opening | 1020.00 | 1020.00 | 1020.00 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 1020.00 | 1020.00 | 1020.00 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 1020.00 | 1020.00 | 1020.00 |
| Average Loan | 1020.00 | 1020.00 | 1020.00 |
| Rate of Interest | 7.20% | 7.20% | 7.20% |
| Interest | 73.44 | 73.44 | 73.44 |
| Bond LVIII | | | |
| Gross loan opening | 433.65 | 433.65 | 433.65 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 433.65 | 433.65 | 433.65 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 433.65 | 433.65 | 433.65 |
| Average Loan | 433.65 | 433.65 | 433.65 |
| Rate of Interest | 7.89% | 7.89% | 7.89% |
| Interest | 34.21 | 34.21 | 34.21 |
| Bond LVIII | | | |
| Gross loan opening | 0.00 | 0.00 | 59.35 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 0.00 | 0.00 | 59.35 |
| Additions during the year | 0.00 | 59.35 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 0.00 | 59.35 | 59.35 |



| | | | |
|---|---------|---------|---------|
| Average Loan | 0.00 | 29.68 | 59.35 |
| Rate of Interest | 7.89% | 7.89% | 7.89% |
| Interest | 0.00 | 2.34 | 4.68 |
| | | | |
| SBI | | | |
| Gross loan opening | 534.36 | 534.36 | 534.36 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 534.36 | 534.36 | 534.36 |
| Additions during the year | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 534.36 | 534.36 | 534.36 |
| Average Loan | 534.36 | 534.36 | 534.36 |
| Rate of Interest | 8.90% | 8.90% | 8.90% |
| Interest | 47.56 | 47.56 | 47.56 |
| | | | |
| Total Loan | | | |
| Gross loan opening | 3185.73 | 3185.73 | 3245.08 |
| Cumulative Repayment upto COD/previous year | 0.00 | 0.00 | 0.00 |
| Net Loan-Opening | 3185.73 | 3185.73 | 3245.08 |
| Additions during the year | 0.00 | 59.35 | 0.00 |
| Repayment during the year | 0.00 | 0.00 | 0.00 |
| Net Loan-Closing | 3185.73 | 3245.08 | 3245.08 |
| Average Loan | 3185.73 | 3215.41 | 3245.08 |
| Rate of Interest | 7.8681% | 7.8683% | 7.8685% |
| Interest | 250.66 | 253.00 | 255.34 |

