

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 474/TT/2020

Coram:

**Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri P. K. Singh, Member**

Date of Order: 26.09.2022

In the matter of:

Approval for filing of petition under sub-section(4) of Section 28 and 79(1)(d) of Electricity Act, 2003 and Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for (i) truing up of fee and charges for the period 2014-19 block and (ii) determination of fee and charges for the period 2019-24 block in respect of **Asset-1:** 02 Nos. OPGW links under Central Sector (127 km) and **Asset-2:** 03 Nos. OPGW links under Central Sector (170.234 km) under “Fibre Optic communication system under Expansion of Wideband Communication Network” scheme in Eastern Region,

And

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for (i) truing-up of transmission tariff of 2014-19 tariff period and (ii) determination of transmission tariff of 2019-24 tariff period in respect of **Asset-3:** 11 Nos of OPGW link under central sector (789.635 km), **Asset-4:** 03 Nos OPGW links under Central Sector (112.886 km), **Asset-5:** 05 Nos links under Central Sector (527.751 km), **Asset-6:** 06 Nos links under Central Sector (562.873 km) and **Asset-7:** 07 Nos links under Central Sector (664.53 km) (DOCO: 01.03.2017) under “Fibre Optic communication system under Expansion of Wideband Communication Network” scheme in Eastern Region.

And in the matter of:

Power Grid Corporation of India Limited,
“Saudamini”, Plot No. 2,
Sector 29, Gurgaon-122001, Haryana.

.....Petitioner

Vs.



1. NTPC Limited,
NTPC Bhawan, Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi – 110003.
2. National Hydro Power Corporation (NHPC) Limited,
NHPC Office Complex,
Lodhi Road, New Delhi.
3. DVC Mejia TPS,
Mejia Thermal Power Station,
DVC, P.O., MTPS, District Bankura – 722183.
4. West Bengal State Electricity Distribution Company, Limited,
Bidyut Bhawan, 8th floor (A Block)
Block DJ, Salt Lake City
Calcutta - 700 091
5. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board -BSEB)
Vidyut Bhawan, Bailey Road,
Patna-800 001.
6. Grid Corporation of Orissa Limited,
Vidyut Bhawan, Janpath
Bhubaneshwar-751 007.
7. Power Department,
Government of Sikkim, Gangtok-727 102.
8. Jharkhand State Electricity Board,
Engineering Building,
HEC Township,
Dhurwa, Ranchi – 834004.
9. Damodar Valley Corporation,
DVC Tower, VIP Road,
Calcutta-700054.
10. Powerlinks Transmission Limited,
Vidyut Nagar,
P.O. Satellite Township,
Siliguri-734015.

.....Respondent(s)

For Petitioner : Shri S.S. Raju, PGCIL
Shri D.K. Biswal, PGCIL



Shri Ved Prakash Rastogi, PGCIL
Shri Amit Yadav, PGCIL

For Respondents: Ms. Shruti Singh, Advocate, JSEB
Shri Manish Kumar Choudhary, Advocate, BSPHCL

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited for truing up of fee and charges for the period 2014-19 tariff period and determination of fee and charges for the period 2019-24 tariff period in respect of Asset-1: 02 numbers of OPGW links under Central Sector (127 km) and Asset-2: 03 numbers of OPGW links under Central Sector (170.234 km). Truing-up of transmission tariff of 2014-19 tariff period and determination of transmission tariff of 2019-24 tariff period in respect of Asset-3: 11 numbers of OPGW link under central sector (789.635 km), Asset-4: 03 numbers of OPGW links under Central Sector (112.886 km), Asset-5: 05 numbers of links under Central Sector (527.751 km), Asset-6: 06 numbers of links under Central Sector (562.873 km) and Asset-7: 07 numbers of links under Central Sector (664.53 km) (hereinafter referred to as “transmission assets”) under “Fibre Optic communication system under Expansion of Wideband Communication Network” (hereinafter referred to as “transmission scheme”) in Eastern Region under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) respectively.

2. The Petitioner has made the following prayers in the instant petition:



“1) Approve the trued-up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9.1 and 10.0 above.

2) Approve the Completion cost and additional capitalization incurred during 2014-19.

3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9.1 and 10.0 above for respective block.

4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.

5) Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6) Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.

7) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

8) Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.6 above.

9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

and pass such other relief as the Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.”

Background

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

(a) The Investment Approval (IA) for implementation of “Fiber Optic



Communication System in lieu of existing ULDC Microwave links in Eastern Region” was accorded by Board of Directors of the Petitioner in 270th meeting held on 26.3.2012 for ₹11580 lakh including an IDC of ₹654 lakh based on 4th quarter, 2011 price level. The scope of the transmission scheme was discussed and agreed in 16th ERPC meeting held on 17.3.2010.

- (b) The transmission scheme was discussed and agreed in the 15th ERPC, 16th ERPC, 17th ERPC, 22nd ERPC, 25th ERPC and 31st ERPC meeting and SCM dated 27.8.2013.
- (c) The broad scope of work of the transmission scheme includes: -
 - (i) Installations of estimated 1159 km of OPGW fibre optic cable on the existing EHV transmission line.
 - (ii) Installations of estimated 2500 km of OPGW fibre optic cable on the new/upcoming EHV transmission line.
 - (iii) Installation of 53 Numbers terminal equipment for communication based upon Synchronous Digital Hierarchy (SDH) technology shall be installed in the sub-stations of constituents and POWERGRID.
 - (iv) Installation of 76 Numbers drop insert multiplexers at wide band nodes.
 - (v) Monitor the network, Network management System (NMS) would also be envisaged.
 - (vi) 53 Numbers of DC power supplies have been envisaged at all the wide-band location. However, this requirement shall be optimized during detailed engineering.
- (d) Entire scope of work under the IA is covered in the instant petition.
- (e) The Petitioner vide affidavit dated 7.7.2021 has submitted the details of the transmission assets under the transmission scheme are as follows:



| Asset nomenclature in previous order | Assets* | Asset nomenclature in current petition | Previous order details | COD |
|---|---|---|---|-----------|
| Asset-I | 2 Numbers OPGW links under Central Sector (127 km) | Asset-1 | Order dated 20.9.2018 in Petition No. 213/TT/2017 and Review Petition (No. 45/RP/2018) dated 2.4.2019 for Tariff block 2014-19 and order dated 22.7.2016 in Petition No. 81/TT/2015 for tariff block 2009-14) | 1.11.2013 |
| Asset-II | 3 Numbers OPGW links under Central Sector (170.234 km) | Asset-2 | | 1.3.2014 |
| Asset-I | 11 Numbers of OPGW link under central sector (789.635 km) | Asset-3 | Order dated 27.1.2017 in Petition No. 53/TT/2016 & Corrigendum dated 7.7.2017 for Tariff block 2014-19 | 1.10.2014 |
| Asset-II | 03 Numbers OPGW links under Central Sector (112.886 km) | Asset-4 | | 20.4.2015 |
| Asset-III | 05 Numbers links under Central Sector (527.751 km) | Asset-5 | | 5.1.2016 |
| Asset -I | 06 Numbers links under Central Sector (562.873 km) | Asset-6 | Order dated 8.1.2019 in Petition No. 53/TT/2018 for Tariff block 2014-19 | 31.3.2016 |
| Asset-II | 07 Numbers links under Central Sector (664.53 km) | Asset-7 | | 1.3.2017 |
| Balance Scope (petition to be filed) | | | | |
| | 04 Numbers links under Central Sector (763.1323 km) | | | 19.5.2019 |
| | 02 Numbers links under Central Sector | 2021-22 (to be put into commercial operation) | | |

*All the assets pertain to Central Sector.

(f) The Commission in order dated 8.1.2019 in Petition No. 53/TT/2018 held as follows:



“12. With respect to Asset-II, it is observed that various OPGW links are commissioned on 27.2.2017 and 14.6.2017. The petitioner has claimed COD of the Asset-II as 1.3.2017. The petitioner has not clarified as to why the COD of the asset has been claimed as 1.3.2017 when one of the OPGW link i.e., Gaya-Chandwa (sl. no. iv above) was commissioned on 14.6.2017. In absence of the same, the COD of Gaya-Chandwa pertains to Asset-II is considered as 14.6.2017. The other OPGW links viz. (i),(ii),(iii),(v),(vi) and (vii) are commissioned on 27.2.2017 and the COD of these links considered as 1.3.2017 as claimed by the petitioner.”

- (g) The Petitioner in the instant true-up petition has submitted that Asset-7 had been bifurcated into two parts vide order dated 8.1.2019 in Petition No. in 53/TT/2018 taking into consideration the dates mentioned in the RLDC charging certificates. However, there was inadvertent typographical error in the RLDC charging certificate and a corrigendum has been issued in this regard based on which the transmission assets are again combined into single asset i.e. Asset-7. Asset-7: 07 Numbers links under Central Sector (664.53 km). The details of OPGW links under Asset-7 is as follows:

| Asset-7 links | RLDC charging date (submitted in 53/TT/2018) | Revised charging date {being re-submitted for link(iv)} |
|---|---|--|
| (i) Baripada-Keonjhar (157.54 km) | 27.2.2017 | 27.2.2017 |
| (ii) Birpara-Alipurduar (59.184 km) | 27.2.2017 | 27.2.2017 |
| (iii) Angul-Bolangir (200.64 km) | 27.2.2017 | 27.2.2017 |
| (iv) Gaya-Chandwa (117.129 km) | 14.6.2017 | 27.2.2017 |
| (v) Purnea 400-Purnea 220 (1.99 km) | 27.2.2017 | 27.2.2017 |
| (vi) Rengali-Keonjhar (100.25 km) | 27.2.2017 | 27.2.2017 |
| (vii) Uttara (Pandiabili)-Mendhasal (27.797 km) | 27.2.2017 | 27.2.2017 |

- (h) We have considered the submissions of the Petitioner. Based on the revised charging certificate dated 22.11.2018, the COD of the Asset-7 is considered as 27.2.2017.
- (i) The Commission vide order dated 27.1.2017 in Petition No. 53/TT/2016 held as follows:

“9. We have considered the submissions of Petitioner and respondent. The Petitioner has submitted RLDC charging certificate in support of commercial operation date. The petitioner is directed to confirm from CEA whether certificate of the Electrical Inspector under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply)



Regulations, 2010 is required in the case of installation of OPGW links and if it is applicable, submit the same at the time of truing up.”

- (j) The Petitioner has submitted that the CEA charging certificate of Electrical Inspector under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 is not applicable in case of installation of OPGW. It is submitted that Communication system under ULDC projects comprising of Fiber Optic & Microwave systems was established for providing communication connectivity between Control Centers and from data concentrator nodes for handling large data volumes. The operation voltage for communication system operation is 24/48 Volt DC supply. Further, as per CEA Regulation 2010, minimum 650 V has required for inspection. Further, Central government specified the notified voltage for the purpose of self-certification under Regulation 30 and Regulation 43 of 2010 is 11 kV. That is up to 11 kV no inspection is required by CEA inspector. Hence, the CEA clearance letter is not applicable in case of communication system. We have considered the submissions of the Petitioner. As per the Regulation 43 of Central Electricity Authority (Measures Related to Safety & Electricity Supply) Regulations, 2010, CEA energization is not mandatory for communication system.
- (k) As per the Investment Approval, the transmission scheme was scheduled to be commissioned within 30 months from the date of investment approval i.e., by 27.9.2014.
- (l) The tariff for Asset-1 and Asset-2 was determined vide order dated 20.9.2018 in Petition No. 213/TT/2017 for 2014-19 tariff period. The Petitioner has filed the Review Petition No. 45/RP/2018 in Petition No. 213/TT/2017. The Commission admitted the Review Petition and the Commission vide order



dated 2.4.2019 held as follows:

“8. It is observed that Assets-I and II were put into commercial operation during the 2009-14 tariff period. However, the cut-off dates of the instant assets were 31.3.2016 and 31.3.2017, i.e. during the 2014-19 tariff period. Accordingly, the additional capitalisation in case of Assets-I and II during the 2016-17 and 2017-18 respectively have to be considered under the 2014 Tariff Regulations. The Regulation 14(3) of the 2014 Tariff Regulations specifically provide for allowing additional capitalisation after the cut-off date in case of the transmission system including the communication system after prudence check. Therefore, disallowance of additional capitalisation after the cutoff date in case of the instant assets is an error apparent on the face of the record and requires to be modified. However, it is observed that the Review Petitioner did not submit the details of the additional capitalisation during 2016-17 and 2017-18 in case of Assets-I and II respectively. Therefore, the Review Petitioner is directed to submit the details of the same at the time of truing up, which will be considered as per Regulation 14(3) of the 2014 Tariff Regulations.”

- (m) The tariff for Asset-3, Asset-4 and Asset-5 was determined vide order dated 27.1.2017 and subsequent corrigendum dated 7.7.2017 in Petition No. 53/TT/2016. The tariff for Asset 6 and Asset 7 was determined vide order dated 8.1.2019 in Petition No. 53/TT/2018.
- (n) As per the directives of Government of India vide order dated 4.7.2008, Power System Operation Corporation Ltd. (POSOCO), a wholly owned subsidiary of Power Grid Corporation of India Limited was created and POSOCO is responsible for system operation of National Load Despatch Centre (NLDC) and Regional Load Despatch Centres (RLDCs). Pursuant to Satnam Singh Committee's report, the transmission assets pertaining to system operations have been transferred to POSOCO for which separate tariff orders had been issued by the Commission.
- (o) The Petitioner had filed a Miscellaneous Petition No. 68/2010 under sub-section (4) of Section 28 of Electricity Act 2003 and Regulations 44 "Power to Relax" of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 for fixation of tariff norms for recovery



of cost for the transmission assets ("Communication system" and "Sub-Load Dispatch Centre system") to be retained/ to be installed by the Petitioner after formation of POSOCO for the period 2009-14 block.

- (p) The Commission in Petition No. 68/2010 vide order dated 8.12.2011, had observed as follows:

"9.....Since the communication system and SLDC system form part of the assets of the CTU, there is a requirement to specify regulations for determination of tariff of these assets. We direct the staff of the Commission to undertake the exercise separately and include these assets of CTU in the tariff regulations applicable for the next tariff period i.e. 2014-19. As regards the tariff of these assets for the period 2009-14, we are not inclined to determine the tariff of these assets by exercising our power to relaxation under Regulation 44 of the 2009 regulations since there is no provision for determination of tariff for the assets covered under the communication system and ULDC system. We are of the view that the tariff of these assets shall be determined under our general power of determination of tariff for inter-State transmission system under section 79(1)(d) of the Act....."

".....It clearly emerges from the above judgment that the Central Commission can specify the terms and conditions of tariff even in the absence of the regulations. Since no regulation was specified for determination of tariff of the communication system and the ULDC system, the Commission determined the tariff of these assets during the period 2004-09 on levelised basis by adopting some of the parameters of 2004 tariff regulations. We have decided to continue with the levelised tariff for the existing assets in the absence of any provision in 2009 regulations regarding determination of tariff of communication system and ULDC system of the petitioner. For the new assets, the tariff will be decided as per the regulations for communication systems to be framed. Accordingly, we direct the staff of the Commission to take necessary action to prepare draft regulations for determination of tariff for the communication system and ULDC system of the petitioner."

"21. We have considered the submission of the petitioner and the respondents. We are of the view that replacement of microwave links with fibre optic links should be implemented as agreed by the beneficiaries to ensure safe and reliable operation of the power system. Moreover, the petitioner has submitted that surrender of the microwave frequencies would save substantial cost and the fibre optic system would be beneficial in the long run as the fibre optic communication network is required for implementation of new technologies like Wide Area Measurement System (WAMS), Special Protection Schemes (SPS) etc. in view of fast development and complexity of the power system in the country. As regards the regulatory approval, we are of the view that since the project has been agreed to be implemented by the constituents of each of the regions, regulatory approval is not considered necessary. The petitioner is granted liberty to approach the Commission for determination of tariff for the fibre optic network being installed in lieu of microwave links for each of the region separately. As regards the submission of UPPTCL, it is clarified that if the state portion is not being implemented by it



separately as proposed earlier, the same shall be implemented by the petitioner and UPPTCL would be required to share the tariff in proportion to the assets being utilised by it. It is however made clear that the timeline for replacement of the digital microwave by optical fibre should be strictly complied with.”

- (q) In the absence of any provision in the 2009 Tariff Regulations regarding determination of tariff of communication system and ULDC system of the Petitioner, the Commission in order dated 8.12.2011 in Petition No. 68/2010 decided to continue with the levelised tariff for the communication system and SLDC System retained by the Petitioner. Accordingly, the annual fee and charges for Asset-1 and Asset-2 were approved vide order dated 20.9.2018 in Petition No. 213/TT/2017 for the 2014-19 Tariff Period as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No. 68/2010.
- (r) Taking into consideration the aforesaid facts, the truing up and determination of the fee and charges for the period from COD to 31.3.2014 and 2014-19 period respectively is carried out for Asset-1 and Asset-2 vide order dated 20.9.2018 in Petition No. 213/TT/2017. As per the provisions of the 2014 Tariff Regulations the tariff of the existing communication system forming part of transmission system shall be as per the methodology followed by the Commission prior to 1.4.2014. Therefore, the fee and charges in the instant petition have been worked out applying the Capital Recovery Factor (CRF) concept. However, the provision for determining tariff of communication system and ULDC system of the Petitioner have now been specified in the 2014 Tariff Regulations as an element of a transmission system. Accordingly, the annual transmission charges of the fibre optic Communication System for Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 achieving COD as on 1.4.2014 and/or



thereafter has been determined as per the provisions of the 2014 Tariff Regulations in this order.

- (s) The present petition has been filed for determination of truing up of the fee and charges / tariff of ULDC Scheme in Eastern Region for the 2014-19 period which was earlier approved vide order dated 20.9.2018 in Petition No. 213TT/2017 and vide order dated 2.4.2019 in Petition No. 45/RP/2018 for Asset-1 and Asset-2, vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 for Asset-3, Asset-4 and Asset-5 and vide order dated 8.1.2019 in Petition No. 53/TT/2018 for Asset-6 and Asset-7 and determination of fee and charges/ tariff for the 2019-24 period for the communication system portion and SLDC system retained by the Petitioner after formation of POSOCO.
- (t) The net capital cost as on 31.3.2014 of the transmission scheme as approved vide order dated 20.9.2018 in Petition No. 213/TT/2017 for Asset-1 and Asset-2 and vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 in case of Asset-3, Asset-4 and Asset-5 and vide order dated 8.1.2019 in Petition No. 53/TT/2018 in case of Asset-6 and Asset 7 is as follows:

| (₹ in lakh) | | |
|--|--------------|-----------------|
| Asset 1 | Capital | Central Portion |
| Retained Gross Capital Cost as on CoD / 1.4.2009 | Loan | 54.18 |
| | Equity | 23.22 |
| | Total | 77.40 |
| Additional Capitalisation during 2009-14 | Loan | 15.22 |
| | Equity | 6.52 |
| | Total | 21.74 |
| Capital Cost Recovered up to 31.3.2014 | Loan | 0.72 |
| | Equity | 0.17 |
| | Total | 0.89 |
| Net Capital Cost as on 1.4.2014 | Loan | 68.68 |



| | | |
|--|--------------|--------------|
| | Equity | 29.57 |
| | Total | 98.25 |

| (₹ in lakh) | | |
|--|--------------|-----------------|
| Asset 2 | Capital | Central Portion |
| Retained Gross Capital Cost as on CoD / 1.4.2009 | Loan | 91.18 |
| | Equity | 39.08 |
| | Total | 130.26 |
| Additional Capitalisation during 2009-14 | Loan | 2.32 |
| | Equity | 1.00 |
| | Total | 3.32 |
| Capital Cost Recovered up to 31.3.2014 | Loan | 0.24 |
| | Equity | 0.06 |
| | Total | 0.29 |
| Net Capital Cost as on 1.4.2014 | Loan | 93.27 |
| | Equity | 40.02 |
| | Total | 133.29 |

| (₹ in lakh) | | | | | | | | |
|--------------------|---------------------|---|--------|--------|--------|--------|-------|---------------------------------------|
| Assets | FR Apportioned cost | Admitted capital cost as on COD or 1.4.2014 | ACE | | | | | Admitted capital cost as on 31.3.2019 |
| | | | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | |
| Asset-3 | 2438.90 | 473.62 | 636.40 | 680.00 | - | - | - | 1790.02 |
| Asset-4 | 348.66 | 206.18 | - | 62.11 | 50.00 | - | - | 318.29 |
| Asset-5 | 1630.04 | 706.93 | - | 36.71 | 767.01 | - | - | 1510.65 |
| Asset-6 | 1471.00 | 838.13 | - | - | 471.24 | 138.05 | - | 1447.42 |
| Asset-7 (Combined) | 1947.71 | 1386.22 | - | - | - | 329.16 | 56.28 | 1771.66 |

(u) The annual fee and charges for the 2014-19 period as approved, vide order dated 20.9.2018 in Petition No. 213/TT/2017 and order dated 2.4.2019 in Review Petition No. 45/RP/2018 in respect of Asset-1 and Asset-2, vide order dated 27.1.2017 and Corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 in respect of Asset-3, Asset-4 and Asset 5 and vide order dated 8.1.2019 in Petition No. 53/TT/2018 in respect of Asset-6 and Asset-7 for Central Portion respectively are as follows:

| (₹ in lakh) | | | | | | | |
|-------------|---------|----------|-----------------|---------|---------|---------|---------|
| Asset-1 | | | Central Portion | | | | |
| | | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Annual | Capital | Recovery | 13.53 | 40.39 | 44.26 | 44.26 | 44.26 |



| | | | | | |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|
| Charge-Total | | | | | |
| O&M Expenses | 21.45 | 26.29 | 33.19 | 34.29 | 35.43 |
| Interest on Working Capital | 1.50 | 2.38 | 2.85 | 2.91 | 2.98 |
| Total Fee & Charges | 36.47 | 69.06 | 80.31 | 81.47 | 82.67 |

(₹ in lakh)

| Asset-2 | Central Portion | | | | |
|--------------------------------------|-----------------|--------------|--------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Annual Capital Recovery Charge-Total | 18.33 | 48.88 | 52.56 | 61.40 | 59.62 |
| O&M Expenses | 24.51 | 31.23 | 39.44 | 40.75 | 42.10 |
| Interest on Working Capital | 1.78 | 2.85 | 3.39 | 3.66 | 3.70 |
| Total Fee & Charges | 44.62 | 82.96 | 95.39 | 105.81 | 105.42 |

(₹ in lakh)

| Scheme/ Assets | Tariff | 2014-15 | 2015 - 16 | 2016-17 | 2017-18 | 2018-19 |
|----------------|---|---------|-----------|---------|---------|---------|
| Asset-3 | AFC approved vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 | 106.40 | 307.31 | 361.21 | 354.98 | 347.02 |
| Asset-4 | AFC approved vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 | - | 48.89 | 59.93 | 63.67 | 62.22 |
| Asset-5 | AFC approved vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 | - | 41.92 | 217.78 | 284.57 | 276.24 |
| Asset-6 | AFC approved vide order dated 8.1.2019 in Petition No. 53/TT/2018 | - | 0.44 | 201.96 | 254.17 | 258.97 |
| Asset-7 | AFC approved vide order dated 8.1.2019 in Petition No. 53/TT/2018 (Asset-II a) | - | - | 18.04 | 235.16 | 257.03 |
| | AFC approved vide order dated 8.1.2019 in Petition No. 53/TT/2018 (Asset-II b) | - | - | - | 40.31 | 55.40 |

(v) The Asset-1 and Asset-2 were put under commercial operation before 1.4.2014 i.e. on 1.11.2013 and 1.3.2014 respectively. The transmission assets shall complete 15 years of service on 31.10.2028 and 28.2.2029 and, hence, in line with order dated 8.12.2011 in Petition No. 68/2010, the total capital cost in respect of the transmission assets shall be recovered upto 31.10.2028 and 28.2.2029, respectively, i.e. during 2027-28 and 2028-29.



4. The Respondents are the distribution companies, electricity departments and transmission licensees, which are procuring transmission services (Communication) from the Petitioner and are mainly beneficiaries of the Eastern Region.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No suggestions or objections have been received from the general public in response to the aforesaid notices published in the newspapers by the Petitioner. Bihar State Power Holding Company Limited (BSPHCL), Respondent No. 5, has filed its reply vide affidavit dated 20.7.2021 and has raised the issues of RoE, GST, floating interest on loan, filing fee and expenses and sharing of transmission charges. In response the Petitioner has filed rejoinder to the reply of BSPHCL vide affidavit dated 29.7.2021. The issues raised by BSPHCL and the clarifications given by the Petitioner have been discussed in the relevant paragraphs of the order.

6. The hearing in this matter was held on 6.7.2021 through video conference and the order was reserved. This order is issued considering the submissions made by the Petitioner in the petition dated 29.1.2020, BSPHCL's reply filed vide affidavit dated 20.7.2021 and Petitioner's rejoinder vide affidavit dated 29.7.2021 and additional information vide affidavit dated 7.7.2022 respectively.

7. Having heard the representatives of the Petitioner and perusing the material on record, we proceed to dispose of the petition.

TRUING UP OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD

8. As per the directions of the Commission in order dated 8.12.2011 in Petition No.



68/2010, the scope of the 2014 Tariff Regulations has been widened to include the communication system used for inter-State transmission of electricity. However, as per Clause (iii) of Regulation 6(1) of the 2014 Tariff Regulations, the tariff of the existing communication system forming part of the transmission system is to be determined as per the methodology followed prior to 1.4.2014. The said Regulation provides as follows:

“(iii) the tariff of the existing communication system forming part of transmission system shall be as per the methodology followed by the Commission prior to 1.4.2014.”

9. The Asset-1 and Asset-2 were put into commercial operation before 1.4.2014. In view of the above provision in the 2014 Tariff Regulations, the tariff of the communication system and ULDC system of the Petitioner, we continue to allow annual fees and charges for Asset-1 and Asset-2 as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No 68/2010. Further, Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 were put into commercial operation after 1.4.2014, therefore, for Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 principles of the 2014 Tariff Regulations are applicable and fees and charges shall be determined in accordance with the 2014 Tariff Regulations.

10. The details of the trued-up fees and charges in respect of the Asset-1, Asset-2, Asset-3 and Asset-4 and true up tariff for Asset-5, Asset-6 and Asset-7 claimed by the Petitioner are as follows:

| Particulars | Portion | (₹ in lakh) | | | | |
|-------------|---------|-------------|---------|---------|---------|---------|
| | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 | Central | 19.21 | 39.25 | 43.64 | 40.66 | 46.41 |
| Asset-2 | Central | 25.16 | 47.58 | 42.97 | 51.44 | 51.94 |



(₹ in lakh)

| Particulars | Asset-3 | | | | |
|-----------------------------|--|---------------|---------------|---------------|---------------|
| | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 15.43 | 48.33 | 58.78 | 67.00 | 81.35 |
| Interest on Loan | 14.26 | 43.32 | 48.31 | 49.37 | 55.84 |
| Return on Equity | 14.35 | 45.16 | 54.89 | 62.57 | 76.18 |
| O&M Expenses | 23.57 | 17.66 | 19.56 | 20.34 | 37.67 |
| Interest on Working Capital | 2.31 | 4.12 | 4.81 | 5.24 | 6.99 |
| Total | 69.92 | 158.59 | 186.35 | 204.52 | 258.03 |

(₹ in lakh)

| Particulars | Asset-4 | | | |
|-----------------------------|---------------------------------------|--------------|--------------|--------------|
| | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 9.93 | 11.47 | 12.07 | 14.22 |
| Interest on Loan | 8.47 | 9.00 | 8.50 | 9.35 |
| Return on Equity | 9.27 | 10.71 | 11.27 | 13.31 |
| O&M Expenses | 3.21 | 3.56 | 3.70 | 6.86 |
| Interest on Working Capital | 0.82 | 0.91 | 0.94 | 1.23 |
| Total | 31.70 | 35.65 | 36.48 | 44.97 |

(₹ in lakh)

| Particulars | Asset-5 | | | |
|-----------------------------|--------------------------------------|---------------|---------------|---------------|
| | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 10.91 | 49.21 | 52.28 | 60.52 |
| Interest on Loan | 10.37 | 44.09 | 42.49 | 45.23 |
| Return on Equity | 10.20 | 45.96 | 48.82 | 56.67 |
| O&M Expenses | 13.28 | 14.71 | 15.30 | 28.34 |
| Interest on Working Capital | 1.46 | 4.02 | 4.15 | 5.30 |
| Total | 46.22 | 157.99 | 163.04 | 196.06 |

(₹ in lakh)

| Particulars | Asset-6 | | | |
|-----------------------------|-------------------------------------|---------------|---------------|---------------|
| | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 0.14 | 52.98 | 53.23 | 54.72 |
| Interest on Loan | 0.14 | 49.16 | 43.44 | 40.96 |
| Return on Equity | 0.14 | 49.48 | 49.71 | 51.24 |
| O&M Expenses | 0.00 | 15.34 | 15.95 | 29.55 |
| Interest on Working Capital | 0.01 | 4.34 | 4.25 | 5.01 |
| Total | 0.43 | 171.30 | 166.58 | 181.48 |



(₹ in lakh)

| Particulars | Asset-7 | | |
|-----------------------------|--------------------------------------|---------------|---------------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| Depreciation | 7.43 | 80.19 | 78.09 |
| Interest on Loan | 7.13 | 73.26 | 64.27 |
| Return on Equity | 6.94 | 74.88 | 73.12 |
| O&M Expenses | 20.98 | 21.82 | 40.41 |
| Interest on Working Capital | 1.57 | 6.12 | 6.81 |
| Total | 44.05 | 256.27 | 262.70 |

11. The details of the trued-up IWC claimed by the Petitioner in respect of the transmission Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 are as follows:

(₹ in lakh)

| Particulars | Asset-3 | | | | |
|------------------------------------|---------------------------------------|--------------|--------------|--------------|--------------|
| | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O&M expenses | 3.94 | 1.47 | 1.63 | 1.70 | 3.14 |
| Maintenance Spares | 7.09 | 2.65 | 2.93 | 3.05 | 5.65 |
| Receivables | 23.37 | 26.43 | 31.06 | 34.09 | 43.01 |
| Total | 34.40 | 30.55 | 35.62 | 38.84 | 51.80 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 2.31 | 4.12 | 4.81 | 5.24 | 6.99 |

(₹ in lakh)

| Particulars | Asset-4 | | | |
|------------------------------------|---------------------------------------|-------------|-------------|-------------|
| | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| O&M expenses | 0.28 | 0.30 | 0.31 | 0.57 |
| Maintenance Spares | 0.51 | 0.53 | 0.56 | 1.03 |
| Receivables | 5.57 | 5.94 | 6.08 | 7.50 |
| Total | 6.36 | 6.77 | 6.95 | 9.10 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 0.82 | 0.91 | 0.94 | 1.23 |

(₹ in lakh)

| Particulars | Asset-5 | | | |
|--------------------|--------------------------------------|---------|---------|---------|
| | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| O&M expenses | 4.66 | 1.23 | 1.28 | 2.36 |
| Maintenance Spares | 8.38 | 2.21 | 2.30 | 4.25 |



| | | | | |
|------------------------------------|--------------|--------------|--------------|--------------|
| Receivables | 32.41 | 26.33 | 27.17 | 32.68 |
| Total | 45.45 | 29.77 | 30.75 | 39.29 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 1.46 | 4.02 | 4.15 | 5.30 |

(₹ in lakh)

| Particulars | Asset-6 | | | |
|------------------------------------|-------------------------------------|--------------|--------------|--------------|
| | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| O&M expenses | 0.00 | 1.28 | 1.33 | 2.46 |
| Maintenance Spares | 0.00 | 2.30 | 2.39 | 4.43 |
| Receivables | 26.21 | 28.55 | 27.76 | 30.25 |
| Total | 26.21 | 32.13 | 31.48 | 37.14 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 0.01 | 4.34 | 4.25 | 5.01 |

(₹ in lakh)

| Particulars | Asset-7 | | |
|------------------------------------|--------------------------------------|--------------|--------------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| O&M expenses | 20.59 | 1.82 | 3.37 |
| Maintenance Spares | 37.05 | 3.27 | 6.06 |
| Receivables | 86.43 | 42.71 | 43.78 |
| Total | 144.07 | 47.80 | 53.21 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 1.57 | 6.12 | 6.81 |

Capital Cost

12. The Commission vide order dated 20.9.2018 in Petition No. 213/TT/2017 and vide order dated 2.4.2019 in Review Petition No. 45/RP/2018 in respect of Asset-1 and Asset-2, vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 in respect of Asset-3, Asset-4 and Asset-5 and vide order dated 8.1.2019 in Petition No. 53/TT/2018 in respect of Asset-6 and Asset-7 has approved the respective capital cost and ACE as follows:



(₹ in lakh)

| Assets | FR Appor- tioned cost | Admitted capital cost as on COD or 1.4.2014 | ACE | | | | | Admitted capital cost as on 31.3.2019 |
|--------------|-----------------------------|--|----------------|---------------|----------------|---------------|--------------|---|
| | | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-1 | 400.38 | 99.14 | 186.62 | 26.77 | - | - | - | 312.53 |
| Asset-2 | 534.82 | 133.58 | 213.48 | 25.70 | 61.60 | - | - | 434.36 |
| Asset-3 | 2438.90 | 473.62 | 636.40 | 680.00 | - | - | - | 1790.02 |
| Asset-4 | 348.66 | 206.18 | - | 62.11 | 50.00 | - | - | 318.29 |
| Asset-5 | 1630.04 | 706.93 | - | 36.71 | 767.01 | - | - | 1510.65 |
| Asset-6 | 1471.00 | 838.13 | - | - | 471.24 | 138.05 | - | 1447.42 |
| Asset-7 | 1947.71 | 1386.22 | - | - | - | 329.16 | 56.28 | 1771.66 |
| Total | 8771.51 | 3843.80 | 1036.50 | 831.29 | 1349.85 | 467.21 | 56.28 | 7584.93 |

13. The Petitioner in the instant true-up petition has submitted capital cost as on COD and actual ACE incurred after adjustment of de-capitalisation against telecom sharing in respect of the transmission scheme as per the Revised Auditor's Certificates dated 21.1.2020, which is as follows:

| Assets | FR Appor- tioned cost | Sector | Cost as on 1.4.2014 / COD | Additional Capital Expenditure | | | | | Total cost as on 31.3.2019 |
|---------|-----------------------------|-----------------|---------------------------------|--------------------------------|-----------------|-----------------|---------------|---------------|-------------------------------------|
| | | | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-1 | 400.38 | Central | 99.14 | 186.62 | 26.77 | 51.83 | 11.42 | - | 375.78 |
| | | Less Telecom | 41.62 | - | - | 69.39 | - | - | 111.01 |
| | | Total | 57.52 | 186.62 | 26.77 | (-17.56) | 11.42 | - | 264.77 |
| Asset-2 | 534.82 | Central | 133.58 | 213.48 | 25.70 | 61.60 | 13.83 | - | 448.19 |
| | | Less Telecom | 49.27 | - | 60.31 | 33.71 | - | - | 143.29 |
| | | Total | 84.31 | 213.48 | (-34.61) | 27.89 | 13.83 | - | 304.90 |
| Asset-3 | 2438.90 | Central | 487.08 | 408.60 | 246.69 | 150.02 | 129.81 | 323.82 | 1746.02 |
| | | Less Telecom | 160.22 | 67.56 | 50.13 | 20.14 | - | - | 298.05 |
| | | Total | 326.86 | 341.04 | 196.56 | 129.88 | 129.81 | 323.82 | 1447.97 |
| Asset-4 | 348.66 | Central | 215.73 | - | 26.19 | 5.51 | 13.47 | 54.35 | 315.25 |
| | | Less Telecom | 56.55 | - | - | - | - | - | 56.55 |
| | | Total | 159.18 | - | 26.19 | 5.51 | 13.47 | 54.35 | 258.70 |
| Asset-5 | 1630.04 | Central | 761.88 | - | 36.71 | 216.74 | 94.34 | 231.37 | 1341.04 |
| | | Less Telecom | - | - | - | 149.06 | 65.21 | - | 214.27 |
| | | Total | 761.88 | - | 36.71 | 67.68 | 29.13 | 231.37 | 1126.77 |



| Assets | FR Appor- tioned cost | Sector | Cost as on 1.4.2014 / COD | Additional Capital Expenditure | | | | | Total cost as on 31.3.2019 |
|--------------|-----------------------------|-----------------|---------------------------------|--------------------------------|---------------|----------------|------------------|---------------|-------------------------------------|
| | | | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-6 | 1471.00 | Central | 861.71 | - | - | 204.54 | 142.29 | 183.48 | 1392.02 |
| | | Less Telecom | - | - | - | 206.84 | 132.28 | 146.22 | 485.34 |
| | | Total | 861.71 | - | - | (-)2.30 | 10.01 | 37.26 | 906.68 |
| Asset-7 | 1947.71 | Central | 1562.27 | - | - | 0.00 | 204.06 | 165.85 | 1932.18 |
| | | Less Telecom | 3.37 | - | - | - | 436.19 | - | 439.56 |
| | | Total | 1558.90 | - | - | - | (-)162.49 | 165.85 | 1316.56 |
| Total | 8771.51 | | 3810.36 | 741.14 | 251.62 | 211.1 | -24.46 | 812.65 | 5802.41 |

Cost over-run

14. The total estimated completion cost of the Asset-1 to Asset-7 is ₹5802.41 lakh against the apportioned approved cost of ₹8771.51 lakh. Further, the apportioned approved cost is also within the estimated apportioned approved of Asset-1 to Asset-7. Therefore, there is no cost over-run in case of the transmission assets.

Time Over-run

15. As per the Investment Approval dated 26.3.2012, the transmission assets were scheduled to be put into commercial operation within 30 months from the date of investment approval, i.e. by 27.9.2014. The date of commercial operation and the time over-run in case of the transmission assets covered under the instant petition is as follows:

| Particulars | SCOD | Actual COD | Time Over-run | Condoned / Not condone |
|---|-----------|------------|---------------|------------------------|
| Asset 1: 2 Numbers OPGW links under Central Sector (127 km) | 27.9.2014 | 1.11.2013 | - | No time over-run |
| Asset 2: 3 Numbers OPGW links under Central Sector (170.234 km) | 27.9.2014 | 1.3.2014 | - | No time over-run |
| Asset 3: 11 Numbers of OPGW link under central sector (789.635 km) | 27.9.2014 | 1.10.2014 | 4 days | Not condoned |
| Asset 4: 03 Numbers OPGW links under Central Sector (112.886 km) | 27.9.2014 | 20.4.2015 | 205 days | Not condoned |
| Asset 5: 05 Numbers links under Central Sector (527.751 km) | 27.9.2014 | 5.1.2016 | 465 days | Not condoned |



| | | | | |
|--|-----------|-----------|----------|--------------|
| Asset 6: 06 Numbers links under Central Sector (562.873 km) | 27.9.2014 | 31.3.2016 | 551 days | Not condoned |
| Asset 7: 07 Numbers links under Central Sector (664.53 km) | 27.9.2014 | 1.3.2017 | 886 days | Not condoned |

16. There is no time over-run in case of Asset-1 and Asset-2. The Commission vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 did not condone the time over-run in respect of Asset-3, Asset-4 and Asset-5.

17. The Commission vide order dated 8.1.2019 in Petition No. 53/TT/2018 disallowed the time over-run in case of Asset-6 and Asset-7. The Petitioner was granted liberty to approach the Commission reasons for delay at the time of truing up of tariff. However, petitioner has not submitted any documentary evidence to show that the time over-run is not attributable to the petitioner. The petitioner has neither substantiated the reasons nor submitted any documentary evidence in support of time over-run. Accordingly, time over-run in case of Asset-6 and Asset-7 has not been condoned.

Treatment of IDC and IEDC

18. The treatment of IDC and IEDC in case of Asset-1 and Asset-2 has already been considered by the Commission vide order dated 20.9.2018 in Petition No. 213/TT/2017 while truing up of tariff from COD to 31.3.2014. The IDC and IEDC allowed has been incorporated in the opening capital cost considered as on 1.4.2014.

19. Further, with respect to Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 the allowable IDC has been worked out considering the information submitted by the Petitioner in respect of the Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7, separately, on cash basis. The loan details submitted in Form-9C for 2014-19 tariff period and IDC computation sheet have been considered for the purpose of IDC calculation on cash basis and accrual basis. Further, in view of non-condonation of time over-run in case of Asset-



3 to Asset-7, corresponding IDC has not been allowed.

20. Accordingly, based on the information furnished by the Petitioner, IDC considered is as follows:

(₹ in lakh)

| Particulars | IDC as per Auditor's Certificate | IDC Admissible | IDC disallowed due to computational difference / time over-run not condoned | IDC Discharged as on COD | IDC Undischarged as on COD |
|-------------|----------------------------------|----------------|---|--------------------------|----------------------------|
| | A | B | C=A-B | D | E=B-D |
| Asset-3 | 41.24 | 25.17 | 16.07 | 16.77 | 8.40 |
| Asset-4 | 15.88 | 9.49 | 6.39 | 7.00 | 2.49 |
| Asset-5 | 88.62 | 46.12 | 42.50 | 46.12 | 0.00 |
| Asset-6 | 20.45 | 1.39 | 19.06 | 1.39 | 0.00 |
| Asset-7 | 166.74 | 1.93 | 164.81 | 1.93 | 0.00 |

21. The Petitioner has claimed IEDC for the transmission scheme and has submitted Auditor's Certificate in support of the same. Accordingly, the IEDC is allowed as claimed subject to adjustment as per condonation of time over-run. The details of claimed and allowed IEDC are as follows:

(₹ in lakh)

| Asset | IEDC claimed as per Auditor's Certificate | IEDC disallowed due to time over-run | IEDC allowed as on COD |
|---------|---|--------------------------------------|------------------------|
| | 1 | 2 | 3=(1-2) |
| Asset-3 | 5.56 | 0.02 | 5.54 |
| Asset-4 | 0.10 | 0.02 | 0.08 |
| Asset-5 | 22.98 | 7.75 | 15.23 |
| Asset-6 | 8.33 | 3.13 | 5.20 |
| Asset-7 | 22.63 | 11.14 | 11.49 |

Initial Spares

22. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalised as a percentage of plant and machinery cost up to the cut-off date, subject to the 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%”

23. The Petitioner has claimed the following initial spares for the transmission scheme:

(₹ in lakh)

| Asset name | Capital cost (A) | Spare's limit (B) (in %) | Spares claimed (C) | Spares permissible D = [(A-C)*B / (100-B)] |
|--------------|------------------|--------------------------|--------------------|--|
| | PLCC | PLCC | PLCC | PLCC |
| Asset-3 | 1245.59 | 3.50 | 30.12 | 44.08 |
| Asset-4 | 244.92 | 3.50 | 5.17 | 8.70 |
| Asset-5 | 1229.44 | 3.50 | 30.12 | 43.50 |
| Asset-6 | 1363.24 | 3.50 | 13.00 | 48.97 |
| Asset-7 | 1742.81 | 3.50 | 45.00 | 61.58 |
| Total | 5826.00 | - | 123.41 | 206.83 |

24. The Commission has observed that the Spares claimed are within the norm of 3.5% and allowed the initial spares of ₹123.41 lakh as claimed by the Petitioner.

Telecom sharing/ De-capitalisation

25. The Petitioner has submitted that the telecom links on Asset-1 to Asset-7 are shared. Therefore, the Petitioner has submitted the de-capitalization against telecom sharing and has accounted for while computing the true-up tariff for the concerned transmission assets and respective adjustment is done under the capital cost claimed by the Petitioner. Details of corresponding capital cost being shared by Telecom department as per Auditor's certificate are as follows:

(₹ in lakh)

| Assets | Sharing of telecom links | | | | | | Total cost of sharing of Telecom links |
|----------|--------------------------|---------|---------|---------|---------|---------|--|
| | As on 1.4.2014/ COD | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset -1 | 41.62 | - | - | 69.39 | - | - | 111.01 |
| Asset -2 | 49.27 | - | 60.31 | 33.71 | - | - | 143.29 |
| Asset-3 | 160.22 | 67.56 | 50.13 | 20.14 | - | - | 298.05 |
| Asset-4 | 56.55 | - | - | - | - | - | 56.55 |



| Assets | Sharing of telecom links | | | | | | Total cost of sharing of Telecom links |
|---------|--------------------------|---------|---------|---------|---------|---------|--|
| | As on 1.4.2014/ COD | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-5 | - | - | - | 149.06 | 65.21 | - | 214.27 |
| Asset-6 | - | - | - | 206.84 | 132.28 | 146.22 | 485.34 |
| Asset-7 | 3.37 | - | - | - | 436.19 | - | 439.56 |

26. Accordingly, the Petitioner has submitted Form-10B for de-capitalisation in respect of Asset-1 to Asset-7, as follows:

(₹ in lakh)

| Assets | Equipment proposed to be decapitalised | Year of capitalisation of asset | Date of decapitalisation | Original book value of asset being decapitalised | Debt: Equity ratio at the time of capitalisation | Cumulative depreciation corresponding to decapitalisation | Cumulative repayment of loan corresponding to decapitalisation |
|---------|--|---------------------------------|--------------------------|--|--|---|--|
| Asset-3 | PLCC | 2014-15 | 1.10.2014 | 160.22 | 70:30 | 0.00 | 0.00 |
| | | 2014-15 | 9.12.2014 | 67.56 | 70:30 | 0.40 | 0.40 |
| | | 2014-15 | 14.4.2015 | 27.74 | 70:30 | 0.91 | 0.91 |
| | | 2014-15 | 30.11.2015 | 22.39 | 70:30 | 1.18 | 1.18 |
| | | 2014-15 | 14.8.2016 | 20.14 | 70:30 | 2.15 | 2.15 |
| Asset-4 | PLCC | 2015-16 | 20.4.2015 | 56.55 | 70:30 | 0.00 | 0.00 |
| Asset-5 | PLCC | 2015-16 | 4.9.2016 | 27.04 | 70:30 | 0.77 | 0.77 |
| | | 2015-16 | 18.8.2016 | 122.02 | 70:30 | 3.31 | 3.31 |
| | | 2015-16 | 3.4.2017 | 65.21 | 70:30 | 5.12 | 5.12 |
| Asset-6 | PLCC | 2015-16 | 7.6.2016 | 91.81 | 70:30 | 0.55 | 0.55 |
| | | 2015-16 | 18.8.2016 | 115.03 | 70:30 | 1.41 | 1.41 |
| | | 2015-16 | 22.6.2017 | 120.33 | 70:30 | 8.48 | 8.48 |
| | | 2015-16 | 9.10.2017 | 11.95 | 70:30 | 0.96 | 0.96 |
| | | 2015-16 | 8.5.2018 | 146.22 | 70:30 | 19.01 | 19.01 |
| Asset-7 | PLCC | 2016-17 | 1.3.2017 | 3.37 | 70:30 | 0.00 | 0.00 |
| | | 2016-17 | 3.4.2017 | 120.81 | 70:30 | 0.67 | 0.67 |
| | | 2016-17 | 17.5.2017 | 66.08 | 70:30 | 0.62 | 0.62 |
| | | 2016-17 | 22.6.2017 | 249.30 | 70:30 | 3.11 | 3.11 |

27. We have considered the submissions of the Petitioner. The cost recovered through sharing of telecom links from Asset-1 to Asset-7 is reduced from the capital cost. Accordingly, the cost considered towards telecom sharing allowed for the 2014-19 Tariff is as follows:



| | | | | | | | (₹ in lakh) |
|---------|--------------------------|---------|---------|---------|---------|---------|----------------------------------|
| Assets | Sharing of telecom links | | | | | | Total cost of Sharing of Telecom |
| | As on 1.4.2014/ COD | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-1 | 41.62 | - | - | 69.39 | - | - | 111.01 |
| Asset-2 | 49.27 | - | 60.31 | 33.71 | - | - | 143.29 |
| Asset-3 | 160.22 | 67.56 | 50.13 | 20.14 | | | 298.05 |
| Asset-4 | 56.55 | - | - | - | -- | - | 56.55 |
| Asset-5 | - | - | - | 149.06 | 65.21 | - | 214.27 |
| Asset-6 | - | - | - | 206.84 | 132.28 | 146.22 | 485.34 |
| Asset-7 | 3.37 | - | - | - | 436.19 | - | 439.56 |

Capital Cost as on 1.4.2014 / COD

28. The trued-up capital cost as considered by the Commission vide order dated 20.9.2018 in Petition No. 213/TT/2017 and order dated 2.4.2019 in Review Petition No. 45/RP/2018 in respect of Asset-1 and Asset-2, has been considered as opening capital cost as on 31.3.2014. The Petitioner has also submitted Auditor's certificate dated 21.1.2020 in respect of capital cost and additional capital expenditure based on actual COD and the same has been allowed as follows:

| (₹ in lakh) | |
|--|---------|
| Capital Cost as on 31.3.2014 as approved vide order dated 20.9.2018 in Petition No. 213/TT/2017 | |
| Particulars | Central |
| Asset-1 | 98.25 |
| Asset-2 | 133.29 |

29. Keeping in view the opening capital cost and its recovery during 2009-14 period, and by adjusting the telecom share as on 1.4.2014 the following capital cost is being considered as on 1.4.2014 for working out the fee and charges for the period 2014-19 for Central Portion for Asset-1 and Asset-2 as follows:



(₹ in lakh)

| Asset-1 | Capital | Central Portion |
|---|--------------|-----------------|
| Retained Gross Capital Cost as on 31.3.2014 | Loan | 69.40 |
| | Equity | 29.74 |
| | Total | 99.14 |
| Capital Cost Recovered up to 31.3.2014 | Loan | 0.72 |
| | Equity | 0.17 |
| | Total | 0.89 |
| Less: Telecom Sharing | Loan | 29.13 |
| | Equity | 12.49 |
| | Total | 41.62 |
| Net Capital Cost as on 1.4.2014 | Loan | 39.54 |
| | Equity | 17.09 |
| | Total | 56.63 |

(₹ in lakh)

| Asset-2 | Capital | Central Portion |
|---|--------------|-----------------|
| Retained Gross Capital Cost as on 31.3.2014 | Loan | 93.51 |
| | Equity | 40.07 |
| | Total | 133.58 |
| Capital Cost Recovered up to 31.3.2014 | Loan | 0.24 |
| | Equity | 0.06 |
| | Total | 0.29 |
| Less: Telecom Sharing | Loan | 34.49 |
| | Equity | 14.78 |
| | Total | 49.27 |
| Net Capital Cost as on 1.4.2014 | Loan | 58.78 |
| | Equity | 25.24 |
| | Total | 84.02 |

30. The details of the capital cost allowed for the transmission scheme as on COD after adjustment of IDC, IEDC, initial spares and sharing towards telecom are as follows:



(₹ in lakh)

| Assets | Capital cost as on 1.4.2014 / COD as per auditor certificate (Before adjustment of Telecom) | Less: Decapitalised w.r.t cost of asset shared by Telecom as on 1.4.2014/ COD | Capital cost as on 1.4.2014 / COD as per auditor certificate (After adjustment of Telecom) | Less: IDC as on COD due to | | Less: IEDC disallowed as on COD | Capital cost considered as on 1.4.2014 / COD |
|---------|---|---|--|--|---------------|---------------------------------|--|
| | | | | Time over-run / Computational difference | Un-discharged | | |
| Asset-3 | 487.08 | 160.22 | 326.86 | 16.07 | 8.40 | 0.02 | 302.37 |
| Asset-4 | 215.73 | 56.55 | 159.18 | 6.39 | 2.49 | 0.02 | 150.28 |
| Asset-5 | 761.88 | 0.00 | 761.88 | 42.50 | 0.00 | 7.75 | 711.63 |
| Asset-6 | 861.71 | 0.00 | 861.71 | 19.06 | 0.00 | 3.13 | 839.52 |
| Asset-7 | 1562.27 | 3.37 | 1558.90 | 164.81 | 0.00 | 11.14 | 1382.95 |

Additional Capital Expenditure (ACE)

31. The Commission vide order dated 20.9.2018 in Petition No. 213/TT/2017 and order dated 2.4.2019 in Review Petition No. 45/RP/2018 had allowed following ACE in respect of the Asset-1 and Asset-2 for 2014-19 tariff period:

| Particulars | (₹ in lakh) | | | | |
|-------------|-------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 | 186.62 | 26.77 | 0.00 | 0.00 | 0.00 |
| Asset-2 | 213.48 | 25.70 | 61.60 | 0.00 | 0.00 |

32. The Petitioner has claimed the following ACE after adjustment of IDC and IEDC, and liability for Asset-1 and Asset-2 for 2014-19 tariff period:

| Particulars | (₹ in lakh) | | | | |
|-------------|-------------|----------|----------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 | 186.62 | 26.77 | (-)17.56 | 11.42 | 0.00 |
| Asset-2 | 213.48 | (-)34.61 | 27.89 | 13.83 | 0.00 |

33. The Petitioner has submitted that ACE in 2014-19 has been claimed under Regulations 14(1)(i) of the 2014 Tariff Regulations. The Petitioner has submitted Auditor's Certificate in support of the same.

34. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) of the



2014 Tariff Regulations which pertains to un-discharged liabilities recognised to be payable at a future date. Accordingly, ACE allowed for 2014-19 tariff period is as follows:

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | Total ACE 2014-19 |
|-------------|---------|----------|----------|---------|---------|----------------------|
| Asset-1 | 186.62 | 26.77 | (-)17.56 | 11.42 | 0.00 | 207.25 |
| Asset-2 | 213.48 | (-)34.61 | 27.89 | 13.83 | 0.00 | 220.59 |

35. The Petitioner has claimed ACE for the transmission assets and has submitted Auditor's Certificate in support of its claim as follows:

(₹ in lakh)

| Assets | ACE | | | | |
|--------------|---------------|---------------|---------------|----------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-3 | 341.04 | 196.56 | 129.88 | 129.81 | 323.82 |
| Asset-4 | - | 26.19 | 5.51 | 13.47 | 54.35 |
| Asset-5 | - | 36.71 | 67.68 | 29.13 | 231.37 |
| Asset-6 | - | - | (2.30) | 10.01 | 37.26 |
| Asset-7 | - | - | - | (232.13) | 165.85 |
| Total | 341.04 | 259.46 | 200.77 | (49.71) | 812.65 |

36. We have considered the submissions of the Petitioner. The ACE in 2014-19 has been claimed under Regulations 14(1)(i) of the 2014 Tariff Regulations and the same is within the cut-off date. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and 14(1)(ii) of the 2014 Tariff Regulations as it is towards Balance and Retention payments and works deferred for execution. The un-discharged IDC as on COD has been allowed as ACE. The details of ACE allowed are as follows:

(₹ in lakh)

| Asset-3 | ACE | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| ACE to the extent of Balance and Retention Payments | 408.60 | 246.69 | 150.02 | 129.81 | 323.82 |
| IDC Discharged | 5.37 | 3.03 | - | - | - |
| Less: Excess Initial Spares | - | - | - | - | - |
| Less: Decapitalization w.r.t cost of asset shared by telecom | 67.56 | 50.13 | 20.14 | - | - |
| Total ACE allowed | 346.41 | 199.59 | 129.88 | 129.81 | 323.82 |



(₹ in lakh)

| Asset-4 | ACE | | | | |
|---|---------|--------------|-------------|--------------|--------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| ACE to the extent of Balance and Retention Payments | - | 26.19 | 5.51 | 13.47 | 54.35 |
| IDC Discharged | - | 2.49 | - | - | - |
| Less: Excess Initial Spares | - | - | - | - | - |
| Less: Decapitalization | - | - | - | - | - |
| Total ACE allowed | - | 28.68 | 5.51 | 13.47 | 54.35 |

(₹ in lakh)

| Asset-5 | ACE | | | | |
|---|---------|--------------|--------------|--------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| ACE to the extent of Balance and Retention Payments | - | 36.71 | 216.74 | 94.34 | 231.37 |
| IDC Discharged | - | - | - | - | - |
| Less: Excess Initial Spares | - | - | - | - | - |
| Less: Decapitalization | - | - | 149.06 | 65.21 | - |
| Total ACE allowed | - | 36.71 | 67.68 | 29.13 | 231.37 |

(₹ in lakh)

| Asset-6 | ACE | | | |
|--|---------|----------------|--------------|--------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| ACE to the extent of Balance and Retention Payments | - | 204.54 | 142.29 | 183.48 |
| IDC Discharged | - | - | - | - |
| Less: Excess Initial Spares | - | - | - | - |
| Less: Decapitalization w.r.t cost of asset shared by telecom | - | 206.84 | 132.28 | 146.22 |
| Total ACE allowed | - | (-)2.03 | 10.01 | 37.26 |

(₹ in lakh)

| Asset-7 | ACE | | | |
|---|---------|---------|------------------|---------------|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| ACE to the extent of Balance and Retention Payments | - | - | 204.06 | 165.85 |
| IDC Discharged | - | - | - | - |
| Less: Excess Initial Spares | - | - | - | - |
| Less: Decapitalization | - | - | 436.19 | - |
| Total ACE allowed | - | - | (-)232.13 | 165.85 |

Capital cost allowed as on 31.3.2019

37. The total gross Capital Cost as on 31.3.2019 for Asset-1 and Asset-2 after adjustment of sharing of telecom lines is shown as follows:



(₹ in lakh)

| Assets | Total gross Capital cost allowed as on 1.4.2014 | Additional Capital Expenditure | Total gross capital cost as on 31.3.2019 |
|---------|---|--------------------------------|--|
| | | 2014-19 | |
| Asset-1 | 57.52 | 207.25 | 264.77 |
| Asset-2 | 84.31 | 220.59 | 304.90 |

38. Accordingly, the capital cost of the transmission scheme considered for the 2014-19 tariff period is as follows:

(₹ in lakh)

| Particulars | Capital Cost as on COD on cash basis | ACE | | | | | Total Capital Cost as on 31.3.2019 |
|-------------|--------------------------------------|---------|---------|---------|----------|---------|------------------------------------|
| | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Asset-3 | 302.37 | 346.41 | 199.59 | 129.88 | 129.81 | 323.82 | 1431.88 |
| Asset-4 | 150.28 | - | 28.68 | 5.51 | 13.47 | 54.35 | 252.29 |
| Asset-5 | 711.63 | - | 36.71 | 67.68 | 29.13 | 231.37 | 1076.52 |
| Asset-6 | 839.52 | - | - | (2.30) | 10.01 | 37.26 | 884.49 |
| Asset-7 | 1382.95 | - | - | - | (232.13) | 165.85 | 1316.67 |

Debt-Equity Ratio

39. The following Debt-Equity ratio has been considered as on 1.4.2014 for the for Asset-1 and Asset-2:

| Asset-1 | As on 1.4.2014 | | As on 31.3.2019 | |
|---------|----------------|---------------|-----------------|---------------|
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 40.26 | 70.00 | 185.34 | 70.00 |
| Equity | 17.26 | 30.00 | 79.43 | 30.00 |
| Total | 57.52 | 100.00 | 264.77 | 100.00 |

| Asset-2 | As on COD | | As on 31.3.2019 | |
|---------|--------------|---------------|-----------------|---------------|
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 59.02 | 70.00 | 213.43 | 70.00 |
| Equity | 25.29 | 30.00 | 91.47 | 30.00 |
| Total | 84.31 | 100.00 | 304.90 | 100.00 |

40. As regards Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7, the Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE. The debt-equity ratio of 70:30



has been considered for capital cost as on COD and ACE during 2014-19 tariff period as provided under Regulation 19 of the 2014 Tariff Regulations. The details of the debt-equity ratio as on COD and as on 31.3.2019 in respect of the transmission scheme are as follows:

| Asset-3 | As on COD | | As on 31.3.2019 | |
|--------------|----------------|---------------|-----------------|---------------|
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 211.66 | 70.00 | 1002.32 | 70.00 |
| Equity | 90.71 | 30.00 | 429.56 | 30.00 |
| Total | 302.37 | 100.00 | 1431.88 | 100.00 |
| Asset-4 | As on COD | | As on 31.3.2019 | |
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 105.19 | 70.00 | 176.61 | 70.00 |
| Equity | 45.08 | 30.00 | 75.68 | 30.00 |
| Total | 150.28 | 100.00 | 252.29 | 100.00 |
| Asset-5 | As on COD | | As on 31.3.2019 | |
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 498.15 | 70.00 | 753.58 | 70.00 |
| Equity | 213.48 | 30.00 | 322.94 | 30.00 |
| Total | 711.63 | 100.00 | 1076.52 | 100.00 |
| Asset-6 | As on COD | | As on 31.3.2019 | |
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 587.66 | 70.00 | 619.15 | 70.00 |
| Equity | 251.86 | 30.00 | 265.34 | 30.00 |
| Total | 839.52 | 100.00 | 884.49 | 100.00 |
| Asset-7 | As on COD | | As on 31.3.2019 | |
| | Amount | (in %) | Amount | (in %) |
| | (₹ in lakh) | | (₹ in lakh) | |
| Debt | 968.07 | 70.00 | 921.68 | 70.00 |
| Equity | 414.88 | 30.00 | 394.99 | 30.00 |
| Total | 1382.95 | 100.00 | 1316.67 | 100.00 |



Rates for Recovery of loan and equity

Capital Recovery for Loan

41. The Petitioner has not submitted trued up weighted average rate of interest based on the actual loan portfolio. Hence, the weighted average rate of interest approved vide order dated 20.9.2018 in Petition No. 213/TT/2017 has been applied in the instant petition to determine loan recovery in case of Asset-1 and Asset-2.

42. The year wise weighted average rate of interest has been calculated on the basis of the impact due to change in floating rate of interest of loan which has been applied for calculating the capital recovery factor for loan.

43. The Capital Recovery Factor for loan in respect of Asset-1 and Asset-2 has been calculated by applying weighted average rate of interest on the basis of the impact due to change in floating rate of interest of loan. Thus, the rates considered on annual basis, have been converted to monthly rates. Thus, monthly recovery factors for loan for Central Portion for Asset-1 and Asset-2 are as follows:

| CRF for loan to be considered for Fee & Charges | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 – Central Portion | 0.010193 | 0.010735 | 0.011134 | 0.011654 | 0.012282 |
| Asset-2 – Central Portion | 0.010220 | 0.010692 | 0.011066 | 0.011392 | 0.011983 |

44. The Capital Recovery Factor for equity has been considered on the same basis as approved vide order dated 20.9.2018 in Petition No. 213/TT/2017 on post-tax return on equity of 15.50%. Thus, monthly recovery factors for equity for Central Portion for Asset-1 and Asset-2 are as follows:



| CRF for equity to be considered for Fee & Charges | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 – Central Portion | 0.014445 | 0.014736 | 0.015090 | 0.015524 | 0.016064 |
| Asset-2 – Central Portion | 0.014360 | 0.014633 | 0.014964 | 0.015369 | 0.015871 |

45. In view of the above, the amount of monthly capital recovery charges for loan and equity both for Central Portion for Asset-1 and Asset-2 have been considered by using respective Capital Recovery Factors and are as follows:

(₹ in lakh)

| Monthly capital recovery charges for loan | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 – Central Portion | 0.40 | 1.81 | 2.01 | 1.87 | 1.97 |
| Asset-2 – Central Portion | 0.60 | 2.21 | 1.93 | 2.13 | 2.24 |

(₹ in lakh)

| Monthly capital recovery charges for equity | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 – Central Portion | 0.25 | 1.07 | 1.19 | 1.11 | 1.17 |
| Asset-2 – Central Portion | 0.36 | 1.30 | 1.14 | 1.27 | 1.34 |

46. Accordingly, the recovery of capital during 2014-19 has been worked out. The details are as follows:

(₹ in lakh)

| Asset-1 | Capital | Central Portion |
|---|----------------|------------------------|
| Retained Gross Capital Cost as on 1.4.2014 | Loan | 40.26 |
| | Equity | 17.26 |
| | Total | 57.52 |
| Additional Capital Expenditure during 2014-19 | Loan | 145.08 |
| | Equity | 62.18 |
| | Total | 207.25 |
| Capital Cost Recovered up to 31.3.2019 | Loan | 34.44 |
| | Equity | 9.78 |
| | Total | 44.22 |
| Net Capital Cost as on 31.3.2019 | Loan | 150.90 |
| | Equity | 69.65 |
| | Total | 220.55 |

(₹ in lakh)

| Asset-2 | Capital | Central Portion |
|--|----------------|------------------------|
| Retained Gross Capital Cost as on 1.4.2014 | Loan | 59.02 |
| | Equity | 25.29 |
| | Total | 84.31 |



| | | |
|---|--------------|---------------|
| Additional Capital Expenditure during 2014-19 | Loan | 154.41 |
| | Equity | 66.18 |
| | Total | 220.59 |
| Capital Cost Recovered up to 31.3.2019 | Loan | 36.96 |
| | Equity | 10.34 |
| | Total | 47.30 |
| Net Capital Cost as on 31.4.2019 | Loan | 176.47 |
| | Equity | 81.13 |
| | Total | 257.60 |

Asset-3 to Asset-7 : Calculation of Annual Transmission Charges

47. Asset-3 to Asset-7 were put into commercial operation after 1.4.2014. Therefore, annual transmission charges are determined in accordance with the 2014 Tariff Regulations.

Depreciation

48. The depreciation has been allowed out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during the 2014-19 tariff period. The Gross Block during 2014-19 tariff period has been depreciated at weighted average rate of depreciation (WAROD) and working of WAROD is at Annexure-I to Annexure-V. WAROD has been worked out after taking into account the depreciation rates of asset as prescribed in the 2014 Tariff Regulations and depreciation allowed during the 2014-19 tariff period is as follows:

(₹ in lakh)

| Asset-3 | | | | | | |
|---------|-----------------------------|--|---------|---------|---------|---------|
| | Particulars | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Gross Block | 302.37 | 648.78 | 848.37 | 978.25 | 1108.06 |
| B | ACE | 346.41 | 199.59 | 129.88 | 129.81 | 323.82 |
| D | Closing Gross Block (A+B-C) | 648.78 | 848.37 | 978.25 | 1108.06 | 1431.88 |



| | | | | | | |
|---|---|--------------|--------------|--------------|--------------|--------------|
| E | Average Gross Block (A+D)/2 | 475.57 | 748.57 | 913.31 | 1043.15 | 1269.97 |
| F | Average Gross Block (90% depreciable assets) | 475.57 | 748.57 | 913.31 | 1043.15 | 1269.97 |
| G | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| H | Depreciable value (excluding IT equipment and software) (F*90%) | 428.01 | 673.71 | 821.98 | 938.84 | 1142.97 |
| I | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| J | Total Depreciable Value (H+I) | 428.01 | 673.71 | 821.98 | 938.84 | 1142.97 |
| K | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |
| L | Lapsed useful life at the beginning of the year (Year) | 0.00 | 0.00 | 1.00 | 2.00 | 3.00 |
| M | Balance useful life at the beginning of the year (Year) | 15.00 | 15.00 | 14.00 | 13.00 | 12.00 |
| N | Depreciation during the year (E*K) | 15.01 | 47.38 | 57.81 | 66.03 | 80.39 |
| O | Adjustment of cumulative depreciation pertaining to decapitalized Asset | 0.00 | 14.61 | 59.91 | 115.57 | 181.60 |
| P | Aggregate Cumulative Depreciation at the end of the year | 14.61 | 59.91 | 115.57 | 181.60 | 261.99 |
| Q | Remaining Aggregate Depreciable Value at the end of the year (J-P) | 413.00 | 611.72 | 704.26 | 757.24 | 880.98 |

(₹ in lakh)

| Asset-4 | | | | | |
|---------|---|---------------------------------------|---------|---------|---------|
| | Particulars | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Gross Block | 150.28 | 178.96 | 184.47 | 197.94 |
| B | ACE | 28.68 | 5.51 | 13.47 | 54.35 |
| D | Closing Gross Block (A+B-C) | 178.96 | 184.47 | 197.94 | 252.29 |
| E | Average Gross Block (A+D)/2 | 164.62 | 181.72 | 191.21 | 225.12 |
| F | Average Gross Block (90% depreciable assets) | 164.62 | 181.72 | 191.21 | 225.12 |
| G | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 | 0.00 |
| H | Depreciable value (excluding IT equipment and software) (F*90%) | 148.16 | 163.54 | 172.08 | 202.60 |
| I | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 | 0.00 |
| J | Total Depreciable Value (H+I) | 148.16 | 163.54 | 172.08 | 202.60 |
| K | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 | 6.33 |
| L | Lapsed useful life at the beginning | 0.00 | 0.00 | 1.00 | 2.00 |



| | | | | | |
|---|---|-------------|--------------|--------------|--------------|
| | of the year (Year) | | | | |
| M | Balance useful life at the beginning of the year (Year) | 15.00 | 15.00 | 14.00 | 13.00 |
| N | Depreciation during the year (E*K) | 9.88 | 11.50 | 12.10 | 14.25 |
| O | Aggregate Cumulative Depreciation at the end of the year | 9.88 | 21.38 | 33.49 | 47.74 |
| P | Remaining Aggregate Depreciable Value at the end of the year(J-O) | 138.28 | 142.16 | 138.60 | 154.87 |

(₹ in lakh)

| Asset-5 | | | | | |
|---------|---|--------------------------------------|--------------|--------------|--------------|
| | Particulars | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Gross Block | 711.63 | 748.34 | 816.02 | 845.15 |
| B | ACE | 36.71 | 67.68 | 29.13 | 231.37 |
| D | Closing Gross Block (A+B-C) | 748.34 | 816.02 | 845.15 | 1076.52 |
| E | Average Gross Block (A+D)/2 | 729.98 | 782.18 | 830.58 | 960.83 |
| F | Average Gross Block (90% depreciable assets) | 729.98 | 782.18 | 830.58 | 960.83 |
| G | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 | 0.00 |
| H | Depreciable value (excluding IT equipment and software) (F*90%) | 656.98 | 703.96 | 747.52 | 864.75 |
| I | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 | 0.00 |
| J | Total Depreciable Value (H+I) | 656.98 | 703.96 | 747.52 | 864.75 |
| K | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 | 6.33 |
| L | Lapsed useful life at the beginning of the year (Year) | 0.00 | 0.00 | 1.00 | 2.00 |
| M | Balance useful life at the beginning of the year (Year) | 15.00 | 15.00 | 14.00 | 13.00 |
| N | Depreciation during the year (E*K) | 10.98 | 49.51 | 52.58 | 60.82 |
| O | Aggregate Cumulative Depreciation at the end of the year | 10.98 | 56.42 | 103.87 | 164.69 |
| P | Remaining Aggregate Depreciable Value at the end of the year(J-O) | 646.00 | 643.46 | 638.53 | 700.06 |



(₹ in lakh)

| Asset-6 | | | | | |
|---------|---|-------------------------------------|--------------|--------------|--------------|
| | Particulars | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Gross Block | 839.52 | 839.52 | 837.22 | 847.23 |
| B | ACE | 0.00 | -2.30 | 10.01 | 37.26 |
| D | Closing Gross Block (A+B-C) | 839.52 | 837.22 | 847.23 | 884.49 |
| E | Average Gross Block (A+D)/2 | 839.52 | 838.37 | 842.22 | 865.86 |
| F | Average Gross Block (90% depreciable assets) | 839.52 | 838.37 | 842.22 | 865.86 |
| G | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 | 0.00 |
| H | Depreciable value (excluding IT equipment and software) (F*90%) | 755.57 | 754.53 | 758.00 | 779.27 |
| I | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 | 0.00 |
| J | Total Depreciable Value (H+I) | 755.57 | 754.53 | 758.00 | 779.27 |
| K | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 | 6.33 |
| L | Lapsed useful life at the beginning of the year (Year) | 0.00 | 0.00 | 1.00 | 2.00 |
| M | Balance useful life at the beginning of the year (Year) | 15.00 | 15.00 | 14.00 | 13.00 |
| N | Depreciation during the year (E*K) | 0.15 | 53.07 | 53.31 | 54.81 |
| O | Adjustment of cumulative depreciation pertaining to decapitalized Asset | 0.00 | 0.15 | 51.25 | 95.13 |
| P | Aggregate Cumulative Depreciation at the end of the year | 0.15 | 51.25 | 95.13 | 130.93 |
| Q | Remaining Aggregate Depreciable Value at the end of the year(J-P) | 755.42 | 701.32 | 653.43 | 629.34 |

(₹ in lakh)

| Asset-7 | | | | |
|---------|---|--------------------------------------|---------|---------|
| | Particulars | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| A | Opening Gross Block | 1382.95 | 1382.95 | 1150.82 |
| B | ACE | 0.00 | -232.13 | 165.85 |
| D | Closing Gross Block (A+B-C) | 1382.95 | 1150.82 | 1316.67 |
| E | Average Gross Block (A+D)/2 | 1382.95 | 1266.89 | 1233.75 |
| F | Average Gross Block (90% depreciable assets) | 1382.95 | 1266.89 | 1233.75 |
| G | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 |
| H | Depreciable value (excluding IT equipment and software) (F*90%) | 1244.66 | 1140.20 | 1110.37 |



| | | | | |
|---|---|-------------|--------------|--------------|
| I | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 |
| J | Total Depreciable Value (H+I) | 1244.66 | 1140.20 | 1110.37 |
| K | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 |
| L | Lapsed useful life at the beginning of the year (Year) | 0.00 | 0.00 | 1.00 |
| M | Balance useful life at the beginning of the year (Year) | 15.00 | 15.00 | 14.00 |
| N | Depreciation during the year (E*K) | 7.43 | 80.19 | 78.10 |
| O | Aggregate Cumulative Depreciation at the end of the year | 7.43 | 83.23 | 161.33 |
| P | Remaining Aggregate Depreciable Value at the end of the year(J-O) | 1237.22 | 1052.57 | 949.05 |

Interest on Loan (IoL)

49. The Petitioner has claimed the Weighted Average Rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL is calculated based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed in respect of the transmission assets for the 2014-19 tariff period is as follows:

| Particulars | | Asset-3 | | | | |
|-------------|---|---------------------------------------|--------------|--------------|--------------|--------------|
| | | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| A | Gross Normative Loan | 211.66 | 454.15 | 593.86 | 684.78 | 775.65 |
| B | Cumulative Repayments upto Previous Year | 0.00 | 14.61 | 59.91 | 115.57 | 181.60 |
| C | Net Loan-Opening (A-B) | 211.66 | 439.54 | 533.96 | 569.21 | 594.05 |
| D | Addition due to Additional Capitalization | 242.49 | 139.71 | 90.92 | 90.87 | 226.67 |
| E | Repayment during the year | 15.01 | 47.38 | 57.81 | 66.03 | 80.39 |
| F | Adjustment of cumulative repayment pertaining to the de-capitalised asset | 0.40 | 2.09 | 2.15 | 0.00 | 0.00 |
| G | Net Loan-Closing (C+D-E+F) | 439.54 | 533.96 | 569.21 | 594.05 | 740.33 |
| H | Average Loan (A+G)/2 | 325.60 | 486.75 | 551.59 | 581.63 | 667.19 |
| I | Weighted Average Rate of Interest on Loan (in %) | 8.55% | 8.73% | 8.62% | 8.38% | 8.28% |
| J | Interest on Loan (HxI) | 13.88 | 42.48 | 47.54 | 48.71 | 55.27 |



(₹ in lakh)

| Particulars | | Asset-4 | | | |
|-------------|--|---------------------------------------|-------------|-------------|-------------|
| | | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Gross Normative Loan | 105.19 | 125.27 | 129.13 | 138.56 |
| B | Cumulative Repayments upto Previous Year | 0.00 | 9.88 | 21.38 | 33.49 |
| C | Net Loan-Opening (A-B) | 105.19 | 115.39 | 107.75 | 105.08 |
| D | Addition due to Additional Capitalization | 20.08 | 3.86 | 9.43 | 38.05 |
| E | Repayment during the year | 9.88 | 11.50 | 12.10 | 14.25 |
| F | Net Loan-Closing (C+D-E) | 0.00 | 0.00 | 0.00 | 0.00 |
| G | Average Loan (A+F)/2 | 115.39 | 107.75 | 105.08 | 128.88 |
| H | Weighted Average Rate of Interest on Loan (in %) | 8.06% | 8.09% | 8.01% | 8.02% |
| I | Interest on Loan (GxH) | 8.43 | 9.03 | 8.53 | 9.38 |

(₹ in lakh)

| Particulars | | Asset-5 | | | |
|-------------|---|--------------------------------------|--------------|--------------|--------------|
| | | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Gross Normative Loan | 498.15 | 523.85 | 571.23 | 591.62 |
| B | Cumulative Repayments upto Previous Year | 0.00 | 10.98 | 56.42 | 103.87 |
| C | Net Loan-Opening (A-B) | 498.15 | 512.86 | 514.81 | 487.75 |
| D | Addition due to Additional Capitalization | 25.70 | 47.38 | 20.39 | 161.96 |
| E | Repayment during the year | 10.98 | 49.51 | 52.58 | 60.82 |
| F | Adjustment of cumulative repayment pertaining to the de-capitalised asset | 0.00 | 4.08 | 5.12 | 0.00 |
| G | Net Loan-Closing (C+D-E+F) | 512.86 | 514.81 | 487.75 | 588.89 |
| H | Average Loan (A+G)/2 | 505.51 | 513.84 | 501.28 | 538.32 |
| I | Weighted Average Rate of Interest on Loan (in %) | 8.69% | 8.63% | 8.52% | 8.44% |
| J | Interest on Loan (HxI) | 10.44 | 44.36 | 42.72 | 45.44 |

(₹ in lakh)

| Particulars | | Asset-6 | | | |
|-------------|---|-------------------------------------|---------|---------|---------|
| | | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Gross Normative Loan | 587.66 | 587.66 | 586.05 | 593.06 |
| B | Cumulative Repayments upto Previous Year | 0.00 | 0.15 | 51.25 | 95.13 |
| C | Net Loan-Opening (A-B) | 587.66 | 587.52 | 534.80 | 497.93 |
| D | Addition due to Additional Capitalization | 0.00 | -1.61 | 7.01 | 26.09 |
| E | Repayment during the year | 0.15 | 53.07 | 53.31 | 54.81 |
| F | Adjustment of cumulative repayment pertaining to the de-capitalised asset | 0.00 | 1.96 | 9.44 | 19.01 |
| G | Net Loan-Closing (C+D-E+F) | 587.52 | 534.80 | 497.93 | 488.22 |



| | | | | | |
|---|--|-------------|--------------|--------------|--------------|
| H | Average Loan (A+G)/2 | 587.59 | 561.16 | 516.37 | 493.08 |
| I | Weighted Average Rate of Interest on Loan (in %) | 8.86% | 8.77% | 8.43% | 8.32% |
| J | Interest on Loan (HxI) | 0.14 | 49.24 | 43.51 | 41.02 |

(₹ in lakh)

| Particulars | Asset-7 | | | |
|-------------|---|-------------|--------------|--------------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 | |
| A | Gross Normative Loan | 968.07 | 968.07 | 805.58 |
| B | Cumulative Repayments upto Previous Year | 0.00 | 7.43 | 83.23 |
| C | Net Loan-Opening (A-B) | 968.07 | 960.63 | 722.35 |
| D | Addition due to Additional Capitalization | 0.00 | -162.49 | 116.10 |
| E | Repayment during the year | 7.43 | 80.19 | 78.10 |
| F | Adjustment of cumulative repayment pertaining to the de-capitalised asset | 0.00 | 4.40 | 0.00 |
| G | Net Loan-Closing (C+D-E+F) | 960.63 | 722.35 | 760.35 |
| H | Average Loan (A+G)/2 | 964.35 | 841.49 | 741.35 |
| I | Weighted Average Rate of Interest on Loan (in %) | 8.71% | 8.71% | 8.68% |
| J | Interest on Loan (HxI) | 7.13 | 73.26 | 64.32 |

Return on Equity (RoE)

50. The Petitioner has claimed RoE for the transmission assets in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:

| Year | Claimed effective tax (in %) | Grossed-up RoE [(Base Rate)/(1-t)] (in %) |
|---------|------------------------------|---|
| 2014-15 | 21.018 | 19.624 |
| 2015-16 | 21.382 | 19.715 |
| 2016-17 | 21.338 | 19.704 |
| 2017-18 | 21.337 | 19.704 |
| 2018-19 | 21.549 | 19.757 |

51. BSPHCL has submitted that as per Regulation 25(3) of the 2014 Tariff Regulations it is apparent that statutory duty is cast upon the Petitioner to carry out the true up exercise



on year to year basis strictly in accordance with the said provision and it has to then mandatorily provide all the details while filing the petition for true up before the Commission. However, instant petition is totally silent about and it shows that the mandatory exercise has not been done by the Petitioner. Neither any details to that effect has been given in the petition nor proper documents have been annexed with the petition. No Profit and Loss Account duly certified by Chartered Accountant has been placed on record. BSPHCL further submitted that there is no specific averment in the petition to the effect that actual tax has been paid only on the income from all business/sources. Thus, it is clear that tariff for each year of the tariff period 2014-19 block has not been trued up in accordance with Regulation 25(3) of the 2014 Tariff Regulations.

52. In response, the Petitioner has submitted that it has been granted trued up tariff of 2014-19 period by the Commission vide order dated 18.4.2020 in Petition No. 247/TT/2019, dated 27.4.2020 in Petition No. 274/TT/2019, dated 23.4.2020 in Petition No. 245/TT/2019, dated 16.4.2020 in Petition No. 307/TT/2019 and many others. The Petitioner has further submitted that the following effective tax rate for 2014-19 tariff period based on notified MAT rates are considered for grossing up of rate of return on equity:

| Year | Notified MAT rates (Inclusive of surcharge & cess) (in %) | Effective tax (in %) | Grossed-up RoE [(Base Rate)/(1-t)] (in %) |
|---------|--|-------------------------|---|
| 2014-15 | 20.961 | 20.961 | 19.611 |
| 2015-16 | 21.342 | 21.342 | 19.706 |
| 2016-17 | 21.342 | 21.342 | 19.706 |
| 2017-18 | 21.342 | 21.342 | 19.706 |
| 2018-19 | 21.549 | 21.549 | 19.758 |

53. The Petitioner has submitted that it may be allowed to claim the differential tariff on account of trued up RoE based on effective tax rate calculated as above and income tax



assessment/re-assessment for 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19. The Petitioner has further submitted that income tax assessment for the year 2017-18 and 2018-19 has not yet been completed.

54. We have considered the submissions of the Petitioner and BSPHCL. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate for the Petitioner based on the notified MAT rates and the same is given in the following table. The same MAT rates are considered for the purpose of grossing up of the rate of RoE for truing up of tariff of 2014-19 period in terms of the provisions of the 2014 Tariff Regulations.

| Year | Notified MAT rates (Inclusive of surcharge & cess) (in %) | Base rate of RoE (in %) | Grossed-up RoE [(Base Rate)/(1-t)] (in %) |
|---------|--|----------------------------|---|
| 2014-15 | 20.961 | 15.50 | 19.610 |
| 2015-16 | 21.342 | 15.50 | 19.705 |
| 2016-17 | 21.342 | 15.50 | 19.705 |
| 2017-18 | 21.342 | 15.50 | 19.705 |
| 2018-19 | 21.549 | 15.50 | 19.758 |

55. The Petitioner has claimed RoE for 2014-19 tariff period after grossing up the RoE @15.50% with Effective Tax rates (based on MAT rates) each year as per Regulation 25(3) of the 2014 Tariff Regulations. RoE is trued-up on the basis of MAT rates applicable in the respective years and is allowed for the transmission assets as follows:



(₹ in lakh)

| Particulars | | Asset-3 | | | | |
|-------------|--|---------------------------------------|--------------|--------------|--------------|--------------|
| | | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| | Opening Equity | 90.71 | 194.62 | 254.50 | 293.46 | 332.41 |
| B | Additions | 103.92 | 59.88 | 38.96 | 38.94 | 97.15 |
| C | Closing Equity (A-B) | 194.62 | 254.50 | 293.46 | 332.41 | 429.55 |
| D | Average Equity (A+B)/2 | 142.67 | 224.56 | 273.98 | 312.94 | 380.98 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 20.961 | 21.342 | 21.342 | 21.342 | 21.549 |
| G | Rate of Return on Equity | 19.610 | 19.705 | 19.705 | 19.705 | 19.758 |
| H | Return on Equity (DxG) | 13.95 | 44.25 | 53.99 | 61.66 | 75.27 |

(₹ in lakh)

| Particulars | | Asset-4 | | | |
|-------------|-------------------------------------|--|--------------|--------------|--------------|
| | | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Equity | 45.08 | 53.69 | 55.34 | 59.38 |
| B | Additions | 8.60 | 1.65 | 4.04 | 16.30 |
| C | Closing Equity (A-B) | 53.69 | 55.34 | 59.38 | 75.68 |
| D | Average Equity (A+B)/2 | 49.39 | 54.51 | 57.36 | 67.53 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 21.342 | 21.342 | 21.342 | 21.549 |
| G | Rate of Return on Equity | 19.705 | 19.705 | 19.705 | 19.758 |
| H | Return on Equity (DxG) | 9.23 | 10.74 | 11.30 | 13.34 |

(₹ in lakh)

| Particulars | | Asset-5 | | | |
|-------------|-------------------------------------|--------------------------------------|--------------|--------------|--------------|
| | | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Equity | 213.48 | 224.49 | 244.79 | 253.53 |
| B | Additions | 11.01 | 20.30 | 8.74 | 69.41 |
| C | Closing Equity (A-B) | 224.49 | 244.79 | 253.53 | 322.94 |
| D | Average Equity (A+B)/2 | 218.98 | 234.64 | 249.16 | 288.23 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 21.342 | 21.342 | 21.342 | 21.549 |
| G | Rate of Return on Equity | 19.705 | 19.705 | 19.705 | 19.758 |
| H | Return on Equity (DxG) | 10.26 | 46.24 | 49.10 | 56.95 |



(₹ in lakh)

| Particulars | | Asset-6 | | | |
|-------------|-------------------------------------|-------------------------------------|--------------|--------------|--------------|
| | | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Opening Equity | 251.86 | 251.86 | 251.17 | 254.17 |
| B | Additions | 0.00 | -0.69 | 3.00 | 11.17 |
| C | Closing Equity (A-B) | 251.86 | 251.17 | 254.17 | 265.34 |
| D | Average Equity (A+B)/2 | 251.86 | 251.51 | 252.67 | 259.75 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 21.342 | 21.342 | 21.342 | 21.549 |
| G | Rate of Return on Equity | 19.705 | 19.705 | 19.705 | 19.758 |
| H | Return on Equity (DxG) | 0.14 | 49.56 | 49.79 | 51.32 |

(₹ in lakh)

| Particulars | | Asset-7 | | |
|-------------|-------------------------------------|--------------------------------------|--------------|--------------|
| | | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| A | Opening Equity | 414.88 | 414.88 | 345.24 |
| B | Additions | 0.00 | -69.64 | 49.75 |
| C | Closing Equity (A-B) | 414.88 | 345.24 | 394.99 |
| D | Average Equity (A+B)/2 | 414.88 | 380.06 | 370.12 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 21.342 | 21.342 | 21.549 |
| G | Rate of Return on Equity | 19.705 | 19.705 | 19.758 |
| H | Return on Equity (DxG) | 6.94 | 74.89 | 73.13 |

Operation & Maintenance Expenses (O&M Expenses)

56. The Commission vide order dated 20.9.2018 in Petition No. 213/TT/2017 in respect of Asset-1 and Asset-2 and vide order dated 27.1.2017 and corrigendum dated 7.7.2017 in Petition No. 53/TT/2016 in respect of Asset-3, Asset-4 and Asset-5 and vide order dated 8.1.2019 in Petition No. 53/TT/2018 in respect of Asset-6 and Asset-7 has allowed the following O&M Expenses:



(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-------------|---------|---------|---------|---------|---------|
| Asset-1 | 21.45 | 26.29 | 33.19 | 34.29 | 35.43 |
| Asset-2 | 24.51 | 31.23 | 39.44 | 40.75 | 42.10 |
| Asset-3 | 32.15 | 42.88 | 44.30 | 45.77 | 47.28 |
| Asset-4 | | 7.22 | 7.45 | 7.69 | 7.94 |
| Asset-5 | | 8.87 | 9.16 | 9.46 | 9.77 |
| Asset-6 | - | - | 0.15 | 1.43 | 1.48 |
| Asset-7 | - | | | 1.82 | 1.88 |

57. The Petitioner has claimed the actual O&M Expenses for the transmission assets of central portion are as follows:

(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-------------|---------|---------|---------|---------|---------|
| Asset-1 | 5.09 | 3.81 | 4.22 | 4.39 | 8.13 |
| Asset-2 | 6.07 | 4.55 | 5.24 | 9.70 | 8.13 |
| Asset-3 | 23.57 | 17.66 | 19.56 | 20.34 | 37.67 |
| Asset-4 | - | 3.21 | 3.56 | 3.70 | 6.86 |
| Asset-5 | - | 13.28 | 14.71 | 15.30 | 28.34 |
| Asset-6 | - | - | 15.34 | 15.95 | 29.55 |
| Asset-7 | - | | 20.98 | 21.82 | 40.41 |

58. The Petitioner has submitted Auditor's certificate dated 21.1.2020 and has submitted the actual O&M Expenses wherein the Petitioner has claimed self-insurance, petition filing charges and advertisement and publicity charges as part of the O&M Expenses.

59. As regards self-insurance, the Commission vide order dated 29.7.2016 in Petition No. 275/TT/2015 considered the Petitioner's claim towards self-insurance and disallowed the same. The relevant portion of the said order is as follows:

"45. The Petitioner was directed vide RoP dated 22.3.2016, to submit the actual O&M Expenses year wise along with details. In response, the Petitioner vide affidavit dated 29.6.2016 has submitted that actual O&M Expenses for 2014-15 towards Asset-I and II are ₹5.75 lakh and ₹4.46 lakh, respectively. Break up of O&M Expenses has also been provided vide Auditor's Certificate dated 15.6.2016. The Petitioner has claimed self-insurance reserved as expenses under O&M Expenses which is not allowable as expenses....."

60. Therefore, the Petitioner's claim towards self-insurance is not allowed.



61. Further, the Petitioner has also claimed the petition filing charges as part of the O&M Expenses, which has to be claimed directly from the beneficiaries, therefore, the same is not allowable under O&M Expenses and, accordingly, has been disallowed.

62. The Petitioner has also claimed the Advertisement and Publicity charges as part of the O&M Expenses, which is not allowable as O&M Expenses and, therefore, has been disallowed.

63. Accordingly, the O&M Expenses are allowed for the 2014-19 as per the Auditor's Certificate after deducting the self-insurance portion, petition filing fees, advertisement and publicity expenses and fibre leasing charges (pro-rata reduction) from the total cost and approved as follows:

| Particulars | (₹ in lakh) | | | | |
|----------------|-------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Asset-1 | 4.89 | 3.66 | 4.05 | 4.13 | 8.02 |
| Asset-2 | 5.83 | 4.37 | 5.04 | 9.39 | 8.00 |
| Asset-3 | 23.57 | 17.66 | 19.56 | 20.34 | 37.67 |
| Asset-4 | - | 3.21 | 3.56 | 3.70 | 6.86 |
| Asset-5 | - | 13.28 | 14.71 | 15.30 | 28.34 |
| Asset-6 | - | - | 15.34 | 15.95 | 29.55 |
| Asset-7 | - | - | 20.98 | 21.82 | 40.41 |

Interest on Working Capital (IWC)

64. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed as follows:

(i) **Working Capital for Maintenance spares:**

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



(ii) **Working Capital for 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.

(iii) **Working Capital for 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.

(iv) **Rate of interest on working capital:**

As per Proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate 10.00% as on 1.4.2014 plus 350 bps i.e. 13.50% has been considered for the asset, as the rate of interest on working capital.

65. The petitioner has claimed O&M Expenses in the case of Central Portion and, accordingly, O&M Expenses for 1 month, Maintenance spares @15% of O&M Expenses, receivables for two months and SBI Base Rate as on 1.4.2014 i.e. 10.00% Plus 350 bps (13.50%) have been considered as the rate of interest on working capital for the Central Portion only.

66. The necessary computations of interest on working capital (annualized) for Central Portion for Asset-1 and Asset-2 are as follows:

(₹ in lakh)

| Asset-1 | Central Portion | | | | |
|--------------------------|-----------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares (15%) | 0.73 | 0.55 | 0.61 | 0.62 | 1.20 |



| | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|
| of O&M) | | | | | |
| O&M Expenses (O&M Expenses for one month) | 0.41 | 0.30 | 0.34 | 0.34 | 0.67 |
| Receivables (Equivalent to two months of annual fixed cost) | 2.19 | 6.54 | 7.28 | 6.83 | 7.83 |
| Total Working Capital | 3.33 | 7.40 | 8.22 | 7.79 | 9.70 |
| Rate of Interest on Working Capital (%) | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% |
| Total Interest on Working Capital | 0.45 | 1.00 | 1.11 | 1.05 | 1.31 |

(₹ in lakh)

| Asset-2 | Central Portion | | | | |
|---|-----------------|-------------|-------------|--------------|--------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Maintenance Spares (15% of O&M) | 0.87 | 0.66 | 0.76 | 1.41 | 1.20 |
| O&M Expenses (O&M Expenses for one month) | 0.49 | 0.36 | 0.42 | 0.78 | 0.67 |
| Receivables (Equivalent to two months of annual fixed cost) | 3.00 | 7.94 | 7.18 | 8.60 | 8.73 |
| Total Working Capital | 4.36 | 8.96 | 8.35 | 10.79 | 10.60 |
| Rate of Interest on Working Capital (%) | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% |
| Total Interest on Working Capital | 0.59 | 1.21 | 1.13 | 1.46 | 1.43 |

67. The trued-up Interest on Working Capital allowed for the Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 for the 2014-19 tariff period are as follows:

(₹ in lakh)

| Particulars | Asset-3 | | | | |
|---|------------------------------------|--------------|--------------|--------------|--------------|
| | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| A Working Capital for O&M Expenses (O&M Expenses for one month) | 3.93 | 1.47 | 1.63 | 1.70 | 3.14 |
| B Working Capital for Maintenance Spares (15% of O&M expenses) | 7.07 | 2.65 | 2.93 | 3.05 | 5.65 |
| C Working Capital for Receivables (Equivalent to two months of annual fixed cost) | 22.96 | 25.97 | 30.61 | 33.66 | 42.59 |
| D Total Working Capital (A+B+C) | 33.96 | 30.09 | 35.17 | 38.40 | 51.38 |
| E Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| F Interest on Working Capital (DxE) | 2.29 | 4.06 | 4.75 | 5.18 | 6.94 |



(₹ in lakh)

| Particulars | | Asset-4 | | | |
|-------------|---|---------------------------------------|-------------|-------------|-------------|
| | | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Working Capital for O&M Expenses (O&M Expenses for one month) | 0.28 | 0.30 | 0.31 | 0.57 |
| B | Working Capital for Maintenance Spares (15% of O&M expenses) | 0.51 | 0.53 | 0.56 | 1.03 |
| C | Working Capital for Receivables (Equivalent to two months of annual fixed cost) | 5.55 | 5.96 | 6.10 | 7.51 |
| D | Total Working Capital (A+B+C) | 6.34 | 6.79 | 6.96 | 9.11 |
| E | Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| F | Interest on Working Capital (DxE) | 0.81 | 0.92 | 0.94 | 1.23 |

(₹ in lakh)

| Particulars | | Asset-5 | | | |
|-------------|---|--------------------------------------|--------------|--------------|--------------|
| | | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Working Capital for O&M Expenses (O&M Expenses for one month) | 4.66 | 1.23 | 1.28 | 2.36 |
| B | Working Capital for Maintenance Spares (15% of O&M expenses) | 8.38 | 2.21 | 2.30 | 4.25 |
| C | Working Capital for Receivables (Equivalent to two months of annual fixed cost) | 32.55 | 26.48 | 27.31 | 32.81 |
| D | Total Working Capital (A+B+C) | 45.59 | 29.91 | 30.88 | 39.42 |
| E | Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| F | Interest on Working Capital (DxE) | 1.46 | 4.04 | 4.17 | 5.32 |

(₹ in lakh)

| Particulars | | Asset-6 | | | |
|-------------|---|------------------------------------|---------|---------|---------|
| | | 2015-16 (Pro-rat for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| A | Working Capital for O&M Expenses (O&M Expenses for one month) | 0.00 | 1.28 | 1.33 | 2.46 |
| B | Working Capital for Maintenance Spares (15% of O&M expenses) | 0.00 | 2.30 | 2.39 | 4.43 |



| | | | | | |
|---|---|--------------|--------------|--------------|--------------|
| C | Working Capital for Receivables (Equivalent to two months of annual fixed cost) | 26.39 | 28.59 | 27.80 | 30.29 |
| D | Total Working Capital (A+B+C) | 26.39 | 32.17 | 31.52 | 37.18 |
| E | Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 |
| F | Interest on Working Capital (DxE) | 0.01 | 4.34 | 4.26 | 5.02 |

(₹ in lakh)

| Particulars | Asset-7 | | |
|---|-----------------------------------|--------------|--------------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| A Working Capital for O&M Expenses (O&M Expenses for one month) | 20.59 | 1.82 | 3.37 |
| B Working Capital for Maintenance Spares (15% of O&M expenses) | 37.05 | 3.27 | 6.06 |
| C Working Capital for Receivables (Equivalent to two months of annual fixed cost) | 86.45 | 42.71 | 43.79 |
| D Total Working Capital (A+B+C) | 144.09 | 47.81 | 53.22 |
| E Rate of Interest (in %) | 12.80 | 12.80 | 12.80 |
| F Interest on Working Capital (DxE) | 1.57 | 6.12 | 6.81 |

Annual Fee and charges / Annual Fixed Charges for 2014-19 tariff period

68. The detailed computation of the various components of the trued up annual fee and charges for the transmission assets for the tariff period 2014-19 is summarized as follows:

(₹ in lakh)

| Asset -1- -Fees and charges | | | | | |
|---|--------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Capital Cost | 57.52 | 244.14 | 270.91 | 253.35 | 264.77 |
| Opening Gross Notional Loan | 40.26 | 170.90 | 189.64 | 177.35 | 185.34 |
| Opening Gross Equity | 17.26 | 73.24 | 81.27 | 76.01 | 79.43 |
| Recovered Gross Capital Cost (As on 1st April) | 0.89 | 2.62 | 10.90 | 21.19 | 31.81 |
| Recovered Gross Notional Loan | 0.72 | 2.11 | 8.69 | 16.77 | 24.98 |
| Recovered Gross Equity | 0.17 | 0.51 | 2.21 | 4.43 | 6.83 |
| Opening Net Capital Cost | 56.63 | 241.52 | 260.01 | 232.16 | 232.96 |
| Opening Net Notional Loan | 39.54 | 168.79 | 180.94 | 160.58 | 160.36 |
| Opening Net Equity | 17.09 | 72.74 | 79.06 | 71.58 | 72.60 |
| Recovered Capital Cost (During the Year) | 1.73 | 8.29 | 10.29 | 10.62 | 12.41 |



| | | | | | |
|---|----------------|----------------|------------------|----------------|----------------|
| Recovered Notional Loan | 1.39 | 6.58 | 8.08 | 8.21 | 9.46 |
| Recovered Equity | 0.34 | 1.71 | 2.21 | 2.41 | 2.95 |
| | | | | | |
| Closing Net Capital Cost | 54.90 | 233.24 | 249.72 | 221.54 | 220.55 |
| Closing Net Notional Loan | 38.15 | 162.21 | 172.87 | 152.37 | 150.90 |
| Closing Net Equity | 16.75 | 71.03 | 76.85 | 69.17 | 69.65 |
| | | | | | |
| Additional Capital Cost | 186.62 | 26.77 | -17.56 | 11.42 | 0.00 |
| Additional Notional Loan | 130.63 | 18.74 | -12.29 | 7.99 | 0.00 |
| Additional Equity | 55.99 | 8.03 | -5.27 | 3.43 | 0.00 |
| | | | | | |
| Years (Capital to be recovered up to 31.10.2028) | 14.58 | 13.58 | 12.58 | 11.58 | 10.58 |
| Months | 175.00 | 163.00 | 151.00 | 139.00 | 127.00 |
| Weighted Average Rate of Interest p.a. | 8.8508% | 9.1441% | 9.0804% | 9.0804% | 9.0804% |
| Weighted Average Rate of Interest p.m. | 0.7376% | 0.7620% | 0.7567% | 0.7567% | 0.7567% |
| Monthly Recovery Factors -Loan | 0.010193 | 0.010735 | 0.011134 | 0.011654 | 0.012282 |
| Monthly Capital Recovery Charge - Loan | 0.40 | 1.81 | 2.01 | 1.87 | 1.97 |
| Annual Capital Recovery Charge - Loan | 4.84 | 21.74 | 24.18 | 22.46 | 23.63 |
| Rate of Return on Equity p.a. | 15.500% | 15.500% | 15.500% | 15.500% | 15.500% |
| Rate of Return on Equity p.m. | 1.292% | 1.292% | 1.292% | 1.292% | 1.292% |
| Monthly Recovery Factors -Equity | 0.014445 | 0.014736 | 0.015090 | 0.015524 | 0.016064 |
| Monthly Capital Recovery Charge - Equity | 0.25 | 1.07 | 1.19 | 1.11 | 1.17 |
| Annual Capital Recovery Charge - Equity | 2.96 | 12.86 | 14.32 | 13.33 | 14.00 |
| Monthly Capital Recovery Charge - Total | 0.65 | 2.88 | 3.21 | 2.98 | 3.14 |
| Annual Capital Recovery Charge - Total | 7.80 | 34.60 | 38.49 | 35.79 | 37.63 |
| Fee & Charges (2014-19) (Annualized) | | | - Charges | | |
| Annual Capital Recovery Charge - Loan | 4.84 | 21.74 | 24.18 | 22.46 | 23.63 |
| Annual Capital Recovery Charge - Equity | 2.96 | 12.86 | 14.32 | 13.33 | 14.00 |
| Annual Capital Recovery Charge - Total | 7.80 | 34.60 | 38.49 | 35.79 | 37.63 |
| O&M Expenses | 4.89 | 3.66 | 4.05 | 4.13 | 8.02 |
| Interest on Working Capital | 0.45 | 1.00 | 1.11 | 1.05 | 1.31 |
| Total Fee & Charges (Annualized) | 13.14 | 39.26 | 43.65 | 40.97 | 46.96 |
| Interest on Working Capital | | | | | |
| Maintenance Spares (15% of O&M) | 0.73 | 0.55 | 0.61 | 0.62 | 1.20 |
| O&M Expenses (1 Month) | 0.41 | 0.30 | 0.34 | 0.34 | 0.67 |
| Receivables (2 months) | 2.19 | 6.54 | 7.28 | 6.83 | 7.83 |
| Total | 3.33 | 7.40 | 8.22 | 7.79 | 9.70 |
| Rate of Interest on Working Capital | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% |
| Total Interest on Working Capital (Annualized) | 0.45 | 1.00 | 1.11 | 1.05 | 1.31 |
| Fee & Charges (2014-19) (Applicable) | | | - Charges | | |
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Annual Capital Recovery Charge - Loan | 4.84 | 21.74 | 24.18 | 22.46 | 23.63 |
| Annual Capital Recovery Charge - Equity | 2.96 | 12.86 | 14.32 | 13.33 | 14.00 |
| Annual Capital Recovery Charge - Total | 7.80 | 34.60 | 38.49 | 35.79 | 37.63 |



| | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|
| O&M Expenses | 4.89 | 3.66 | 4.05 | 4.13 | 8.02 |
| Interest on Working Capital | 0.45 | 1.00 | 1.11 | 1.05 | 1.31 |
| Total Fee & Charges (Applicable) | 13.14 | 39.26 | 43.65 | 40.97 | 46.96 |

(₹ in lakh)

| Asset -2 - Fees and charges | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Capital Cost | 84.31 | 297.79 | 263.18 | 291.07 | 304.90 |
| Opening Gross Notional Loan | 59.02 | 208.45 | 184.23 | 203.75 | 213.43 |
| Opening Gross Equity | 25.29 | 89.34 | 78.95 | 87.32 | 91.47 |
| Recovered Gross Capital Cost (As on 1st April) | 0.29 | 2.71 | 12.29 | 21.68 | 33.49 |
| Recovered Gross Notional Loan | 0.24 | 2.19 | 9.80 | 17.17 | 26.37 |
| Recovered Gross Equity | 0.06 | 0.53 | 2.49 | 4.51 | 7.13 |
| Opening Net Capital Cost | 84.02 | 295.08 | 250.89 | 269.39 | 271.41 |
| Opening Net Notional Loan | 58.78 | 206.27 | 174.42 | 186.58 | 187.06 |
| Opening Net Equity | 25.24 | 88.81 | 76.46 | 82.81 | 84.34 |
| Recovered Capital Cost (During the Year) | 2.42 | 9.58 | 9.39 | 11.81 | 13.81 |
| Recovered Notional Loan | 1.95 | 7.62 | 7.37 | 9.19 | 10.60 |
| Recovered Equity | 0.47 | 1.96 | 2.02 | 2.62 | 3.21 |
| Closing Net Capital Cost | 81.60 | 285.50 | 241.50 | 257.58 | 257.60 |
| Closing Net Notional Loan | 56.83 | 198.65 | 167.05 | 177.38 | 176.47 |
| Closing Net Equity | 24.77 | 86.85 | 74.45 | 80.20 | 81.13 |
| Additional Capital Cost | 213.48 | -34.61 | 27.89 | 13.83 | 0.00 |
| Additional Notional Loan | 149.44 | -24.23 | 19.52 | 9.68 | 0.00 |
| Additional Equity | 64.04 | -10.38 | 8.37 | 4.15 | 0.00 |
| Years (Capital to be recovered up to 28.2.2029) | 14.92 | 13.92 | 12.92 | 11.92 | 10.92 |
| Months | 179.00 | 167.00 | 155.00 | 143.00 | 131.00 |
| Weighted Average Rate of Interest p.a. | 9.0854% | 9.2917% | 9.2302% | 8.9423% | 8.9423% |
| Weighted Average Rate of Interest p.m. | 0.7571% | 0.7743% | 0.7692% | 0.7452% | 0.7452% |
| Monthly Recovery Factors -Loan | 0.01022 0 | 0.01069 2 | 0.01106 6 | 0.01139 2 | 0.01198 3 |
| Monthly Capital Recovery Charge - Loan | 0.60 | 2.21 | 1.93 | 2.13 | 2.24 |
| Annual Capital Recovery Charge - Loan | 7.21 | 26.46 | 23.16 | 25.51 | 26.90 |
| Rate of Return on Equity p.a. | 15.500% | 15.500% | 15.500% | 15.500% | 15.500% |
| Rate of Return on Equity p.m. | 1.292% | 1.292% | 1.292% | 1.292% | 1.292% |
| Monthly Recovery Factors -Equity | 0.01436 0 | 0.01463 3 | 0.01496 4 | 0.01536 9 | 0.01587 1 |
| Monthly Capital Recovery Charge - Equity | 0.36 | 1.30 | 1.14 | 1.27 | 1.34 |
| Annual Capital Recovery Charge - Equity | 4.35 | 15.59 | 13.73 | 15.27 | 16.06 |



| Asset -2 - Fees and charges | | | | | |
|---|----------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Monthly Capital Recovery Charge - Total | 0.96 | 3.50 | 3.07 | 3.40 | 3.58 |
| Annual Capital Recovery Charge - Total | 11.56 | 42.06 | 36.89 | 40.78 | 42.96 |
| Fee & Charges (2014-19) (Annualized) | Central Portion – Charges | | | | |
| Annual Capital Recovery Charge - Loan | 7.21 | 26.46 | 23.16 | 25.51 | 26.90 |
| Annual Capital Recovery Charge - Equity | 4.35 | 15.59 | 13.73 | 15.27 | 16.06 |
| Annual Capital Recovery Charge - Total | 11.56 | 42.06 | 36.89 | 40.78 | 42.96 |
| O&M Expenses | 5.83 | 4.37 | 5.04 | 9.39 | 8.00 |
| Interest on Working Capital | 0.59 | 1.21 | 1.13 | 1.46 | 1.43 |
| Total Fee & Charges (Annualized) | 17.98 | 47.64 | 43.06 | 51.62 | 52.39 |
| Interest on Working Capital | | | | | |
| Maintenance Spares (15% of O&M) | 0.87 | 0.66 | 0.76 | 1.41 | 1.20 |
| O&M Expenses (1 Month) | 0.49 | 0.36 | 0.42 | 0.78 | 0.67 |
| Receivables (2 months) | 3.00 | 7.94 | 7.18 | 8.60 | 8.73 |
| Total | 4.36 | 8.96 | 8.35 | 10.79 | 10.60 |
| Rate of Interest on Working Capital | 13.50% | 13.50% | 13.50% | 13.50% | 13.50% |
| Total Interest on Working Capital (Annualized) | 0.59 | 1.21 | 1.13 | 1.46 | 1.43 |
| Fee & Charges (2014-19) (Applicable) | Charges | | | | |
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Annual Capital Recovery Charge - Loan | 7.21 | 26.46 | 23.16 | 25.51 | 26.90 |
| Annual Capital Recovery Charge - Equity | 4.35 | 15.59 | 13.73 | 15.27 | 16.06 |
| Annual Capital Recovery Charge - Total | 11.56 | 42.06 | 36.89 | 40.78 | 42.96 |
| O&M Expenses | 5.83 | 4.37 | 5.04 | 9.39 | 8.00 |
| Interest on Working Capital | 0.59 | 1.21 | 1.13 | 1.46 | 1.43 |
| Total Fee & Charges (Applicable) | 17.98 | 47.64 | 43.06 | 51.62 | 52.39 |

69. The trued-up Annual Fixed Charges (AFC) approved for Asset-3 to Asset-7 for the 2014-19 tariff period are as follows:

| Particulars | Asset-3 | | | | |
|-----------------------------|--|----------------|----------------|----------------|----------------|
| | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 15.01 | 47.38 | 57.81 | 66.03 | 80.39 |
| Interest on Loan | 13.88 | 42.48 | 47.54 | 48.71 | 55.27 |
| Return on Equity | 13.95 | 44.25 | 53.99 | 61.66 | 75.27 |
| O & M Expenses | 23.57 | 17.66 | 19.56 | 20.34 | 37.67 |
| Interest on Working Capital | 2.29 | 4.06 | 4.75 | 5.18 | 6.94 |
| Total | 68.69 | 155.83 | 183.65 | 201.93 | 255.54 |



(₹ in lakh)

| Particulars | Asset-4 | | | |
|-----------------------------|---------------------------------------|--------------|--------------|--------------|
| | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 9.88 | 11.50 | 12.10 | 14.25 |
| Interest on Loan | 8.43 | 9.03 | 8.53 | 9.38 |
| Return on Equity | 9.23 | 10.74 | 11.30 | 13.34 |
| O & M Expenses | 3.21 | 3.56 | 3.70 | 6.86 |
| Interest on Working Capital | 0.81 | 0.92 | 0.94 | 1.23 |
| Total | 31.56 | 35.75 | 36.57 | 45.06 |

(₹ in lakh)

| Particulars | Asset - 5 | | | |
|-----------------------------|-----------------------------------|---------------|---------------|---------------|
| | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 10.98 | 49.51 | 52.58 | 60.82 |
| Interest on Loan | 10.44 | 44.36 | 42.72 | 45.44 |
| Return on Equity | 10.26 | 46.24 | 49.10 | 56.95 |
| O & M Expenses | 13.28 | 14.71 | 15.30 | 28.34 |
| Interest on Working Capital | 1.46 | 4.04 | 4.17 | 5.32 |
| Total | 46.42 | 158.85 | 163.87 | 196.87 |

(₹ in lakh)

| Particulars | Asset-6 | | | |
|-----------------------------|----------------------------------|---------------|---------------|---------------|
| | 2015-16 (Pro-rata for 1 days) | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 0.15 | 53.07 | 53.31 | 54.81 |
| Interest on Loan | 0.14 | 49.24 | 43.51 | 41.02 |
| Return on Equity | 0.14 | 49.56 | 49.79 | 51.32 |
| O & M Expenses | 0.00 | 15.34 | 15.95 | 29.55 |
| Interest on Working Capital | 0.01 | 4.34 | 4.26 | 5.02 |
| Total | 0.43 | 171.55 | 166.82 | 181.73 |

(₹ in lakh)

| Particulars | Asset-7 | | |
|-----------------------------|--------------------------------------|---------------|---------------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| Depreciation | 7.43 | 80.19 | 78.10 |
| Interest on Loan | 7.13 | 73.26 | 64.32 |
| Return on Equity | 6.94 | 74.89 | 73.13 |
| O & M Expenses | 20.98 | 21.82 | 40.41 |
| Interest on Working Capital | 1.57 | 6.12 | 6.81 |
| Total | 44.06 | 256.28 | 262.77 |



DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

70. As per the directions of the Commission in order dated 8.12.2011 in Petition No. 68/2010, the scope of the 2019 Tariff Regulations has been widened to include the communication system used for inter-State transmission of electricity. However, as per Clause (iii) of Regulation 8(1) of the 2019 Tariff Regulations, the tariff of the existing communication system forming part of the transmission system is to be determined as per the methodology followed prior to 1.4.2014. The said Regulation provides as follows:

“(iii) Tariff of the associated communication system forming part of transmission system which has achieved commercial operation prior to 1.4.2014 shall be as per the methodology approved by the Commission prior to 1.4.2014.”

71. Asset-1 and Asset-2 are put into commercial operation during 2009-14 tariff period and Asset-3 to Asset-7 are put into commercial operation during 2014-19. In view of the provision in the 2019 Tariff Regulations cited above, the tariff of the communication system and ULDC Non-Microwave system claimed as Assets-1 and Asset-2, we continue to allow levelised tariff as per the principles approved by the Commission vide order dated 8.12.2011 in Petition No 68/2010. Accordingly, the annual fee and charges of Central Portion-Non-Microwave system for Asset-1 and Asset-2 are determined in this order.

72. The Petitioner has submitted that Asset-1 and Asset-2 have not been combined since their tariff / Fees and charges are claimed as per levelized mechanism. Hence, their tariff streams are being kept separate for the purpose of determination of transmission tariff for the period 2019-24.

73. Further, it is submitted that the subject Asset-3 to Asset-7, are being combined here to form a single asset, hereinafter referred to as, “Combined Asset (Assets-3, 4, 5, 6 and 7)”, for the purpose of determination of tariff for 2019-24 tariff period.



74. The Petitioner has claimed the following transmission charges in respect of the Asset-1 and Asset-2 for the 2019-24 tariff period as follows:

| Asset-1 | (₹ in lakh) | | | | |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Annual Capital Recovery Charge-Total | 37.07 | 37.07 | 37.07 | 37.07 | 37.07 |
| O&M Expenses | 5.30 | 5.30 | 5.30 | 5.30 | 5.30 |
| Interest on Working Capital | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Total Fee & Charges | 43.15 | 43.15 | 43.15 | 43.15 | 43.15 |

| Asset-2 | (₹ in lakh) | | | | |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Annual Capital Recovery Charge-Total | 42.39 | 42.39 | 42.39 | 42.39 | 42.39 |
| O&M Expenses | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| Interest on Working Capital | 0.90 | 0.91 | 0.91 | 0.91 | 0.90 |
| Total Fee & Charges | 49.40 | 49.40 | 49.40 | 49.40 | 49.40 |

75. The Petitioner has claimed the following transmission charges in respect of the Combined Asset (Assets-3, 4, 5, 6 and 7) for the 2019-24 tariff period as follows:

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|--|---------------|---------------|---------------|---------------|
| | Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | |
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation | 315.42 | 316.21 | 316.21 | 316.21 | 316.21 |
| Interest on Loan | 215.94 | 189.82 | 163.86 | 137.70 | 110.86 |
| Return on Equity | 280.76 | 281.46 | 281.46 | 281.46 | 281.46 |
| O&M Expenses | 99.91 | 99.91 | 99.91 | 99.91 | 99.91 |
| Interest on Working Capital | 16.57 | 16.23 | 15.84 | 15.45 | 15.01 |
| Total | 928.60 | 903.63 | 877.28 | 850.73 | 823.45 |

76. The details of the IWC claimed by the Petitioner in respect of the Combined Asset (Assets-3, 4, 5, 6 and 7) for the 2019-24 tariff period as follows:



(₹ in lakh)

| Particulars | Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | |
|------------------------------------|--|---------------|---------------|---------------|---------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| O&M expenses | 8.33 | 8.33 | 8.33 | 8.33 | 8.33 |
| Maintenance Spares | 14.99 | 14.99 | 14.99 | 14.99 | 14.99 |
| Receivables | 114.17 | 111.41 | 108.16 | 104.88 | 101.24 |
| Total | 137.49 | 134.73 | 131.48 | 128.20 | 124.56 |
| Rate of Interest (in %) | 12.05 | 12.05 | 12.05 | 12.05 | 12.05 |
| Interest on Working Capital | 16.57 | 16.23 | 15.84 | 15.45 | 15.01 |

Effective Date of Commercial Operation (E-COD)

77. The Petitioner has claimed E-COD of 15.12.2015 of the Combined Asset (Assets-3, 4, 5, 6 and 7) based on the trued-up admitted capital cost and actual COD of corresponding assets, the E-COD has been worked out as follows:

| Computation of Effective COD of the Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | | |
|--|------------|---------------------------------------|---------------------------|---------------------------|---------------|--|
| Asset | Actual COD | Admitted Capital Cost as on 31.3.2019 | Weight of the cost (in %) | No. of days from last COD | Weighted days | Effective COD (Latest COD – Total weighted Days) |
| Asset-3 | 1.10.2014 | 1431.88 | 28.86 | 882.00 | 254.53 | 17.12.2015 |
| Asset-4 | 20.4.2015 | 252.29 | 5.08 | 681.00 | 34.63 | |
| Asset-5 | 5.1.2016 | 1076.52 | 21.70 | 421.00 | 91.34 | |
| Asset-6 | 31.3.2016 | 884.49 | 17.83 | 335.00 | 59.72 | |
| Asset-7 | 1.3.2017 | 1316.67 | 26.54 | 0.00 | 0.00 | |
| Total | | 4961.84 | 100.00 | | 440.00 | |

78. The E-COD is used to determine the lapsed life of the transmission scheme as a whole, which works out as (3) years of the Combined Asset (Assets-3, 4, 5, 6 and 7) as on 1.4.2019 (i.e. the number of completed years as on 1.4.2019 from E-COD).

Weighted Average Life (WAL)

79. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of Weighted Average Life.

80. The Combined Asset (Assets-3, 4, 5, 6 and 7) may have multiple elements such as land, building, transmission line, sub-station and PLCC and each element may have



different span of life. Therefore, the concept of Weighted Average Life (WAL) has been used as the useful life of the transmission scheme as a whole.

81. The WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as stipulated in the 2019 Tariff Regulations. The element-wise life as defined in the 2014 Tariff Regulations prevailing at the time of actual COD of individual assets has been ignored for this purpose. The life as defined in the 2019 Tariff Regulations has been considered for determination of WAL. Accordingly, WAL of the Combined Asset (Assets-3, 4, 5, 6 and 7) has been worked out as 15 years and is demonstrated as follows:

| Admitted Capital Cost as on 31.3.2019 | | | | |
|--|---|--|------------------------------------|---|
| Particulars | Combined Asset (Assets-3, 4, 5, 6 and 7) | | | |
| | Combined Asset Cost (₹ in lakh) (1) | Life as per 2019 Regulation (Years) (2) | Weighted Cost (3) = (1)x(2) | Weighted Average Life of Asset (in years) (4) =(3)/(1) |
| Building | 0.00 | 25 | 0.00 | |
| Transmission Line | 0.00 | 35 | 0.00 | |
| Sub-station | 0.00 | 25 | 0.00 | |
| PLCC | 4961.84 | 15 | 74427.66 | |
| Leasehold Land | 0.00 | 25 | 0.00 | |
| IT Equipment and Software | 0.00 | 7 | 0.00 | |
| Total | 4961.84 | | 74427.66 | (15 years) |

82. The WAL as on 1.4.2019 as determined above is applicable prospectively (i.e. for the 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done.

83. As discussed in the preceding paragraphs, the Effective COD of the Combined Asset (Assets-3, 4, 5, 6 and 7) is 17.12.2015 and the lapsed life of the transmission scheme as a whole, works out as three (3) years as on 1.4.2019 (i.e. the number of



completed years as on 1.4.2019 from Effective COD). Accordingly, WAL has been used to determine the remaining useful life as on 31.3.2019 to be 12 years.

Capital cost

84. Regulation 19 of the 2019 Tariff Regulations provides as follows:

“19 Capital Cost: (1) *The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for 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) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) *Expenditure on account of change in law and force majeure events; and*
- (o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with*



the beneficiaries.

(3) The Capital cost of an existing project shall include the following:

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
- (c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations;
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

(4) The capital cost in case of existing or new hydro generating station shall also include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

(5) The following shall be excluded from the capital cost of the existing and new projects:

- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be de-capitalised only after its redeployment.

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment."

85. The petitioner vide Auditor certificate dated 21.10.2020 has submitted the capital cost (Actual COD Cost and additional capital expenditure) based on actual from COD to



31.3.2019 for fees and charges for 2019-24 block. The Petitioner has claimed no additional capital expenditure for 2019-24 tariff period. Keeping in view the opening capital cost and its recovery during 2014-19 period, the closing capital cost as on 1.4.2019 is being considered for working out the fee and charges for the period 2019-24 for the transmission assets.

86. The opening capital cost considered as on 31.3.2019 for the Asset-1 and Asset-2 is shown as follows:

| (₹ in lakh) | | |
|-------------|-----------------|---|
| Assets | Sector | Gross Capital cost considered as on 31.3.2019 |
| Asset-1 | Central Portion | 264.77 |
| Asset-2 | Central Portion | 304.90 |

87. The petitioner has claimed the capital cost of instant transmission assets for 2019-24 tariff period as follows:

| (₹ in lakh) | | | | | | | | |
|--------------------|-------------------------------------|---------------------------------|--------------------------------------|---------|---------|---------|---------|----------------------------|
| Assets | Apportioned Approved Cost as per FR | Cost considered as on 31.3.2019 | Additional Capital Expenditure (ACE) | | | | | Total cost as on 31.3.2019 |
| | | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | |
| Asset-1 | 400.38 | 264.77 | - | - | - | - | - | 264.77 |
| Asset-2 | 534.82 | 304.90 | - | - | - | - | - | 304.90 |
| Total-I | 935.20 | 569.67 | - | - | - | - | - | 569.67 |
| Asset-3 | 2438.90 | 1447.13 | - | - | - | - | - | 1447.13 |
| Asset-4 | 348.66 | 251.75 | - | - | - | - | - | 251.75 |
| Asset-5 | 1630.04 | 1071.82 | - | - | - | - | - | 1071.82 |
| Asset-6 | 1471.00 | 883.10 | 25.00 | - | - | - | - | 908.10 |
| Asset-7 (combined) | 1947.71 | 1316.56 | - | - | - | - | - | 1316.56 |
| Total-II | 7836.31 | 4970.36 | 25.00 | - | - | - | - | 4995.36 |

88. The Petitioner has claimed capital cost of ₹4970.36 lakh as on 31.3.2019 for as total cost for Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7. However, the capital cost of ₹4961.84 lakh has been worked out by the Commission as on 31.3.2019 and is



considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations for the Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7.

Additional Capital Expenditure

89. The petitioner has not claimed any additional capital expenditure for the period 2019-24 for all the assets except for Asset-6. The Petitioner has claimed an ACE of ₹25.00 lakh towards balance and retention payments towards Asset-6.

90. We have considered the Submissions of the Petitioner. The additional capital expenditure of ₹25.00 lakh is allowed under Regulation 25(1)(d) of 2019 tariff regulations for Asset-6.

Capital cost for the 2019-24 tariff period

91. Accordingly, the capital cost of instant transmission Asset-3, Asset-4, Asset-5, Asset-6 and Asset-7 considered for the 2019- 24 tariff period, are as follows:

| (₹ in lakh) | | | |
|---|-------------------------------|---------------|---|
| Asset | Capital Cost (as on 1.4.2019) | ACE (2019-24) | Total Estimated Completion Cost (up to 31.3.2024) |
| Combined Asset (Assets-3, 4, 5, 6 and 7) | 4961.84 | 25.00 | 4986.84 |

Debt-equity ratio

92. Regulation 18 of the 2019 Tariff Regulations provides as follows:

“18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. 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.*

(2) *The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.*

(3) *In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:*

Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) *In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.*

(5) *Any expenditure incurred or projected to be incurred on or after 1.4.2019 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.”*

(6) *Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”*

93. The debt: equity ratio of 70:30 as on 1.4.2019, as approved in the instant order has been considered for the purpose of tariff is as follows:



(₹ in lakh)

| Particulars | Asset-1 | Asset-2 |
|--------------|---------------|---------------|
| Loan | 185.34 | 213.43 |
| Equity | 79.43 | 91.47 |
| Total | 264.77 | 304.90 |

94. The debt: equity ratio considered for the purpose of computation of tariff for the Combined Asset (Assets-3, 4, 5, 6 and 7) - central of 2019-24 tariff period is as follows:

(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | Capital Cost (as on 1.4.2019) | | Capital Cost (as on 31.3.2024) | |
|--|----------------------------------|---------------|-----------------------------------|---------------|
| | Amount | (in %) | Amount | (in %) |
| Debt | 3473.34 | 70.00 | 3490.84 | 70.00 |
| Equity | 1488.51 | 30.00 | 1496.01 | 30.00 |
| Total | 4961.84 | 100.00 | 4986.84 | 100.00 |

Rates for Recovery of loan and equity

95. The Capital Recovery Factor for loan in respect of instant asset has been calculated by applying weighted average rate of interest and the details of which is attached as Annexure-VII in case of the instant asset. Thus, the rates considered on annual basis, have been converted to monthly rates and are as follows:

| CRF for loan to be considered for Fee & Charges | | | | | |
|---|----------|----------|----------|----------|----------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Asset-1 – Central Portion | 0.012868 | 0.013833 | 0.015067 | 0.016690 | 0.018914 |
| Asset-2 – Central Portion | 0.012554 | 0.013450 | 0.014584 | 0.016060 | 0.018053 |

96. The Capital Recovery Factor for equity has been considered on the same basis as approved vide order dated 5.2.2020 in Petition No. 262/TT/2019 and on post-tax return on equity of 15.50%. Thus, monthly recovery factors for equity for Central Portion for the Asset-1 and Asset-2 are as follows:

| CRF for equity to be considered for Fee & Charges | | | | | |
|---|----------|----------|----------|----------|----------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Asset-1 – Central Portion | 0.016744 | 0.017613 | 0.018748 | 0.020271 | 0.022394 |
| Asset-2 – Central Portion | 0.016499 | 0.017298 | 0.018333 | 0.019710 | 0.021601 |



97. In view of above, the amount of monthly capital recovery charges for loan and equity for Central Portion for Asset-1 and Asset-2 have been considered by using respective Capital Recovery Factors and are as follows:

(₹ in lakh)

| Monthly capital recovery charges for loan | | | | | |
|---|---------|---------|---------|---------|---------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Asset-1 – Central Portion | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 |
| Asset-2 – Central Portion | 2.21 | 2.21 | 2.21 | 2.21 | 2.21 |

(₹ in lakh)

| Monthly capital recovery charges for equity | | | | | |
|---|---------|---------|---------|---------|---------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Asset-1 – Central Portion | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |
| Asset-2 – Central Portion | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 |

98. Accordingly, the recovery of capital during 2019-24 has been worked out. The details are as follows:

| Particulars | Capital | Central Portion |
|---|--------------|-----------------|
| Asset-1: Capital Cost Recovered during 2019-24 | Loan | 63.16 |
| | Equity | 23.94 |
| | Total | 87.09 |
| Asset-2: Capital Cost Recovered during 2019-24 | Loan | 70.09 |
| | Equity | 26.10 |
| | Total | 96.19 |

Depreciation

99. Regulation 33 of the 2019 Tariff Regulations provides as follows:

“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. 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:

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 a 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

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

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or 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-I to these regulations for the Asset-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 asset”

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the



de-capitalized asset during its useful services.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

- a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
- b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
- c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”

100. We have considered the submissions of the Petitioner. WAROD has been worked out at Annexure-VI and after taking into account the depreciation rates as prescribed in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset (Assets-3, 4, 5, 6 and 7) are as follows:

(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | | |
|--|---|---------|---------|---------|---------|---------|
| | Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| A | Opening Gross Block | 4961.84 | 4986.84 | 4986.84 | 4986.84 | 4986.84 |
| B | ACE | 25.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| C | Closing Gross Block (A+B) | 4986.84 | 4986.84 | 4986.84 | 4986.84 | 4986.84 |
| D | Average Gross Block (A+C)/2 | 4974.34 | 4986.84 | 4986.84 | 4986.84 | 4986.84 |
| E | Average Gross Block (90% depreciable assets) | 4974.34 | 4986.84 | 4986.84 | 4986.84 | 4986.84 |
| F | Average Gross Block (100% depreciable assets) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| G | Depreciable value (excluding IT equipment and software) (E*90%) | 4476.91 | 4488.16 | 4488.16 | 4488.16 | 4488.16 |



| Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | | |
|---|---|----------------|----------------|----------------|----------------|----------------|
| | Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| H | Depreciable value of IT equipment and software | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| I | Total Depreciable Value (G+H) | 4476.91 | 4488.16 | 4488.16 | 4488.16 | 4488.16 |
| J | Weighted Average Rate of Depreciation (WAROD) (in %) | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |
| K | Lapsed useful life at the beginning of the year (Year) | 3.00 | 4.00 | 5.00 | 6.00 | 7.00 |
| L | Balance useful life at the beginning of the year (Year) | 12.00 | 11.00 | 10.00 | 9.00 | 8.00 |
| M | Depreciation during the year (D*J) | 314.88 | 315.67 | 315.67 | 315.67 | 315.67 |
| N | Aggregate Cumulative Depreciation at the end of the year | 1130.19 | 1445.86 | 1761.53 | 2077.19 | 2392.86 |
| O | Remaining Aggregate Depreciable Value at the end of the year(I-N) | 3346.72 | 3042.30 | 2726.63 | 2410.97 | 2095.30 |

Interest on Loan (IoL)

101. Regulation 32 of the 2019 Tariff Regulations provides as follows:

“32. Interest on loan capital: (1) *The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.*

(2) *The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.*

(3) *The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de- capitalization of asset, 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-capitalisation 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.

(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company 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.

(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.”

102. BSPHCL has submitted that the 2019 Tariff regulations do not permit change in interest rate due to floating rate of interest.

103. In response, the Petitioner has submitted that tariff calculation for 2019-24 tariff period, Interest on Loan has been calculated on the basis of interest rates prevailing as on 1.4.2019 for respective loans. Change in interest rate due to floating rate of interest applicable, if any, for the projects need to be adjusted/claimed over the tariff block of 5 years directly from/with the beneficiaries.

104. We have considered the submissions of the Petitioner and BSPHCL. The weighted average rate of interest of IoL has been considered on the basis of the rates prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true-up. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the Combined Asset (Assets-3, 4, 5, 6 and 7) are as follows:



(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | | |
|--|--|---------------|---------------|---------------|---------------|---------------|
| Particulars | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| A | Gross Normative Loan | 3473.34 | 3490.84 | 3490.84 | 3490.84 | 3490.84 |
| B | Cumulative Repayments upto Previous Year | 815.32 | 1130.19 | 1445.86 | 1761.53 | 2077.19 |
| C | Net Loan-Opening (A-B) | 2658.02 | 2360.65 | 2044.98 | 1729.31 | 1413.65 |
| D | Additions | 17.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| E | Repayment during the year | 314.88 | 315.67 | 315.67 | 315.67 | 315.67 |
| F | Net Loan-Closing (C+D-E) | 2360.65 | 2044.98 | 1729.31 | 1413.65 | 1097.98 |
| G | Average Loan (A+F)/2 | 2509.34 | 2202.81 | 1887.15 | 1571.48 | 1255.81 |
| H | Weighted Average Rate of Interest on Loan (in %) | 8.44 | 8.43 | 8.47 | 8.50 | 8.51 |
| I | Interest on Loan (GxH) | 211.88 | 185.75 | 159.78 | 133.62 | 106.82 |

Return on Equity (RoE)

105. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provides as follows:

“30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of- 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 return on equity in respect of additional capitalization after cut-off date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% 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) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;



ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

- a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
- b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%;”

31. Tax on Return on Equity:(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded 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.

Illustration-

(i) In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$



(ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;*
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;*
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore
= 24%;*
- (d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.*

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long-term customers, as the case may be, on year-to-year basis."

106. The Petitioner has submitted that it is liable to pay Income Tax at MAT rate prescribed under the Taxation laws (Amendment) Ordinance 2019. Further, RoE has been calculated @18.782% after grossing up the RoE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given in Regulation 31(2) of the 2019 Tariff Regulations for the 2019-24 tariff period. As per Regulation 31(3) of the 2019 Tariff Regulations, the grossed-up rate of RoE at the end of every financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2019-24 tariff period on actual gross income. However, any penalty arising on account of delay in deposit or short deposit of tax amount shall not be claimed by it. Any under-recovery or over-recovery of grossed up rate on RoE after truing up shall be recovered or refunded to beneficiaries or the long-term customers on yearly basis. The Petitioner has further submitted that any adjustment due to additional



tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities shall be recoverable/ adjustable during the 2019-24 tariff period on yearly basis on receipt of Income Tax assessment order.

107. We have considered the submissions of the Petitioner. RoE allowed for the Combined Asset (Assets-3, 4, 5, 6 and 7) under Regulation 30 of the 2019 Tariff Regulations are as follows:

(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | | |
|--|-------------------------------------|---------|---------|---------|---------|---------|
| Particulars | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| A | Opening Equity | 1488.51 | 1496.01 | 1496.01 | 1496.01 | 1496.01 |
| B | Additions | 7.50 | 0.00 | 0.00 | 0.00 | 0.00 |
| C | Closing Equity (A-B) | 1496.01 | 1496.01 | 1496.01 | 1496.01 | 1496.01 |
| D | Average Equity (A+B)/2 | 1492.26 | 1496.01 | 1496.01 | 1496.01 | 1496.01 |
| E | Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| F | MAT Rate for respective year (in %) | 17.472 | 17.472 | 17.472 | 17.472 | 17.472 |
| G | Rate of Return on Equity (in %) | 18.782 | 18.782 | 18.782 | 18.782 | 18.782 |
| H | Return on Equity (DxG) | 280.28 | 280.98 | 280.98 | 280.98 | 280.98 |

Operation & Maintenance Expenses (O&M Expenses)

108. The norms specified under Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

“35. Operation and Maintenance Expenses:

(3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---------|---------|---------|---------|---------|
| Norms for sub-station Bays (Rs Lakh per bay) | | | | | |
| 765 kV | 45.01 | 46.60 | 48.23 | 49.93 | 51.68 |
| 400 kV | 32.15 | 33.28 | 34.45 | 35.66 | 36.91 |
| 220 kV | 22.51 | 23.30 | 24.12 | 24.96 | 25.84 |
| 132 kV and below | 16.08 | 16.64 | 17.23 | 17.83 | 18.46 |
| Norms for Transformers (Rs Lakh per MVA) | | | | | |
| 765 kV | 0.491 | 0.508 | 0.526 | 0.545 | 0.564 |
| 400 kV | 0.358 | 0.371 | 0.384 | 0.398 | 0.411 |



| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|----------------|----------------|----------------|----------------|----------------|
| 220 kV | 0.245 | 0.254 | 0.263 | 0.272 | 0.282 |
| 132 kV and below | 0.245 | 0.254 | 0.263 | 0.272 | 0.282 |
| Norms for AC and HVDC lines (Rs Lakh per km) | | | | | |
| Single Circuit (Bundled Conductor with six or more sub-conductors) | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |
| Single Circuit (Bundled conductor with four sub-conductors) | 0.755 | 0.781 | 0.809 | 0.837 | 0.867 |
| Single Circuit (Twin & Triple Conductor) | 0.503 | 0.521 | 0.539 | 0.558 | 0.578 |
| Single Circuit (Single Conductor) | 0.252 | 0.260 | 0.270 | 0.279 | 0.289 |
| Double Circuit (Bundled conductor with four or more sub-conductors) | 1.322 | 1.368 | 1.416 | 1.466 | 1.517 |
| Double Circuit (Twin & Triple Conductor) | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |
| Double Circuit (Single Conductor) | 0.377 | 0.391 | 0.404 | 0.419 | 0.433 |
| Multi Circuit (Bundled Conductor with four or more sub-conductor) | 2.319 | 2.401 | 2.485 | 2.572 | 2.662 |
| Multi Circuit (Twin & Triple Conductor) | 1.544 | 1.598 | 1.654 | 1.713 | 1.773 |
| Norms for HVDC stations | | | | | |
| HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB) | 834 | 864 | 894 | 925 | 958 |
| Gazuwaka HVDC Back-to-Back station (Rs. Lakh per 500 MW) | 1,666 | 1,725 | 1,785 | 1,848 | 1,913 |
| 500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW) | 2,252 | 2,331 | 2,413 | 2,498 | 2,586 |
| ±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW) | 2,468 | 2,555 | 2,645 | 2,738 | 2,834 |
| ±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW) | 1,696 | 1,756 | 1,817 | 1,881 | 1,947 |
| ±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW) | 2,563 | 2,653 | 2,746 | 2,842 | 2,942 |

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

- (i) the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;
- (ii) the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
- (iii) the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2500 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- (iv) the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800



kV, Bishwanath-Agra HVDC bi-pole scheme;

(v) the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and

(vi) the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:

Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

(4) **Communication system:** The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”

109. The petitioner has claimed the O&M Expenses for Central portion as 2% of the Capital cost subject to actual expenditure at the time of truing-up. The capital cost allowed for Combined Asset (Assets-3, 4, 5, 6 and 7) of central sector is ₹4986.84 lakh. Accordingly, the O&M Expenses are allowed in this order which shall be subject to review at the time of truing-up. The details are as follows:

| (₹ in lakh) | | | | | |
|---|---------|---------|---------|---------|---------|
| Asset-1 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Claimed by the Petitioner in the instant Petition | 5.30 | 5.30 | 5.30 | 5.30 | 5.30 |
| Allowed in the instant Petition | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |

| (₹ in lakh) | | | | | |
|---|---------|---------|---------|---------|---------|
| Asset-2 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Claimed by the Petitioner in the instant Petition | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| Allowed in the instant Petition | 6.09 | 6.09 | 6.09 | 6.09 | 6.09 |



| | | | | | (₹ in lakh) |
|---|---------|---------|---------|---------|-------------|
| Combined Asset (Assets-3, 4, 5, 6 and 7) | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Claimed by the Petitioner in the instant Petition | 99.91 | 99.91 | 99.91 | 99.91 | 99.91 |
| Allowed in the instant Petition | 99.74 | 99.74 | 99.74 | 99.74 | 99.74 |

Interest on Working Capital (IWC)

110. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations provide as follows:

“34. Interest on Working Capital: (1) *The working capital shall cover:*

.....

(c) *For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:*

(i) *Receivables equivalent to 45 days of annual fixed cost;*

(ii) *Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and*

(iii) *Operation and maintenance expenses, including security 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 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 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:*

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

(4) *Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”*

“3. Definition - *In these regulations, unless the context otherwise requires:-*

(7) **‘Bank Rate’** *means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”*

111. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation



34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, for 2020-21 has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points), for 2021-22 has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) and for 2022-24 has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points).

112. The necessary computations of interest on working capital (annualized) for the Non-Microwave system-Central Portion are as follows:

(₹ in lakh)

| Asset -1 Central Portion | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working Capital for O&M Expenses (O&M expenses for One month) | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Working Capital for Maintenance Spares (15% of O&M expenses) | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges) | 7.27 | 7.26 | 7.25 | 7.25 | 7.25 |
| Total Working Capital | 8.50 | 8.49 | 8.48 | 8.48 | 8.48 |
| Rate of Interest on Working Capital (in %) | 12.05 | 11.25 | 10.50 | 10.50 | 10.50 |
| Interest on working capital | 1.02 | 0.96 | 0.89 | 0.89 | 0.89 |

(₹ in lakh)

| Asset-2 Central Portion | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working Capital for O&M Expenses (O&M expenses for One month) | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| Working Capital for Maintenance Spares (15% of O&M expenses) | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges) | 8.30 | 8.29 | 8.28 | 8.28 | 8.28 |
| Total Working Capital | 9.73 | 9.71 | 9.70 | 9.70 | 9.70 |
| Rate of Interest on Working Capital | 12.05 | 11.25 | 10.50 | 10.50 | 10.50 |



| | | | | | |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|
| (in %) | | | | | |
| Interest on working capital | 1.17 | 1.09 | 1.02 | 1.02 | 1.02 |

(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working Capital for O&M Expenses (O&M expenses for One month) | 8.31 | 8.31 | 8.31 | 8.31 | 8.31 |
| Working Capital for Maintenance Spares (15% of O&M expenses) | 14.96 | 14.96 | 14.96 | 14.96 | 14.96 |
| Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges) | 113.51 | 110.61 | 107.24 | 103.98 | 100.35 |
| Total Working Capital | 136.79 | 133.89 | 130.52 | 127.25 | 123.62 |
| Rate of Interest on Working Capital (in %) | 12.05 | 11.25 | 10.50 | 10.50 | 10.50 |
| Interest on working capital | 16.48 | 15.06 | 13.70 | 13.36 | 12.98 |

Annual Fixed Charges for the 2019-24 Tariff Period

113. The detailed calculations of fee and charges being allowed for the instant asset are summarized hereinafter: -

(₹ in lakh)

| Asset-1 -Central Portion-Fees and charges | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Gross Capital Cost | 264.77 | 264.77 | 264.77 | 264.77 | 264.77 |
| Opening Gross Notional Loan | 185.34 | 185.34 | 185.34 | 185.34 | 185.34 |
| Opening Gross Equity | 79.43 | 79.43 | 79.43 | 79.43 | 79.43 |
| Recovered Gross Capital Cost (As on 1st April) | 44.22 | 58.19 | 73.69 | 90.90 | 110.03 |
| Recovered Gross Notional Loan | 34.44 | 44.97 | 56.46 | 69.00 | 82.67 |
| Recovered Gross Equity | 9.78 | 13.21 | 17.22 | 21.90 | 27.35 |
| Opening Net Capital Cost | 220.55 | 206.58 | 191.08 | 173.87 | 154.74 |
| Opening Net Notional Loan | 150.90 | 140.37 | 128.88 | 116.34 | 102.66 |
| Opening Net Equity | 69.65 | 66.22 | 62.21 | 57.53 | 52.08 |
| Recovered Capital Cost (During the Year) | 13.97 | 15.50 | 17.21 | 19.13 | 21.28 |
| Recovered Notional Loan | 10.53 | 11.49 | 12.54 | 13.68 | 14.92 |
| Recovered Equity | 3.44 | 4.01 | 4.68 | 5.45 | 6.36 |



| Asset-1 -Central Portion-Fees and charges | | | | | |
|--|----------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Closing Net Capital Cost | 206.58 | 191.08 | 173.87 | 154.74 | 133.46 |
| Closing Net Notional Loan | 140.37 | 128.88 | 116.34 | 102.66 | 87.74 |
| Closing Net Equity | 66.22 | 62.21 | 57.53 | 52.08 | 45.72 |
| | | | | | |
| Additional Capital Cost | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Notional Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |
| Years (Capital to be recovered up to 31.10.2028) | 9.58 | 8.58 | 7.58 | 6.58 | 5.58 |
| Months | 115.00 | 103.00 | 91.00 | 79.00 | 67.00 |
| Weighted Average Rate of Interest p.a. | 8.7364% | 8.7364% | 8.7364% | 8.7364% | 8.7364% |
| Weighted Average Rate of Interest p.m. | 0.7280% | 0.7280% | 0.7280% | 0.7280% | 0.7280% |
| Monthly Recovery Factors -Loan | 0.01286 | | | | |
| | 8 | 0.01383 | 0.01506 | 0.01669 | 0.01891 |
| | | 3 | 7 | 0 | 4 |
| Monthly Capital Recovery Charge - Loan | 1.94 | 1.94 | 1.94 | 1.94 | 1.94 |
| Annual Capital Recovery Charge – Loan | 23.30 | 23.30 | 23.30 | 23.30 | 23.30 |
| Rate of Return on Equity p.a. | 15.500% | 15.500% | 15.500% | 15.500% | 15.500% |
| Rate of Return on Equity p.m. | 1.292% | 1.292% | 1.292% | 1.292% | 1.292% |
| Monthly Recovery Factors -Equity | 0.01674 | 0.01761 | 0.01874 | 0.02027 | 0.02239 |
| | 4 | 3 | 8 | 1 | 4 |
| Monthly Capital Recovery Charge – Equity | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |
| Annual Capital Recovery Charge – Equity | 14.00 | 14.00 | 14.00 | 14.00 | 14.00 |
| Monthly Capital Recovery Charge - Total | 3.11 | 3.11 | 3.11 | 3.11 | 3.11 |
| Annual Capital Recovery Charge – Total | 37.30 | 37.30 | 37.30 | 37.30 | 37.30 |
| Fee & Charges (2019-24) (Annualized) | Central Portion - Charges | | | | |
| Annual Capital Recovery Charge - Loan | 23.30 | 23.30 | 23.30 | 23.30 | 23.30 |
| Annual Capital Recovery Charge - Equity | 14.00 | 14.00 | 14.00 | 14.00 | 14.00 |
| Annual Capital Recovery Charge – Total | 37.30 | 37.30 | 37.30 | 37.30 | 37.30 |
| O&M Expenses | 5.30 | 5.30 | 5.30 | 5.30 | 5.30 |
| Interest on Working Capital | 1.02 | 0.96 | 0.89 | 0.89 | 0.89 |
| Total Fee & Charges (Pro-rata) | 43.62 | 43.55 | 43.48 | 43.48 | 43.48 |
| Interest on Working Capital | | | | | |
| Maintenance Spares (15% of O&M) | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| O&M Expenses (1 Month) | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Receivables (2 months) | 7.27 | 7.26 | 7.25 | 7.25 | 7.25 |
| Total | 8.50 | 8.49 | 8.48 | 8.48 | 8.48 |
| Rate of Interest on Working Capital | 12.05% | 11.25% | 10.50% | 10.50% | 10.50% |



| Asset-1 -Central Portion-Fees and charges | | | | | |
|---|----------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Total Interest on Working Capital (Pro-rata) | 1.02 | 0.96 | 0.89 | 0.89 | 0.89 |
| Fee & Charges (2019-24) (Applicable) | Central Portion - Charges | | | | |
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Annual Capital Recovery Charge - Loan | 23.30 | 23.30 | 23.30 | 23.30 | 23.30 |
| Annual Capital Recovery Charge - Equity | 14.00 | 14.00 | 14.00 | 14.00 | 14.00 |
| Annual Capital Recovery Charge – Total | 37.30 | 37.30 | 37.30 | 37.30 | 37.30 |
| O&M Expenses | 5.30 | 5.30 | 5.30 | 5.30 | 5.30 |
| Interest on Working Capital | 1.02 | 0.96 | 0.89 | 0.89 | 0.89 |
| Total Fee & Charges (Applicable) | 43.62 | 43.55 | 43.48 | 43.48 | 43.48 |

(₹ in lakh)

| Asset-2 -Central Portion-Fees and charges | | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Gross Capital Cost | 304.90 | 304.90 | 304.90 | 304.90 | 304.90 |
| Opening Gross Notional Loan | 213.43 | 213.43 | 213.43 | 213.43 | 213.43 |
| Opening Gross Equity | 91.47 | 91.47 | 91.47 | 91.47 | 91.47 |
| | | | | | |
| Recovered Gross Capital Cost (As on 1st April) | 47.94 | 63.39 | 80.53 | 99.54 | 120.66 |
| Recovered Gross Notional Loan | 37.60 | 49.31 | 62.07 | 75.99 | 91.16 |
| Recovered Gross Equity | 10.34 | 14.08 | 18.45 | 23.55 | 29.50 |
| | | | | | |
| Opening Net Capital Cost | 256.96 | 241.51 | 224.37 | 205.36 | 184.24 |
| Opening Net Notional Loan | 175.83 | 164.12 | 151.36 | 137.44 | 122.27 |
| Opening Net Equity | 81.13 | 77.39 | 73.02 | 67.92 | 61.97 |
| | | | | | |
| Recovered Capital Cost (During the Year) | 15.45 | 17.13 | 19.01 | 21.12 | 23.47 |
| Recovered Notional Loan | 11.71 | 12.76 | 13.91 | 15.17 | 16.54 |
| Recovered Equity | 3.75 | 4.37 | 5.10 | 5.95 | 6.94 |
| | | | | | |
| Closing Net Capital Cost | 241.51 | 224.37 | 205.36 | 184.24 | 160.77 |
| Closing Net Notional Loan | 164.12 | 151.36 | 137.44 | 122.27 | 105.73 |
| Closing Net Equity | 77.39 | 73.02 | 67.92 | 61.97 | 55.03 |
| | | | | | |
| Additional Capital Cost | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Notional Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Equity | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | | | | | |
| Years (Capital to be recovered up to 28.2.2029) | 9.92 | 8.92 | 7.92 | 6.92 | 5.92 |
| Months | 119.00 | 107.00 | 95.00 | 83.00 | 71.00 |
| Weighted Average Rate of Interest p.a. | 8.6670% | 8.6670% | 8.6670% | 8.6670% | 8.6670% |



| Asset-2 -Central Portion-Fees and charges | | | | | |
|---|----------------------------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Weighted Average Rate of Interest p.m. | 0.7222% | 0.7222% | 0.7222% | 0.7222% | 0.7222% |
| Monthly Recovery Factors -Loan | 0.012554 | 0.013450 | 0.014584 | 0.016060 | 0.018053 |
| Monthly Capital Recovery Charge - Loan | 2.21 | 2.21 | 2.21 | 2.21 | 2.21 |
| Annual Capital Recovery Charge - Loan | 26.49 | 26.49 | 26.49 | 26.49 | 26.49 |
| Rate of Return on Equity p.a. | 15.500% | 15.500% | 15.500% | 15.500% | 15.500% |
| Rate of Return on Equity p.m. | 1.292% | 1.292% | 1.292% | 1.292% | 1.292% |
| Monthly Recovery Factors -Equity | 0.01649 9 | 0.01729 8 | 0.01833 3 | 0.01971 0 | 0.02160 1 |
| Monthly Capital Recovery Charge - Equity | 1.34 | 1.34 | 1.34 | 1.34 | 1.34 |
| Annual Capital Recovery Charge - Equity | 16.06 | 16.06 | 16.06 | 16.06 | 16.06 |
| Monthly Capital Recovery Charge - Total | 3.55 | 3.55 | 3.55 | 3.55 | 3.55 |
| Annual Capital Recovery Charge - Total | 42.55 | 42.55 | 42.55 | 42.55 | 42.55 |
| Fee & Charges (2019-24) (Pro-rata) | Central Portion - Charges | | | | |
| Annual Capital Recovery Charge - Loan | 26.49 | 26.49 | 26.49 | 26.49 | 26.49 |
| Annual Capital Recovery Charge - Equity | 16.06 | 16.06 | 16.06 | 16.06 | 16.06 |
| Annual Capital Recovery Charge - Total | 42.55 | 42.55 | 42.55 | 42.55 | 42.55 |
| O&M Expenses | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| Interest on Working Capital | 1.17 | 1.09 | 1.02 | 1.02 | 1.02 |
| Total Fee & Charges (Pro-rata) | 49.82 | 49.74 | 49.67 | 49.67 | 49.67 |
| Interest on Working Capital | | | | | |
| Maintenance Spares (15% of O&M) | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| O&M Expenses (1 Month) | 0.51 | 0.51 | 0.51 | 0.51 | 0.51 |
| Receivables (2 months) | 8.30 | 8.29 | 8.28 | 8.28 | 8.28 |
| Total | 9.73 | 9.71 | 9.70 | 9.70 | 9.70 |
| Rate of Interest on Working Capital | 12.05% | 11.25% | 10.50% | 10.50% | 10.50% |
| Total Interest on Working Capital (Pro-rata) | 1.17 | 1.09 | 1.02 | 1.02 | 1.02 |
| Fee & Charges (2019-24) (Applicable) | Central Portion - Charges | | | | |
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Annual Capital Recovery Charge - Loan | 26.49 | 26.49 | 26.49 | 26.49 | 26.49 |
| Annual Capital Recovery Charge - Equity | 16.06 | 16.06 | 16.06 | 16.06 | 16.06 |
| Annual Capital Recovery Charge - Total | 42.55 | 42.55 | 42.55 | 42.55 | 42.55 |
| O&M Expenses | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| Interest on Working Capital | 1.17 | 1.09 | 1.02 | 1.02 | 1.02 |
| Total Fee & Charges (Applicable) | 49.82 | 49.74 | 49.67 | 49.67 | 49.67 |

(₹ in lakh)

| Combined Asset (Assets-3, 4, 5, 6 and 7) | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|----------------|----------------|----------------|----------------|----------------|
| Depreciation | 314.88 | 315.67 | 315.67 | 315.67 | 315.67 |
| Interest on Loan | 211.88 | 185.75 | 159.78 | 133.62 | 106.82 |
| Return on Equity | 280.28 | 280.98 | 280.98 | 280.98 | 280.98 |
| Operation and Maintenance Expenses | 99.74 | 99.74 | 99.74 | 99.74 | 99.74 |



| Combined Asset (Assets-3, 4, 5, 6 and 7) | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|----------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 16.48 | 15.06 | 13.70 | 13.36 | 12.98 |
| Total | 923.25 | 897.20 | 869.87 | 843.36 | 816.18 |

Filing Fee and Publication Expenses

114. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 70(1) of the 2019 Tariff Regulations.

115. BSPHCL has submitted that grant of filing fees and expenses incurred is in the discretion of the Commission and the same is to be exercised as per the facts and circumstances of each case and need not necessarily be allowed in all cases and certainly the present case is the one wherein the said prayer should not be granted.

116. In response, the Petitioner has submitted that the Commission in order dated 28.3.2016 in Petition No.137/TT2015 for determination of tariff for 2014-19 period allowed recovery of petition filing fees and publication of notices from the beneficiaries.

117. We have considered the submissions of the Petitioner and BSPHCL. Regulation 70(1) of the 2019 Tariff Regulations provides for reimbursement of filing fees and publication expenses paid by the Petitioner. Accordingly, 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 Regulation 70(1) of the 2019 Tariff Regulations.

License Fee and RLDC Fees and Charges

118. The Petitioner shall be entitled for reimbursement of license fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 tariff period. The Petitioner



shall also be entitled for recovery of RLDC fees and charges in accordance with Regulations 70 (3) of the 2019 Tariff Regulations for 2019-24 tariff period.

Goods and Services Tax

119. BSPHCL has submitted that to bill and receive GST and Statutory charges on Transmission charges separately from the respondents is premature and deserves to be rejected.

120. In response the Petitioner has submitted that Under CGST Act, 2017 “Transmission or distribution of electricity by an electric transmission or distribution utility” the GST is exempted. Hence, the transmission charges as indicated in the instant petition is exclusive of GST. The Petitioner has further submitted that if GST is levied at any rate and at any point of time in future, the same must be borne and additionally paid by the Respondent(s) to the Petitioner and the same will be charged & billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries

121. We have considered the above submissions of BSPHCL and Petitioner. Since, GST is not levied on transmission service at present, we are of the view that the Petitioner’s prayer is premature.

Security Expenses

122. The Petitioner has submitted that security expenses in respect of transmission asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC.



123. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission assets owned by it on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission vide order dated 3.8.2021. The Commission vide order dated 3.8.2021 in Petition No. 260/MP/2020 has approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.

Sharing of Transmission Charges

124. BSPHCL has submitted that the sharing of the transmission tariff has been held on different occasions that the present consumers cannot and should not be burdened for the past charges.

125. In response, the Petitioner has submitted that the transmission assets have been put into commercial operation in tariff blocks 2009-14 and 2014-19 and there are no past charges that may lead to burdening on present consumers.

126. We have considered the submissions of BSPHCL and Petitioner. The fees and charges approved in this order for Asset-1 and Asset-2 for the 2014-19 and 2019-24 tariff periods shall be shared on similar lines as system operation charges in the ratio of 45:45:10 by the distribution licensees and buyers; generating stations and sellers and



inter-State transmission licensees respectively as per Regulation 22(1) of Fees and charges of Regional Load Despatch Centre and other related matters Regulations, 2009.

127. The Annual Fixed Charges approved for Asset-3 to Asset-7 shall be recovered on monthly basis and the billing collection and disbursement shall be governed by provisions of the Central Electricity Regulatory Commission (Sharing of interstate transmission Charges and Losses) Regulations, 2010 (the 2010 Sharing Regulations) as provided under Regulation 43 of the 2014 Tariff Regulations. The fees and charges approved in this order for the 2019-24 period shall be recovered, as provided under Regulation 57 of the 2019 Tariff Regulations on monthly basis and shall be shared by the beneficiaries and long-term transmission customers upto 31.10.2020 as per the 2010 Sharing Regulations and from 1.11.2020 as per the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. Accordingly, the liabilities of the DICs for arrears of the transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Sharing Regulations and shall be recovered from the concerned DICs through bill under Regulation 15(2)(b) of the 2020 Sharing Regulations.

128. To summarize:

- a. The trued-up fees and charges and AFC approved for the transmission assets for the 2014-19 tariff period are as follows:

| Particulars | Asset-1- (₹ in lakh) | | | | |
|---------------------|-------------------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Total Fee & Charges | 13.14 | 39.26 | 43.65 | 40.97 | 46.96 |



(₹ in lakh)

| Particulars | Asset-2- | | | | |
|---------------------|----------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Total Fee & Charges | 17.98 | 47.64 | 43.06 | 51.62 | 52.39 |

(₹ in lakh)

| Particulars | Asset-3 | | | | |
|----------------------|--|---------|---------|---------|---------|
| | 2014-15 (Pro-rata for 182 days) | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Annual Fixed Charges | 68.69 | 155.83 | 183.65 | 201.93 | 255.54 |

(₹ in lakh)

| Particulars | Asset-4 | | | |
|----------------------|---------------------------------------|---------|---------|---------|
| | 2015-16 (Pro-rata for 347 days) | 2016-17 | 2017-18 | 2018-19 |
| Annual Fixed Charges | 31.56 | 35.75 | 36.57 | 45.06 |

(₹ in lakh)

| Particulars | Asset-5 | | | |
|----------------------|--------------------------------|---------|---------|---------|
| | 2015-16 (Pro-rata for 87 days) | 2016-17 | 2017-18 | 2018-19 |
| Annual Fixed Charges | 46.42 | 158.85 | 163.87 | 196.87 |

(₹ in lakh)

| Particulars | Asset-6 | | | |
|----------------------|------------------------------------|---------|---------|---------|
| | 2015-16 (Pro-rata for 1 day) | 2016-17 | 2017-18 | 2018-19 |
| Annual Fixed Charges | 0.43 | 171.55 | 166.82 | 181.73 |

(₹ in lakh)

| Particulars | Asset-7 | | |
|----------------------|--------------------------------------|---------|---------|
| | 2016-17 (Pro-rata for 31 days) | 2017-18 | 2018-19 |
| Annual Fixed Charges | 44.06 | 256.28 | 262.77 |

- b. The fees and charges and the AFC allowed for the transmission assets for the 2019-24 tariff period are as follows:



(₹ in lakh)

| Particulars | Asset-1 | | | | |
|---------------------|---------|---------|---------|---------|---------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Total Fee & Charges | 43.62 | 43.55 | 43.48 | 43.48 | 43.48 |

(₹ in lakh)

| Particulars | Asset-2 | | | | |
|---------------------|---------|---------|---------|---------|---------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Total Fee & Charges | 49.82 | 49.74 | 49.67 | 49.67 | 49.67 |

(₹ in lakh)

| Particulars | Combined Asset (Assets-3, 4, 5, 6 and 7) | | | | |
|----------------------|--|---------|---------|---------|---------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Annual Fixed Charges | 923.25 | 897.20 | 869.87 | 843.36 | 816.18 |

129. Annexure-I to Annexure-VII given hereinafter form part of the order.

130. This order disposes of Petition No. 474/TT/2020 in terms of the above discussions and findings.

sd/
(P. K. Singh)
Member

sd/
(Arun Goyal)
Member

sd/
(I.S. Jha)
Member



Annexure-I

| Asset -3 | Particulars | Admitted Capital Cost as on COD (₹ in lakh) | ACE 2014-19 (₹ in lakh) | | | | | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciat ion (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|-------------|--------------|--|-------------------------------|---------------|---------------|--------------------|---------------|---|---------------------------------------|---|--------------|--------------|--------------|--------------|
| | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 |
| | PLCC | 302.37 | 346.4 1 | 199.59 | 129.88 | 129.8 1 | 323.82 | 1431.88 | 6.33 | 30.10 | 47.38 | 57.81 | 66.03 | 80.39 |
| | TOTAL | 302.37 | 346.4 1 | 199.59 | 129.88 | 129.8 1 | 323.82 | 1431.88 | | 30.10 | 47.38 | 57.81 | 66.03 | 80.39 |
| | | | | | | | | Average Gross Block (₹ in lakh) | | 475.57 | 748.57 | 913.31 | 1043.1 5 | 1269.9 7 |
| | | | | | | | | Weighted Average Rate of Depreciation (in %) | | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |



Annexure-II

| Asset -4 | Particulars | Admitted Capital Cost as on COD (₹ in lakh) | ACE 2014-19 (₹ in lakh) | | | | | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciat ion (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|-------------|--------------|--|-------------------------------|--------------|-------------|--------------|--------------|---|---------------------------------------|---|--------------|--------------|--------------|--------------|
| | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 |
| | PLCC | 150.28 | 0.00 | 28.68 | 5.51 | 13.47 | 54.35 | 252.29 | 6.33 | 0.00 | 10.42 | 11.50 | 12.10 | 14.25 |
| | TOTAL | 150.28 | 0.00 | 28.68 | 5.51 | 13.47 | 54.35 | 252.29 | | 0.00 | 10.42 | 11.50 | 12.10 | 14.25 |
| | | | | | | | | Average Gross Block (₹ in lakh) | | 0.00 | 164.62 | 181.72 | 191.21 | 225.12 |
| | | | | | | | | Weighted Average Rate of Depreciation (in %) | | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |



Annexure-III

| Asset -5 | Particulars | Admitted Capital Cost as on COD (₹ in lakh) | ACE 2014-19 (₹ in lakh) | | | | | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciat ion (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|-------------|--------------|--|-------------------------------|--------------|--------------|--------------|---------------|---|---------------------------------------|---|--------------|--------------|--------------|--------------|
| | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 |
| | PLCC | 711.63 | 0.00 | 36.71 | 67.68 | 29.13 | 231.37 | 1076.52 | 6.33 | 0.00 | 46.20 | 49.51 | 52.58 | 60.82 |
| | TOTAL | 711.63 | 0.00 | 36.71 | 67.68 | 29.13 | 231.37 | 1076.52 | | 0.00 | 46.20 | 49.51 | 52.58 | 60.82 |
| | | | | | | | | Average Gross Block (₹ in lakh) | | 0.00 | 729.98 | 782.18 | 830.58 | 960.83 |
| | | | | | | | | Weighted Average Rate of Depreciation (in %) | | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |



Annexure-IV

| Asset -6 | Particulars | Admitted Capital Cost as on COD (₹ in lakh) | ACE 2014-19 (₹ in lakh) | | | | | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciat ion (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|-------------|--------------|--|-------------------------------|-------------|--------------|--------------|--------------|---|---------------------------------------|---|--------------|--------------|--------------|--------------|
| | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 |
| | PLCC | 839.52 | 0.00 | 0.00 | -2.30 | 10.01 | 37.26 | 847.23 | 6.33 | 0.00 | 53.14 | 53.07 | 53.31 | 54.81 |
| | TOTAL | 839.52 | 0.00 | 0.00 | -2.30 | 10.01 | 37.26 | 847.23 | | 0.00 | 53.14 | 53.07 | 53.31 | 54.81 |
| | | | | | | | | Average Gross Block (₹ in lakh) | | 0.00 | 839.52 | 838.37 | 842.22 | 865.86 |
| | | | | | | | | Weighted Average Rate of Depreciation (in %) | | - | 6.33 | 6.33 | 6.33 | 6.33 |



Annexure-V

| Asset -7 | Particulars | Admitted Capital Cost as on COD (₹ in lakh) | ACE 2014-19 (₹ in lakh) | | | | | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciat ion (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|-------------|--------------|--|-------------------------------|-------------|-------------|----------------|---------------|---|---------------------------------------|---|-------------|--------------|--------------|--------------|
| | | | 2014- 15 | 2015- 16 | 201 6-17 | 2017-18 | 2018- 19 | | | 2014- 15 | 2015- 16 | 2016- 17 | 2017- 18 | 2018- 19 |
| | PLCC | 1382.95 | 0.00 | 0.00 | 0.00 | -232.13 | 165.85 | 1316.67 | 6.33 | - | - | 87.54 | 80.19 | 78.10 |
| | TOTAL | 1382.95 | 0.00 | 0.00 | 0.00 | -232.13 | 165.85 | 1316.67 | | - | - | 87.54 | 80.19 | 78.10 |
| | | | | | | | | Average Gross Block (₹ in lakh) | | - | - | 1382.9 5 | 1266.8 9 | 1233.7 5 |
| | | | | | | | | Weighted Average Rate of Depreciation (in %) | | - | - | 6.33 | 6.33 | 6.33 |



Annexure-VI

| Combined Asset- 3,4,5,6,7 | Particulars | Admitted Capital Cost as on 1.4.2019 (₹ in lakh) | ACE 2019-24 (₹ in lakh) | Admitted Capital Cost as on 31.3.2024 (₹ in lakh) | Rate of Depreciation (in %) | Annual Depreciation as per Regulations (₹ in lakh) | | | | |
|------------------------------|--------------|--|-------------------------|---|-----------------------------|--|---------------|---------------|---------------|---------------|
| | | | | | | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| | PLCC | 4961.84 | 25.00 | 4986.84 | 6.33 | 314.88 | 315.67 | 315.67 | 315.67 | 315.67 |
| | TOTAL | 4961.84 | 25.00 | 4986.84 | | 314.88 | 315.67 | 315.67 | 315.67 | 315.67 |
| | | | | Average Gross Block (₹ in lakh) | | 4974.34 | 4986.84 | 4986.84 | 4986.84 | 4986.84 |
| | | | | Weighted Average Rate of Depreciation (in %) | | 6.33 | 6.33 | 6.33 | 6.33 | 6.33 |



Annexure-VII

Asset-1

(₹ in lakh)

| Loan | 2019-24 | | | | | | |
|-------------------|---------------|-------------|---------------|---------------|------------------|--------------|-----------------------------------|
| | Opening | Repayment | Closing | Average | Rate of interest | Interest | Weighted Average Rate of Interest |
| Bond LI | 14.71 | 0.00 | 14.71 | 14.71 | 8.4000% | 1.24 | |
| Bond LVII | 28.48 | 0.00 | 28.48 | 28.48 | 7.2000% | 2.05 | |
| Bond XL | 9.50 | 0.00 | 9.50 | 9.50 | 9.3000% | 0.88 | |
| Bond XLII | 13.42 | 0.00 | 13.42 | 13.42 | 8.8000% | 1.18 | |
| Bond XLIII | 8.33 | 0.00 | 8.33 | 8.33 | 7.9300% | 0.66 | |
| Bond XLVI | 87.62 | 0.00 | 87.62 | 87.62 | 9.3000% | 8.15 | |
| Bond XXXVIII | 10.06 | 0.00 | 10.06 | 10.06 | 9.2500% | 0.93 | |
| SBI 03 | 7.99 | 0.00 | 7.99 | 7.99 | 8.0695% | 0.64 | |
| Total Loan | 180.11 | 0.00 | 180.11 | 180.11 | | 15.74 | 8.7364% |

Asset-2

(₹ in lakh)

| Loan | 2019-24 | | | | | | |
|-------------------|---------------|-------------|---------------|---------------|------------------|--------------|-----------------------------------|
| | Opening | Repayment | Closing | Average | Rate of interest | Interest | Weighted Average Rate of Interest |
| Bond LI | 13.12 | 0.00 | 13.12 | 13.12 | 8.4000% | 1.10 | |
| Bond LVII | 38.64 | 0.00 | 38.64 | 38.64 | 7.2000% | 2.78 | |
| Bond XL | 13.90 | 0.00 | 13.90 | 13.90 | 9.3000% | 1.29 | |
| Bond XLII | 19.67 | 0.00 | 19.67 | 19.67 | 8.8000% | 1.73 | |
| Bond XLIII | 1.08 | 0.00 | 1.08 | 1.08 | 7.9300% | 0.09 | |
| Bond XLVI | 81.60 | 0.00 | 81.60 | 81.60 | 9.3000% | 7.59 | |
| Bond XXXVIII | 18.78 | 0.00 | 18.78 | 18.78 | 9.2500% | 1.74 | |
| SBI 10000 | 21.56 | 0.00 | 21.56 | 21.56 | 8.0621% | 1.74 | |
| Total Loan | 208.35 | 0.00 | 208.35 | 208.35 | | 18.06 | 8.6670% |

