

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 314/TT/2020**

**Coram:**

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

**Date of order: 14.03.2022**

**In the Matter of:**

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of 2004-09 and 2009-14 tariff periods, truing up of transmission tariff of 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of **Asset-I:** 400 kV D/C Rihand-Allahabad, Allahabad-Mainpuri and Mainpuri-Ballabgarh transmission line with associated bays, **Asset-II:** ICT-I at Patiala Sub-station, LILO of one circuit of Nalagarh-Hissar transmission line at Kaithal, 400 kV S/C Patiala-Malerkotla transmission and ICT- III at Abdullapur Sub-station with associated bays, **Asset-III:** ICT-I and II at Kaithal and 4 number of 220 kV line bays at Kaithal Sub-station, **Asset-IV:** ICT-II at Patiala Sub-station and LILO of one circuit (400 kV) of Nalagarh-Hissar transmission line at Patiala Sub-station with associated bays, **Asset-V:** 315 MVA, 400/220 kV ICT-I and ICT-II along with associated bays and 4 number 220 kV line bays at Mainpuri Sub-station, **Asset-VI:** 400 kV S/C Dadri-Panipat transmission line with associated bays and **Asset-VII:** 2 number of 220 kV bays at Abdullapur Sub-station under "Transmission System associated with Rihand Stage-II" in Northern Region.

**And in the Matter of:**

Power Grid Corporation of India Limited,  
"Saudamini", Plot No-2,  
Sector-29, Gurgaon –122 001, (Haryana).

**.....Petitioner**

**Versus**

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited,  
Vidyut Bhawan, Vidyut Marg, Jaipur – 302 005.
2. Ajmer Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,



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Caligiri Road, Malviya Nagar, Jaipur – 302 017 (Rajasthan).

3. Jaipur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,  
Caligiri Road, Malviya Nagar, Jaipur – 302 017 (Rajasthan).
4. Jodhpur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL, Sub-station Building,  
Caligiri Road, Malviya Nagar, Jaipur – 302 017 (Rajasthan).
5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla – 171 004.
6. Punjab State Electricity Board,  
The Mall, Patiala – 147 001.
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula – 134 109.
8. Power Development Department,  
Government of Jammu & Kashmir,  
Mini Secretariat, Jammu.
9. Uttar Pradesh Power Corporation Limited,  
(Formerly Uttar Pradesh State Electricity Board),  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow – 226 001.
10. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi – 110 002.
11. BSES Yamuna Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi.
12. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi.
13. Tata Power Delhi Distribution Limited,  
33 kV Sub-station, Building, Hudson Lane,



Kingsway Camp, North Delhi – 110 009.  
14. Chandigarh Administration,  
Sector-9, Chandigarh.

15. Uttarakhand Power Corporation Limited,  
Urja Bhawan, Kanwali Road,  
Dehradun.

16. North Central Railway,  
Allahabad.

17. New Delhi Municipal Council,  
Palika Kendra, Sansad Marg,  
New Delhi – 110 002.

**...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** : None

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for revision of transmission tariff of 2004-09 and 2009-14 tariff periods; truing up of transmission tariff for the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”); and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets under “Transmission System associated with Rihand Stage-II” in Northern Region (hereinafter referred to as “the transmission system”):



**Asset-I:** 400 kV D/C Rihand-Allahabad, Allahabad-Mainpuri and Mainpuri-Ballabgarh transmission line with associated bays;

**Asset-II:** ICT-I at Patiala Sub-station, LILO of one circuit of Nalagarh-Hissar transmission line at Kaithal, 400 kV S/C Patiala-Malerkotla transmission and ICT- III at Abdullapur Sub-station with associated bays;

**Asset-III:** ICT-I and II at Kaithal and 4 number 220 kV line bays at Kaithal Sub-station;

**Asset-IV:** ICT-II at Patiala Sub-station and LILO of one circuit (400 kV) of Nalagarh-Hissar transmission line at Patiala Sub-station with associated bays;

**Asset-V:** 315 MVA, 400/220 kV ICT-I and ICT-II along with associated bays and 4 number 220 kV line bays at Mainpuri Sub-station;

**Asset-VI:** 400 kV S/C Dadri-Panipat transmission line with associated bays; and

**Asset-VII:** 2 number of 220 kV bays at Abdullapur Sub-station.

*The aforesaid assets have hereinafter been referred to as “the transmission assets” with reference to 2004-09 tariff period. The transmission assets were combined during 2009-14 period and combined tariff was claimed with respect to them for 2009-14 tariff period onwards. Accordingly, the transmission assets have been termed as “Combined Asset” for 2009-14 tariff period onwards.*

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

*“1) Approve the revised Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.*

*2) 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 and 10 above.*

*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 9.0 and 10 above for respective block.*



*Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term customers / DIC as the case may be, as and when the same is materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allow to recover the deferred tax liability materialised directly without making any application before the commission as provided in the regulation.*

*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 recover FERV on the foreign loans deployed as provided under clause 68 of the Tariff Regulations, 2019.*

*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 10.5 above.*

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

*10) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is withdrawn from negative list at any time 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.*

*11) Allow the petitioner to bill and recover Rs. 60,55,949.00 /- per annum towards lease rent of Sonbhadra, Renukoot, and Obra forest divisions w.e.f. 01.04.2019 onwards, directly from the beneficiaries by producing the proof of payment, as and when the payments are made, in line with the CERC order 561/TT/2014 dated 29.01.2016 allowing the same for the tariff block 2014-19*

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

### **Backdrop of the case**

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

(a) The Investment Approval (I.A.) for the transmission system was accorded by the Central Government in Ministry of Power vide letter dated



9.12.2002 at an estimated cost of ₹104444 lakh (2<sup>nd</sup> Quarter, 2002 price level), including IDC of ₹15749 lakh.

(b) The dates of commercial operation (COD) of the transmission assets are as follows:

| Asset No. | Asset Name  | COD       |
|-----------|---|-----------|
| Asset-I   | 400 kV D/C Rihand-Allahabad, Allahabad-Mainpuri and Mainpuri-Ballabgarh transmission line with associated bays  | 1.6.2005  |
| Asset-II  | ICT-I at Patiala Sub-station, LILO of one circuit of Nalagarh-Hissar transmission line at Kaithal, 400 kV S/C Patiala-Malerkotla transmission and ICT- III at Abdullapur Sub-station with associated bays | 1.10.2005 |
| Asset-III | ICT-I and II at Kaithal and 4 number 220 kV line bays at Kaithal Sub-station  | 1.11.2005 |
| Asset-IV  | ICT-II at Patiala Sub station and LILO of one circuit (400 kV) of Nalagarh-Hissar transmission line at Patiala Sub-station with associated bays   | 1.12.2005 |
| Asset-V   | 315 MVA, 400/220 kV ICT-I and ICT-II along with associated bays and 4 number 220 kV line bays at Mainpuri Sub-station   | 1.1.2006  |
| Asset-VI  | 400 kV S/C Dadri-Panipat transmission line with associated bays   | 1.4.2006  |
| Asset-VII | 2 number of 220 kV bays at Abdullapur Sub-station   | 1.11.2006 |

(c) The entire scope of work as per I.A. is covered in the instant petition.

(d) The transmission tariff for the period from COD to 31.3.2009 with respect to Asset-I, Asset-II, Asset-IV and Asset-VI was approved vide order dated 27.9.2007 in Petition No. 2/2007. Transmission tariff for the period from COD to 31.3.2009 with respect to Asset-III, Asset-V and Asset-VII was approved vide order dated 3.2.2009 in Petition No. 68/2008. Transmission tariff with respect to the transmission assets was revised on account of Additional Capital Expenditure (ACE) for the period from 1.4.2006 to 31.3.2009 vide order dated 7.9.2009 in Petition No.70/2009. Further, transmission tariff for the transmission assets was again revised on account of ACE for the period from 1.4.2008 to 31.3.2009 vide order dated 15.2.2010 in Petition No. 236/2009.

(e) Annual transmission charges in respect of the Combined Asset for 2009-14 tariff period were determined vide order dated 30.5.2011 in Petition



No. 319/2010. Further, transmission tariff for 2009-14 period was trued up and tariff for the period from 1.4.2014 to 31.3.2019 in respect of the Combined Asset was determined vide order dated 29.1.2016 in Petition No. 561/TT/2014.

(f) The Petitioner has sought revision of transmission tariff allowed for the period from COD to 31.3.2009 on account of change in Interest on Loan (IoL) and Interest on Working Capital (IWC) to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the Appellate Tribunal for Electricity (“APTEL”) dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No. 139 of 2006 and batch cases. The Petitioner has also sought consequential revision of transmission tariff allowed for 2009-14 tariff period, truing up of tariff of 2014-19 tariff period and determination of transmission tariff for 2019-24 tariff period in respect of the Combined Asset.

(g) APTEL in its judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters pertaining to generating stations of NTPC had considered 4 (four) issues. The issues considered by APTEL and its decisions are as follows:

| Sl. No. | Issue  | APTEL’s decisions/ directions  |
|---------|--|--|
| 1       | Whether APTEL can enquire into the validity of Regulations framed by the Commission.                               | Challenge to the validity of Regulations framed by the Commission falls outside the purview of APTEL.  |
| 2       | Computation of interest on loan.   | In view of the order of APTEL dated 14.11.2016 in Appeal No. 94 of 2005 and Appeal No. 96 of 2005 and order dated 24.1.2007 passed in Appeal Nos. 81 to 87, 89 to 93 of 2005, computation of loan has to be based on loan repayment on normative basis. The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis. |
| 3(a)    | O&M Expenses: Inadequate provision of employee costs as part of O&M Expenses due to variation in salary and wages. | The Commission’s view upheld.  |
| 3(b)    | O&M Expenses: Non-inclusion of incentives and ex-gratia payment to employees.                                      | The Commission’s view upheld.  |



|   |  |                              |
|---|--|------------------------------|
| 4 | Cost of spares for calculation of working capital. | The Commission's view upheld |
|---|--|------------------------------|

(h) APTEL in its judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters pertaining to generating stations of NTPC had considered 9 (nine) issues. The issues considered and the decisions of APTEL are as follows:

| Sl. No. | Issue  | APTEL's decisions/ directions  |
|---------|--|--|
| I       | Computation of outstanding loan at the beginning of the tariff period i.e. 1.4.2004. | The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis.   |
| II      | Consequence of refinance of loan.  | The Commission to consider the issue afresh.   |
| III     | Treating depreciation available as deemed repayment of loan.                         | The Commission to make a fresh computation of outstanding loan.  |
| IV      | Admissibility of depreciation up to 90%.   | The Commission to consider the issue afresh.   |
| V       | Cost of Maintenance Spares.  | The Commission to consider the issue afresh.   |
| VI      | Impact of de-capitalisation of the assets on cumulative repayment of Loan.           | The cumulative repayment of the loan proportionate to the assets decapitalized required to be reduced. The Commission to act accordingly.  |
| VII     | Non-consideration of normative transit loss for coal import.                         | The Commission to consider afresh the transit losses for coal imported from coal mines other than the dedicated ones.  |
| VIII    | Foreign Exchange Rate Variation (FERV).  | FERV has been kept as pass through to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates is passed on to the beneficiary as held in order dated 4.10.2006 in Appeal Nos.135 to 140 of 2005. Commission to act accordingly. |
| IX      | Computation of interest on loan in Singrauli Station.                                | Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. The Commission shall re-compute the interest accordingly.  |

(i) The Commission and certain interested parties preferred Civil Appeals against the APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC that the issues under Appeal would not be pressed for implementation during the pendency of the Appeals, the stay was vacated by the Hon'ble Supreme Court.





(j) Based on the APTEL's judgments dated 22.1.2007 in Appeal No. 81 of 2005 and dated 13.6.2007 in Appeal No. 139 of 2007 and the Commission's order dated 18.1.2019 in Petition No. 121/2007 the Petitioner had sought revision of tariff of its transmission assets for 2004-09 tariff period vide Petition No. 121/2007. The Commission after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court adjourned the said petition *sine die* and directed that the same be revived after the disposal of Civil Appeals by the Hon'ble Supreme Court.

(k) The Hon'ble Supreme Court vide its order dated 10.4.2018, dismissed the said Civil Appeals filed against APTEL's said judgments. Thus, the judgments of APTEL have attained finality.

(l) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018 in NTPC matters, Petition No. 121/2007 was listed for hearing on 8.1.2019 before the Commission. The Commission vide order dated 18.1.2019 in Petition No. 121/2007, directed the Petitioner to submit its claim separately for the assets at the time of filing of truing up petition for 2014-19 tariff period in respect of the concerned transmission assets.

(m) The instant petition was heard on 9.7.2021 and in view of APTEL's judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters, dated 13.6.2007 in Appeal No. 139 of 2006 and batch cases and order of Hon'ble Supreme Court dated 10.4.2018, tariff is being revised. Period-wise transmission tariff is being re-worked based on the Tariff Regulations applicable for the respective tariff periods and suitable assumptions have been made at certain places and applied, which are indicated.

4. The Respondents are transmission utilities, distribution licensees and power departments who are procuring transmission services from the Petitioner, mainly beneficiaries of the Northern 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 comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. None of the Respondents have filed their reply in the matter.

**Re: Interest on Loan (“IoL”)**

6. APTEL while dealing with the issue of computation of IoL, in judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters observed that IoL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per its judgment dated 14.11.2006 in Appeal No. 94 of 2005 and Appeal No. 96 of 2005. APTEL vide its judgment dated 14.11.2006 in Appeal No. 94 of 2005 and Appeal No. 96 of 2005 set aside the Commission’s methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out IoL liability for the period 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for 2004-09 tariff period is to be revised on the basis of the normative debt repayment methodology.

**Re: Additional Capital Expenditure (“ACE”)**

7. APTEL vide judgment dated 13.6.2007 in Appeal No. 139/2006 and batch matters held that ACE after COD should also be considered for computation of maintenance spares. In view of the above judgment of APTEL, maintenance spares to be considered for computation of working capital for 2004-09 tariff period is also required to be revised taking into consideration ACE after COD.

**Re: Depreciation**



8. As regards depreciation, APTEL in its judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters observed that depreciation is an expense and it cannot be deployed for deemed repayment of loan and accordingly directed the Commission to compute the outstanding loan afresh. In view of the above directions of APTEL, the outstanding loan allowed in respect of the transmission assets for 2004-09 tariff period is revised in the instant order.

9. The revision of tariff allowed for 2004-09 tariff period necessitates the revision of transmission tariff allowed for 2009-14 tariff period, which is also being done in the present order. The implementation of the directions APTEL vide judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No. 139 of 2006 and batch cases was kept pending in case of the Petitioner awaiting the outcome of the Civil Appeals filed before the Hon'ble Supreme Court. Taking into consideration the facts of the case and keeping in view the interest of the consumers, we are of the view that the beneficiaries should not be burdened with the carrying cost for the difference in the tariff allowed earlier and allowed in the instant order for 2004-09 and 2009-14 tariff periods. Therefore, we direct that the Petitioner will neither claim nor pay any carrying cost from or to the beneficiaries for the difference, if any, in the tariff allowed earlier and the tariff being allowed in the instant order. Further, the said difference in tariff shall be recovered/ paid over a period of six months from the date of issue of this order.

10. The hearing in this matter was held on 9.7.2021 through video conference and order was reserved.



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

12. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 7.11.2019.

**REVISION OF TRANSMISSION CHARGES ALLOWED FOR 2004-09 AND 2009-14 TARIFF PERIODS**

**2004-09 Tariff Period:**

13. The Commission approved transmission charges of Asset-I, Asset-II, Asset-IV and Asset-VI from COD to 31.3.2009 vide order dated 27.9.2007 in Petition No. 2/2007 and for Asset-III, Asset-V and Asset-VII vide order dated 3.2.2009 in Petition No. 68/2008. Further, the Commission revised the transmission charges of the transmission assets for the period from 1.4.2006 to 31.3.2009 on account of ACE vide order dated 7.9.2009 in Petition No 70/2009. The Commission revised the transmission charges of the transmission assets again for the period from 1.4.2008 to 31.3.2009 on account of ACE vide order dated 15.2.2010 in Petition No. 236/2009. The transmission charges approved in respect of the transmission assets for 2004-09 tariff period vide order dated 27.9.2007 in Petition No. 2/2007, order dated 3.2.2009 in Petition No. 68/2008, order dated 7.9.2009 in Petition No. 70/2009 and order dated 15.2.2010 in Petition No. 236/2009 are as follows:

(₹ in lakh)

| Particulars                  | Asset – I                              |         |         |         |
|------------------------------|--|---------|---------|---------|
|                              | 2005-06<br>(Pro-rata for<br>10 months) | 2006-07 | 2007-08 | 2008-09 |
| Depreciation                 | 1309.53                                | 1596.47 | 1604.72 | 1609.09 |
| Return on Equity             | 2026.28                                | 2497.44 | 2510.02 | 2515.95 |
| O&M Expenses                 | 589.34                                 | 736.48  | 764.40  | 796.43  |
| Advance against Depreciation | 0.00                                   | 0.00    | 140.08  | 1875.89 |
| Interest on Loan             | 2420.47                                | 2889.89 | 2787.62 | 2609.49 |



|                             |                |                |                |                |
|-----------------------------|----------------|----------------|----------------|----------------|
| Interest on Working Capital | 166.64         | 205.13         | 210.74         | 242.94         |
| <b>Total</b>                | <b>6512.26</b> | <b>7925.41</b> | <b>8017.58</b> | <b>9649.78</b> |

(₹ in lakh)

| Particulars                  | Asset – II                            |                |                |                |
|------------------------------|---------------------------------------|----------------|----------------|----------------|
|                              | 2005-06<br>(Pro-rata for<br>6 months) | 2006-07        | 2007-08        | 2008-09        |
| Depreciation                 | 152.32                                | 321.64         | 324.29         | 324.29         |
| Return on Equity             | 211.75                                | 470.45         | 474.52         | 474.52         |
| O&M Expenses                 | 161.14                                | 335.25         | 348.48         | 362.57         |
| Advance against Depreciation | 0.00                                  | 0.00           | 0.00           | 103.41         |
| Interest on Loan             | 247.16                                | 533.16         | 516.15         | 489.80         |
| Interest on Working Capital  | 20.00                                 | 42.43          | 43.24          | 45.62          |
| <b>Total</b>                 | <b>792.37</b>                         | <b>1702.93</b> | <b>1706.68</b> | <b>1800.21</b> |

(₹ in lakh)

| Particulars                  | Asset – III                           |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for 5<br>months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 45.79                                 | 125.72        | 132.75        | 135.47        |
| Return on Equity             | 54.38                                 | 151.13        | 160.41        | 164.06        |
| O&M Expenses                 | 97.50                                 | 243.36        | 253.04        | 263.20        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 65.48                                 | 180.60        | 184.48        | 179.53        |
| Interest on Working Capital  | 6.65                                  | 17.31         | 18.10         | 18.58         |
| <b>Total</b>                 | <b>269.80</b>                         | <b>718.13</b> | <b>748.78</b> | <b>760.83</b> |

(₹ in lakh)

| Particulars                  | Asset – IV                            |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for 4<br>months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 34.07                                 | 120.10        | 128.91        | 131.16        |
| Return on Equity             | 37.01                                 | 147.84        | 159.12        | 162.32        |
| O&M Expenses                 | 60.30                                 | 188.15        | 195.61        | 203.48        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 53.25                                 | 196.24        | 203.25        | 197.96        |
| Interest on Working Capital  | 4.74                                  | 16.07         | 16.92         | 17.32         |
| <b>Total</b>                 | <b>189.37</b>                         | <b>668.39</b> | <b>703.81</b> | <b>712.25</b> |

(₹ in lakh)

| Particulars                  | Asset – V                             |         |         |         |
|------------------------------|---------------------------------------|---------|---------|---------|
|                              | 2005-06<br>(Pro-rata for 3<br>months) | 2006-07 | 2007-08 | 2008-09 |
| Depreciation                 | 29.06                                 | 124.91  | 129.28  | 132.77  |
| Return on Equity             | 36.71                                 | 156.99  | 163.43  | 168.81  |
| O&M Expenses                 | 58.50                                 | 243.36  | 253.04  | 263.20  |
| Advance against Depreciation | 0.00                                  | 0.00    | 0.00    | 0.00    |



|                             |               |               |               |               |
|-----------------------------|---------------|---------------|---------------|---------------|
| Interest on Loan            | 42.70         | 179.77        | 179.15        | 176.48        |
| Interest on Working Capital | 4.26          | 17.81         | 18.45         | 19.04         |
| <b>Total</b>                | <b>171.23</b> | <b>722.83</b> | <b>743.34</b> | <b>760.29</b> |

(₹ in lakh)

| Particulars                  | Asset – VI    |               |               |
|------------------------------|---------------|---------------|---------------|
|                              | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 154.04        | 158.51        | 159.09        |
| Return on Equity             | 219.63        | 226.20        | 226.93        |
| O&M Expenses                 | 89.54         | 93.01         | 96.83         |
| Advance against Depreciation | 0.00          | 0.00          | 91.94         |
| Interest on Loan             | 292.66        | 290.67        | 277.30        |
| Interest on Working Capital  | 19.65         | 20.24         | 22.10         |
| <b>Total</b>                 | <b>775.52</b> | <b>788.63</b> | <b>874.18</b> |

(₹ in lakh)

| Particulars                  | Asset – VII                           |               |               |
|------------------------------|---------------------------------------|---------------|---------------|
|                              | 2006-07<br>(Pro-rata for<br>5 months) | 2007-08       | 2008-09       |
| Depreciation                 | 5.77                                  | 14.98         | 15.52         |
| Return on Equity             | 8.06                                  | 20.65         | 21.29         |
| O&M Expenses                 | 25.35                                 | 63.26         | 65.80         |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          |
| Interest on Loan             | 7.99                                  | 20.23         | 19.84         |
| Interest on Working Capital  | 1.19                                  | 3.00          | 3.10          |
| <b>Total</b>                 | <b>48.36</b>                          | <b>122.12</b> | <b>125.56</b> |

14. The Petitioner has claimed the following revised transmission charges in respect of the transmission assets for 2004-09 period in the instant petition:

(₹ in lakh)

| Particulars                  | Asset – I                              |                |                |                |
|------------------------------|--|----------------|----------------|----------------|
|                              | 2005-06<br>(Pro-rata for<br>10 months) | 2006-07        | 2007-08        | 2008-09        |
| Depreciation                 | 1309.53                                | 1596.47        | 1604.72        | 1609.09        |
| Return on Equity             | 2049.46                                | 2497.44        | 2510.02        | 2515.95        |
| O&M Expenses                 | 589.34                                 | 736.48         | 764.40         | 796.43         |
| Advance against Depreciation | 0.00                                   | 0.00           | 0.00           | 0.00           |
| Interest on Loan             | 2487.49                                | 3026.19        | 2963.60        | 2773.64        |
| Interest on Working Capital  | 168.78                                 | 209.83         | 214.17         | 216.31         |
| <b>Total</b>                 | <b>6604.60</b>                         | <b>8066.41</b> | <b>8056.91</b> | <b>7911.41</b> |

(₹ in lakh)

| Particulars  | Asset – II                            |         |         |         |
|--------------|---------------------------------------|---------|---------|---------|
|              | 2005-06<br>(Pro-rata for<br>6 months) | 2006-07 | 2007-08 | 2008-09 |
| Depreciation | 152.32                                | 321.64  | 324.29  | 324.29  |



|                              |               |                |                |                |
|------------------------------|---------------|----------------|----------------|----------------|
| Return on Equity             | 222.47        | 470.45         | 474.52         | 474.52         |
| O&M Expenses                 | 161.14        | 335.25         | 348.48         | 362.57         |
| Advance against Depreciation | 0.00          | 0.00           | 0.00           | 0.00           |
| Interest on Loan             | 259.81        | 554.58         | 552.84         | 528.72         |
| Interest on Working Capital  | 20.67         | 44.35          | 45.62          | 46.35          |
| <b>Total</b>                 | <b>816.41</b> | <b>1726.26</b> | <b>1745.75</b> | <b>1736.45</b> |

(₹ in lakh)

| Particulars                  | Asset – III                           |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for<br>5 months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 45.79                                 | 125.72        | 132.75        | 135.47        |
| Return on Equity             | 54.38                                 | 151.13        | 160.41        | 164.06        |
| O&M Expenses                 | 97.50                                 | 243.36        | 253.04        | 263.20        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 66.20                                 | 188.49        | 199.48        | 196.71        |
| Interest on Working Capital  | 6.80                                  | 18.44         | 19.65         | 20.34         |
| <b>Total</b>                 | <b>270.67</b>                         | <b>727.14</b> | <b>765.33</b> | <b>779.78</b> |

(₹ in lakh)

| Particulars                  | Asset – IV                            |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for<br>4 months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 34.07                                 | 120.10        | 128.91        | 131.16        |
| Return on Equity             | 41.73                                 | 147.84        | 159.12        | 162.32        |
| O&M Expenses                 | 60.30                                 | 188.15        | 195.61        | 203.48        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 56.83                                 | 203.10        | 217.40        | 215.42        |
| Interest on Working Capital  | 5.01                                  | 17.26         | 18.60         | 19.23         |
| <b>Total</b>                 | <b>197.93</b>                         | <b>676.46</b> | <b>719.65</b> | <b>731.61</b> |

(₹ in lakh)

| Particulars                  | Asset – V                             |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for<br>3 months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 29.06                                 | 124.91        | 129.28        | 132.77        |
| Return on Equity             | 36.71                                 | 156.99        | 163.43        | 168.81        |
| O&M Expenses                 | 58.50                                 | 243.36        | 253.04        | 263.20        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 42.96                                 | 186.28        | 192.72        | 192.66        |
| Interest on Working Capital  | 4.31                                  | 18.55         | 19.51         | 20.33         |
| <b>Total</b>                 | <b>171.54</b>                         | <b>730.09</b> | <b>757.98</b> | <b>777.77</b> |

(₹ in lakh)

| Particulars      | Asset – VI |         |         |
|------------------|------------|---------|---------|
|                  | 2006-07    | 2007-08 | 2008-09 |
| Depreciation     | 154.04     | 158.51  | 159.09  |
| Return on Equity | 219.63     | 226.20  | 226.93  |



|                              |               |               |               |
|------------------------------|---------------|---------------|---------------|
| O&M Expenses                 | 89.54         | 93.01         | 96.83         |
| Advance against Depreciation | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 297.96        | 302.74        | 290.39        |
| Interest on Working Capital  | 19.90         | 20.79         | 21.10         |
| <b>Total</b>                 | <b>781.07</b> | <b>801.26</b> | <b>794.34</b> |

(₹ in lakh)

| Particulars                     | Asset – VII                           |               |               |
|---------------------------------|---------------------------------------|---------------|---------------|
|                                 | 2006-07<br>(Pro-rata for<br>5 months) | 2007-08       | 2008-09       |
| Depreciation                    | 5.77                                  | 14.98         | 15.52         |
| Return on Equity                | 8.06                                  | 20.65         | 21.29         |
| O&M Expenses                    | 25.35                                 | 63.26         | 65.80         |
| Advance against<br>Depreciation | 0.00                                  | 0.00          | 0.00          |
| Interest on Loan                | 8.09                                  | 21.32         | 22.19         |
| Interest on Working Capital     | 1.20                                  | 3.09          | 3.23          |
| <b>Total</b>                    | <b>48.48</b>                          | <b>123.30</b> | <b>128.03</b> |

15. We have considered the Petitioner's claim. The tariff is allowed in respect of the transmission assets on the basis of following:

- a) Admitted capital cost as on COD including ACE approved for all the transmission assets.
- b) Weighted Average Rate of Interest (WAROI) on actual loan adopted from order dated 27.9.2007 in Petition No. 2/2007, order dated 3.2.2009 in Petition No. 68/2008, order dated 7.9.2009 in Petition No. 70/2009 and order dated 15.2.2010 in Petition No. 236/2009; and
- c) Weighted Average Rate of Depreciation (WAROD), Rate of Interest for Working Capital and O&M Expenses as per orders order dated 27.9.2007 in Petition No. 2/2007, dated 3.2.2009 in Petition No. 68/2008, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009.

16. In view of the above, the revised transmission charges allowed in respect of the transmission assets for 2004-09 tariff period are as follows:





(₹ in lakh)

| Particulars                  | Asset – I                              |                |                |                |
|------------------------------|--|----------------|----------------|----------------|
|                              | 2005-06<br>(Pro-rata for<br>10 months) | 2006-07        | 2007-08        | 2008-09        |
| Depreciation                 | 1309.53                                | 1596.47        | 1604.72        | 1609.09        |
| Return on Equity             | 2049.46                                | 2497.44        | 2510.02        | 2515.95        |
| O&M Expenses                 | 589.34                                 | 736.48         | 764.40         | 796.43         |
| Advance against Depreciation | 0.00                                   | 0.00           | 0.00           | 0.00           |
| Interest on Loan             | 2487.49                                | 3026.19        | 2963.60        | 2772.86        |
| Interest on Working Capital  | 168.78                                 | 209.21         | 213.52         | 215.60         |
| <b>Total</b>                 | <b>6604.59</b>                         | <b>8065.81</b> | <b>8056.26</b> | <b>7909.93</b> |

(₹ in lakh)

| Particulars                  | Asset – II                            |                |                |                |
|------------------------------|---------------------------------------|----------------|----------------|----------------|
|                              | 2005-06<br>(Pro-rata for 6<br>months) | 2006-07        | 2007-08        | 2008-09        |
| Depreciation                 | 152.32                                | 321.64         | 324.29         | 324.29         |
| Return on Equity             | 222.47                                | 470.45         | 474.52         | 474.52         |
| O&M Expenses                 | 161.14                                | 335.25         | 348.48         | 362.57         |
| Advance against Depreciation | 0.00                                  | 0.00           | 0.00           | 0.00           |
| Interest on Loan             | 257.09                                | 543.58         | 541.98         | 518.33         |
| Interest on Working Capital  | 20.62                                 | 43.84          | 45.10          | 45.82          |
| <b>Total</b>                 | <b>813.63</b>                         | <b>1714.77</b> | <b>1734.36</b> | <b>1725.53</b> |

(₹ in lakh)

| Particulars                  | Asset – III                           |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for 5<br>months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 45.79                                 | 125.72        | 132.75        | 135.47        |
| Return on Equity             | 54.38                                 | 151.13        | 160.41        | 164.06        |
| O&M Expenses                 | 97.50                                 | 243.36        | 253.04        | 263.20        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 65.52                                 | 185.06        | 196.09        | 193.49        |
| Interest on Working Capital  | 6.79                                  | 18.28         | 19.43         | 20.02         |
| <b>Total</b>                 | <b>269.98</b>                         | <b>723.55</b> | <b>761.71</b> | <b>776.23</b> |

(₹ in lakh)

| Particulars                  | Asset – IV                            |               |               |               |
|------------------------------|---------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for 4<br>months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 34.07                                 | 120.10        | 128.91        | 131.16        |
| Return on Equity             | 41.73                                 | 147.84        | 159.12        | 162.32        |
| O&M Expenses                 | 60.30                                 | 188.15        | 195.61        | 203.48        |
| Advance against Depreciation | 0.00                                  | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 56.42                                 | 200.47        | 214.88        | 213.04        |
| Interest on Working Capital  | 5.00                                  | 17.10         | 18.43         | 19.05         |
| <b>Total</b>                 | <b>197.51</b>                         | <b>673.65</b> | <b>716.95</b> | <b>729.06</b> |



(₹ in lakh)

| Particulars                  | Asset – V                          |               |               |               |
|------------------------------|------------------------------------|---------------|---------------|---------------|
|                              | 2005-06<br>(Pro-rata for 3 months) | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 29.06                              | 124.91        | 129.28        | 132.77        |
| Return on Equity             | 36.71                              | 156.99        | 163.43        | 168.81        |
| O&M Expenses                 | 58.50                              | 243.36        | 253.04        | 263.20        |
| Advance against Depreciation | 0.00                               | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 42.70                              | 184.26        | 190.63        | 190.52        |
| Interest on Working Capital  | 4.31                               | 18.36         | 19.31         | 20.12         |
| <b>Total</b>                 | <b>171.28</b>                      | <b>727.87</b> | <b>755.68</b> | <b>775.41</b> |

(₹ in lakh)

| Particulars                  | Asset – VI    |               |               |
|------------------------------|---------------|---------------|---------------|
|                              | 2006-07       | 2007-08       | 2008-09       |
| Depreciation                 | 154.04        | 158.51        | 159.09        |
| Return on Equity             | 219.63        | 226.20        | 226.93        |
| O&M Expenses                 | 89.54         | 93.01         | 96.83         |
| Advance against Depreciation | 0.00          | 0.00          | 0.00          |
| Interest on Loan             | 297.96        | 302.74        | 290.39        |
| Interest on Working Capital  | 19.90         | 20.79         | 21.08         |
| <b>Total</b>                 | <b>781.07</b> | <b>801.25</b> | <b>794.32</b> |

(₹ in lakh)

| Particulars                  | Asset – VII                        |               |               |
|------------------------------|------------------------------------|---------------|---------------|
|                              | 2006-07<br>(Pro-rata for 5 months) | 2007-08       | 2008-09       |
| Depreciation                 | 5.77                               | 14.98         | 15.52         |
| Return on Equity             | 8.06                               | 20.65         | 21.29         |
| O&M Expenses                 | 25.35                              | 63.26         | 65.80         |
| Advance against Depreciation | 0.00                               | 0.00          | 0.00          |
| Interest on Loan             | 7.99                               | 20.23         | 19.85         |
| Interest on Working Capital  | 1.20                               | 3.06          | 3.18          |
| <b>Total</b>                 | <b>48.37</b>                       | <b>122.18</b> | <b>125.63</b> |

17. The Annual Fixed Charges (AFC) allowed for 2004-09 tariff period vide orders dated 27.9.2007 in Petition No. 2/2007, dated 3.2.2009 in Petition No. 68/2008, dated 7.9.2009 in Petition No. 70/2009, dated 15.2.2010 in Petition No. 236/2009, revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:



(₹ in lakh)

| Particulars   | Asset – I                              |         |         |         |
|---|--|---------|---------|---------|
|   | 2005-06<br>(Pro-rata for 10<br>months) | 2006-07 | 2007-08 | 2008-09 |
| AFC approved vide orders dated 27.9.2007 in Petition No. 2/2007, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009. | 6512.26                                | 7925.41 | 8017.58 | 9649.78 |
| AFC claimed by the Petitioner in the instant petition   | 6604.60                                | 8066.41 | 8056.91 | 7911.41 |
| AFC allowed in the instant order  | 6604.59                                | 8065.81 | 8056.26 | 7909.93 |

(₹ in lakh)

| Particulars   | Asset – II                            |         |         |         |
|---|---------------------------------------|---------|---------|---------|
|   | 2005-06<br>(Pro-rata for 6<br>months) | 2006-07 | 2007-08 | 2008-09 |
| AFC approved vide orders dated 27.9.2007 in Petition No. 2/2007, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009. | 792.37                                | 1702.93 | 1706.68 | 1800.21 |
| AFC claimed by the Petitioner in the instant petition   | 816.41                                | 1726.26 | 1745.75 | 1736.45 |
| AFC allowed in the instant order  | 813.63                                | 1714.77 | 1734.36 | 1725.53 |

(₹ in lakh)

| Particulars   | Asset – III                           |         |         |         |
|---|---------------------------------------|---------|---------|---------|
|   | 2005-06<br>(Pro-rata for 5<br>months) | 2006-07 | 2007-08 | 2008-09 |
| AFC approved vide orders dated 3.2.2009 in Petition No. 68/2008, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009. | 269.80                                | 718.13  | 748.78  | 760.83  |
| AFC claimed by the Petitioner in the instant petition   | 270.67                                | 727.14  | 765.33  | 779.78  |
| AFC allowed in the instant order  | 269.98                                | 723.55  | 761.71  | 776.23  |

(₹ in lakh)

| Particulars   | Asset – IV                            |         |         |         |
|---|---------------------------------------|---------|---------|---------|
|   | 2005-06<br>(Pro-rata for 4<br>months) | 2006-07 | 2007-08 | 2008-09 |
| AFC approved vide orders dated 27.9.2007 in Petition No. 2/2007, dated 7.9.2009 in Petition No.70/2009 and dated 15.2.2010 in | 189.37                                | 668.39  | 703.81  | 712.25  |



|   |        |        |        |        |
|---|--------|--------|--------|--------|
| Petition No. 236/2009.                                |        |        |        |        |
| AFC claimed by the Petitioner in the instant petition | 197.93 | 676.46 | 719.65 | 731.61 |
| AFC allowed in the instant order                      | 197.51 | 673.65 | 716.95 | 729.06 |

(₹ in lakh)

| Particulars  | Asset – V                          |         |         |         |
|--|------------------------------------|---------|---------|---------|
|  | 2005-06<br>(Pro-rata for 3 months) | 2006-07 | 2007-08 | 2008-09 |
| AFC approved vide order dated 3.2.2009 in Petition No. 68/2008, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009. | 171.23                             | 722.83  | 743.34  | 760.29  |
| AFC claimed by the Petitioner in the instant petition  | 171.54                             | 730.09  | 757.98  | 777.77  |
| AFC allowed in the instant order   | 171.28                             | 727.87  | 755.68  | 775.41  |

(₹ in lakh)

| Particulars  | Asset – VI |         |         |
|--|------------|---------|---------|
|  | 2006-07    | 2007-08 | 2008-09 |
| AFC approved vide order dated 27.9.2007 in Petition No. 2/2007, dated 7.9.2009 in Petition No.70/2009 and dated 15.2.2010 in Petition No. 236/2009 | 775.52     | 788.63  | 874.18  |
| AFC claimed by the Petitioner in the instant petition  | 781.07     | 801.26  | 794.34  |
| AFC allowed in the instant order   | 781.07     | 801.25  | 794.32  |

(₹ in lakh)

| Particulars  | Asset – VII                        |         |         |
|--|------------------------------------|---------|---------|
|  | 2006-07<br>(Pro-rata for 5 months) | 2007-08 | 2008-09 |
| AFC approved vide order dated 3.2.2009 in Petition No. 68/2008, dated 7.9.2009 in Petition No. 70/2009 and dated 15.2.2010 in Petition No. 236/2009. | 48.36                              | 122.12  | 125.56  |
| AFC claimed by the Petitioner in the instant petition.   | 48.48                              | 123.30  | 128.03  |
| AFC allowed in the instant order.  | 48.37                              | 122.18  | 125.63  |

### **2009-14 Tariff Period**

18. The Commission vide order dated 30.5.2011 in Petition No. 319/2010 approved the transmission tariff in respect of the Combined Asset for 2009-14 period and vide order dated 29.1.2016 in Petition No. 561/TT/2014 trued up the tariff allowed for 2009-14 period and the same is as follows:



(₹ in lakh)

| Particulars                 | 2009-10         | 2010-11         | 2011-12         | 2012-13         | 2013-14         |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                | 4741.93         | 4759.80         | 4764.75         | 4765.87         | 4766.73         |
| Return on Equity            | 5005.28         | 5209.24         | 5220.38         | 5221.78         | 5285.67         |
| O&M Expenses                | 2722.45         | 2878.33         | 3043.17         | 3217.06         | 3400.86         |
| Interest on Loan            | 3645.61         | 3325.72         | 2989.18         | 2647.65         | 2305.55         |
| Interest on Working Capital | 415.32          | 421.07          | 422.64          | 424.27          | 427.67          |
| <b>Total</b>                | <b>16530.60</b> | <b>16594.16</b> | <b>16440.12</b> | <b>16276.62</b> | <b>16186.27</b> |

19. The Petitioner has claimed the following revised transmission charges in respect of the Combined Asset for 2009-14 period in the instant petition:

(₹ in lakh)

| Particulars                 | 2009-10         | 2010-11         | 2011-12         | 2012-13         | 2013-14         |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                | 4741.93         | 4759.80         | 4764.75         | 4765.87         | 4766.73         |
| Return on Equity            | 5005.28         | 5209.24         | 5220.38         | 5221.78         | 5285.67         |
| O&M Expenses                | 2722.45         | 2878.33         | 3043.17         | 3217.06         | 3400.86         |
| Interest on Loan            | 3905.89         | 3586.43         | 3250.21         | 2908.92         | 2567.18         |
| Interest on Working Capital | 420.74          | 426.50          | 428.08          | 429.71          | 433.13          |
| <b>Total</b>                | <b>16796.29</b> | <b>16860.31</b> | <b>16706.58</b> | <b>16543.34</b> | <b>16453.37</b> |

20. We have considered the Petitioner's claim. The tariff is allowed in respect of the Combined Asset on the basis of the following:

- a) Admitted capital cost as on 1.4.2009 and ACE approved for 2009-14 period;
- b) WAROI on actual loan derived/ adopted from order dated 29.1.2016 in Petition No. 561/TT/2014; and
- c) WAROD as per order 29.1.2016 in Petition No. 561/TT/2014.

21. In view of above, the revised transmission charges allowed in respect of the Combined Asset for 2009-14 tariff period are as follows:

(₹ in lakh)

| Particulars                 | 2009-10         | 2010-11         | 2011-12         | 2012-13         | 2013-14         |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                | 4741.93         | 4759.80         | 4764.75         | 4765.87         | 4766.73         |
| Interest on Loan            | 3885.94         | 3566.45         | 3230.21         | 2888.90         | 2547.14         |
| Return on equity            | 5005.28         | 5209.24         | 5220.38         | 5221.78         | 5285.67         |
| Interest on Working Capital | 420.33          | 426.09          | 427.66          | 429.30          | 432.71          |
| O&M Expenses                | 2722.45         | 2878.33         | 3043.17         | 3217.06         | 3400.66         |
| <b>Total</b>                | <b>16775.93</b> | <b>16839.91</b> | <b>16686.17</b> | <b>16522.91</b> | <b>16432.90</b> |



22. AFC allowed for 2009-14 tariff period vide order dated 29.1.2016 in Petition No. 561/TT/2014, revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:

| Particulars  | (₹ in lakh) |          |          |          |          |
|--|-------------|----------|----------|----------|----------|
|  | 2009-10     | 2010-11  | 2011-12  | 2012-13  | 2013-14  |
| AFC approved vide order dated 29.1.2016 in Petition No. 561/TT/2014. | 16530.60    | 16594.16 | 16440.12 | 16276.62 | 16186.27 |
| AFC claimed by the Petitioner in the instant petition.               | 16796.29    | 16860.31 | 16706.58 | 16543.34 | 16453.37 |
| AFC allowed in the instant order.                                    | 16775.93    | 16839.91 | 16686.17 | 16522.91 | 16432.90 |

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

23. The details of the trued up transmission charges claimed by the Petitioner in respect of the Combined Asset are as follows:

| Particulars                 | (₹ in lakh)     |                 |                 |                 |                 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                             | 2014-15         | 2015-16         | 2016-17         | 2017-18         | 2018-19         |
| Depreciation                | 4767.33         | 4767.33         | 4767.33         | 4767.33         | 4767.33         |
| Interest on Loan            | 2225.11         | 1882.96         | 1542.50         | 1207.71         | 893.83          |
| Return on equity            | 5290.27         | 5314.53         | 5311.83         | 5311.83         | 5326.12         |
| O&M Expenses                | 3118.09         | 3222.11         | 3328.94         | 3439.28         | 3553.50         |
| Interest on Working Capital | 454.97          | 453.40          | 451.41          | 449.80          | 449.21          |
| <b>Total</b>                | <b>15855.77</b> | <b>15640.33</b> | <b>15402.01</b> | <b>15175.95</b> | <b>14989.99</b> |

24. The details of the trued up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the Combined Asset are as follows:

| Particulars                                | (₹ in lakh)    |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
|  | 2014-15        | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| O&M Expenses                               | 259.84         | 268.51         | 277.41         | 286.61         | 296.13         |
| Maintenance Spares                         | 467.71         | 483.32         | 499.34         | 515.89         | 533.03         |
| Receivables                                | 2642.63        | 2606.72        | 2567.00        | 2529.33        | 2498.33        |
| <b>Total Working Capital</b>               | <b>3370.18</b> | <b>3358.55</b> | <b>3343.75</b> | <b>3331.83</b> | <b>3327.49</b> |
| Rate of Interest on Working Capital (in %) | 13.50          | 13.50          | 13.50          | 13.50          | 13.50          |
| <b>Interest on Working Capital</b>         | <b>454.97</b>  | <b>453.40</b>  | <b>451.41</b>  | <b>449.80</b>  | <b>449.21</b>  |

### **Capital Cost as on 1.4.2014**



25. The capital cost of the Combined Asset has been calculated in accordance with Regulation 9(3) and Regulation 9(6) of the 2014 Tariff Regulations. The Commission vide order dated 29.1.2016 in Petition No. 561/TT/2014 approved the transmission tariff in respect of the Combined Asset for the 2014-19 period based on admitted capital cost of ₹91334.96 lakh as on 31.3.2014. Therefore, the admitted capital cost of ₹91334.96 lakh as on 31.3.2014 has been considered as on 1.4.2014 for working out the trued-up tariff in respect of the Combined Asset for 2014-19 tariff period.

**Additional Capital Expenditure (“ACE”)**

26. The Commission vide order dated 29.1.2016 in Petition No. 561/TT/2014 allowed projected ACE of ₹ 69.73 lakh during 2014-15.

27. The Petitioner has submitted that, in actual, there is no ACE during 2014-19. Therefore, the Petitioner has not claimed any ACE for 2014-19 period.

28. The capital cost considered for truing up of tariff for 2014-19 tariff period in respect of the Combined Asset is as follows:

| (₹ in lakh)                    |                               |                                 |
|--------------------------------|-------------------------------|---------------------------------|
| Capital Cost as in<br>1.4.2014 | ACE during 2014-<br>19 period | Capital Cost as in<br>31.3.2019 |
| 91334.96                       | 0.00                          | 91334.96                        |

**Debt-Equity Ratio**

29. As per Regulation 19(3) of the 2014 Tariff Regulations, the admitted debt-equity ratio of 70.49:29.51 for the period ending on 31.3.2014 has been considered as opening debt-equity ratio as on 1.4.2014 and debt-equity ratio of 70:30 has been considered for ACE during 2014-19 period for the purpose of truing-up of tariff of



2014-19 period in respect of the Combined Asset. The details of debt-equity ratio in respect of the Combined Asset as on 1.4.2014 and 31.3.2019 are as follows:

| Particulars  | Capital cost as on 1.4.2014<br>(₹ in lakh) | (in %)        | Total cost as on 31.3.2019<br>(₹ in lakh) | (in %)        |
|--------------|--|---------------|---|---------------|
| Debt         | 64378.18                                   | 70.49         | 64378.18                                  | 70.49         |
| Equity       | 26956.78                                   | 29.51         | 26956.78                                  | 29.51         |
| <b>Total</b> | <b>91334.96</b>                            | <b>100.00</b> | <b>91334.96</b>                           | <b>100.00</b> |

### Depreciation

30. Depreciation has been allowed as per the methodology provided under Regulation 27 of the 2014 Tariff Regulations. Depreciation has been allowed considering capital expenditure as on 1.4.2014 and approved ACE during 2014-19 tariff period. The Gross Block during 2014-19 tariff period with regard to the Combined Asset has been depreciated at Weighted Average Rate of Depreciation (WAROD) and working of WAROD is attached as Annexure-I. WAROD has been worked out after taking into account depreciation rates of assets as prescribed in the 2014 Tariff Regulations and depreciation allowed during 2014-19 period in respect of the Combined Asset is as follows:

|   |  | (₹ in lakh) |          |          |          |          |
|---|--|-------------|----------|----------|----------|----------|
|   | Particulars  | 2014-15     | 2015-16  | 2016-17  | 2017-18  | 2018-19  |
| A | Opening Gross Block  | 91334.96    | 91334.96 | 91334.96 | 91334.96 | 91334.96 |
| B | Addition during the year 2014-19   | 0.00        | 0.00     | 0.00     | 0.00     | 0.00     |
| C | Closing Gross Block (A+B)  | 91334.96    | 91334.96 | 91334.96 | 91334.96 | 91334.96 |
| D | Average Gross Block (A+C)/2  | 91334.96    | 91334.96 | 91334.96 | 91334.96 | 91334.96 |
| E | Freehold Land  | 446.92      | 446.92   | 446.92   | 446.92   | 446.92   |
| F | Depreciable value(D-E)*90%   | 81799.24    | 81799.24 | 81799.24 | 81799.24 | 81799.24 |
| G | Weighted average rate of Depreciation (WAROD) (in %)                     | 5.22        | 5.22     | 5.22     | 5.22     | 5.22     |
| H | Lapsed useful life at the beginning of the year (Year)                   | 7.00        | 8.00     | 9.00     | 10.00    | 11.00    |
| I | Balance useful life at the beginning of the year (Year)                  | 26.00       | 25.00    | 24.00    | 23.00    | 22.00    |
| J | Cumulative Depreciation at the beginning of the year                     | 32819.33    | 37586.67 | 42354.01 | 47121.35 | 51888.69 |
| K | Remaining Aggregate Depreciable Value at the beginning of the year (F-J) | 48979.91    | 44212.57 | 39445.23 | 34677.89 | 29910.55 |





|   |  |          |          |          |          |          |
|---|--|----------|----------|----------|----------|----------|
| L | <b>Depreciation during the year</b>                                | 4767.34  | 4767.34  | 4767.34  | 4767.34  | 4767.34  |
| M | Cumulative Depreciation at the end of the year (J+L)               | 37586.67 | 42354.01 | 47121.35 | 51888.69 | 56656.03 |
| N | Remaining Aggregate Depreciable Value at the end of the year (F-M) | 44212.57 | 39445.23 | 34677.89 | 29910.55 | 25143.21 |

31. The details of depreciation approved vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed in the instant petition and trued up depreciation allowed in respect of the Combined Asset is as follows:

| (₹ in lakh)  |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|
| Particulars  | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Approved vide order dated 29.1.2016 in Petition No. 561/TT/2014. | 4769.18 | 4771.02 | 4771.02 | 4771.02 | 4771.02 |
| Claimed by the Petitioner in the instant petition.               | 4767.33 | 4767.33 | 4767.33 | 4767.33 | 4767.33 |
| Allowed after true-up in this order                              | 4767.34 | 4767.34 | 4767.34 | 4767.34 | 4767.34 |

### **Interest on Loan (“IoL”)**

32. IoL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The Petitioner has claimed IoL based on actual interest rates for each year during 2014-19 period. The Petitioner has considered the weighted average rate of IoL on the basis of prevailing rates as on 1.4.2014 for respective loans and has prayed to consider the floating rate of interest applicable during 2014-19 period, if any, during the truing-up of tariff.

33. We have considered the submissions of the Petitioner and accordingly IoL has been considered based on the actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations.

34. The details of the trued-up IoL allowed in respect of the Combined Asset are as follows:

(₹ in lakh)



|   | <b>Particulars</b>                               | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
|---|--|----------------|----------------|----------------|----------------|----------------|
| A | Gross Normative Loan                             | 64378.18       | 64378.18       | 64378.18       | 64378.18       | 64378.18       |
| B | Cumulative Repayments up to Previous Year        | 31711.44       | 36478.78       | 41246.12       | 46013.46       | 50780.80       |
| C | Net Loan-Opening (A-B)                           | 32666.74       | 27899.40       | 23132.06       | 18364.72       | 13597.38       |
| D | Addition due to ACE                              | 0.00           | 0.00           | 0.00           | 0.00           | 0.00           |
| E | Repayment during the year                        | 4767.34        | 4767.34        | 4767.34        | 4767.34        | 4767.34        |
| F | Net Loan-Closing (C+D-E)                         | 27899.40       | 23132.06       | 18364.72       | 13597.38       | 8830.04        |
| G | Average Loan (C+F)/2                             | 30283.07       | 25515.73       | 20748.39       | 15981.05       | 11213.71       |
| H | Weighted Average Rate of Interest on Loan (in %) | 7.28           | 7.30           | 7.34           | 7.43           | 7.78           |
| I | <b>Interest on Loan (G*H)</b>                    | <b>2205.04</b> | <b>1862.84</b> | <b>1522.26</b> | <b>1187.21</b> | <b>872.37</b>  |

35. The details of IoL approved in respect of the Combined Asset vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed by the Petitioner in the instant petition and trued up in the instant order are as follows:

|   | (₹ in lakh)    |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Particulars</b>  | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
| Approved vide order dated 29.1.2016 in Petition No. 561/TT/2014 | 1964.75        | 1623.48        | 1281.46        | 943.11         | 616.46         |
| Claimed by the Petitioner in the instant petition               | 2225.11        | 1882.96        | 1542.50        | 1207.71        | 893.83         |
| Allowed after true-up in this order                             | 2205.04        | 1862.84        | 1522.26        | 1187.21        | 872.37         |

### **Return on Equity ("RoE")**

36. The Petitioner has claimed RoE in respect of the Combined Asset in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that they are liable to pay income tax at MAT rates and has claimed following effective tax rates for 2014-19 tariff period:

| <b>Year</b> | <b>Claimed effective tax rate (in %)</b> | <b>Grossed up RoE (in %) [(Base Rate)/(1-t)]</b> |
|-------------|--|--|
| 2014-15     | 21.018                                   | 19.624   |
| 2015-16     | 21.382                                   | 19.716   |
| 2016-17     | 21.338                                   | 19.705   |
| 2017-18     | 21.337                                   | 19.704   |
| 2018-19     | 21.549                                   | 19.758   |



37. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner and the same is as follows:

| Year    | Notified MAT rates (in %) (inclusive of surcharge & cess) | Effective tax (in %) |
|---------|---|----------------------|
| 2014-15 | 20.961  | 20.961               |
| 2015-16 | 21.342  | 21.342               |
| 2016-17 | 21.342  | 21.342               |
| 2017-18 | 21.342  | 21.342               |
| 2018-19 | 21.549  | 21.549               |

38. MAT rates as considered in order dated 27.4.2020 in Petition No. 274/TT/2019 are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations and the same is as follows:

| Year    | Notified MAT rates (in %) (inclusive of surcharge & cess) | Base rate of RoE (in %) | Grossed up RoE (in %) [(Base Rate)/(1-t)] |
|---------|---|-------------------------|---|
| 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                                    |

39. Accordingly, RoE allowed in respect of the Combined Asset is as follows:

|   |  | (₹ in lakh)    |                |                |                |                |
|---|--|----------------|----------------|----------------|----------------|----------------|
|   | Particulars                                | 2014-15        | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| A | Opening Equity                             | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| B | Addition due to ACE                        | 0.00           | 0.00           | 0.00           | 0.00           | 0.00           |
| C | Closing Equity (A+B)                       | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| D | Average Equity (A+C)/2                     | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| E | Return on Equity (Base Rate) (in %)        | 15.500         | 15.500         | 15.500         | 15.500         | 15.500         |
| F | Tax Rate applicable (in %)                 | 20.961         | 21.342         | 21.342         | 21.342         | 21.549         |
| G | Applicable ROE Rate (in %)                 | 19.610         | 19.705         | 19.705         | 19.705         | 19.758         |
| H | <b>Return on Equity for the year (D*G)</b> | <b>5286.22</b> | <b>5311.83</b> | <b>5311.83</b> | <b>5311.83</b> | <b>5326.12</b> |



40. The details of RoE approved vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed in the instant petition and trued up RoE allowed in respect of the Combined Asset is as follows:

| Particulars   | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2014-15     | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Approved vide order dated 29.1.2016 in Petition No. 561/TT/2014 | 5288.40     | 5290.45 | 5290.45 | 5290.45 | 5290.45 |
| Claimed by the Petitioner in the instant petition               | 5290.27     | 5314.53 | 5311.83 | 5311.83 | 5326.12 |
| Allowed after true-up in this order                             | 5286.22     | 5311.83 | 5311.83 | 5311.83 | 5326.12 |

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

41. O&M Expenses as claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations. The allowable O&M Expenses are as follows:

| Particulars                                     | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2014-15     | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| <b>Sub-station Bays:</b>                        |             |         |         |         |         |
| 400 kV: Abdullapur:ICT-III Bay                  | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Abdullapur:ICT-III Bay                  | 1           | 1       | 1       | 1       | 1       |
| 220 kV:<br>Abdullapur:Yamunanagar Bay<br>I & II | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad: Rihand-I &<br>II             | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad:Mainpuri-I<br>& II            | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Dadri Panipat Bay                       | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:ICT-I & II Bay                  | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala:ICT-I & II Bay                  | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Ablawal Line-I<br>& II Bay     | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Rajpura Line-I<br>& II Bay     | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Patiala:Nalagarh Bay                    | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:Hisar Bay                       | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Mainpuri: ICT-I & II<br>Bay             | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri: ICT-I & II<br>Bay             | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri:Harduaganj<br>Line Bay         | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Mainpuri:Firozabad                      | 1           | 1       | 1       | 1       | 1       |



|   |                |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
| Line Bay  |                |                |                |                |                |
| 220 kV: Mainpuri:Mainpuri(UPPCL)-Line-I & II Bay        | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Mainpuri: Allahabad I Bay                       | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Mainpuri:Ballabgarh I & II Bay                  | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Ballabgarh: Mainpuri I & II                     | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Panipat:Dadri Bay                               | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Kaithal:Hissar Bay                              | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Kaithal:Nalagarh Bay                            | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Kaithal:ICT-I & II Bay                          | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal:ICT-I & II Bay                          | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal:Cheeka I & II Line Bay                  | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal: Kaithal I & II Line Bay                | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Malerkotla:Patiala Bay                          | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Patiala: Malerkotla Bay                         | 1              | 1              | 1              | 1              | 1              |
| <b>Norm (₹ lakh/bay)</b>                                |                |                |                |                |                |
| 400 kV  | 60.30          | 62.30          | 64.37          | 66.51          | 68.71          |
| 220 kV  | 42.21          | 43.61          | 45.06          | 46.55          | 48.10          |
| <b>Total Sub-station Expenses</b>                       | <b>2393.91</b> | <b>2473.31</b> | <b>2555.51</b> | <b>2640.30</b> | <b>2727.85</b> |
| <b>AC Lines:</b>  |                |                |                |                |                |
| 400 kV D/C Rihand Allahabad transmission line (km)      | 279.245        | 279.245        | 279.245        | 279.245        | 279.245        |
| 400 kV D/C Allahabad – Mainpuri (km)                    | 363.429        | 363.429        | 363.429        | 363.429        | 363.429        |
| 400 kV D/C Ballabgarh – Mainpuri transmission line (km) | 235.952        | 235.952        | 235.952        | 235.952        | 235.952        |
| 400 kV S/C Dadri Panipat-II transmission line (km)      | 116.650        | 116.650        | 116.650        | 116.650        | 116.650        |
| 400 kV S/C Patiala-Malerkotla transmission line (km)    | 62.497         | 62.497         | 62.497         | 62.497         | 62.497         |
| LILO of Nalagarh-Hissar at Kaithal (km)                 | 31.852         | 31.852         | 31.852         | 31.852         | 31.852         |
| LILO of Nalagarh-Hissar at Patiala (km)                 | 11.436         | 11.436         | 11.436         | 11.436         | 11.436         |
| <b>Norm (₹ lakh/KM)</b>                                 |                |                |                |                |                |
| Double Circuit (Twin/ Triple Conductor)                 | 0.707          | 0.731          | 0.755          | 0.780          | 0.806          |
| Single Circuit (Twin/ Triple Conductor)                 | 0.404          | 0.418          | 0.432          | 0.446          | 0.461          |
| <b>Total Transmission Line</b>                          | <b>724.17</b>  | <b>748.80</b>  | <b>773.44</b>  | <b>798.99</b>  | <b>825.65</b>  |
| <b>Total O&amp;M Expenses</b>                           | <b>3118.08</b> | <b>3222.11</b> | <b>3328.95</b> | <b>3439.29</b> | <b>3553.50</b> |



42. The details of O&M Expenses approved vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed in the instant petition and trued up O&M Expenses allowed in respect of the Combined Asset are as follows:

| Particulars   | (₹ in lakh)    |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
|   | 2014-15        | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| Approved vide order dated 29.1.2016 in Petition No. 561/TT/2014 | 3118.08        | 3222.11        | 3328.95        | 3439.29        | 3553.50        |
| Claimed by the Petitioner in the instant petition               | 3118.09        | 3222.11        | 3328.94        | 3439.28        | 3553.50        |
| Allowed after true-up in this order                             | <b>3118.08</b> | <b>3222.11</b> | <b>3328.95</b> | <b>3439.29</b> | <b>3553.50</b> |

### **Interest on Working Capital (“IWC”)**

43. The Petitioner is entitled to IWC as per Regulation 28 of the 2014 Tariff Regulations.

44. IWC trued up and allowed in respect of the Combined Asset is as follows:

| Particulars   | (₹ in lakh)    |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
|   | 2014-15        | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| Working Capital for O&M Expenses (O&M Expenses for one Month)                             | 259.84         | 268.51         | 277.41         | 286.61         | 296.12         |
| Working Capital for Maintenance Spares (15% of O&M)                                       | 467.71         | 483.32         | 499.34         | 515.89         | 533.02         |
| Working Capital for Receivables (Equivalent to two months of annual transmission charges) | 2638.52        | 2602.83        | 2563.55        | 2525.83        | 2494.67        |
| <b>Total Working Capital</b>  | <b>3366.07</b> | <b>3354.66</b> | <b>3340.31</b> | <b>3328.33</b> | <b>3323.82</b> |
| Rate of Interest on Working Capital (in %)  | 13.50          | 13.50          | 13.50          | 13.50          | 13.50          |
| <b>Interest on working capital</b>  | <b>454.42</b>  | <b>452.88</b>  | <b>450.94</b>  | <b>449.33</b>  | <b>448.72</b>  |

45. The details of IWC approved vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed in the instant petition and trued up IWC allowed in respect of the Combined Asset is as follows:



| (₹ in lakh)  |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|
| Particulars  | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Approved vide order dated 29.1.2016 in Petition No. 561/TT/2014. | 448.98  | 446.96  | 444.99  | 443.30  | 442.09  |
| Claimed by the Petitioner in the instant petition.               | 454.97  | 453.40  | 451.41  | 449.80  | 449.21  |
| Allowed after true-up in this order.                             | 454.42  | 452.88  | 450.94  | 449.33  | 448.72  |

### **Approved Annual Fixed Charges for 2014-19 Tariff Period**

46. Accordingly, AFC after truing up in respect of the Combined Asset for 2014-19 tariff period are as follows:

| (₹ in lakh)                 |                 |                 |                 |                 |                 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Particulars                 | 2014-15         | 2015-16         | 2016-17         | 2017-18         | 2018-19         |
| Depreciation                | 4767.34         | 4767.34         | 4767.34         | 4767.34         | 4767.34         |
| Interest on Loan            | 2205.04         | 1862.84         | 1522.26         | 1187.21         | 872.37          |
| Return on Equity            | 5286.22         | 5311.83         | 5311.83         | 5311.83         | 5326.12         |
| O&M Expenses                | 3118.08         | 3222.11         | 3328.95         | 3439.29         | 3553.50         |
| Interest on Working Capital | 454.42          | 452.88          | 450.94          | 449.33          | 448.72          |
| <b>Total</b>                | <b>15831.11</b> | <b>15617.00</b> | <b>15381.33</b> | <b>15155.00</b> | <b>14968.05</b> |

47. The details of the annual transmission charges approved vide order dated 29.1.2016 in Petition No. 561/TT/2014, as claimed in the instant petition and trued up annual transmission charges allowed in respect of the Combined Asset are as follows:

| (₹ in lakh)   |          |          |          |          |          |
|---|----------|----------|----------|----------|----------|
| Particulars   | 2014-15  | 2015-16  | 2016-17  | 2017-18  | 2018-19  |
| Allowed vide order dated 29.1.2016 in Petition No. 561/TT/2014. | 15589.39 | 15354.02 | 15116.87 | 14887.17 | 14673.52 |
| As claimed by the Petitioner in the instant petition.           | 15855.77 | 15640.33 | 15402.01 | 15175.95 | 14989.99 |
| Allowed after true-up in this order.                            | 15831.11 | 15617.00 | 15381.33 | 15155.00 | 14968.05 |

### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD**

48. The Petitioner has claimed the following transmission charges in respect of the Combined Asset for 2019-24 tariff period:

(₹ in lakh)



| Particulars                 | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                | 1197.30         | 1197.31         | 1197.29         | 1197.31         | 1197.29         |
| Interest on Loan            | 716.53          | 623.68          | 535.16          | 430.50          | 325.41          |
| Return on equity            | 5063.02         | 5063.02         | 5063.02         | 5063.02         | 5063.02         |
| O&M Expenses                | 2979.85         | 3085.17         | 3193.04         | 3305.61         | 3418.94         |
| Interest on Working Capital | 234.78          | 238.39          | 241.76          | 245.09          | 248.03          |
| <b>Total</b>                | <b>10191.48</b> | <b>10207.57</b> | <b>10230.27</b> | <b>10241.53</b> | <b>10252.69</b> |

49. The details of IWC claimed by the Petitioner in respect of the Combined Asset for 2019-24 tariff period are as follows:

| Particulars                                | (₹ in lakh)    |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
|  | 2019-20        | 2020-21        | 2021-22        | 2022-23        | 2023-24        |
| O&M Expenses                               | 248.32         | 257.10         | 266.09         | 275.47         | 284.91         |
| Maintenance Spares                         | 446.98         | 462.78         | 478.96         | 495.84         | 512.84         |
| Receivables                                | 1253.05        | 1258.47        | 1261.27        | 1262.65        | 1260.58        |
| <b>Total Working Capital</b>               | <b>1948.35</b> | <b>1978.35</b> | <b>2006.32</b> | <b>2033.96</b> | <b>2058.33</b> |
| Rate of Interest on Working Capital (in %) | 12.05          | 12.05          | 12.05          | 12.05          | 12.05          |
| <b>Interest on Working Capital</b>         | <b>234.78</b>  | <b>238.39</b>  | <b>241.76</b>  | <b>245.09</b>  | <b>248.03</b>  |

### **Capital Cost**

50. 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 asset 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 up to 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 ash disposal and utilization including handling and transportation facility;*
- (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 up to 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 asset forming part of the project, but not in use, as declared in the tariff petition;*



(b) De-capitalised Asset 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 decapitalised 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 asset.*

(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. “*

51. The capital cost of ₹91334.96 lakh has been considered by the Commission in respect of the Combined Asset as on 31.3.2019. Therefore, capital cost of ₹91334.96 lakh as on 31.3.2019 has been considered as the opening capital cost as on 1.4.2019 for the purpose of determination of transmission tariff for 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.

52. The Petitioner has not claimed any ACE for 2019-24 tariff period in respect of the Combined Asset in the instant petition.

### **Debt-Equity Ratio**

53. 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.”



54. Debt-equity ratio for 2019-24 period is allowed as per Regulation 18(3) of the 2019 Tariff Regulations. The details of debt-equity ratio considered in respect of the Combined Asset for the purpose of tariff for 2019-24 tariff period are as follows:

| Particulars  | Capital cost as on<br>1.4.2019<br>(₹ in lakh) | (in %)        | Total cost as on<br>31.3.2024<br>(₹ in lakh) | (in %)        |
|--------------|---|---------------|--|---------------|
| Debt         | 64378.18                                      | 70.49         | 64378.18                                     | 70.49         |
| Equity       | 26956.78                                      | 29.51         | 26956.78                                     | 29.51         |
| <b>Total</b> | <b>91334.96</b>                               | <b>100.00</b> | <b>91334.96</b>                              | <b>100.00</b> |

### **Depreciation**

55. 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 asset 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 asset 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 up to 31.3.2019 from the gross depreciable value of the asset.*

*(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 asset 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.”

56. We have considered the submissions of the Petitioner. Depreciation has been worked out considering ACE as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The Combined Asset has completed 12 years of useful life as on 31.3.2019. The remaining depreciable value of ₹25143.21 lakh has been spread across the balance useful life of 21 years in accordance with Regulation 33(5) of the 2019 Tariff Regulations. Depreciation allowed in respect of the Combined Asset for 2019-24 tariff period is as follows:

|   |  | (₹ in lakh)    |                |                |                |                |
|---|--|----------------|----------------|----------------|----------------|----------------|
|   | Particulars  | 2019-20        | 2020-21        | 2021-22        | 2022-23        | 2023-24        |
| A | Opening Gross Block  | 91334.96       | 91334.96       | 91334.96       | 91334.96       | 91334.96       |
| B | Addition during the year 2014-19   | 0.00           | 0.00           | 0.00           | 0.00           | 0.00           |
| C | Closing Gross Block (A+B)  | 91334.96       | 91334.96       | 91334.96       | 91334.96       | 91334.96       |
| D | Average Gross Block (A+C)/2  | 91334.96       | 91334.96       | 91334.96       | 91334.96       | 91334.96       |
| E | Freehold Land  | 446.92         | 446.92         | 446.92         | 446.92         | 446.92         |
| F | Depreciable value(D-E)*90%   | 81799.24       | 81799.24       | 81799.24       | 81799.24       | 81799.24       |
| G | Weighted average rate of Depreciation (WAROD) (in %) (L/D)               | 1.31           | 1.31           | 1.31           | 1.31           | 1.31           |
| H | Lapsed useful life at the beginning of the year (Year)                   | 12.00          | 13.00          | 14.00          | 15.00          | 16.00          |
| I | Balance useful life at the beginning of the year (Year)                  | 21.00          | 20.00          | 19.00          | 18.00          | 17.00          |
| J | Cumulative Depreciation at the beginning of the year                     | 56656.03       | 57853.32       | 59050.62       | 60247.92       | 61445.21       |
| K | Remaining Aggregate Depreciable Value at the beginning of the year (F-J) | 25143.21       | 23945.91       | 22748.62       | 21551.32       | 20354.02       |
| L | <b>Depreciation during the year</b>                                      | <b>1197.30</b> | <b>1197.30</b> | <b>1197.30</b> | <b>1197.30</b> | <b>1197.30</b> |
| M | Cumulative Depreciation at the end of the year (J+L)                     | 57853.32       | 59050.62       | 60247.92       | 61445.21       | 62642.51       |
| N | Remaining Aggregate Depreciable Value at the end of the year (F-M)       | 23945.91       | 22748.62       | 21551.32       | 20354.02       | 19156.73       |

### **Interest on Loan (“IoL”)**

57. 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 up to 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.*

(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”.



58. The weighted average rate 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 rates of interest applicable, if any, during 2019-24 tariff period will be adjusted. Accordingly, 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 for 2019-24 tariff period is as follows:

| (₹ in lakh) |  |          |          |          |          |          |
|-------------|--|----------|----------|----------|----------|----------|
|             | Particulars                                      | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
| A           | Gross Normative Loan                             | 64378.18 | 64378.18 | 64378.18 | 64378.18 | 64378.18 |
| B           | Cumulative Repayments up to Previous Year        | 55548.14 | 56745.43 | 57942.73 | 59140.03 | 60337.32 |
| C           | Net Loan-Opening (A-B)                           | 8830.04  | 7632.75  | 6435.45  | 5238.15  | 4040.86  |
| D           | Addition due to ACE                              | 0.00     | 0.00     | 0.00     | 0.00     | 0.00     |
| E           | Repayment during the year                        | 1197.30  | 1197.30  | 1197.30  | 1197.30  | 1197.30  |
| F           | Net Loan-Closing (C+D-E)                         | 7632.75  | 6435.45  | 5238.15  | 4040.86  | 2843.56  |
| G           | Average Loan (C+F)/2                             | 8231.39  | 7034.10  | 5836.80  | 4639.51  | 3442.21  |
| H           | Weighted Average Rate of Interest on Loan (in %) | 8.42%    | 8.53%    | 8.76%    | 8.76%    | 8.75%    |
| I           | <b>Interest on Loan (G*H)</b>                    | 693.30   | 600.15   | 511.01   | 406.34   | 301.27   |

### **Return on Equity (“RoE”)**

59. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations specify 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:

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.”

60. The Petitioner has submitted that MAT rate is applicable to it. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the Combined Asset under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)

|   | Particulars                         | 2019-20        | 2020-21        | 2021-22        | 2022-23        | 2023-24        |
|---|-------------------------------------|----------------|----------------|----------------|----------------|----------------|
| A | Opening Equity                      | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| B | Additions                           | 0.00           | 0.00           | 0.00           | 0.00           | 0.00           |
| C | Closing Equity (A+B)                | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| D | Average Equity (A+C)/2              | 26956.78       | 26956.78       | 26956.78       | 26956.78       | 26956.78       |
| 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 | <b>Return on Equity (D*G)</b>       | <b>5063.02</b> | <b>5063.02</b> | <b>5063.02</b> | <b>5063.02</b> | <b>5063.02</b> |



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

61. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations specify the norms for O&M Expenses for the transmission system and the same are as follows:

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

| <b>Particulars</b>  | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Norms for sub-station Bays (₹ Lakh per bay)</b>                    |                |                |                |                |                |
| 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          |
| <b>Norms for Transformers (₹ Lakh per MVA)</b>                        |                |                |                |                |                |
| 765 kV  | 0.491          | 0.508          | 0.526          | 0.545          | 0.564          |
| 400 kV  | 0.358          | 0.371          | 0.384          | 0.398          | 0.411          |
| 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          |
| <b>Norms for AC and HVDC lines (₹ Lakh per km)</b>                    |                |                |                |                |                |
| 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          |
| <b>Norms for HVDC stations</b>  |                |                |                |                |                |
| HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB) | 834            | 864            | 894            | 925            | 958            |
| Gazuwaka HVDC Back-to-Back station (₹ 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          |



|  |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|
| <i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>    | 1,696 | 1,756 | 1,817 | 1,881 | 1,947 |
| <i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i> | 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 (2000 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.”

62. O&M Expenses claimed by the Petitioner in respect of the Combined Asset are as follows:

| Particulars   | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2019-20     | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| <b>Sub-station Bays:</b>                            |             |         |         |         |         |
| 400 kV: Abdullapur:ICT-III Bay                      | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Abdullapur:ICT-III Bay                      | 1           | 1       | 1       | 1       | 1       |
| 220 kV:<br>Abdullapur:Yamunanagar Bay I & II        | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad: Rihand-I & II                    | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad:Mainpuri-I & II                   | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Dadri Panipat Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Ablawal Line-I & II Bay            | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Rajpura Line-I & II Bay            | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Patiala:Nalagarh Bay                        | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:Hisar Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Mainpuri: ICT-I & II Bay                    | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri: ICT-I & II Bay                    | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri:Harduaganj Line Bay                | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Mainpuri:Firozabad Line Bay                 | 1           | 1       | 1       | 1       | 1       |
| 220 kV:<br>Mainpuri:Mainpuri(UPPCL)-Line-I & II Bay | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Mainpuri: Allahabad I Bay                   | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Mainpuri:Ballabgarh I & II Bay              | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Ballabgarh: Mainpuri I & II                 | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Panipat:Dadri Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Kaithal:Hisar Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Kaithal:Nalagarh Bay                        | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Kaithal:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Kaithal:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Kaithal:Cheeka I & II Line Bay              | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Kaithal: Kaithal I & II Line Bay            | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Malerkotla:Patiala Bay                      | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala: Malerkotla Bay                     | 1           | 1       | 1       | 1       | 1       |



|  |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| <b>Norm (₹ lakh/bay)</b>                         |                |                |                |                |                |
| 400 kV   | 32.15          | 33.28          | 34.45          | 35.66          | 36.91          |
| 220 kV   | 22.51          | 23.30          | 24.12          | 24.96          | 25.84          |
| <b>Total Sub-station Expenses</b>                | <b>1276.46</b> | <b>1321.30</b> | <b>1367.77</b> | <b>1415.66</b> | <b>1465.39</b> |
| <b>AC Lines:</b>                                 |                |                |                |                |                |
| 400 kV D/C Rihand Allahabad transmission line    | 279.245        | 279.245        | 279.245        | 279.245        | 279.245        |
| 400 kV D/C Allahabad –Mainpuri transmission line | 363.429        | 363.429        | 363.429        | 363.429        | 363.429        |
| 400 kV D/C Ballabgarh Mainpuri transmission line | 235.952        | 235.952        | 235.952        | 235.952        | 235.952        |
| 400 kV S/C Dadri Panipat-II transmission line    | 116.650        | 116.650        | 116.650        | 116.650        | 116.650        |
| 400 kV S/C Patiala-Malerkotla                    | 62.497         | 62.497         | 62.497         | 62.497         | 62.497         |
| LILO of Nalagarh-Hissar at Kaithal               | 31.852         | 31.852         | 31.852         | 31.852         | 31.852         |
| LILO of Nalagarh-Hissar at Patiala               | 11.436         | 11.436         | 11.436         | 11.436         | 11.436         |
| <b>Norm (₹ lakh/km)</b>                          |                |                |                |                |                |
| Double Circuit (Twin/ Triple Conductor)          | 0.881          | 0.912          | 0.944          | 0.977          | 1.011          |
| Single Circuit (Twin/ Triple Conductor)          | 0.503          | 0.521          | 0.539          | 0.558          | 0.578          |
| <b>Total Transmission Line Expenses</b>          | <b>902.32</b>  | <b>934.12</b>  | <b>966.85</b>  | <b>1000.67</b> | <b>1035.60</b> |
| <b>Transformers:</b>                             |                |                |                |                |                |
| Mainpuri: ICT I & II (2X315 MVA)                 | 630            | 630            | 630            | 630            | 630            |
| Patiala: ICT-I & II (2X315 MVA)                  | 630            | 630            | 630            | 630            | 630            |
| Kaithal: ICT-I & II (2X315 MVA)                  | 630            | 630            | 630            | 630            | 630            |
| Abdullapur: ICT-III                              | 315            | 315            | 315            | 315            | 315            |
| <b>Norms(₹ lakh/ MVA)</b>                        |                |                |                |                |                |
| 400 kV   | 0.358          | 0.371          | 0.384          | 0.398          | 0.411          |
| <b>Total Transformer Expenses</b>                | <b>789.39</b>  | <b>818.06</b>  | <b>846.72</b>  | <b>877.59</b>  | <b>906.26</b>  |
| <b>Communication System:</b>                     |                |                |                |                |                |
| PLCC   | 584.57         | 584.57         | 584.57         | 584.57         | 584.57         |
| Norms (in %)                                     | 2              | 2              | 2              | 2              | 2              |
| <b>Total Communication Expense</b>               | <b>11.69</b>   | <b>11.69</b>   | <b>11.69</b>   | <b>11.69</b>   | <b>11.69</b>   |
| <b>Total O&amp;M Expenses</b>                    | <b>2979.86</b> | <b>3085.17</b> | <b>3193.03</b> | <b>3305.62</b> | <b>3418.94</b> |

63. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the Sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for Sub-station have been specified accordingly. Accordingly, the



Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

64. O&M Expenses approved in respect of the Combined Asset for 2019-24 tariff period are as follows:

| Particulars   | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2019-20     | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| <b>Sub-station Bays:</b>                            |             |         |         |         |         |
| 400 kV: Abdullapur:ICT-III Bay                      | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Abdullapur:ICT-III Bay                      | 1           | 1       | 1       | 1       | 1       |
| 220 kV:<br>Abdullapur:Yamunanagar Bay I & II        | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad: Rihand-I & II                    | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Allahabad:Mainpuri-I & II                   | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Dadri Panipat Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala:ICT-I & II Bay                      | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Ablawal Line-I & II Bay            | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Patiala: Rajpura Line-I & II Bay            | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Patiala:Nalagarh Bay                        | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Patiala:Hisar Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Mainpuri: ICT-I & II Bay                    | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri: ICT-I & II Bay                    | 2           | 2       | 2       | 2       | 2       |
| 220 kV: Mainpuri:Harduaganj Line Bay                | 1           | 1       | 1       | 1       | 1       |
| 220 kV: Mainpuri:Firozabad Line Bay                 | 1           | 1       | 1       | 1       | 1       |
| 220 kV:<br>Mainpuri:Mainpuri(UPPCL)-Line-I & II Bay | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Mainpuri: Allahabad I Bay                   | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Mainpuri:Ballabgarh I & II Bay              | 2           | 2       | 2       | 2       | 2       |
| 400kV: Ballabgharh: Mainpuri I & II                 | 2           | 2       | 2       | 2       | 2       |
| 400 kV: Panipat:Dadri Bay                           | 1           | 1       | 1       | 1       | 1       |
| 400 kV: Kaithal:Hisar Bay                           | 1           | 1       | 1       | 1       | 1       |



|  |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| 400 kV: Kaithal:Nalagarh Bay             | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Kaithal:ICT-I & II Bay           | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal:ICT-I & II Bay           | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal:Cheeka I & II Line Bay   | 2              | 2              | 2              | 2              | 2              |
| 220 kV: Kaithal: Kaithal I & II Line Bay | 2              | 2              | 2              | 2              | 2              |
| 400 kV: Malerkotla:Patiala Bay           | 1              | 1              | 1              | 1              | 1              |
| 400 kV: Patiala: Malerkotla Bay          | 1              | 1              | 1              | 1              | 1              |
| <b>Norm (₹ lakh/bay)</b>                 |                |                |                |                |                |
| 400 kV                                   | 32.15          | 33.28          | 34.45          | 35.66          | 36.91          |
| 220 kV                                   | 22.51          | 23.30          | 24.12          | 24.96          | 25.84          |
| <b>Total Sub-station Expenses</b>        | <b>1276.46</b> | <b>1321.30</b> | <b>1367.77</b> | <b>1415.66</b> | <b>1465.39</b> |
| <b>AC &amp; HVDC Lines:</b>              |                |                |                |                |                |
| Rihand Allahabad                         | 279.245        | 279.245        | 279.245        | 279.245        | 279.245        |
| Allahabad -Mainpuri                      | 363.429        | 363.429        | 363.429        | 363.429        | 363.429        |
| Ballabgarh Mainpuri                      | 235.952        | 235.952        | 235.952        | 235.952        | 235.952        |
| Dadri Panipat-II                         | 116.650        | 116.650        | 116.650        | 116.650        | 116.650        |
| Patiala-Malerkotla                       | 62.497         | 62.497         | 62.497         | 62.497         | 62.497         |
| LILO of Nalagarh-Hissar at Kaithal       | 31.852         | 31.852         | 31.852         | 31.852         | 31.852         |
| LILO of Nalagarh-Hissar at Patiala       | 11.436         | 11.436         | 11.436         | 11.436         | 11.436         |
| <b>Norm (₹ lakh/km)</b>                  |                |                |                |                |                |
| Double Circuit (Twin/ Triple Conductor)  | 0.881          | 0.912          | 0.944          | 0.977          | 1.011          |
| Single Circuit (Twin/ Triple Conductor)  | 0.503          | 0.521          | 0.539          | 0.558          | 0.578          |
| <b>Total Transmission Line Expenses</b>  | <b>902.32</b>  | <b>934.12</b>  | <b>966.85</b>  | <b>1000.67</b> | <b>1035.60</b> |
| <b>Transformers:</b>                     |                |                |                |                |                |
| Mainpuri: ICT I & II                     | 630            | 630            | 630            | 630            | 630            |
| Patiala: ICT-I & II                      | 630            | 630            | 630            | 630            | 630            |
| Kaithal: ICT-I & II                      | 630            | 630            | 630            | 630            | 630            |
| Abdullapur: ICT-III                      | 315            | 315            | 315            | 315            | 315            |
| <b>Norms(₹ lakh/ MVA)</b>                |                |                |                |                |                |
| 400 kV                                   | 0.358          | 0.371          | 0.384          | 0.398          | 0.411          |
| <b>Total Transformer Expenses</b>        | <b>789.39</b>  | <b>818.06</b>  | <b>846.72</b>  | <b>877.59</b>  | <b>906.26</b>  |
| <b>Total O&amp;M Expenses</b>            | <b>2968.17</b> | <b>3073.48</b> | <b>3181.34</b> | <b>3293.92</b> | <b>3407.25</b> |

### **Interest on Working Capital (“IWC”)**

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

**“34. Interest on Working Capital:**

(1)...

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

*i. Receivables equivalent to 45 days of 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.Definitions ...

(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;”

66. The Petitioner has submitted that it has computed IWC for 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 (RoI) on working capital considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-24. The components of the working capital and interest allowed thereon in respect of the Combined Asset are as follows:

| Particulars   | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2019-20     | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working Capital for O&M Expenses (O&M Expenses for one Month) | 247.35      | 256.12  | 265.11  | 274.49  | 283.94  |
| Working Capital for   | 445.23      | 461.02  | 477.20  | 494.09  | 511.09  |



|  |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| Maintenance Spares (15% of O&M)  |                |                |                |                |                |
| Working Capital for Receivables (Equivalent to 45 days of annual transmission charges) | 1248.65        | 1252.04        | 1252.87        | 1254.20        | 1252.10        |
| <b>Total Working Capital</b>   | <b>1941.22</b> | <b>1969.19</b> | <b>1995.18</b> | <b>2022.78</b> | <b>2047.13</b> |
| Rate of Interest on Working Capital(in %)  | 12.05          | 11.25          | 10.50          | 10.50          | 10.50          |
| <b>Interest of working capital</b>   | <b>233.92</b>  | <b>221.53</b>  | <b>209.49</b>  | <b>212.39</b>  | <b>214.95</b>  |

### **Annual Fixed Charges for 2019-24 Tariff Period**

67. The transmission charges allowed in respect of the Combined Asset for 2019-24 period are as follows:

| Particulars                 | (₹ in lakh)     |                 |                 |                 |                 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                             | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
| Depreciation                | 1197.30         | 1197.30         | 1197.30         | 1197.30         | 1197.30         |
| Interest on Loan            | 693.30          | 600.15          | 511.01          | 406.34          | 301.27          |
| Return on Equity            | 5063.02         | 5063.02         | 5063.02         | 5063.02         | 5063.02         |
| O&M Expenses                | 2968.17         | 3073.48         | 3181.34         | 3293.92         | 3407.25         |
| Interest on Working Capital | 233.92          | 221.53          | 209.49          | 212.39          | 214.95          |
| <b>Total</b>                | <b>10155.70</b> | <b>10155.47</b> | <b>10162.16</b> | <b>10172.98</b> | <b>10183.79</b> |

### **Lease Rent Payment**

68. The Commission vide order dated 29.1.2016 in Petition No. 561/TT/2014 allowed the Petitioner to recover lease payment on production of proof of payments.

The relevant portion of the order is extracted as follows:

*“62..... As regards the petitioner’s prayer to recover the estimated annual lease payment of ₹6055949.00 per annum with effect from 1.4.2014, the petitioner is directed to claim the same from the beneficiaries directly, by producing the proof of payment, as and when the payments are made.”*

69. In the instant petition, the Petitioner has submitted that lease rent for 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 has already been paid for Obra Forest Division and Renukoot Forest Division. For Sonebhadra Forest Division lease rent has been paid for 2014-15 only. Lease rent shall be recovered by the Petitioner from the beneficiaries on production of documentary evidence.



### **Filing Fee and Publication Expenses**

70. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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.

### **Licence Fee & RLDC Fees and Charges**

71. The Petitioner has requested to allow the Petitioner to bill and recover license fee and RLDC fees and charges, separately from the Respondents. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for 2019-24 period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for 2019-24 period.

### **Goods and Services Tax**

72. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on charges of transmission of electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and 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.



73. We have considered the submissions of the 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**

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

75. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for 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. 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.

### **Capital Spares**

76. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

### **Sharing of Transmission Charges**

77. During 2004-09 and 2009-14 tariff periods (upto 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems is governed by



Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010 and with effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and sharing is governed by Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (2020 Sharing Regulations). Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and Sharing Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

78. To summarise:

- a) The revised AFC allowed in respect of the transmission assets for 2004-09 tariff period are as follows:

(₹ in lakh)

| Particulars | Asset – I                           |         |         |         |
|-------------|-------------------------------------|---------|---------|---------|
|             | 2005-06<br>(Pro-rata for 10 months) | 2006-07 | 2007-08 | 2008-09 |
| Revised AFC | 6604.59                             | 8065.81 | 8056.26 | 7909.93 |

(₹ in lakh)

| Particulars | Asset – II                         |         |         |         |
|-------------|------------------------------------|---------|---------|---------|
|             | 2005-06<br>(Pro-rata for 6 months) | 2006-07 | 2007-08 | 2008-09 |
| Revised AFC | 813.63                             | 1714.77 | 1734.36 | 1725.53 |

(₹ in lakh)

| Particulars | Asset – III                        |         |         |         |
|-------------|------------------------------------|---------|---------|---------|
|             | 2005-06<br>(Pro-rata for 5 months) | 2006-07 | 2007-08 | 2008-09 |
| Revised AFC | 269.98                             | 723.55  | 761.71  | 776.23  |



(₹ in lakh)

| Particulars | Asset – IV                         |         |         |         |
|-------------|------------------------------------|---------|---------|---------|
|             | 2005-06<br>(Pro-rata for 4 months) | 2006-07 | 2007-08 | 2008-09 |
| Revised AFC | 197.51                             | 673.65  | 716.95  | 729.06  |

(₹ in lakh)

| Particulars | Asset – V                          |         |         |         |
|-------------|------------------------------------|---------|---------|---------|
|             | 2005-06<br>(Pro-rata for 3 months) | 2006-07 | 2007-08 | 2008-09 |
| Revised AFC | 171.28                             | 727.87  | 755.68  | 775.41  |

(₹ in lakh)

| Particulars | Asset – VI |         |         |
|-------------|------------|---------|---------|
|             | 2006-07    | 2007-08 | 2008-09 |
| Revised AFC | 781.07     | 801.25  | 794.32  |

(₹ in lakh)

| Particulars | Asset – VII                        |         |         |
|-------------|------------------------------------|---------|---------|
|             | 2006-07<br>(Pro-rata for 5 months) | 2007-08 | 2008-09 |
| Revised AFC | 48.37                              | 122.18  | 125.63  |

b) The consequential revision of AFC allowed in respect of the Combined Asset for 2009-14 tariff period are as follows:

(₹ in lakh)

| Particulars | 2009-10  | 2010-11  | 2011-12  | 2012-13  | 2013-14  |
|-------------|----------|----------|----------|----------|----------|
| AFC         | 16775.93 | 16839.91 | 16686.17 | 16522.91 | 16432.90 |

c) The trued-up AFC allowed in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)

| Particulars | 2014-15  | 2015-16  | 2016-17  | 2017-18  | 2018-19  |
|-------------|----------|----------|----------|----------|----------|
| AFC         | 15831.11 | 15617.00 | 15381.33 | 15155.00 | 14968.05 |

d) AFC allowed in respect of the Combined Asset for 2019-24 tariff period in this order are as follows:

(₹ in lakh)

| Particulars | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|-------------|----------|----------|----------|----------|----------|
| AFC         | 10155.70 | 10155.47 | 10162.16 | 10172.98 | 10183.79 |



79. Annexure-I given hereinafter forms part of the order.

80. This order disposes of Petition No. 314/TT/2020 in terms of the above discussions and findings.

**sd/-**  
**(P. K. Singh)**  
**Member**

**sd/-**  
**(Arun Goyal)**  
**Member**

**sd/-**  
**( I. S. Jha )**  
**Member**



|                      |                       |
|----------------------|-----------------------|
| <b>Petition No.:</b> | <b>314/TT/2020</b>    |
| <b>Period</b>        | <b>2014-19 Tariff</b> |

**Annexure-I**

| 2014-19<br>Capital<br>Expenditure                   | Admitted<br>Capital<br>Cost as on<br>1.4.2014<br>(₹ in lakh) | ACE<br>(₹ in lakh) | Admitted<br>Capital Cost as<br>on 31.3.2019<br>(₹ in lakh) | Rate of<br>Depreciation<br>as per<br>Regulations | Annual Depreciation as per Regulations<br>(₹ in lakh) |                |                |                |                |
|---|--|--------------------|--|--|---|----------------|----------------|----------------|----------------|
|   |  | Total              |  |  | 2014-15   | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| Freehold Land                                       | 446.92   | 0.00               | 446.92   | 0.00   | 0.00  | 0.00           | 0.00           | 0.00           | 0.00           |
| Building  | 1735.33  | 0.00               | 1735.33  | 3.34   | 57.96   | 57.96          | 57.96          | 57.96          | 57.96          |
| Transmission Line                                   | 69180.58   | 0.00               | 69180.58   | 5.28   | 3652.73   | 3652.73        | 3652.73        | 3652.73        | 3652.73        |
| Sub Station   | 19180.28   | 0.00               | 19180.28   | 5.28   | 1012.72   | 1012.72        | 1012.72        | 1012.72        | 1012.72        |
| PLCC  | 584.57   | 0.00               | 584.57   | 6.33   | 37.00   | 37.00          | 37.00          | 37.00          | 37.00          |
| Leasehold Land                                      | 207.28   | 0.00               | 207.28   | 3.34   | 6.92  | 6.92           | 6.92           | 6.92           | 6.92           |
| <b>TOTAL</b>  | <b>91334.96</b>  | <b>0.00</b>        | <b>91334.96</b>  |  | <b>4767.34</b>  | <b>4767.34</b> | <b>4767.34</b> | <b>4767.34</b> | <b>4767.34</b> |
| <b>Average Gross Block (₹ in lakh)</b>              |  |                    |  |  | 91334.96  | 91334.96       | 91334.96       | 91334.96       | 91334.96       |
| <b>Weighted Average Rate of Depreciation (in %)</b> |  |                    |  |  | 5.22  | 5.22           | 5.22           | 5.22           | 5.22           |

