

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 371/TT/2020**

**Coram:**

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

**Date of Order : 18.10.2021**

**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 the 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of the 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of the **Combined Asset** comprising of **Asset-I:** LILO of 220 kV Tanakpur-Bareilly Transmission Line (Ckt.-II) at Sitarganj along with associated bays, **Asset-II:** 220/132, 100 MVA ICT-I at Sitarganj along with associated bays, **Asset-III:** 220/132, 100 MVA ICT-II at Sitarganj along with associated bays, **Asset-IV:** 220/132, 100 MVA ICT-I at Pithoragarh along with associated bays, **Asset-V:** 220/132, 100 MVA ICT-II at Pithoragarh along with associated bays and **Asset-VI:** LILO of one circuit of Dhauliganga-Bareilly Transmission Line at Pithoragarh along with associated bays associated with System Strengthening Scheme in Uttaranchal in Northern Region.

**And in the matter of:**

Power Grid Corporation of India Limited,  
"SAUDAMINI", Plot No-2,  
Sector-29, Gurgaon-122001 (Haryana).

**.....Petitioner**

**Versus**

1. Rajasthan Rajya Vidyut Parasaran Nigam Limited,  
Vidyut Bhawan, Vidyut Marg, Jaipur-302005 (Rajasthan).
2. Ajmer Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-station building,  
Caligiri Road, Malviya Nagar,  
Jaipur-302017 (Rajasthan).
3. Jaipur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-station building,  
Caligiri Road, Malviya Nagar,  
Jaipur-302017 (Rajasthan).



4. Jodhpur Vidyut Vitran Nigam Limited,  
132 kV, GSS RVPNL Sub-station building,  
Caligiri Road, Malviya Nagar,  
Jaipur-302017 (Rajasthan).
5. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House Complex Building II,  
Shimla-171004.
6. Punjab State Electricity Board.  
The Mall, Patiala-147001.
7. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector-6,  
Panchkula-134109 (Haryana).
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-226001.
10. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi-110002.
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-110009.
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-110002.

.....Respondent(s)

**For Petitioner** : Shri S. S. Raju, PGCIL  
Shri V. P. Rastogi, PGCIL  
Shri D. K. Biswal, PGCIL  
Shri Amit Yadav, PGCIL

**For Respondents** : None

### **ORDER**

The Petitioner, Power Grid Corporation of India Limited, has filed the instant petition for revision of transmission tariff of the 2004-09 and 2009-14 tariff periods; truing up of the transmission tariff of the 2014-19 tariff period 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 transmission 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 transmission assets forming part of Combined Asset associated with System Strengthening Scheme in Uttaranchal in Northern Region (hereinafter referred to as “the transmission scheme”):

**Asset-I:** LILO of 220 kV Tanakpur-Bareilly Transmission Line (Ckt.-II) at Sitarganj along with associated bays;

**Asset-II:** 220/132, 100 MVA ICT-I at Sitarganj along with associated bays;

**Asset-III:** 220/132, 100 MVA ICT-II at Sitarganj along with associated bays;

**Asset-IV:** 220/132, 100 MVA ICT-I at Pithoragarh along with associated bays;



**Asset-V:** 220/132, 100 MVA ICT-II at Pithoragarh along with associated bays, and

**Asset-VI:** LILO of one circuit of Dhauliganga-Bareilly Transmission Line at Pithoragarh along with associated bays.

2. The Petitioner has made following prayers in this 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 regulations 2014 and tariff regulation'19 as per para 9.0 & 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 initial spares as procured in the current project in full based on total project cost as given in Para-11.2 under Regulation 8 of CERC tariff regulation,2009.

11) 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.

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”

### 3. **Backdrop of the case**

a) The Investment Approval (I.A.) for the transmission scheme was accorded by the Board of Directors (BOD) of the Petitioner company (in its 155<sup>th</sup> meeting held on 11.6.2004) vide Memorandum Ref. No. C/CP/N79-00 dated 13.7.2004 at an estimated cost of ₹7642.00 lakh, including IDC of ₹305.00 lakh (based on the 4<sup>th</sup> Quarter, 2003 price level). The Revised Cost Estimate (RCE) was accorded approval by BOD of the Petitioner company (in 246<sup>th</sup> Meeting held on 13.12.2010) vide Memorandum Ref. No. C/CP/RCE-SS Uttarakhand dated 20.12.2010 at an estimated cost of ₹14258.00 lakh, including IDC of ₹779.00 lakh (based on 2<sup>nd</sup> Quarter, 2010 price level).

b) As per I.A., the entire scope of work covered under the transmission scheme is as follows:

#### **Transmission Line:**

- i. LILO of one circuit of Dhauliganga-Bareilly 400 kV D/C line (charged at 220 kV level) at Pithoragarh-(using 400 kV towers with single moose conductors); and
- ii. LILO of one circuit of Tanakpur-Bareilly 220 kV D/C line at Sitarganj.

#### **Sub-station:**

- i. 220/132 kV Pithoragarh (New sub-station)-6X33.3 MVA (1 phase banks); and
- ii. 220/132 kV Sitarganj (New sub-station)-2X100 MVA.

c) The transmission assets covered under the transmission scheme were scheduled to be commissioned within 24 months from the date of first Letter of Award for transformer package, which was issued in March 2005. The details of



scheduled COD, actual COD and time over-run in respect of the transmission assets are as follows:

| <b>Asset</b> | <b>SCOD</b> | <b>Actual COD</b> | <b>Time over-run (in months)</b> |
|--------------|-------------|-------------------|----------------------------------|
| Asset-I      | 1.4.2007    | 1.3.2009          | 23                               |
| Asset-II     | 1.4.2007    | 1.3.2009          | 23                               |
| Asset-III    | 1.4.2007    | 1.8.2009          | 28                               |
| Asset-IV     | 1.4.2007    | 1.9.2010          | 41                               |
| Asset-V      | 1.4.2007    | 1.12.2010         | 44                               |
| Asset-VI     | 1.4.2007    | 1.8.2010          | 40                               |

d) The provisional transmission tariff and final transmission tariff [considering Additional Capital Expenditure (ACE) during 2008-09] of Asset-I and Asset-II for the period from COD to 31.3.2009 was allowed by the Commission vide orders dated 22.10.2009 and 4.10.2011 in Petition No. 202/2009 and Petition No. 01/2011 respectively.

e) The transmission tariff of Asset-III for the period from COD to 31.3.2014 was allowed vide order dated 16.3.2012 in Petition No. 117/2010.

f) The Commission vide order dated 22.4.2013 in Petition No. 7/TT/2011 had allowed the transmission tariff of Combined Asset-I, Combined Asset-II and Asset-VI for the tariff period detailed as follows:

| <b>Asset</b>   | <b>Tariff Period</b> |            |
|--|----------------------|------------|
|  | <b>From</b>          | <b>To</b>  |
| Combined Asset-I comprising of Asset-III and Asset-IV (Notional COD: 1.9.2010)         | 1.9.2010             | 30.11.2010 |
| Combined Asset-II comprising of Combined Asset-I and Asset-V (Notional COD: 1.12.2010) | 1.12.2010            | 31.3.2014  |
| Asset-VI   | 1.8.2010             | 31.3.2014  |

g) The details of time over-run condoned and not condoned by the Commission vide order dated 22.4.2013 in Petition No. 7/TT/2021 are as follows:

**(Figures in months)**

| <b>Asset</b> | <b>Delay</b> | <b>Period of delay condoned</b> | <b>Period of delay not condoned</b> |
|--------------|--------------|---------------------------------|-------------------------------------|
| Asset-IV     | 41           | 13                              | 28                                  |
| Asset-V      | 44           | 13                              | 31                                  |
| Asset-VI     | 40           | 13                              | 27                                  |

h) The Commission vide order dated 4.10.2011 in Petition No. 01/2011 had condoned the delay of 17 months (April 2007 to August 2008) out of 23 months in the commissioning of Asset-I and Asset-II but the time over-run of 6 months



from September 2008 to February 2009 was not condoned and consequently IDC and IEDC for the said 6 months was dis-allowed.

i) The Commission vide order dated 16.3.2012 in Petition No. 117/2010 had condoned the delay of 17 months (April 2007 to August 2008) out of 28 months in the commissioning of Asset-III but the delay of 11 months from September 2008 to July 2009 was not condoned and consequently IDC and IEDC for the said 11 months was dis-allowed.

j) Aggrieved by the afore-mentioned findings of the Commission in orders dated 4.10.2011 and 16.3.2012, the Petitioner had filed Appeal No. 43/2012 and Appeal No. 107/2012 respectively before the Appellate Tribunal for Electricity (APTEL) which were disposed by the APTEL vide a combined judgment dated 24.9.2013 observing that the issue of commissioning of ICTs was considered and the commissioning of the line was not considered by the Commission and further the APTEL remanded back the afore-mentioned orders of the Commission with a direction to examine the reasons for the delay in commissioning the transmission line as well as the ICTs afresh.

k) In terms of the APTEL's aforesaid combined judgment dated 24.9.2013, the Commission vide order dated 18.5.2015 in Petition No. 01/2011 revised the transmission charges of Asset-I and Asset-II for the 2004-09 tariff period after condoning the respective time over-run of 20 months (April 2007 to November 2008) out of 23 months and simultaneously allowing respective IDC and IEDC to be capitalized for the said period but the time over-run from December 2008 to February 2009 was not condoned along with consequent IDC and IEDC related thereto was dis-allowed.

l) The transmission tariff of Asset-I and Asset-II for the 2009-14 tariff period was allowed vide order dated 22.5.2015 in Petition No. 197/TT/2012.

m) Further, in terms of the APTEL's aforesaid combined judgment dated 24.9.2013, the Commission vide order dated 8.6.2015 in Petition No. 117/2010 revised the transmission charges of Asset-III for the 2009-14 tariff period after condoning the time over-run of 20 months (April 2007 to November 2008) out of 28 months and simultaneously allowing IDC and IEDC to be capitalized for the





said period but the time over-run from December 2008 to July 2009 was not condoned along with consequent IDC and IEDC related thereto was dis-allowed.

n) In terms of implementation of the APTEL's directions (vide judgment dated 24.9.2013 in Appeal Nos. 43 and 107 of 2012) and revision order dated 8.6.2015 in Petition No. 117/2010, the transmission charges of Combined Asset-I (comprising of Asset-III and Asset-IV) and Combined Asset-II (comprising of Combined Asset-I and Asset-V) allowed vide order dated 22.4.2013 in Petition No. 7/TT/2011 were consequently revised by the Commission vide order dated 13.10.2015 in Petition No. 7/TT/2011.

o) The transmission tariff of all the six assets covered under the transmission scheme for the 2009-14 tariff period was trued-up and tariff for the 2014-19 tariff period was allowed by the Commission vide order dated 20.7.2018 in Petition No. 82/TT/2018.

p) The entire scope of work covered under the transmission scheme is complete and is covered in this petition.

q) The Petitioner has sought revision of transmission tariff allowed for the 2004-09 tariff period 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 APTEL dated 22.1.2007 in Appeal No. 81/2005 and batch matters and 13.6.2007 in Appeal No. 139/2006 and batch matters; consequential revision of transmission tariff allowed for the 2009-14 tariff period; truing up of tariff of the 2014-19 tariff period; and determination of transmission tariff of the 2019-24 tariff period for Combined Asset.

r) The APTEL in judgment dated 22.1.2007 in Appeal No. 81/2005 and batch matters pertaining to generating stations of NTPC had considered 4 (four) issues. The issues considered by APTEL and its decisions/ directions 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 IoL  | In view of the order of the APTEL dated 14.11.2016 in Appeal Nos. 94 and 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 | Commission's view upheld   |
| 3(b) | O&M Expenses: Non-inclusion of incentives and ex-gratia payment to employees                                      | Commission's view upheld   |
| 4    | Cost of spares for calculation of working capital   | Commission's view upheld   |

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

| Sl. No. | Issue   | APTEL's decision/direction  |
|---------|---|---|
| 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 decapitalised 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. The Commission to act accordingly |
| IX      | Computation of IoL in Singrauli   | Net loan closing at the end of a year is  |



|  |         |   |
|--|---------|---|
|  | Station | reflected as net loan opening on the first day of the next year. The Commission shall re-compute the interest accordingly |
|--|---------|---|

t) 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.

u) Based on APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner had sought re-determination of tariff of its transmission assets for the 2001-04 and 2004-09 tariff periods in 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 the Civil Appeals by the Hon'ble Supreme Court.

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

w) Consequent to the Hon'ble Supreme Court's judgment dated 10.4.2018 in NTPC matter, Petition No. 121/2007 was listed for hearing on 8.1.2019. 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 the 2014-19 tariff period.

x) The instant petition was heard on 9.7.2021 and in view of the APTEL's judgments dated 22.1.2007 and 13.6.2007 and the judgment 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 distribution licensees, power departments and transmission licensees which are procuring transmission services from the Petitioner, mainly beneficiaries of 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 reply in the matter.

**Re: Interest on Loan**

6. The APTEL while dealing with the issue of computation of IoL, in judgment dated 22.1.2007 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 Nos. 94 and 96 of 2005. The APTEL vide judgment dated 14.11.2006 had 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 the IoL liability for the period from 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for 2004-09 period is revised on the basis of the normative debt repayment methodology.

**Re: Additional Capital Expenditure**

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



## **Re: Depreciation**

8. As regards depreciation, the APTEL vide judgment dated 13.6.2007 in Appeal No. 139 of 2006 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 the APTEL, the outstanding loan allowed for the 2004-09 tariff period is revised in the instant order.

9. The revision of transmission tariff allowed for the 2004-09 tariff period necessitates the revision of transmission tariff allowed for the 2009-14 tariff period, which is also being done in the present order. The implementation of the directions of the 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 matters was kept pending in case of the Petitioner was kept 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 the 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. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 28.1.2020 and Petitioner's affidavit dated 30.3.2021 filed in response to technical validation letter.



11. The hearing in this matter was held on 9.7.2021 through video conference and the order was reserved. Having heard the representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

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

**2004-09 Period (Asset-I and Asset-II)**

12. The Commission vide order dated 4.10.2011 in Petition No. 01/2011 had allowed the transmission charges of Asset-I and Asset-II for the period from their COD to 31.3.2009 which were subsequently revised vide order dated 18.5.2015 in Petition No. 01/2011 and the same are as follows:

| Particulars                  | (₹ in lakh)                     |                                  |
|------------------------------|---------------------------------|----------------------------------|
|                              | Asset-I<br>2008-09<br>(31 days) | Asset-II<br>2008-09<br>(31 days) |
| Depreciation                 | 6.50                            | 4.47                             |
| Interest on Loan             | 14.43                           | 9.94                             |
| Return on Equity             | 8.09                            | 4.38                             |
| Advance against Depreciation | 0.00                            | 0.00                             |
| O&M Expenses                 | 6.45                            | 10.97                            |
| Interest on Working Capital  | 1.07                            | 0.90                             |
| <b>Total</b>                 | <b>36.55</b>                    | <b>30.65</b>                     |

13. The Petitioner has claimed the revised transmission charges in respect of Asset-I and Asset-II for 2004-09 tariff period as follows:

| Particulars                  | (₹ in lakh)                     |                                  |
|------------------------------|---------------------------------|----------------------------------|
|                              | Asset-I<br>2008-09<br>(31 days) | Asset-II<br>2008-09<br>(31 days) |
| Depreciation                 | 6.50                            | 4.47                             |
| Interest on Loan             | 14.46                           | 9.95                             |
| Return on Equity             | 8.09                            | 4.38                             |
| Advance against Depreciation | 0.00                            | 0.00                             |
| O&M Expenses                 | 6.45                            | 10.97                            |
| Interest on Working Capital  | 1.07                            | 0.91                             |
| <b>Total</b>                 | <b>36.57</b>                    | <b>30.68</b>                     |



14. We have considered the submissions of the Petitioner. The transmission tariff is allowed for Asset-I and Asset-II on the basis of the following:

- a) Admitted capital cost as on COD, 31.3.2009 and ACE during 2008-09 as follows:

| (₹ in lakh) |                                      |                  |  |
|-------------|--------------------------------------|------------------|--|
| Asset       | Admitted Capital Cost<br>(as on COD) | ACE<br>(2008-09) | Admitted Capital Cost<br>(as on 31.3.2009) |
| Asset-I     | 2507.08                              | 69.71            | 2576.79                                    |
| Asset-II    | 1591.07                              | 122.94           | 1714.01                                    |

- b) Weighted Average Rate of Interest (WAROI) on actual loan, Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expenses as per orders dated 4.10.2011 and 18.5.2015 in Petition No. 01/2011;

- c) With respect to calculation of IoL, moratorium in repayment of loan as per Regulation 56(i)(f) of the 2004 Tariff Regulations applicable for the 2004-09 tariff period has been considered that provides as follows:

***“56 (i) Interest on Loan Capital***

*(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly;”*

- d) ACE during 2004-09 period, which necessitates revision of the maintenance spares component for calculating IWC.

15. In view of the above, the revised transmission charges allowed for Asset-I and Asset-II for the 2004-09 tariff period are as follows:

| Particulars                  | (₹ in lakh)                     |                                  |
|------------------------------|---------------------------------|----------------------------------|
|                              | Asset-I<br>2008-09<br>(31 days) | Asset-II<br>2008-09<br>(31 days) |
| Depreciation                 | 6.50                            | 4.47                             |
| Interest on Loan             | 14.43                           | 9.94                             |
| Return on Equity             | 8.09                            | 4.38                             |
| Advance against Depreciation | 0.00                            | 0.00                             |
| O&M Expenses                 | 6.45                            | 10.97                            |
| Interest on Working Capital  | 1.07                            | 0.91                             |
| <b>Total</b>                 | <b>36.55</b>                    | <b>30.66</b>                     |



16. The revised Annual Fixed Charges (AFC) of Asset-I and Asset-II allowed vide order dated 18.5.2015 in Petition No. 01/2011, revised AFC claimed in the instant petition and the revised AFC approved in the instant order are as follows:

(₹ in lakh)

| Particulars  | Asset-I | Asset-II |
|--|---------|----------|
|  | 2008-09 | 2008-09  |
| Allowed vide order dated 18.5.2015 in Petition No. 01/2011 | 36.55   | 30.65    |
| Claimed by the Petitioner in the instant Petition          | 36.57   | 30.68    |
| Approved after true-up in this order                       | 36.55   | 30.66    |

### **2009-14 Period (Asset-I and Asset-II)**

17. The Commission vide order dated 25.5.2015 in Petition No. 197/TT/2012 had allowed the transmission charges of Asset-I and Asset-II for the 2009-14 tariff period which were trued-up vide order dated 20.7.2018 in Petition No. 82/TT/2018. The trued-up tariff allowed vide order dated 20.7.2018 is as follows:

#### **Asset-I**

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 135.48        | 137.69        | 139.22        | 143.89        | 148.09        |
| Interest on Loan            | 170.1         | 160.41        | 149.97        | 142.85        | 134.57        |
| Return on Equity            | 132.74        | 140.57        | 143.05        | 148.69        | 155.52        |
| O&M Expenses                | 79.25         | 83.78         | 88.59         | 93.65         | 99            |
| Interest on Working Capital | 13.10         | 13.33         | 13.44         | 13.76         | 14.08         |
| <b>Total</b>                | <b>530.67</b> | <b>535.78</b> | <b>534.28</b> | <b>542.84</b> | <b>551.27</b> |

#### **Asset-II**

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 85.68         | 90.26         | 93.01         | 100.77        | 107.95        |
| Interest on Loan            | 121.78        | 120.24        | 116.62        | 119.14        | 119.88        |
| Return on Equity            | 76.08         | 85.23         | 89.91         | 100.22        | 110.94        |
| O&M Expenses                | 115.28        | 121.88        | 128.84        | 136.22        | 144.01        |
| Interest on Working Capital | 11.68         | 12.26         | 12.69         | 13.49         | 14.26         |
| <b>Total</b>                | <b>410.50</b> | <b>429.87</b> | <b>441.07</b> | <b>469.84</b> | <b>497.04</b> |

18. The Petitioner has claimed the revised transmission charges for Asset-I and Asset-II for the 2009-14 tariff period in this petition as follows:





## Asset-I

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 135.48        | 137.69        | 139.22        | 143.89        | 148.09        |
| Interest on Loan            | 170.72        | 160.91        | 150.60        | 143.40        | 135.08        |
| Return on Equity            | 132.74        | 140.57        | 143.05        | 148.69        | 155.52        |
| O&M Expenses                | 79.25         | 83.78         | 88.59         | 93.65         | 99.00         |
| Interest on Working Capital | 13.11         | 13.34         | 13.45         | 13.77         | 14.10         |
| <b>Total</b>                | <b>531.30</b> | <b>536.30</b> | <b>534.91</b> | <b>543.40</b> | <b>551.79</b> |

## Asset-II

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 85.68         | 90.26         | 93.01         | 100.77        | 107.95        |
| Interest on Loan            | 122.23        | 120.66        | 117.04        | 119.57        | 120.25        |
| Return on Equity            | 76.08         | 85.23         | 89.91         | 100.22        | 110.94        |
| O&M Expenses                | 115.28        | 121.88        | 128.84        | 136.22        | 144.01        |
| Interest on Working Capital | 11.69         | 12.27         | 12.70         | 13.50         | 14.27         |
| <b>Total</b>                | <b>410.96</b> | <b>430.30</b> | <b>441.50</b> | <b>470.28</b> | <b>497.43</b> |

19. We have considered the submissions of the Petitioner. The revised transmission tariff is allowed for Asset-I and Asset-II on the basis of the following:

- Admitted capital cost of ₹2576.79 lakh and ₹1714.01 lakh as on 1.4.2009 for Asset-I and Asset-II respectively; and
- WAROI on actual loan and WAROD considered from order dated 20.7.2018 in Petition No. 82/TT/2018.

20. In view of the above, the revised transmission charges allowed for Asset-I and Asset-II for the 2009-14 tariff period are as follows:

## Asset-I

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 135.48        | 137.69        | 139.22        | 143.89        | 148.09        |
| Interest on Loan            | 170.06        | 160.37        | 149.93        | 142.81        | 134.53        |
| Return on Equity            | 132.74        | 140.57        | 143.05        | 148.69        | 155.52        |
| O&M Expenses                | 79.25         | 83.78         | 88.59         | 93.65         | 99.00         |
| Interest on Working Capital | 13.10         | 13.33         | 13.44         | 13.76         | 14.08         |
| <b>Total</b>                | <b>530.63</b> | <b>535.73</b> | <b>534.23</b> | <b>542.79</b> | <b>551.22</b> |



**Asset-II**

(₹ in lakh)

| Particulars                 | 2009-10       | 2010-11       | 2011-12       | 2012-13       | 2013-14       |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Depreciation                | 85.68         | 90.26         | 93.01         | 100.77        | 107.95        |
| Interest on Loan            | 121.78        | 120.24        | 116.62        | 119.14        | 119.88        |
| Return on Equity            | 76.08         | 85.23         | 89.91         | 100.22        | 110.94        |
| O&M Expenses                | 115.28        | 121.88        | 128.84        | 136.22        | 144.01        |
| Interest on Working Capital | 11.68         | 12.26         | 12.69         | 13.49         | 14.26         |
| <b>Total</b>                | <b>410.50</b> | <b>429.87</b> | <b>441.07</b> | <b>469.84</b> | <b>497.04</b> |

21. AFC allowed for the 2009-14 tariff period vide order dated 20.7.2018 in Petition No. 82/TT/2018, the revised AFC claimed in the instant petition and AFC approved in the instant order are as follows:

**Asset-I**

(₹ in lakh)

| Particulars   | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---------|---------|---------|---------|---------|
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 530.67  | 535.78  | 534.28  | 542.84  | 551.27  |
| Claimed by the Petitioner in the instant Petition             | 531.30  | 536.30  | 534.91  | 543.40  | 551.79  |
| Approved after true-up in this order                          | 530.63  | 535.73  | 534.23  | 542.79  | 551.22  |

**Asset-II**

(₹ in lakh)

| Particulars   | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---------|---------|---------|---------|---------|
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 410.50  | 429.87  | 441.07  | 469.84  | 497.04  |
| Claimed by the Petitioner in the instant Petition             | 410.96  | 430.30  | 441.50  | 470.28  | 497.43  |
| Approved after true-up in this order                          | 410.50  | 429.87  | 441.07  | 469.84  | 497.04  |

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

22. The details of the trued-up transmission charges claimed by the Petitioner in respect of Combined Asset for the 2014-19 tariff period are as follows:

(₹ in lakh)

| Particulars                 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|---------|---------|---------|---------|---------|
| Depreciation                | 606.25  | 611.04  | 612.72  | 612.72  | 612.72  |
| Interest on Loan            | 584.95  | 539.61  | 485.33  | 428.17  | 382.15  |
| Return on Equity            | 718.12  | 730.60  | 732.11  | 732.11  | 744.57  |
| O&M Expenses                | 706.94  | 730.39  | 754.62  | 779.63  | 805.64  |
| Interest on Working Capital | 83.00   | 83.65   | 83.81   | 83.88   | 84.55   |



|              |                |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|
| <b>Total</b> | <b>2699.26</b> | <b>2695.29</b> | <b>2668.59</b> | <b>2636.51</b> | <b>2629.63</b> |
|--------------|----------------|----------------|----------------|----------------|----------------|

23. The details of the trued-up IWC claimed by the Petitioner in respect of Combined Asset for the 2014-19 tariff period 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> |
| O&M Expenses                       | 58.91          | 60.87          | 62.89          | 64.97          | 67.14          |
| Maintenance Spares                 | 106.04         | 109.56         | 113.19         | 116.94         | 120.85         |
| Receivables                        | 449.88         | 449.22         | 444.77         | 439.42         | 438.27         |
| <b>Total Working Capital</b>       | <b>614.83</b>  | <b>619.65</b>  | <b>620.85</b>  | <b>621.33</b>  | <b>626.26</b>  |
| Rate of Interest (in %)            | 13.50          | 13.50          | 13.50          | 13.50          | 13.50          |
| <b>Interest on Working Capital</b> | <b>83.00</b>   | <b>83.65</b>   | <b>83.81</b>   | <b>83.88</b>   | <b>84.55</b>   |

### **Effective Date of Commercial Operation (E-COD)**

24. The Petitioner has submitted the revised computation of E-COD and has further claimed 28.2.2010 as revised E-COD with respect to Combined Asset. We have considered the submissions of the Petitioner. The Commission vide order dated 20.7.2018 in Petition No. 82/TT/2018 had determined E-COD of Combined Asset as 27.2.2010 and the same E-COD has been considered in the instant petition.

### **Weighted Average Life (WAL)**

25. The Commission vide order dated 20.7.2018 in Petition No. 82/TT/2018 had determined WAL of Combined Asset as 26 years and the same has been considered in the instant petition.

### **Capital Cost**

26. The Commission vide order dated 20.7.2018 in Petition No. 82/TT/2018 had allowed capital cost as on 1.4.2014 of ₹12701.17 lakh and capital cost as on 31.3.2019 of ₹13214.12 including projected ACE of ₹512.95 lakh for determination of transmission tariff of the 2014-19 tariff period. The capital cost with respect to the transmission scheme has been calculated in accordance with Regulation 9(3) of the 2014 Tariff Regulations as follows:



(₹ in lakh)

| Asset                              | Capital Cost<br>(as on<br>1.4.2014) | ACE           |              |             |               |             | Capital<br>Cost<br>(as on<br>31.3.2019) |
|------------------------------------|-------------------------------------|---------------|--------------|-------------|---------------|-------------|---|
|                                    |                                     | 2014-15       | 2015-16      | 2016-17     | 2017-18       | 2018-19     |   |
| Asset-I                            | 2872.74                             | 0.00          | 0.00         | 0.00        | 0.00          | 0.00        | 2872.74                                 |
| Asset-II                           | 2288.05                             | 0.00          | 0.00         | 0.00        | 0.00          | 0.00        | 2288.05                                 |
| Combined<br>Asset-III, IV and<br>V | 5879.37*                            | 247.16        | 63.54        | 0.00        | 202.25        | 0.00        | 6392.32                                 |
| Asset-VI                           | 1661.01                             | 0.00          | 0.00         | 0.00        | 0.00          | 0.00        | 1661.01                                 |
| <b>Combined<br/>Asset</b>          | <b>12701.17</b>                     | <b>247.16</b> | <b>63.54</b> | <b>0.00</b> | <b>202.25</b> | <b>0.00</b> | <b>13214.12</b>                         |

\* Initial spares amounting to ₹4.16 lakh corresponding to Asset-IV were dis-allowed

### **Initial Spares**

27. Asset-IV was put into commercial operation in the 2009-14 period. Regulation 8 of the 2009 Tariff Regulations provides as follows:

*“8. **Initial Spares.** Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:*

....

(iv) *Transmission system*

(a) *Transmission line - 0.75%*

(b) *Transmission Sub-station - 2.5%*

(c) *Series Compensation devices and HVDC Station - 3.5%”*

28. The Petitioner in the instant petition has prayed to allow the Initial Spares amounting to ₹4.16 lakh with respect to Asset-IV that were restricted by the Commission vide order dated 20.7.2018 after taking into consideration the APTEL's judgment dated 14.9.2019 in Appeal No. 74/2017.

29. We have considered the submissions of the Petitioner. The Commission vide order dated 20.7.2018 had restricted Initial Spares of ₹4.16 lakh corresponding to Asset-IV. As per the APTEL's judgment dated 14.9.2019, the Initial Spares are to be allowed as a percentage of the project cost as a whole as on the cut-off date.

30. Regulation 3(29) of the 2009 Tariff Regulations defines “project cost” as under:



“(29) ‘original project cost’ means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date as admitted by the Commission;”

31. As Asset-IV was put into commercial operation in the 2009-14 period, the 2009 Tariff Regulations are applicable to Asset-IV as regards Initial Spares. Accordingly, the allowable limit for Initial Spares for the transmission sub-stations is 2.5%. The transmission assets were combined during the 2014-19 tariff period, and, hence the Initial Spares are allowed on the basis of the overall project cost w.e.f. 2014-19 period as per APTEL’s judgment dated 14.9.2019.

32. The Initial Spares allowed for Combined Asset are as follows:

| (₹ in lakh)           |  |                              |   |   |  |  |
|-----------------------|--|------------------------------|---|---|--|--|
| Asset                 | Project Cost (upto cut-off date) (₹ in lakh) (A) | Initial Spares (claimed) (B) | Norms as per the 2009 Tariff Regulations (in %) (C) | Initial Spares as per the 2009 Tariff Regulations (₹ in lakh) $D = [(A-B)*C / (100-C)]$ | Initial Spares already allowed (₹ in lakh) | Initial Spares allowed on Combined Asset |
| Asset-I               | 1170.14  | 14.66                        | 2.50  | 29.63   | 14.66                                      | <b>130.01**</b>                          |
| Asset-II              | 1964.89  | 30.33                        | 2.50  | 49.60   | 30.33                                      |  |
| Asset-III             | 2025.36  | 37.45                        | 2.50  | 50.97   | 37.45                                      |  |
| Asset-IV              | 1740.60  | 47.57                        | 2.50  | 43.41   | 43.41                                      |  |
| Asset-V               | 2115.14  | 0.00                         | 2.50  | 54.23   | 0.00                                       |  |
| Asset-VI              | 1437.76  | 0.00                         | 2.50  | 36.87   | 0.00                                       |  |
| <b>Combined Asset</b> | <b>10453.89</b>                                  | <b>130.01</b>                | <b>2.50</b>   | <b>264.71</b>   | <b>125.85</b>                              |  |

\*\*Additional Initial Spares of ₹4.16 lakh (₹130.01-₹125.85) are allowed

33. In line with the APTEL’s judgment dated 14.9.2019, the additional Initial Spares of ₹4.16 lakh are admissible with respect to Combined Asset as follows:

| (₹ in lakh)                            |   |                               |
|--|---|-------------------------------|
| Capital Cost admitted (as on 1.4.2014) | Additional Initial Spares (as per APTEL’s Judgment) | Capital Cost (as on 1.4.2014) |
| 12701.17                               | 4.16  | 12705.33                      |

### **Additional Capital Expenditure**

34. The Commission vide order dated 20.7.2018 in Petition No. 82/TT/2018 had allowed ACE of ₹247.16 lakh, ₹63.54 lakh and ₹202.25 lakh for 2014-15, 2015-16 and



2017-18 respectively in respect of Asset-III, Asset-IV and Asset-V. In case of Asset-IV and Asset-V, ACE was allowed towards balance and retention payments due to un-discharged liabilities for works executed within cut-off date and in case of Asset-III, ACE was allowed towards payment of enhanced land cost as per court case order for Sitarganj.

35. The Petitioner has submitted the details of ACE claimed with respect to the transmission assets during the 2014-19 tariff period as follows:

- a) No ACE is claimed with respect to Asset-I, Asset-II and Asset-VI.
- b) In respect of Asset-III, ACE of ₹129.16 lakh and ₹354.04 lakh during 2014-15 and 2018-19 respectively has been claimed. ACE of ₹129.16 lakh has been claimed as actual expenditure on account of compensation as per Hon'ble Nainital High Court Order and ACE of ₹354.04 lakh is claimed towards balance estimated expenditure on account of pending court case for land of Sitarganj Sub-station. The Petitioner vide affidavit dated 30.3.2021 has submitted a copy of Auditor Certificate in support of ACE claimed and has stated that the same may be reviewed at the time of filing true-up petition for the 2019-24 tariff period as the matter is still pending and the said Auditor Certificate may get revised based on outcome of the Court Order. ACE is claimed under Regulation 14(3)(i) of the 2014 Tariff Regulations and is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date.
- c) The details of package-wise and vendor-wise ACE claimed beyond cut-off date with respect to Asset-III, Asset-IV and Asset-V are as follows:

| (₹ in lakh) |         |             |                                       |   |
|-------------|---------|-------------|---------------------------------------|---|
| Asset       | ACE     | Year of ACE | Party Name                            | Regulation                              |
| Asset-III   | 129.16  | 2014-15     | Enhanced land cost as per Court Order | 14(3)(i) of the 2014 Tariff Regulations |
|             | 354.04* | 2018-19     |                                       |   |
| Asset-IV    | 59.00   | 2014-15     | Balance Retention                     | 14(3)(v) of the 2014 Tariff             |



|         |       |         |                   |   |
|---------|-------|---------|-------------------|---|
|         | 31.77 | 2015-16 | Payment to BHEL   | Regulations                             |
| Asset-V | 59.00 | 2014-15 | Balance Retention | 14(3)(v) of the 2014 Tariff Regulations |
|         | 31.77 | 2015-16 | Payment to BHEL   |   |

*\*Expenditure on account of compensation as per Nainital High Court Order dated 14.2.2018. First Appeal No. 133/2015 regarding Sitarganj Sub-station land compensation is pending before the Hon'ble Nainital High Court.*

d) In respect of Asset-IV and Asset-V, respective ACE of ₹59.00 lakh has been claimed during 2014-15 and respective ACE of ₹31.77 lakh has been claimed during 2015-16 that was allowed by the Commission under Regulation 14(3)(v) of the 2014 Tariff Regulations vide order dated 20.7.2018 in Petition No. 82/TT/2018 and is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date.

36. We have considered the submissions of the Petitioner. In case of Asset-III, ACE is claimed under Regulation 14(3)(i) of the 2014 Tariff Regulations which is beyond cut-off date i.e. 31.3.2013 and is on account of Court Order. ACE claimed under Regulation 14(3)(v) of the 2014 Tariff Regulations is beyond cut-off date for Asset-IV and Asset-V and is on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. ACE claimed is in line with the 2014 Tariff Regulations and, therefore, the same is allowed.

37. The details of the allowed capital cost and ACE during the 2014-19 tariff period with respect to Combined Asset in the instant order are as follows:

| Capital Cost<br>(as on<br>1.4.2014) | ACE 2014-19<br>(as per Auditor Certificate) |         |         |         |         | Capital Cost<br>considered<br>(as on<br>31.3.2019) |
|-------------------------------------|---|---------|---------|---------|---------|--|
|                                     | 2014-15                                     | 2015-16 | 2016-17 | 2017-18 | 2018-19 |  |
| 12705.33                            | 247.16                                      | 63.54   | 0.00    | 0.00    | 354.04  | 13370.07   |

### **Debt-Equity Ratio**

38. The Petitioner has claimed debt-equity ratio of 71.49:28.51 as on 1.4.2014. The debt-equity ratio has been considered in accordance with Regulation 19 of the 2014





Tariff Regulations. The debt and equity allowed for Combined Asset for determination of tariff for the period ending on 31.3.2014 has been considered as opening debt and equity ratio as on 1.4.2014. The debt and equity ratio of 70:30 has been considered for ACE allowed during the 2014-19 period in accordance with Regulation 19(3) of the 2014 Tariff Regulations. The details of debt-equity ratio in respect of Combined Asset as on 1.4.2014 and 31.3.2019 are as follows:

| Funding      | Capital Cost<br>(as on 1.4.2014)<br>(₹ in lakh) | (in %)         | Total Capital Cost<br>(as on 31.3.2019)<br>(₹ in lakh) | (in %)         |
|--------------|---|----------------|--|----------------|
| Debt         | 9083.18   | 71.49%         | 9548.50  | 71.42%         |
| Equity       | 3622.15   | 28.51%         | 3821.57  | 28.58%         |
| <b>Total</b> | <b>12705.33</b>                                 | <b>100.00%</b> | <b>13370.07</b>  | <b>100.00%</b> |

### Depreciation

39. The depreciation has been worked out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. The Gross Block during the 2014-19 tariff period has been depreciated at WAROD. WAROD at Annexure-I has been worked out after considering the depreciation rates of assets as specified in the 2014 Tariff Regulations. The trued-up depreciation allowed for Combined Asset during the 2014-19 tariff period is as follows:

| Particulars   | (₹ in lakh)   |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|
|   | 2014-15       | 2015-16       | 2016-17       | 2017-18       | 2018-19       |
| Opening Gross Block   | 12705.33      | 12952.49      | 13016.03      | 13016.03      | 13016.03      |
| ACE   | 247.16        | 63.54         | 0.00          | 0.00          | 354.04        |
| Closing Gross Block   | 12952.49      | 13016.03      | 13016.03      | 13016.03      | 13370.07      |
| Average Gross Block   | 12828.91      | 12984.26      | 13016.03      | 13016.03      | 13193.05      |
| Freehold Land   | 633.37        | 633.37        | 633.37        | 633.37        | 987.41        |
| Rate of Depreciation (in %)                                   | 4.73          | 4.71          | 4.71          | 4.71          | 4.64          |
| Balance useful life of the asset beginning of the year (Year) | 22.00         | 21.00         | 20.00         | 19.00         | 18.00         |
| Lapsed life at the beginning of the year (Year)               | 4.00          | 5.00          | 6.00          | 7.00          | 8.00          |
| <b>Depreciation during the year</b>                           | <b>606.27</b> | <b>611.06</b> | <b>612.74</b> | <b>612.74</b> | <b>612.74</b> |
| Cumulative Depreciation at the end of the year                | 3066.02       | 3677.08       | 4289.82       | 4902.55       | 5515.29       |
| Remaining Depreciable Value at                                | 7909.97       | 7438.72       | 6854.58       | 6241.84       | 5469.79       |



|                     |  |  |  |  |  |
|---------------------|--|--|--|--|--|
| the end of the year |  |  |  |  |  |
|---------------------|--|--|--|--|--|

40. The details of depreciation in respect of Combined Asset as allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

| Particulars   | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|---------|---------|
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 610.33  | 615.12  | 616.80  | 616.80  | 616.80  |
| Claimed by the Petitioner in the instant Petition             | 606.25  | 611.04  | 612.72  | 612.72  | 612.72  |
| Approved after true-up in this order                          | 606.27  | 611.06  | 612.74  | 612.74  | 612.74  |

### Interest on Loan

41. The Petitioner has claimed WAROI on Loan based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed in respect of Combined Asset is as follows:

(₹ in lakh)

| Particulars                              | 2014-15       | 2015-16       | 2016-17       | 2017-18       | 2018-19       |
|--|---------------|---------------|---------------|---------------|---------------|
| Gross Normative Loan                     | 9083.18       | 9256.19       | 9300.67       | 9300.67       | 9300.67       |
| Cumulative Repayments upto Previous Year | 2459.75       | 3066.02       | 3677.07       | 4289.81       | 4902.54       |
| Net Loan-Opening                         | 6623.43       | 6190.17       | 5623.60       | 5010.86       | 4398.13       |
| Additions due to ACE                     | 173.01        | 44.48         | 0.00          | 0.00          | 247.83        |
| Repayment during the year                | 606.26        | 611.06        | 612.73        | 612.73        | 612.73        |
| Net Loan-Closing                         | 6190.17       | 5623.59       | 5010.85       | 4398.12       | 4033.21       |
| Average Loan                             | 6406.80       | 5906.88       | 5317.22       | 4704.49       | 4215.66       |
| Weighted Average Rate of IoL (in %)      | 9.1146        | 9.1183        | 9.1087        | 9.0801        | 9.0414        |
| <b>Interest on Loan</b>                  | <b>583.95</b> | <b>538.61</b> | <b>484.33</b> | <b>427.17</b> | <b>381.15</b> |

42. The details of IoL in respect of Combined Asset as allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)

| Particulars   | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|---------|---------|
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 583.59  | 538.38  | 484.34  | 434.38  | 384.42  |
| Claimed by the Petitioner in the instant Petition             | 584.95  | 539.61  | 485.33  | 428.17  | 382.15  |
| Approved after true-up in this order                          | 583.95  | 538.61  | 484.33  | 427.17  | 381.15  |

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

43. The Petitioner has claimed RoE for Combined Asset in terms of Regulation 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at Minimum Alternate Tax (MAT) rates and has claimed the effective tax rates for the 2014-19 tariff period as follows:

| Year    | Claimed effective tax rate (in %) | Grossed-up RoE [Base Rate/(1-t)] (in %) |
|---------|-----------------------------------|---|
| 2014-15 | 21.018                            | 19.625                                  |
| 2015-16 | 21.382                            | 19.716                                  |
| 2016-17 | 21.338                            | 19.705                                  |
| 2017-18 | 21.337                            | 19.704                                  |
| 2018-19 | 21.549                            | 19.758                                  |

44. The Commission in 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 which are 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               |

45. MAT rates considered in order dated 27.4.2020 for the purpose of grossing up of rate of RoE for trueing up of the tariff of the 2014-19 period, in terms of the provisions of the 2014 Tariff Regulations, is considered in the instant case which are 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                                  |

46. RoE is trued-up RoE on the basis of MAT rates applicable in the respective years and is allowed for Combined Asset as follows:

| Particulars                         | (₹ in lakh)   |               |               |               |               |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                     | 2014-15       | 2015-16       | 2016-17       | 2017-18       | 2018-19       |
| Opening Equity                      | 3622.15       | 3696.30       | 3715.36       | 3715.36       | 3715.36       |
| Additions due to ACE                | 74.15         | 19.06         | 0.00          | 0.00          | 106.21        |
| Closing Equity                      | 3696.30       | 3715.36       | 3715.36       | 3715.36       | 3821.57       |
| Average Equity                      | 3659.22       | 3705.83       | 3715.36       | 3715.36       | 3768.47       |
| Return on Equity (Base Rate) (in %) | 15.500        | 15.500        | 15.500        | 15.500        | 15.500        |
| MAT Rate for respective year (in %) | 20.961        | 21.342        | 21.342        | 21.342        | 21.549        |
| Rate of Return on Equity (in %)     | 19.610        | 19.705        | 19.705        | 19.705        | 19.758        |
| <b>Return on Equity</b>             | <b>717.57</b> | <b>730.23</b> | <b>732.11</b> | <b>732.11</b> | <b>744.57</b> |

47. The details of RoE in respect of Combined Asset as allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed in the instant petition and trued-up in the instant order are as follows:

| Particulars   | (₹ in lakh) |         |         |         |         |
|---|-------------|---------|---------|---------|---------|
|   | 2014-15     | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 717.33      | 726.47  | 728.34  | 734.29  | 740.23  |
| Claimed by the Petitioner in the instant Petition             | 718.12      | 730.60  | 732.11  | 732.11  | 744.57  |
| Approved after true-up in this order                          | 717.57      | 730.23  | 732.11  | 732.11  | 744.57  |

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

48. The total O&M Expenses claimed by the Petitioner for Combined Asset are as follows:



| <b>O&amp;M Expenses</b>   | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Transmission Line</b>  |                |                |                |                |                |
| 220 kV D/C single conductor transmission line (21.906 kms)  | 21.906         | 21.906         | 21.906         | 21.906         | 21.906         |
| Norms (₹ lakh/km)   | 0.303          | 0.313          | 0.324          | 0.334          | 0.346          |
| 220 kV D/C triple conductor transmission line (1.166 km)  | 1.166          | 1.166          | 1.166          | 1.166          | 1.166          |
| Norms (₹ lakh/km)   | 0.707          | 0.731          | 0.755          | 0.78           | 0.806          |
| <b>Total (Transmission Lines) (₹ in lakh)</b>   | <b>7.46</b>    | <b>7.71</b>    | <b>7.98</b>    | <b>8.23</b>    | <b>8.52</b>    |
| <b>Sub-station</b>  |                |                |                |                |                |
| 220 kV  |                |                |                |                |                |
| 1) Sitaraganj: Tanakpur Bay<br>2) Sitaraganj: Bareilly Bay<br>3) ICT-I bay at Sitaraganj<br>4) Pithoragarh: Dhauliganga Bay<br>5) Pithoragarh: Bareilly Bay<br>6) ICT-II at Sitaraganj<br>7) ICT-I at Pithoragarh<br>8) ICT-II at Pithoragarh | 8              | 8              | 8              | 8              | 8              |
| Norms (₹ lakh/bay)  | 42.21          | 43.61          | 45.06          | 46.55          | 48.1           |
| 132 kV  |                |                |                |                |                |
| 1) ICT-I bay at Sitaraganj<br>2) ICT-II at Sitaraganj<br>3) ICT-I bay at Pithoragarh<br>4) ICT-II bay at Pithoragarh<br>5) 4 Numbers line bay at Pithoragarh<br>6) 4 Numbers line bay at  | 12             | 12             | 12             | 12             | 12             |
| Norms (₹ lakh/bay)  | 30.15          | 31.15          | 32.18          | 33.25          | 34.36          |
| <b>Total (Sub Station) (₹ in lakh)</b>  | <b>699.48</b>  | <b>722.68</b>  | <b>746.64</b>  | <b>771.40</b>  | <b>797.12</b>  |
| <b>Total O&amp;M Expenses (₹ in lakh)</b>   | <b>706.94</b>  | <b>730.39</b>  | <b>754.62</b>  | <b>779.63</b>  | <b>805.64</b>  |

49. The O&M Expenses are allowed for Combined Asset as per the norms specified in Regulation 29(3) of the 2014 Tariff Regulations and are as follows:

| <b>O&amp;M Expenses</b>                                   | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Transmission Line</b>                                  |                |                |                |                |                |
| 220 kV D/C single conductor transmission line (21.906 km) | 21.906         | 21.906         | 21.906         | 21.906         | 21.906         |
| Norms (₹ lakh/km)   | 0.303          | 0.313          | 0.324          | 0.334          | 0.346          |
| 220 kV D/C triple conductor transmission line (1.166 km)  | 1.166          | 1.166          | 1.166          | 1.166          | 1.166          |
| Norms (₹ lakh/km)   | 0.707          | 0.731          | 0.755          | 0.78           | 0.806          |
| <b>Total (Transmission Lines) (₹ in lakh)</b>             | <b>7.46</b>    | <b>7.71</b>    | <b>7.98</b>    | <b>8.23</b>    | <b>8.52</b>    |



| <b>Sub-station</b>  |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|
| 220 kV  |               |               |               |               |               |
| 1) Sitaraganj: Tanakpur Bay<br>2) Sitaraganj: Bareilly Bay<br>3) ICT-I bay at Sitaraganj<br>4) Pithoragarh: Dhauliganga Bay<br>5) Pithoragarh: Bareilly Bay<br>6) ICT-II at Sitaraganj<br>7) ICT-I at Pithoragarh<br>8) ICT-II at Pithoragarh | 8             | 8             | 8             | 8             | 8             |
| Norms (₹ lakh/bay)  | 42.21         | 43.61         | 45.06         | 46.55         | 48.1          |
| 132 kV  |               |               |               |               |               |
| 1) ICT-I bay at Sitaraganj<br>2) ICT-II at Sitaraganj<br>3) ICT-I bay at Pithoragarh<br>4) ICT-II bay at Pithoragarh<br>5) 4 Numbers line bay at Pithoragarh<br>6) 4 Numbers line bay at  | 12            | 12            | 12            | 12            | 12            |
| Norms (₹ lakh/bay)  | 30.15         | 31.15         | 32.18         | 33.25         | 34.36         |
| <b>Total (Sub Station) (₹ in lakh)</b>  | <b>699.48</b> | <b>722.68</b> | <b>746.64</b> | <b>771.40</b> | <b>797.12</b> |
| <b>Total O&amp;M Expenses (₹ in lakh)</b>   | <b>706.94</b> | <b>730.39</b> | <b>754.62</b> | <b>779.63</b> | <b>805.64</b> |

50. The details of O&M Expenses allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed in the instant petition and trued-up in the instant order are as follows:

| <b>Particulars</b>  | <b>(₹ in lakh)</b> |                |                |                |                |
|---|--------------------|----------------|----------------|----------------|----------------|
|   | <b>2014-15</b>     | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 706.94             | 730.39         | 754.62         | 779.63         | 805.64         |
| Claimed by the Petitioner in the instant Petition             | 706.94             | 730.39         | 754.62         | 779.63         | 805.64         |
| Approved after true-up in this order                          | 706.94             | 730.39         | 754.62         | 779.63         | 805.64         |

### **Interest on Working Capital**

51. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC allowed for Combined Asset for the 2014-19 tariff period are as follows:

| <b>Particulars</b>                             | <b>(₹ in lakh)</b> |                |                |                |                |
|--|--------------------|----------------|----------------|----------------|----------------|
|  | <b>2014-15</b>     | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
| Working Capital for O&M Expenses (for 1 month) | 58.91              | 60.87          | 62.88          | 64.97          | 67.14          |



|   |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|
| Working Capital for Maintenance Spares (@ 15% of O&M Expenses)  | 106.04        | 109.56        | 113.19        | 116.94        | 120.85        |
| Working Capital for Receivables (equivalent to 2 months of AFC) | 449.62        | 448.98        | 444.60        | 439.25        | 438.10        |
| <b>Total Working Capital</b>                                    | <b>614.57</b> | <b>619.41</b> | <b>620.68</b> | <b>621.16</b> | <b>626.09</b> |
| Rate of Interest (in %)   | 13.50         | 13.50         | 13.50         | 13.50         | 13.50         |
| <b>Interest on Working Capital</b>                              | <b>82.97</b>  | <b>83.62</b>  | <b>83.79</b>  | <b>83.86</b>  | <b>84.52</b>  |

52. The details of IWC in respect of Combined Asset as allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed in the instant petition and trued-up in the instant order are as follows:

| (₹ in lakh)   |         |         |         |         |         |
|---|---------|---------|---------|---------|---------|
| Particulars   | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 83.05   | 83.62   | 83.80   | 84.17   | 84.59   |
| Claimed by the Petitioner in the instant Petition             | 83.00   | 83.65   | 83.81   | 83.88   | 84.55   |
| Approved after true-up in this order                          | 82.97   | 83.62   | 83.79   | 83.86   | 84.52   |

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

53. The trued-up AFC allowed for Combined Asset for the 2014-19 tariff period are as follows:

| (₹ in lakh)                 |                |                |                |                |                |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars                 | 2014-15        | 2015-16        | 2016-17        | 2017-18        | 2018-19        |
| Depreciation                | 606.27         | 611.06         | 612.74         | 612.74         | 612.74         |
| Interest on Loan            | 583.95         | 538.61         | 484.33         | 427.17         | 381.15         |
| Return on Equity            | 717.57         | 730.23         | 732.11         | 732.11         | 744.57         |
| O&M Expenses                | 706.94         | 730.39         | 754.62         | 779.63         | 805.64         |
| Interest on Working Capital | 82.97          | 83.62          | 83.79          | 83.86          | 84.52          |
| <b>Total</b>                | <b>2697.70</b> | <b>2693.91</b> | <b>2667.59</b> | <b>2635.50</b> | <b>2628.63</b> |

54. Accordingly, the Annual Transmission Charges allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018, claimed by the Petitioner in the instant petition and approved after truing up in the instant order are as follows:





(₹ in lakh)

| Particulars   | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|---------|---------|---------|---------|---------|
| Allowed vide order dated 20.7.2018 in Petition No. 82/TT/2018 | 2701.23 | 2693.99 | 2667.90 | 2649.26 | 2631.68 |
| Claimed by the Petitioner in the instant Petition             | 2699.26 | 2695.29 | 2668.59 | 2636.51 | 2629.63 |
| Approved after true-up in this order                          | 2697.70 | 2693.91 | 2667.59 | 2635.50 | 2628.63 |

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

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

(₹ in lakh)

| Particulars                 | 2019-20        | 2020-21        | 2021-22        | 2022-23        | 2023-24        |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Depreciation                | 612.72         | 612.72         | 612.72         | 270.79         | 270.79         |
| Interest on Loan            | 336.98         | 281.03         | 225.07         | 184.47         | 159.54         |
| Return on Equity            | 717.77         | 717.77         | 717.77         | 717.77         | 717.77         |
| O&M Expenses                | 486.75         | 503.73         | 521.29         | 539.18         | 558.13         |
| Interest on Working Capital | 46.29          | 46.28          | 46.20          | 41.21          | 41.59          |
| <b>Total</b>                | <b>2200.51</b> | <b>2161.53</b> | <b>2123.05</b> | <b>1753.42</b> | <b>1747.82</b> |

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

(₹ in lakh)

| Particulars                        | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| O&M Expenses                       | 40.56         | 41.98         | 43.44         | 44.93         | 46.51         |
| Maintenance Spares                 | 73.01         | 75.56         | 78.19         | 80.88         | 83.72         |
| Receivables                        | 270.55        | 266.49        | 261.75        | 216.18        | 214.89        |
| <b>Total Working Capital</b>       | <b>384.12</b> | <b>384.03</b> | <b>383.38</b> | <b>341.99</b> | <b>345.12</b> |
| Rate of Interest (in %)            | 12.05         | 12.05         | 12.05         | 12.05         | 12.05         |
| <b>Interest on Working Capital</b> | <b>46.29</b>  | <b>46.28</b>  | <b>46.20</b>  | <b>41.21</b>  | <b>41.59</b>  |

### **Capital Cost**

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

**“19. Capital Cost:** (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.

(2) The Capital Cost of a new project shall include the following:



- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of 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 assets forming part of the project, but not in use, as declared in the tariff petition;*

*(b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:*

*Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be 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 assets.*

*(c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*

*(d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*

*(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment."*

58. The Petitioner has claimed capital cost as on 31.3.2019 of ₹13370.07 lakh for Combined Asset. The same has been worked out by the Commission as on 31.3.2019 and considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

59. The Petitioner has not claimed any ACE for the 2019-24 tariff period in respect of Combined Asset. Accordingly, the capital cost considered for the 2019-24 tariff period are as follows:



(₹ in lakh)

| Total Capital Cost<br>(as on 1.4.2019) | ACE<br>(2019-24) | Total Capital Cost<br>(as on 31.3.2024) |
|--|------------------|---|
| 13370.07                               | 0.00             | 13370.07                                |

### **Debt-Equity Ratio**

60. 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 ACE 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.”

61. The debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period is as follows:

| <b>Funding</b> | <b>Capital Cost<br/>(as on 1.4.2019)<br/>(₹ in lakh)</b> | <b>(in %)</b> | <b>Capital Cost<br/>(as on 31.3.2024)<br/>(₹ in lakh)</b> | <b>(in %)</b> |
|----------------|--|---------------|---|---------------|
| Debt           | 9548.50  | 71.42         | 9548.50   | 71.42         |
| Equity         | 3821.57  | 28.58         | 3821.57   | 28.58         |
| <b>Total</b>   | <b>13370.07</b>  | <b>100.00</b> | <b>13370.07</b>   | <b>100.00</b> |

### **Depreciation**

62. 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 project or element thereof including communication project. In case of the tariff of all the units of a generating station or all elements of a transmission project including communication project 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 project 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 project, 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 project, weighted average life for the generating station of the transmission project shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

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

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

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





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

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

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

*(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the assets of the generating station and transmission system:*

*Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*

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

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

*(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”*

63. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The Combined Asset completes 12 years of life as on 31.3.2022, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 33(5) of the 2019 Tariff Regulations. WAROD at Annexure-II has been worked out after considering the rates of depreciation specified in the 2019 Tariff Regulations. The depreciation allowed in respect of Combined Asset for the 2019-24 tariff period is as follows:

| Particulars   | (₹ in lakh) |          |          |          |          |
|---|-------------|----------|----------|----------|----------|
|   | 2019-20     | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
| Opening Gross Block                                   | 13370.07    | 13370.07 | 13370.07 | 13370.07 | 13370.07 |
| Addition during the year 2019-24 due to projected ACE | 0.00        | 0.00     | 0.00     | 0.00     | 0.00     |



|  |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
| Closing Gross Block  | 13370.07      | 13370.07      | 13370.07      | 13370.07      | 13370.07      |
| Average Gross Block  | 13370.07      | 13370.07      | 13370.07      | 13370.07      | 13370.07      |
| Weighted average rate of Depreciation (WAROD) (in %)         | 4.58          | 4.58          | 4.58          | 2.03          | 2.03          |
| Balance useful life at the beginning of the year (Year)      | 17            | 16            | 15            | 14            | 13            |
| Lapsed life of the asset at the beginning of the year (Year) | 9             | 10            | 11            | 12            | 13            |
| Depreciable Value  | 11144.39      | 11144.39      | 11144.39      | 11144.39      | 11144.39      |
| <b>Depreciation during the year</b>                          | <b>612.74</b> | <b>612.74</b> | <b>612.74</b> | <b>270.78</b> | <b>270.78</b> |
| Cumulative Depreciation at the end of the year               | 6128.03       | 6740.76       | 7353.50       | 7624.28       | 7895.06       |
| Remaining Depreciable Value at the end of the year           | 5016.37       | 4403.63       | 3790.89       | 3520.11       | 3249.34       |

### **Interest on Loan**

64. 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 assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-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.*

(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.”

65. WAROI on loan has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for Combined Asset for the 2019-24 tariff period is as follows:

| Particulars                              | (₹ in lakh)   |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
|  | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
| Gross Normative Loan                     | 9548.50       | 9548.50       | 9548.50       | 9548.50       | 9548.50       |
| Cumulative Repayments upto Previous Year | 5515.29       | 6128.03       | 6740.76       | 7353.50       | 7624.28       |
| Net Loan-Opening                         | 4033.21       | 3420.47       | 2807.73       | 2195.00       | 1924.22       |
| Additions due to ACE                     | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Repayment during the year                | 612.74        | 612.74        | 612.74        | 270.78        | 270.78        |
| Net Loan-Closing                         | 3420.47       | 2807.73       | 2195.00       | 1924.22       | 1653.44       |
| Average Loan                             | 3726.84       | 3114.10       | 2501.37       | 2059.61       | 1788.83       |
| Weighted Average Rate of IoL (in %)      | 9.0153        | 8.9924        | 8.9583        | 8.9083        | 8.8637        |
| <b>Interest o loan</b>                   | <b>335.99</b> | <b>280.03</b> | <b>224.08</b> | <b>183.48</b> | <b>158.56</b> |

### **Return on Equity**

66. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide 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 due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;



*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.”*

**“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:*

*Rate of pre-tax return on equity = Base rate / (1-t)*

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



**Illustration-**

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

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

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

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

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

67. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. We have considered the submissions of the Petitioner. 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 for Combined Asset for the 2019-24 tariff period is as follows:

|  | (₹ in lakh)   |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
| Particulars                            | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
| Opening Equity                         | 3821.57       | 3821.57       | 3821.57       | 3821.57       | 3821.57       |
| Additions due to ACE                   | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| Closing Equity                         | 3821.57       | 3821.57       | 3821.57       | 3821.57       | 3821.57       |
| Average Equity                         | 3821.57       | 3821.57       | 3821.57       | 3821.57       | 3821.57       |
| Return on Equity (Base Rate)<br>(in %) | 15.50         | 15.50         | 15.50         | 15.50         | 15.50         |
| MAT Rate for respective year<br>(in %) | 17.472        | 17.472        | 17.472        | 17.472        | 17.472        |
| Rate of Return on Equity (in %)        | 18.782        | 18.782        | 18.782        | 18.782        | 18.782        |
| <b>Return on Equity</b>                | <b>717.77</b> | <b>717.77</b> | <b>717.77</b> | <b>717.77</b> | <b>717.77</b> |



## Operation & Maintenance Expenses

68. The O&M Expenses claimed by the Petitioner for the various elements included in Combined Asset for the 2019-24 tariff period are as follows:

| O&M Expenses  | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
|---|---------------|---------------|---------------|---------------|---------------|
| <b>Transmission Line</b>  |               |               |               |               |               |
| 220 kV D/C single conductor transmission line (21.906 kms)  | 21.906        | 21.906        | 21.906        | 21.906        | 21.906        |
| Norms (₹ lakh/km)   | 0.377         | 0.391         | 0.404         | 0.419         | 0.433         |
| 220 kV D/C triple conductor transmission line (1.166 km)  | 1.166         | 1.166         | 1.166         | 1.166         | 1.166         |
| Norms (₹ lakh/km)   | 0.881         | 0.912         | 0.944         | 0.977         | 1.011         |
| <b>Total (Transmission Lines) (₹ in lakh)</b>   | <b>9.29</b>   | <b>9.63</b>   | <b>9.95</b>   | <b>10.32</b>  | <b>10.66</b>  |
| <b>Sub-station</b>  |               |               |               |               |               |
| 220 kV  |               |               |               |               |               |
| 1) Sitaraganj: Tanakpur Bay<br>2) Sitaraganj: Bareilly Bay<br>3) ICT-I bay at Sitaraganj<br>4) Pithoragarh: Dhauliganga Bay<br>5) Pithoragarh: Bareilly Bay<br>6) ICT-II at Sitaraganj<br>7) ICT-I at Pithoragarh<br>8) ICT-II at Pithoragarh | 8             | 8             | 8             | 8             | 8             |
| Norms (₹ lakh/bay)  | 22.51         | 23.30         | 24.12         | 24.96         | 25.84         |
| 132 kV  |               |               |               |               |               |
| 1) ICT-I bay at Sitarganj<br>2) ICT-II at Sitarganj<br>3) ICT-I bay at Pithoragarh<br>4) ICT-II bay at Pithoragarh<br>5) 4 Numbers line bay at Pithoragarh<br>6) 4 Numbers line bay at  | 12            | 12            | 12            | 12            | 12            |
| Norms (₹ lakh/bay)  | 16.08         | 16.64         | 17.23         | 17.83         | 18.46         |
| <b>Total (Sub-station) (₹ in lakh)</b>  | <b>373.04</b> | <b>386.08</b> | <b>399.72</b> | <b>413.64</b> | <b>428.24</b> |
| <b>Transformers</b>   |               |               |               |               |               |
| 1) 2 Numbers of 100 MVA at 220 kV ICT at Sitarganj,<br>2) 2 Nos. of 100 MVA at 220 kV ICT at Pithoragarh  | 400.00        | 400.00        | 400.00        | 400.00        | 400.00        |
| Norms (₹ lakh/MVA)  | 0.25          | 0.25          | 0.26          | 0.27          | 0.28          |
| <b>Total (Transformers) (₹ in lakh)</b>   | <b>98.00</b>  | <b>101.60</b> | <b>105.20</b> | <b>108.80</b> | <b>112.80</b> |
| <b>PLCC</b>   |               |               |               |               |               |
| 2% of Capital Cost<br>(2% of ₹320.97 lakh)  | <b>6.42</b>   | <b>6.42</b>   | <b>6.42</b>   | <b>6.42</b>   | <b>6.42</b>   |



|   |               |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|
| <b>Total O&amp;M Expenses (₹ in lakh)</b> | <b>486.75</b> | <b>503.73</b> | <b>521.29</b> | <b>539.18</b> | <b>558.13</b> |
|---|---------------|---------------|---------------|---------------|---------------|

69. Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

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

| <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-              | 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          |



|  |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|
| $\pm 500$ kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)   | 2,468 | 2,555 | 2,645 | 2,738 | 2,834 |
| $\pm 500$ kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)    | 1,696 | 1,756 | 1,817 | 1,881 | 1,947 |
| $\pm 800$ kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW) | 2,563 | 2,653 | 2,746 | 2,842 | 2,942 |

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

*Provided further that:*

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
- iii. the O&M expenses of  $\pm 500$  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  $\pm 500$  kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
- iv. the O&M expenses of  $\pm 800$  kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for  $\pm 800$  kV, Bishwanath-Agra HVDC bi-pole scheme;*
- v. the O&M expenses of  $\pm 800$  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  $\pm 800$  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."*

**"35(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.”*

70. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for the 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.

71. The O&M Expenses allowed for Combined Asset are as follows:

| <b>O&amp;M Expenses</b>   | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Transmission Line</b>  |                |                |                |                |                |
| 220 kV D/C single conductor transmission line (21.906 kms)  | 21.906         | 21.906         | 21.906         | 21.906         | 21.906         |
| Norms (₹ lakh/km)   | 0.377          | 0.391          | 0.404          | 0.419          | 0.433          |
| 220 kV D/C triple conductor transmission line (1.166 kms)   | 1.166          | 1.166          | 1.166          | 1.166          | 1.166          |
| Norms (₹ lakh/km)   | 0.881          | 0.912          | 0.944          | 0.977          | 1.011          |
| <b>Total (Transmission Lines)<br/>(₹ in lakh)</b>   | <b>9.29</b>    | <b>9.63</b>    | <b>9.95</b>    | <b>10.32</b>   | <b>10.66</b>   |
| <b>Sub-station</b>  |                |                |                |                |                |
| 220 kV  |                |                |                |                |                |
| 1) Sitaraganj: Tanakpur Bay<br>2) Sitaraganj: Bareilly Bay<br>3) ICT-I bay at Sitaraganj<br>4) Pithoragarh: Dhauliganga Bay<br>5) Pithoragarh: Bareilly Bay<br>6) ICT-II at Sitaraganj<br>7) ICT-I at Pithoragarh<br>8) ICT-II at Pithoragarh | 8.00           | 8.00           | 8.00           | 8.00           | 8.00           |
| Norms (₹ lakh/bay)  | 22.51          | 23.30          | 24.12          | 24.96          | 25.84          |



|  |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|
| 132 kV   | 0.00          | 0.00          | 0.00          | 0.00          | 0.00          |
| 1) ICT-I bay at Sitarganj                            | 12.00         | 12.00         | 12.00         | 12.00         | 12.00         |
| 2) ICT-II at Sitarganj                               |               |               |               |               |               |
| 3) ICT-I bay at Pithoragarh                          |               |               |               |               |               |
| 4) ICT-II bay at Pithoragarh                         |               |               |               |               |               |
| 5) 4 Numbers line bay at Pithoragar                  |               |               |               |               |               |
| 6) 4 Numbers line bay at                             |               |               |               |               |               |
| Norms (₹ lakh/bay)                                   | 16.08         | 16.64         | 17.23         | 17.83         | 18.46         |
| <b>Total (Sub-station) (₹ in lakh)</b>               | <b>373.04</b> | <b>386.08</b> | <b>399.72</b> | <b>413.64</b> | <b>428.24</b> |
| <b>Transformers</b>                                  |               |               |               |               |               |
| 1) 2 Numbers of 100 MVA at 220 kV ICT at Sitarganj,  | 400.00        | 400.00        | 400.00        | 400.00        | 400.00        |
| 2) 2 Numbers of 100 MVA at 220 kV ICT at Pithoragarh |               |               |               |               |               |
| Norms (₹ lakh/MVA)                                   | 0.25          | 0.25          | 0.26          | 0.27          | 0.28          |
| <b>Total ICT (₹ in lakh)</b>                         | <b>98.00</b>  | <b>101.60</b> | <b>105.20</b> | <b>108.80</b> | <b>112.80</b> |
| <b>Total O&amp;M Expenses (₹ in lakh)</b>            | <b>480.33</b> | <b>497.31</b> | <b>514.87</b> | <b>532.76</b> | <b>551.70</b> |

### **Interest on Working Capital**

72. Regulations 34(1)(c), 34(3), 34(4) and 3(7) of the 2019 Tariff Regulations provide 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 IWC 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 IWC shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.”*

*“(4) IWC 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;”

73. The Petitioner has submitted that it has computed IWC for the 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, for 2020-21 has been considered as 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) whereas 2021-22 onwards has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon for the Combined Asset is as follows:

| Particulars   | (₹ in lakh)   |               |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|
|   | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
| Working Capital for O&M Expenses<br>(O&M Expenses for 1 month)                            | 40.03         | 41.44         | 42.91         | 44.40         | 45.98         |
| Working Capital for Maintenance Spares<br>(15% of O&M Expenses)                           | 72.05         | 74.60         | 77.23         | 79.91         | 82.76         |
| Working Capital for Receivables<br>(Equivalent to 45 days of annual transmission charges) | 269.61        | 265.16        | 260.06        | 214.57        | 213.29        |
| <b>Total Working Capital</b>  | <b>381.68</b> | <b>381.20</b> | <b>380.20</b> | <b>338.88</b> | <b>342.02</b> |
| Rate of Interest (in %)   | 12.05         | 11.25         | 10.50         | 10.50         | 10.50         |
| <b>Interest on Working Capital</b>  | <b>45.99</b>  | <b>42.88</b>  | <b>39.92</b>  | <b>35.58</b>  | <b>35.91</b>  |

**Annual Fixed Charges of the 2019-24 Tariff Period**

74. The transmission charges allowed for Combined Asset for the 2019-24 tariff period are as follows:

| Particulars  | (₹ in lakh) |         |         |         |         |
|--------------|-------------|---------|---------|---------|---------|
|              | 2019-20     | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation | 612.74      | 612.74  | 612.74  | 270.78  | 270.78  |



|                             |                |                |                |                |                |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Interest on Loan            | 335.99         | 280.03         | 224.08         | 183.48         | 158.56         |
| Return on Equity            | 717.77         | 717.77         | 717.77         | 717.77         | 717.77         |
| O&M Expenses                | 480.33         | 497.31         | 514.87         | 532.76         | 551.70         |
| Interest on Working Capital | 45.99          | 42.88          | 39.92          | 35.58          | 35.91          |
| <b>Total</b>                | <b>2192.81</b> | <b>2150.73</b> | <b>2109.38</b> | <b>1740.36</b> | <b>1734.72</b> |

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

75. 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**

76. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulation 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period.

### **Goods and Services Tax**

77. 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.

78. We have considered the submissions of the Petitioner. Since, GST is not levied on transmission services at present we are of the view that Petitioner's prayer is premature.



### **Security Expenses**

79. 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 the consequential IWC.

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

### **Capital Spares**

81. 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**

82. During the tariff periods 2004-09 and 2009-14 (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 was governed by the provisions of the 2010 Sharing Regulations. With effect from 1.11.2020, sharing of transmission charges is governed by the 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 Bills under Regulation 15(2) (b) of the 2020 Sharing Regulations. Billing, collection and disbursement of the 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.

83. To summarise:

- a) The revised AFC approved in respect of Asset-I and Asset-II during 2004-09 tariff period in terms of the APTEL's judgments are as follows:

(₹ in lakh)

| Asset-I              | Asset-II             |
|----------------------|----------------------|
| 2008-09<br>(31 days) | 2008-09<br>(31 days) |
| 36.55                | 30.66                |

- b) The consequential revision of AFC approved in respect of Asset-I and Asset-II for the 2009-14 tariff period are as follows:

**Asset-I**

(₹ in lakh)

| 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---------|---------|---------|---------|---------|
| 530.63  | 535.73  | 534.23  | 542.79  | 551.22  |

**Asset-II**

(₹ in lakh)

| 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---------|---------|---------|---------|---------|
| 410.50  | 429.87  | 441.07  | 469.84  | 497.04  |

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

(₹ in lakh)

| 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---------|---------|---------|---------|---------|
| 2697.70 | 2693.91 | 2667.59 | 2635.50 | 2628.63 |

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



| (₹ in lakh) |         |         |         |         |
|-------------|---------|---------|---------|---------|
| 2019-20     | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 2192.81     | 2150.73 | 2109.38 | 1740.36 | 1734.72 |

84. Annexure-I and Annexure-II given hereinafter shall form part of the order.
85. This order disposes of Petition No. 371/TT/2020 in terms of the above discussions and findings.

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

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

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



**Annexure-I**

| 2014-19<br>Capital<br>Expenditure            | Combined<br>Admitted<br>Capital<br>Cost as<br>on<br>1.4.2014 /<br>COD<br>(₹ in lakh) | ACE<br>(₹ in<br>lakh) | Admitted<br>Capital<br>Cost as<br>on<br>31.3.2019<br>(₹ in lakh) | Rate<br>of<br>Depre-<br>ciation<br>as per<br>Regul-<br>ations | Annual Depreciation as per Regulations<br>(₹ in lakh) |                      |                      |                      |                      |
|--|--|-----------------------|--|---|---|----------------------|----------------------|----------------------|----------------------|
|  |  | Total                 |  |   | 2014-<br>15   | 2015-<br>16          | 2016-<br>17          | 2017-<br>18          | 2018-<br>19          |
| Land -<br>Freehold                           | 504.21   | 483.20                | 987.41   | -   | 0.00  | 0.00                 | 0.00                 | 0.00                 | 0.00                 |
| Building Civil<br>Works &<br>Colony          | 2290.54  | 0.00                  | 2290.54  | 3.34  | 76.50   | 76.50                | 76.50                | 76.50                | 76.50                |
| Transmissio<br>n Line                        | 1779.05  | 0.00                  | 1779.05  | 5.28  | 93.93   | 93.93                | 93.93                | 93.93                | 93.93                |
| Sub Station                                  | 7810.66  | 181.54                | 7992.20  | 5.28  | 415.52  | 420.31               | 421.99               | 421.99               | 421.99               |
| PLCC   | 320.87   | 0.00                  | 320.87   | 6.33  | 20.31   | 20.31                | 20.31                | 20.31                | 20.31                |
| <b>Total</b>                                 | <b>12705.33</b>  | <b>664.74</b>         | <b>13370.07</b>  | <b>Total</b>  | <b>606.27</b>   | <b>611.06</b>        | <b>612.74</b>        | <b>612.74</b>        | <b>612.74</b>        |
| <b>Average Gross Block<br/>(₹ in lakh)</b>   |  |                       |  |   | <b>12828.<br/>91</b>                                  | <b>12984.<br/>26</b> | <b>13016.<br/>03</b> | <b>13016.<br/>03</b> | <b>13193.<br/>05</b> |
| <b>Weighted Average Rate of Depreciation</b> |  |                       |  |   | <b>4.73%</b>  | <b>4.71%</b>         | <b>4.71%</b>         | <b>4.71%</b>         | <b>4.64%</b>         |



## Annexure-II

| 2019-24<br>Capital<br>Expenditure            | Combined<br>Admitted<br>Capital Cost<br>as on<br>1.4.2019 /<br>COD<br>(₹ in lakh) | Projected<br>ACE | Admitted<br>Capital<br>Cost as<br>on<br>31.3.2024<br>(₹ in lakh) | Rate of<br>Depreciation<br>as per<br>Regulations<br>(%) | Annual Depreciation as per<br>Regulations<br>(₹ in lakh) |                 |                 |
|--|---|------------------|--|---|--|-----------------|-----------------|
|  |   | 2019-24          |  |   | 2019-20  | 2020-21         | 2021-22         |
| Land - Freehold                              | 987.41  | 0.00             | 987.41   | 0.00  | 0.00   | 0.00            | 0.00            |
| Building Civil<br>Works & Colony             | 2290.54   | 0.00             | 2290.54  | 3.34  | 76.50  | 76.50           | 76.50           |
| Transmission Line                            | 1779.05   | 0.00             | 1779.05  | 5.28  | 93.93  | 93.93           | 93.93           |
| Sub Station                                  | 7992.20   | 0.00             | 7992.20  | 5.28  | 421.99   | 421.99          | 421.99          |
| PLCC   | 320.87  | 0.00             | 320.87   | 6.33  | 20.31  | 20.31           | 20.31           |
| <b>Total</b>                                 | <b>13370.07</b>   | <b>0.00</b>      | <b>13370.07</b>  | <b>Total</b>  | <b>612.74</b>  | <b>612.74</b>   | <b>612.74</b>   |
| <b>Average Gross Block<br/>(₹ in lakh)</b>   |   |                  |  |   | <b>13370.07</b>  | <b>13370.07</b> | <b>13370.07</b> |
| <b>Weighted Average Rate of Depreciation</b> |   |                  |  |   | <b>4.58%</b>   | <b>4.58%</b>    | <b>4.58%</b>    |

The transmission asset completes 12 years of useful life as on 31.3.2023, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 33(5) of the 2019 Tariff Regulations.

