

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 215/TT/2020

Coram:

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

Date of Order: 20.11.2021

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 2001-04, 2004-09 and 2009-14 tariff periods, 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 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for **Asset-1**: 400 kV Raipur-Rourkela D/C Transmission Line along with extension of Raipur and Rourkela Sub-stations under Eastern-Western inter-regional link.

And in the matter of:

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

.....Petitioner

Versus

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur,
Jabalpur-482008.
2. Madhya Pradesh Power Transmission Company Limited,
Shakti Bhawan, Rampur,
Jabalpur-482008.
3. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Limited,
3/54, Press Complex, Agra-Bombay Road,
Indore-452008.
4. Maharashtra State Electricity Distribution Company Limited,
Hongkong Bank Building, 3rd Floor, M.G. Road, Fort,
Mumbai-400001.
5. Maharashtra State Electricity Transmission Company Limited,
Prakashganga, 6th Floor, Plot No. C-19, E-Block, Bandra Kurla Complex,



Bandra (East), Mumbai-400051.

6. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan, Race Course Road,
Vadodara-390007.
7. Gujarat Energy Transmission Corporation Limited,
Sardar Patel Vidyut Bhawan, Race Course Road,
Vadodara-390007.
8. Electricity Department,
Government of Goa, Vidyut Bhawan, Panaji,
Near Mandvi Hotel,
Goa-403001.
9. Electricity Department,
Administration of Daman & Diu,
Daman-396210.
10. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa-396230.
11. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania, Raipur,
Chhattisgarh-492013.
12. Chhattisgarh State Power Transmission Company Limited,
State Load Despacth Building, Dangania,
Raipur-492013.
13. Chhattisgarh State Power Distribution Company Limited,
P.O. Sunder Nagar, Dangania, Raipur,
Chhattisgarh-492013.

.....Respondent(s)

For Petitioner : Shri S. S. Raju, PGCIL
Shri D. K. Biswal, PGCIL
Shri Ved Prakash Rastogi, PGCIL
Shri Amit Yadav, PGCIL

For Respondents : Shri Anindya Khare, MPPMCL

ORDER

The Petitioner, Power Grid Corporation of India Limited, has filed the instant petition for revision of transmission tariff of the 2001-04, 2004-09 and 2009-14 tariff periods; truing up of 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 Asset-1: 400 kV Raipur-Rourkela D/C Transmission Line along with extension of Raipur and Rourkela Sub-stations (hereinafter referred to as “the transmission asset”) under Eastern-Western inter-regional link.

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

- “1) *Approve the revised Transmission Tariff for 2001-04 block, 2004-09 block and 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) (a) *Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9 and 10 above for respective block.*

(b) *further, it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term transmission customers /Dlc as the case may be, as and when materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allowed 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 beneficiaries 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 beneficiaries.*
- 7) *Allow the petitioner to recover FERV on the foreign loans deployed as provided under clause 68 of the Tariff Regulations,2019.*



- 8) *Allow the petitioner to file a separate petition before Hon'ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 10.5 above.*
- 9) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 10) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the beneficiaries, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

and pass such other relief as 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 Petitioner was entrusted with the implementation of the transmission asset. The Investment Approval (I.A.) and expenditure sanction was accorded by the Central Government in Ministry of Power as per letter dated 1.1.2001 at an estimated cost of ₹23738.00 lakh, including IDC of ₹1525.00 lakh (based on 1st Quarter 2000 price level).
- b) As per I.A., the transmission asset was to be commissioned within 36 months i.e. by January 2004 while the actual COD was 1.4.2003. Thus, the transmission asset was commissioned within the scheduled time frame.
- c) Based on the terms and conditions of tariff contained in the Commission's notification dated 26.3.2001, the transmission tariff of the transmission asset for the period from 1.4.2003 to 31.3.2004 was allowed by the Commission vide order dated 4.4.2005 in Petition No. 121/2002.
- d) The transmission tariff of the transmission asset for the period from 1.4.2004 to 31.3.2009 [after accounting for Additional Capital Expenditure (ACE) during 2003-04] was allowed vide order dated 9.5.2006 in Petition No. 63/2005. While approving the said tariff, ACE during 2003-04 was adjusted against equity and de-capitalisation on account of Foreign Exchange Rate Variation (FERV) for 2003-04 was adjusted against loan.
- e) Further, the tariff of 400 kV Raipur-Rourkela Transmission Line along with Rourkela Extension under Eastern-Western inter-regional link (the



nomenclature used in order dated 25.4.2011) for the period from 1.4.2009 to 31.3.2014 was allowed vide order dated 25.4.2011 in Petition No. 262/2010.

f) The tariff of the transmission asset for the 2009-14 tariff period was trued-up and tariff of the 2014-19 tariff period was allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014.

g) The entire scope of work as per the IA is complete and is covered in this petition.

h) The Petitioner has prayed for revision of transmission tariff allowed for the 2001-04 and 2004-09 tariff periods on account of change in Interest on Loan (IoL) and Interest on Working Capital (IWC) to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and 13.6.2007 in Appeal No. 139 of 2006 and batch matters respectively; 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 the transmission asset.

i) The APTEL in judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters pertaining to generating stations of NTPC Limited had considered 04 (four) issues. The issues considered by APTEL and its decisions/ directions are as follows:

| Sr. 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 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 | Commission's view upheld |



| Sr. No. | Issue | APTEL's decisions/ directions |
|---------|---|-------------------------------|
| | variation in salary and wages | |
| 3(b) | O&M Expenses: Non-inclusion of incentives and <i>ex-gratia</i> payment to employees | Commission's view upheld |
| 4 | Cost of spares for calculation of working capital | Commission's view upheld |

j) The APTEL in its judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters pertaining to generating stations of NTPC Limited had considered 09 (nine) issues. The issues considered and the decisions/ directions of the APTEL are as follows:

| Sl. No. | Issue | APTEL's decisions/ directions |
|---------|---|--|
| I | Computation of outstanding loan at the beginning of the tariff period i.e. 1.4.2004 | The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis |
| II | Consequence of refinance of loan | The Commission to consider the issue afresh |
| III | Treating depreciation available as deemed repayment of loan | The Commission to make a fresh computation of outstanding loan |
| IV | Admissibility of depreciation up to 90% | The Commission to consider the issue afresh |
| V | Cost of Maintenance Spares | The Commission to consider the issue afresh |
| VI | Impact of de-capitalisation of the assets on cumulative repayment of Loan | The cumulative repayment of the loan proportionate to the assets de-capitalised 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 | 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 Station | Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. The Commission shall re-compute the interest accordingly |

k) 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 Limited 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.

l) 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 Civil Appeals by the Hon'ble Supreme Court.

m) 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 judgments of the APTEL have attained finality.

n) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018 in NTPC Limited 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 of the petitions for the 2014-19 tariff period.

o) 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 the 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 Eastern and Western Regions.

5. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or objections have been received



from the general public in response to the aforesaid notices published in the newspapers. Madhya Pradesh Power Management Company Limited (MPPMCL), Respondent No. 1, has filed its reply vide affidavit dated 29.2.2020 and has raised the issues of revision of transmission tariff of the 2004-09 and 2009-14 tariff periods and effective income tax rates for grossing up Return on Equity (RoE). The Petitioner vide affidavit dated 8.6.2021 has filed rejoinder to MPPMCL's reply.

6. It has been placed before us that MPPMCL has been raising the same issues in other petitions as well despite clear findings of the Commission rejecting the contentions of MPPMCL. The contentions of MPPMCL have been rejected by the Commission in other petitions including Petition No. 322/TT/2020. As MPPMCL has not challenged the findings, the same have attained finality. In view of these, the pleas raised by MPPMCL are rejected. Further, MPPMCL's submissions, Petitioner's clarifications thereto and the Commission's findings on the said issues have not been repeated herein for the sake of brevity.

Re: Interest on Loan

7. 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 IoL liability for the period 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

8. The APTEL vide judgment dated 13.6.2007 in Appeal No. 139/2006 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 period are also required to be revised taking into consideration ACE after COD.

Re: Depreciation

9. 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 APTEL, the outstanding loan allowed for the 2004-09 period is revised in the instant order.

10. The revision of transmission tariff allowed for the 2001-04 and 2004-09 tariff periods 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 respectively was kept pending in case of the Petitioner awaiting the outcome of the Civil Appeals filed before the Hon'ble Supreme Court. Taking into consideration the facts of the case and keeping in view the interest of the consumers, we are of the view that the beneficiaries should not be burdened with the carrying cost for the difference in the tariff allowed earlier and allowed in the instant order for the 2001-04, 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.

11. This order is issued considering the submissions made by the Petitioner in the petition vide affidavit dated 20.9.2019, MPPMCL's reply filed vide affidavit dated 29.2.2020 and the Petitioner's rejoinder filed vide affidavit dated 8.6.2021.

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

REVISION OF TRANSMISSION CHARGES ALLOWED FOR THE 2001-04, 2004-09 AND 2009-14 TARIFF PERIODS

2001-04 Period

13. The Commission vide order dated 4.4.2005 in Petition No. 121/2002 had allowed the transmission charges in respect of the transmission asset for 2001-04 tariff period as follows:

| Particulars | (₹ in lakh) |
|------------------------------|----------------|
| | 2003-04 |
| Depreciation | 563.31 |
| Return on Equity | 474.81 |
| O&M Expenses | 341.37 |
| Advance against Depreciation | 0.00 |
| Interest on Loan | 897.83 |
| Interest on Working Capital | 65.64 |
| Total | 2342.96 |

14. The Petitioner has claimed the revised transmission charges in respect of the transmission asset for the 2001-04 period in this petition as follows:

| Particulars | (₹ in lakh) |
|------------------------------|----------------|
| | 2003-04 |
| Depreciation | 563.31 |
| Return on Equity | 474.81 |
| O&M Expenses | 341.37 |
| Advance against Depreciation | 0.00 |
| Interest on Loan | 897.83 |
| Interest on Working Capital | 64.25 |
| Total | 2341.57 |



15. We have considered the submissions of the Petitioner. The transmission tariff is revised in respect of the transmission asset on the basis of the following:

- a) Admitted capital cost as on COD of ₹21059.49 lakh in respect of the transmission asset; and
- 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 order dated 4.4.2005 in Petition No. 121/2002.

16. In view of the above, the revised transmission charges approved in respect of the transmission asset for the 2001-04 tariff period are as follows:

| Particulars | (₹ in lakh) |
|------------------------------|--------------------|
| | 2003-04 |
| Depreciation | 563.31 |
| Return on Equity | 474.81 |
| O&M Expenses | 341.37 |
| Advance against Depreciation | 0.00 |
| Interest on Loan | 897.83 |
| Interest on Working Capital | 64.25 |
| Total | 2341.57 |

17. The Annual Fixed Charges (AFC) allowed for the 2001-04 tariff period vide order dated 4.4.2005 in Petition No. 121/2002, revised AFC claimed by the Petitioner in the instant petition and the revised AFC approved in the instant order are as follows:

| Particulars | (₹ in lakh) |
|---|--------------------|
| | 2003-04 |
| Allowed vide order dated 4.4.2005 in Petition No.121/2002 | 2342.96 |
| Claimed by the Petitioner in the instant petition | 2341.57 |
| Approved in the instant order | 2341.57 |

2004-09 Period

18. The Commission vide order dated 9.5.2006 in Petition No. 63/2005 had allowed transmission charges in respect of the transmission asset for the 2004-09 tariff period are as follows:



(₹ in lakh)

| Particulars | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Depreciation | 530.67 | 530.67 | 530.67 | 530.67 | 530.67 |
| Return on Equity | 430.90 | 430.90 | 430.90 | 430.90 | 430.90 |
| O&M Expenses | 299.68 | 311.62 | 324.54 | 336.81 | 350.96 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 798.73 | 772.80 | 747.01 | 721.61 | 695.39 |
| Interest on Working Capital | 61.69 | 62.94 | 64.31 | 65.76 | 67.34 |
| Total | 2121.66 | 2108.94 | 2097.43 | 2085.75 | 2075.25 |

19. The Petitioner has claimed the revised transmission charges in respect of the transmission asset for the 2004-09 tariff period in this petition as follows:

(₹ in lakh)

| Particulars | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Depreciation | 530.67 | 530.67 | 530.67 | 530.67 | 530.67 |
| Return on Equity | 430.90 | 430.90 | 430.90 | 430.90 | 430.90 |
| O&M Expenses | 299.68 | 311.62 | 324.54 | 336.81 | 350.96 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 811.57 | 811.08 | 798.04 | 771.70 | 742.77 |
| Interest on Working Capital | 60.57 | 62.19 | 63.69 | 65.04 | 66.47 |
| Total | 2133.39 | 2146.46 | 2147.84 | 2135.12 | 2121.77 |

20. We have considered the submissions of the Petitioner. The transmission tariff is revised in respect of the transmission asset on the basis of the following:

- a) Admitted capital cost as on 1.4.2004 of ₹19847.56 lakh (₹21059.49 lakh + ACE of ₹110.25 lakh - ₹1322.18 lakh FERV) in respect of transmission asset; and
- b) WAROI on actual loan, WAROD, rate of IWC and O&M Expenses as per order dated 9.5.2006 in Petition No. 63/2005.

21. In view of the above, the revised transmission charges approved in respect of the transmission asset for the 2004-09 tariff period are as follows:

(₹ in lakh)

| Particulars | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Depreciation | 530.67 | 530.67 | 530.67 | 530.67 | 530.67 |
| Return on Equity | 430.90 | 430.90 | 430.90 | 430.90 | 430.90 |
| O&M Expenses | 299.68 | 311.62 | 324.54 | 336.81 | 350.96 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 798.73 | 785.42 | 772.79 | 747.28 | 719.26 |
| Interest on Working Capital | 60.35 | 61.74 | 63.26 | 64.61 | 66.06 |
| Total | 2120.33 | 2120.35 | 2122.15 | 2110.28 | 2097.86 |



22. AFC allowed for the 2004-09 tariff period vide order order dated 9.5.2006 in Petition No. 63/2005, revised AFC claimed by the Petitioner in the instant petition and the revised AFC approved in the instant order are as follows:

| Particulars | (₹ in lakh) | | | | |
|---|-------------|---------|---------|---------|---------|
| | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Allowed vide order dated 9.5.2006 in Petition No. 63/2005 | 2121.66 | 2108.94 | 2097.43 | 2085.75 | 2075.25 |
| Claimed by the Petitioner in the instant petition | 2133.39 | 2146.46 | 2147.84 | 2135.12 | 2121.77 |
| Approved in the instant order | 2120.33 | 2120.35 | 2122.15 | 2110.28 | 2097.86 |

2009-14 Period

23. The Commission vide order dated 25.4.2011 in Petition No. 262/2010 had allowed the tariff in respect of the transmission asset for the 2009-14 tariff period which was trued-up vide order dated 7.10.2015 in Petition No. 163/TT/2014. The trued-up tariff allowed vide order dated 7.10.2015 was as follows:

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 1046.42 | 1046.42 | 1046.42 | 1046.42 | 1046.42 |
| Return on Equity | 574.76 | 595.81 | 596.39 | 596.39 | 603.56 |
| O&M Expenses | 468.13 | 494.97 | 523.32 | 553.21 | 584.69 |
| Interest on Loan | 544.22 | 414.85 | 374.12 | 367.74 | 336.37 |
| Interest on Working Capital | 68.55 | 67.63 | 68.21 | 69.58 | 70.65 |
| Total | 2702.07 | 2619.68 | 2608.47 | 2633.34 | 2641.69 |

24. The Petitioner has claimed the revised transmission charges in respect of the transmission asset for the 2009-14 period in this petition as follows:

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 1046.42 | 1046.42 | 1046.42 | 1046.42 | 1046.42 |
| Return on Equity | 574.76 | 595.81 | 596.39 | 596.39 | 603.56 |
| O&M Expenses | 468.13 | 494.97 | 523.32 | 553.21 | 584.69 |
| Interest on Loan | 582.17 | 446.20 | 404.97 | 401.11 | 370.30 |
| Interest on Working Capital | 69.34 | 68.29 | 68.86 | 70.27 | 71.35 |
| Total | 2740.82 | 2651.69 | 2639.96 | 2667.40 | 2676.32 |

25. We have considered the submissions of the Petitioner. The transmission tariff is revised in respect of the transmission asset on the basis of the following:

- a) Admitted capital cost as on 1.4.2009 of ₹19847.56 lakh in respect of the transmission asset; and



b) WAROI on actual loan and WAROD as per order dated 7.10.2015 in Petition No. 163/TT/2014.

26. In view of the above, the revised transmission charges approved in respect of the transmission asset for the 2009-14 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 1046.42 | 1046.42 | 1046.42 | 1046.42 | 1046.42 |
| Interest on Loan | 563.08 | 430.43 | 389.45 | 384.33 | 353.23 |
| Return on equity | 574.76 | 595.81 | 596.39 | 596.39 | 603.56 |
| Interest on Working Capital | 68.94 | 67.96 | 68.53 | 69.92 | 71.00 |
| O&M Expenses | 468.13 | 494.97 | 523.32 | 553.21 | 584.69 |
| Total | 2721.33 | 2635.59 | 2624.12 | 2650.28 | 2658.91 |

27. AFC allowed for the 2009-14 tariff period vide order dated 7.10.2015 in Petition No. 163/TT/2014, revised AFC claimed by the Petitioner in the instant petition and AFC approved in the instant order are as follows:

| Particulars | (₹ in lakh) | | | | |
|--|-------------|---------|---------|---------|---------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014 | 2702.07 | 2619.68 | 2608.47 | 2633.34 | 2641.69 |
| Claimed by the Petitioner in the instant petition | 2740.82 | 2651.69 | 2639.96 | 2667.40 | 2676.32 |
| Approved in the instant order | 2721.33 | 2635.59 | 2624.12 | 2650.28 | 2658.91 |

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

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

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 1046.50 | 380.34 | 380.34 | 380.35 | 380.34 |
| Interest on Loan | 355.70 | 340.03 | 376.90 | 397.38 | 424.78 |
| Return on equity | 604.03 | 606.80 | 606.49 | 606.49 | 608.12 |
| Interest on Working Capital | 75.61 | 60.96 | 62.81 | 64.33 | 66.07 |
| O&M Expenses | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |
| Total | 2614.55 | 1938.74 | 1995.33 | 2036.20 | 2086.48 |

29. The details of the trued-up IWC as claimed by the Petitioner in respect of the transmission asset for the 2014-19 tariff period are as follows:



(₹ in lakh)

| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| O&M Expenses | 44.39 | 45.88 | 47.40 | 48.97 | 50.60 |
| Maintenance Spares | 79.91 | 82.59 | 85.32 | 88.15 | 91.08 |
| Receivables | 435.76 | 323.12 | 332.56 | 339.37 | 347.75 |
| Total Working Capital | 560.06 | 451.59 | 465.28 | 476.49 | 489.43 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 75.61 | 60.96 | 62.81 | 64.33 | 66.07 |

Capital Cost as on 1.4.2014

30. The Commission vide order dated 7.10.2015 in Petition No. 163/TT/2014 had allowed the capital cost of ₹19847.56 lakh as on 1.4.2014 as well as on 1.4.2019 since the Petitioner did not claim ACE during the 2014-19 tariff period. The capital cost of the transmission asset has been calculated in accordance with Regulations 9(3) and 9(6) of the 2014 Tariff Regulations and it is as follows:

(₹ in lakh)

| Capital Cost Admitted (as on 1.4.2014) | ACE Admitted (2014-19) | Capital Cost Admitted (as on 31.3.2019) |
|---|---------------------------|--|
| 19847.56 | 0.00 | 19847.56 |

(₹ in lakh)

| Capital Cost (as on 1.4.2014) | ACE (2014-19) | Capital Cost (as on 31.3.2019) |
|----------------------------------|------------------|-----------------------------------|
| 19847.56 | 0.00 | 19847.56 |

Debt-Equity Ratio

31. The debt-equity ratio has been allowed in accordance with Regulation 19(3) of the 2014 Tariff Regulations. As per Regulation 19(3) of the 2014 Tariff Regulations, the debt-equity ratio allowed by the Commission for determination of tariff for the period ending on 31.3.2014 shall be considered. Accordingly, the details of the debt-equity ratio as on 1.4.2014 and 31.3.2019 in respect of the transmission asset is as follows:



| Funding | Capital Cost (as on 1.4.2014) (₹ in lakh) | (in %) | Total Capital Cost (as on 31.3.2019) (₹ in lakh) | (in %) |
|----------------|--|---------------|---|---------------|
| Debt | 16769.72 | 84.49 | 16769.72 | 84.49 |
| Equity | 3077.84 | 15.51 | 3077.84 | 15.51 |
| Total | 19847.56 | 100.00 | 19847.56 | 100.00 |

Depreciation

32. Depreciation has been allowed as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations after considering capital expenditure as on 1.4.2014 and approved ACE during the 2014-19 tariff period. The transmission asset has completed 12 years of life as on 31.3.2015, the remaining depreciable value of ₹8367.51 lakh has been spread across the balance useful life of 22 years in accordance with Regulation 27(5) of the 2019 Tariff Regulations. The Gross Block during the 2014-19 tariff period in respect of the transmission asset has been depreciated at WAROD. WAROD at Annexure-I has been worked out after taking into account the depreciation rates of assets as prescribed in the 2014 Tariff Regulations. The trued-up depreciation allowed in respect of the transmission asset during the 2014-19 period is as follows:

| | (₹ in lakh) | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Additional Capitalisation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Average Gross Block | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Weighted average Rate of Depreciation (in %) | 5.27 | 1.92 | 1.92 | 1.92 | 1.92 |
| Balance useful life at the beginning of the year (year) | 23.00 | 22.00 | 21.00 | 20.00 | 19.00 |
| Lapsed useful life at the beginning of the year (Year) | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 |
| Aggregate Depreciable Value | 17862.80 | 17862.80 | 17862.80 | 17862.80 | 17862.80 |
| Depreciation during the year | 1046.50 | 380.34 | 380.34 | 380.34 | 380.34 |
| Cumulative Aggregate Depreciation | 9495.29 | 9875.63 | 10255.97 | 10636.32 | 11016.66 |
| Remaining Aggregate Depreciable Value | 8367.51 | 7987.17 | 7606.83 | 7226.49 | 6846.15 |



33. Depreciation in respect of the transmission asset as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

| Particulars | (₹ in lakh) | | | | |
|--|-------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014 | 1046.42 | 381.15 | 381.15 | 381.15 | 381.15 |
| Claimed by the Petitioner in the instant petition | 1046.50 | 380.34 | 380.34 | 380.35 | 380.34 |
| Approved after true-up in this order | 1046.50 | 380.34 | 380.34 | 380.34 | 380.34 |

Interest on Loan

34. 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 details of the trued-up IoL approved in respect of the transmission asset for the 2014-19 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Gross Normative Loan | 16769.72 | 16769.72 | 16769.72 | 16769.72 | 16769.72 |
| Cumulative Repayments up to Previous Year | 7452.50 | 8499.00 | 8879.34 | 9259.68 | 9640.03 |
| Net Loan-Opening | 9317.22 | 8270.72 | 7890.38 | 7510.04 | 7129.69 |
| Addition due to ACE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 1046.50 | 380.34 | 380.34 | 380.34 | 380.34 |
| Net Loan-Closing | 8270.72 | 7890.38 | 7510.04 | 7129.69 | 6749.35 |
| Average Loan | 8793.97 | 8080.55 | 7700.21 | 7319.86 | 6939.52 |
| Weighted Average Rate of Interest on Loan (in %) | 3.84 | 3.97 | 4.61 | 5.10 | 5.73 |
| Interest on Loan | 337.45 | 321.13 | 354.98 | 373.13 | 397.54 |

35. IoL in respect of the transmission asset as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:



| Particulars | (₹ in lakh) | | | | |
|--|-------------|---------|---------|---------|---------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014 | 304.57 | 278.07 | 263.66 | 249.46 | 235.56 |
| Claimed by the Petitioner in the instant petition | 355.70 | 340.03 | 376.90 | 397.38 | 424.78 |
| Approved after true-up in this order | 337.45 | 321.13 | 354.98 | 373.13 | 397.54 |

Return on Equity

36. The Petitioner has claimed RoE in respect of the transmission asset in terms of Regulations 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 effective tax rates for the 2014-19 tariff period as follows:

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

37. The Commission in order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rates 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 |

38. 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 tariff 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 |

39. The Petitioner has claimed RoE for the 2014-19 period after grossing up RoE of 15.50% with Effective Tax rates (based on MAT rates) each year as per the above said Regulation. RoE is trued-up on the basis of MAT rates applicable in the respective years and is approved as follows:

| Particulars | (₹ in lakh) | | | | |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Addition due to ACE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Average Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| Tax Rate applicable (in %) | 20.961 | 21.342 | 21.342 | 21.342 | 21.549 |
| Applicable ROE Rate (in %) | 19.610 | 19.705 | 19.705 | 19.705 | 19.758 |
| Return on Equity for the year | 603.56 | 606.49 | 606.49 | 606.49 | 608.12 |

40. RoE in respect of the transmission asset as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, claimed by the Petitioner 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 7.10.2015 in Petition No. 163/TT/2014 | 603.56 | 603.56 | 603.56 | 603.56 | 603.56 |
| Claimed by the Petitioner in the instant petition | 604.03 | 606.80 | 606.49 | 606.49 | 608.12 |
| Approved after true-up in this order | 603.56 | 606.49 | 606.49 | 606.49 | 608.12 |



Operation & Maintenance Expenses (O&M Expenses)

41. O&M Expenses in respect of the various elements covered under the transmission asset as claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations and the allowable O&M Expenses are as follows:

| (₹ in lakh) | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Sub-station Bays (Number) | | | | | |
| 400 kV: Raipur-Rourkela I at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Raipur-Rourkela II at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur I at Rourkela | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur II at Rourkela | 1 | 1 | 1 | 1 | 1 |
| Norm (₹ lakh/bay) | | | | | |
| 400 kV | 60.30 | 62.30 | 64.37 | 66.51 | 68.71 |
| Total Sub-station O&M Expenses (₹ in lakh) | 241.20 | 249.20 | 257.48 | 266.04 | 274.84 |
| AC Lines | | | | | |
| Raipur-Raigarh-Rourkela I and II Line kms) | 412.325 | 412.325 | 412.325 | 412.325 | 412.325 |
| Norm (₹ lakh/km) | | | | | |
| Double Circuit (Twin/ Triple contractor) | 0.707 | 0.731 | 0.755 | 0.780 | 0.806 |
| Total Transmission Line O&M Expenses | 291.51 | 301.41 | 311.31 | 321.61 | 332.33 |
| Total O&M Expenses | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |

42. O&M Expenses in respect of the transmission asset as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, 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 7.10.2015 in Petition No. 163/TT/2014 | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |
| Claimed by the Petitioner in the instant petition | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |
| Approved in this order | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |



Interest on Working Capital

43. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and the trued-up IWC approved in respect of the transmission asset for the 2014-19 tariff period are as follows:

| | (₹ in lakh) | | | | |
|---|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Working Capital for O&M Expenses (O&M Expenses for 1 Month) | 44.39 | 45.88 | 47.40 | 48.97 | 50.60 |
| Working Capital for Maintenance Spares (15% of O&M) | 79.91 | 82.59 | 85.32 | 88.15 | 91.08 |
| Working Capital for Receivables (Equivalent to 2 months of annual transmission charges) | 432.57 | 319.85 | 328.82 | 335.23 | 343.10 |
| Total Working Capital | 556.87 | 448.32 | 461.53 | 472.35 | 484.78 |
| Rate of Interest of Working Capital (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of Working Capital | 75.18 | 60.52 | 62.31 | 63.77 | 65.44 |

44. IWC in respect of the transmission asset as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, 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 7.10.2015 in Petition No. 163/TT/2014 | 74.42 | 59.48 | 60.16 | 60.87 | 61.63 |
| Claimed by the Petitioner in the instant petition | 75.61 | 60.96 | 62.81 | 64.33 | 66.07 |
| Approved after true-up in this order | 75.18 | 60.52 | 62.31 | 63.77 | 65.44 |

Approved Annual Fixed Charges for the 2014-19 Tariff Period

45. The trued-up AFC approved in respect of the transmission asset for the 2014-19 tariff period are as follows:



| (₹ in lakh) | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 1046.50 | 380.34 | 380.34 | 380.34 | 380.34 |
| Interest on Loan | 337.45 | 321.13 | 354.98 | 373.13 | 397.54 |
| Return on Equity | 603.56 | 606.49 | 606.49 | 606.49 | 608.12 |
| O&M Expenses | 532.71 | 550.61 | 568.79 | 587.65 | 607.17 |
| Interest on Working Capital | 75.18 | 60.52 | 62.31 | 63.77 | 65.44 |
| Total | 2595.41 | 1919.09 | 1972.90 | 2011.38 | 2058.62 |

46. Accordingly, the Annual Transmission Charges as allowed vide order dated 7.10.2015 in Petition No. 163/TT/2014, 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 7.10.2015 in Petition No. 163/TT/2014 | 2561.68 | 1872.88 | 1877.33 | 1882.70 | 1889.07 |
| Claimed by the Petitioner in the instant petition | 2614.55 | 1938.74 | 1995.33 | 2036.20 | 2086.48 |
| Approved after true-up in this order | 2595.41 | 1919.09 | 1972.90 | 2011.38 | 2058.62 |

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

47. The details of the transmission charges in respect of the transmission asset for the 2019-24 tariff period as claimed by the Petitioner in this petition are as follows:

| (₹ in lakh) | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation | 380.35 | 380.34 | 380.35 | 380.34 | 380.35 |
| Interest on Loan | 422.25 | 399.39 | 376.56 | 353.73 | 330.90 |
| Return on equity | 608.12 | 608.12 | 608.12 | 608.12 | 608.12 |
| Interest on Working Capital | 42.71 | 43.20 | 43.63 | 44.09 | 44.50 |
| O&M Expenses | 493.17 | 510.47 | 528.34 | 546.79 | 565.81 |
| Total | 1946.60 | 1941.52 | 1937.00 | 1933.07 | 1929.68 |

48. The details of IWC in respect of the transmission asset for the 2019-24 tariff period as claimed by the Petitioner in this petition are as follows:

| (₹ in lakh) | | | | | |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| O&M expenses | 41.10 | 42.54 | 44.03 | 45.57 | 47.15 |
| Maintenance Spares | 73.98 | 76.57 | 79.25 | 82.02 | 84.87 |
| Receivables | 239.34 | 239.36 | 238.81 | 238.32 | 237.26 |
| Total Working Capital | 354.42 | 358.47 | 362.09 | 365.91 | 369.28 |
| Rate of Interest (in %) | 12.05 | 12.05 | 12.05 | 12.05 | 12.05 |
| Interest on Working Capital | 42.71 | 43.20 | 43.63 | 44.09 | 44.50 |



Capital Cost

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

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

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

(a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*

(b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*

(c) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*

(d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*

(e) *Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*

(f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*

(g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*

(h) *Adjustment of revenue earned by the transmission licensee by using the asset before the date of commercial operation;*

(i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*

(j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*

(k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*

(l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*

(m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*

(n) *Expenditure on account of change in law and force majeure events; and*

(o) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

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

(a) *Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*

(b) *Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*

(c) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*



- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.

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

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

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

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

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be decapitalised only after its redeployment;

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

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

50. The Petitioner has claimed capital cost as on 31.3.2019 of ₹19847.56 lakh in respect of the transmission asset. The same has been worked out by the Commission on 31.3.2019 and considered as the opening capital cost as on 1.4.2019 for determination of tariff for the 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations. The Petitioner has not projected any ACE during the 2019-24



tariff period in respect of the transmission asset. Accordingly, the capital cost considered for the 2019-24 tariff period is as follows:

| (₹ in lakh) | | |
|----------------------------------|------------------|-----------------------------------|
| Capital Cost (as on 1.4.2019) | ACE (2019-24) | Capital Cost (as on 31.3.2024) |
| 19847.56 | 0.00 | 19847.56 |

Debt-Equity Ratio

51. 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.

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

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

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

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

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



(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

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

| Funding | Capital Cost (as on 1.4.2019) (₹ in lakh) | (in %) | Total Capital Cost (as on 31.3.2024) (₹ in lakh) | (in %) |
|--------------|---|---------------|--|---------------|
| Debt | 16769.72 | 84.49 | 16769.72 | 84.49 |
| Equity | 3077.84 | 15.51 | 3077.84 | 15.51 |
| Total | 19847.56 | 100.00 | 19847.56 | 100.00 |

Depreciation

53. Regulations 33(1), 33(2) and 33(5) of the 2019 Tariff Regulations provide as follows:

"33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

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

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

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

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

54. 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



transmission asset has already completed 12 years of life as on 31.3.2015, the remaining depreciable value of ₹8367.51 lakh has been spread across the balance useful life of 22 years in accordance with Regulation 33(5) of the 2019 Tariff Regulations. The depreciation allowed in respect of the transmission 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 | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Addition during 2019-24 due to projected ACE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Average Gross Block | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 |
| Balance useful life at the beginning of the year (Year) | 18.00 | 17.00 | 16.00 | 15.00 | 14.00 |
| Lapsed useful life at the beginning of the year (Year) | 16.00 | 17.00 | 18.00 | 19.00 | 20.00 |
| Depreciable Value | 17862.80 | 17862.80 | 17862.80 | 17862.80 | 17862.80 |
| Rate of Depreciation (in %) | 1.92 | 1.92 | 1.92 | 1.92 | 1.92 |
| Depreciation during the year | 380.34 | 380.34 | 380.34 | 380.34 | 380.34 |
| Cumulative Aggregate Depreciation at the end of the year | 11397.00 | 11777.34 | 12157.68 | 12538.02 | 12918.36 |
| Remaining Aggregate Depreciable Value at the end of the year | 6465.81 | 6085.46 | 5705.12 | 5324.78 | 4944.44 |

Interest on Loan

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

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

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

(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of asset, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalisation of such asset.



(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year. (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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

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

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

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

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

(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.”

56. The Petitioner has submitted that WAROI on loan has been calculated on the basis of interest rates prevailing as on 1.4.2019 for respective loans. In addition to above, the Petitioner has repeated its submissions and prayer already made regarding IoL in numerous other petitions already disposed by the Commission.

57. We have considered the submissions of the Petitioner regarding IoL and accordingly, the floating rate of interest, if any, shall be considered at the time of true up. Therefore, IoL in respect of the transmission asset for the 2019-24 tariff period has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations as follows:



| (₹ in lakh) | | | | | |
|--|----------|----------|----------|----------|----------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Gross Normative Loan | 16769.72 | 16769.72 | 16769.72 | 16769.72 | 16769.72 |
| Cumulative Repayments up to Previous Year | 10020.37 | 10400.71 | 10781.05 | 11161.39 | 11541.73 |
| Net Loan-Opening | 6749.35 | 6369.01 | 5988.67 | 5608.33 | 5227.99 |
| Addition due to ACE | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Repayment during the year | 380.34 | 380.34 | 380.34 | 380.34 | 380.34 |
| Net Loan-Closing | 6369.01 | 5988.67 | 5608.33 | 5227.99 | 4847.65 |
| Average Loan | 6559.18 | 6178.84 | 5798.50 | 5418.16 | 5037.82 |
| Weighted Average Rate of Interest on Loan (in %) | 6.002 | 6.002 | 6.002 | 6.002 | 6.002 |
| Interest on Loan | 393.71 | 370.85 | 348.02 | 325.19 | 302.37 |

Return on Equity

58. Regulations 30 and 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:

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 trueing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”

59. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, MAT rate applicable for 2019-20 has been considered for the



purpose of grossing up RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed in respect of the transmission asset for the 2019-24 tariff period under Regulation 30 of the 2019 Tariff Regulations is as follows:

(₹ in lakh)

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Opening Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Additions | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Closing Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Average Equity | 3077.84 | 3077.84 | 3077.84 | 3077.84 | 3077.84 |
| Return on Equity (Base Rate) (in %) | 15.500 | 15.500 | 15.500 | 15.500 | 15.500 |
| MAT Rate for respective year (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 |
| Return on Equity | 578.08 | 578.08 | 578.08 | 578.08 | 578.08 |

Operation & Maintenance Expenses

60. The O&M Expenses as claimed by the Petitioner in respect of the various elements covered under the transmission asset for the 2019-24 tariff period are as follows:

(₹ in lakh)

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---------------|---------------|---------------|---------------|---------------|
| Sub-station Bays (Number) | | | | | |
| 400 kV: Raipur-Rourkela I at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Raipur-Rourkela II at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur I at Rourkela | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur II at Rourkela | 1 | 1 | 1 | 1 | 1 |
| Norm (₹ lakh/bay) | | | | | |
| 400 kV | 32.15 | 33.28 | 34.45 | 35.66 | 36.91 |
| Total Sub-station O&M Expenses (₹ in lakh) | 128.60 | 133.12 | 137.80 | 142.64 | 147.64 |
| AC Transmission Lines | | | | | |
| Raipur-Raigarh-Rourkela I and II Line (kms) | 412.325 | 412.325 | 412.325 | 412.325 | 412.325 |
| Norm (₹ lakh/km) | | | | | |
| Double Circuit (Twin/ Triple contractor) | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |
| Total Transmission Lines O&M Expenses | 363.26 | 376.04 | 389.23 | 402.84 | 416.86 |
| Communication System | | | | | |



| | | | | | |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
| PLCC (₹in lakh) | 65.68 | 65.68 | 65.68 | 65.68 | 65.68 |
| Norms (in %) | 2 | 2 | 2 | 2 | 2 |
| Total Communication System | 1.31 | 1.31 | 1.31 | 1.31 | 1.31 |
| Total O&M Expenses | 493.17 | 510.47 | 528.35 | 546.80 | 565.81 |

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

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

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|----------------|----------------|----------------|----------------|----------------|
| Norms for sub-station Bays (₹ Lakh per bay) | | | | | |
| 765 kV | 45.01 | 46.60 | 48.23 | 49.93 | 51.68 |
| 400 kV | 32.15 | 33.28 | 34.45 | 35.66 | 36.91 |
| 220 kV | 22.51 | 23.30 | 24.12 | 24.96 | 25.84 |
| 132 kV and below | 16.08 | 16.64 | 17.23 | 17.83 | 18.46 |
| Norms for Transformers (₹ Lakh per MVA) | | | | | |
| 765 kV | 0.491 | 0.508 | 0.526 | 0.545 | 0.564 |
| 400 kV | 0.358 | 0.371 | 0.384 | 0.398 | 0.411 |
| 220 kV | 0.245 | 0.254 | 0.263 | 0.272 | 0.282 |
| 132 kV and below | 0.245 | 0.254 | 0.263 | 0.272 | 0.282 |
| Norms for AC and HVDC lines (₹ Lakh per km) | | | | | |
| Single Circuit (Bundled Conductor with six or more | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |
| Single Circuit (Bundled conductor with four sub- | 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 | 0.252 | 0.260 | 0.270 | 0.279 | 0.289 |
| Double Circuit (Bundled conductor with four or | 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 | 0.377 | 0.391 | 0.404 | 0.419 | 0.433 |
| Multi Circuit (Bundled Conductor with four or more | 2.319 | 2.401 | 2.485 | 2.572 | 2.662 |
| Multi Circuit (Twin & Triple Conductor) | 1.544 | 1.598 | 1.654 | 1.713 | 1.773 |
| Norms for HVDC stations | | | | | |
| HVDC Back-to-Back stations (Rs Lakh per 500 MW) | 834 | 864 | 894 | 925 | 958 |
| Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 | 1,666 | 1,725 | 1,785 | 1,848 | 1,913 |
| 500 kV Rihand-Dadri HVDC bipole scheme (Rs | 2,252 | 2,331 | 2,413 | 2,498 | 2,586 |
| ±500 kV Talcher- Kolar HVDC bipole scheme (Rs | 2,468 | 2,555 | 2,645 | 2,738 | 2,834 |
| ±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs | 1,696 | 1,756 | 1,817 | 1,881 | 1,947 |



| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|----------------|----------------|----------------|----------------|----------------|
| <i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs</i> | 2,563 | 2,653 | 2,746 | 2,842 | 2,942 |

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
- iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);*
- iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;*
- v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and*
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.*

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

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

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

"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."*



62. We have considered the submissions of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No. 126/TT/2020 had 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.

63. The O&M Expenses allowed in respect of the various elements covered under the transmission asset for the 2019-24 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Sub-station Bays (Number) | | | | | |
| 400 kV: Raipur-Rourkela I at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Raipur-Rourkela II at Raipur | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur I at Rourkela | 1 | 1 | 1 | 1 | 1 |
| 400 kV: Rourkela-Raipur II at Rourkela | 1 | 1 | 1 | 1 | 1 |
| Norm (₹ lakh/bay) | | | | | |
| 400 kV | 32.15 | 33.28 | 34.45 | 35.66 | 36.91 |
| Total Sub-station O&M Expenses (₹ in lakh) | 128.60 | 133.12 | 137.80 | 142.64 | 147.64 |
| AC Transmission Lines | | | | | |
| Raipur-Raigarh-Rourkela I and II Line (kms) | 412.325 | 412.325 | 412.325 | 412.325 | 412.325 |
| Norm (₹ lakh/kms) | | | | | |
| Double Circuit (Twin/ Triple contractor) | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |
| Total Transmission Lines O&M Expenses | 363.26 | 376.04 | 389.23 | 402.84 | 416.86 |
| Total O&M Expenses | 491.86 | 509.16 | 527.03 | 545.48 | 564.50 |



Interest on Working Capital

64. 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 interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

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

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

“3.Definitions ...

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

65. 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. In addition to this, the Petitioner has repeated its submissions already made regarding IWC in numerous other petitions already disposed by the Commission.

66. We have considered the submissions of the Petitioner regarding IWC and therefore IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations and the components of the working capital and interest allowed thereon in respect of the transmission asset for the 2019-24 tariff period are as follows:



| (₹ in lakh) | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working capital for O&M Expenses (O&M Expenses for 1 Month) | 40.99 | 42.43 | 43.92 | 45.46 | 47.04 |
| Working capital for Maintenance Spares (15% of O&M) | 73.78 | 76.37 | 79.06 | 81.82 | 84.68 |
| Working capital for Receivables (Equivalent to 2 months of annual transmission charges) | 231.85 | 231.51 | 230.62 | 230.13 | 229.08 |
| Total Working Capital | 346.62 | 350.32 | 353.60 | 357.41 | 360.80 |
| Rate of Interest for Working capital (in %) | 12.05 | 11.25 | 10.50 | 10.50 | 10.50 |
| Interest of Working Capital | 41.77 | 39.41 | 37.13 | 37.53 | 37.88 |

Annual Fixed Charges of the 2019-24 Tariff Period

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

| (₹ in lakh) | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation | 380.34 | 380.34 | 380.34 | 380.34 | 380.34 |
| Interest on Loan | 393.71 | 370.85 | 348.02 | 325.19 | 302.37 |
| Return on Equity | 578.08 | 578.08 | 578.08 | 578.08 | 578.08 |
| O&M Expenses | 491.86 | 509.16 | 527.03 | 545.48 | 564.50 |
| Interest on Working Capital | 41.77 | 39.41 | 37.13 | 37.53 | 37.88 |
| Total | 1885.75 | 1877.84 | 1870.61 | 1866.63 | 1863.17 |

Filing Fee and Publication Expenses

68. 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

69. 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 period.



Goods and Services Tax

70. 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.

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

Security Expenses

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

73. We have considered the submissions and prayer of the Petitioner regarding security expenses and observe that 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. Accordingly, 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

74. 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

75. During 2001-04, 2004-09 and 2009-14 tariff periods (upto 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations and with effect from 1.11.2020 (after repeal of the 2010 Sharing regulations), sharing of transmission charges is governed by the 2020 Sharing Regulations. Accordingly, the liabilities of DICs for arrears of the 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.

76. To summarise:

- a) The revised AFC approved in respect of the transmission asset for the 2001-04 tariff period as per the APTEL's judgments is as follows:

(₹ in lakh)

| 2003-04 |
|---------|
| 2341.57 |

- b) The revised AFC approved in respect of the transmission assets for the 2004-09 tariff period as per the APTEL's judgments is as follows:



| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| 2120.33 | 2120.35 | 2122.15 | 2110.28 | 2097.86 |

- c) The consequential revision of AFC approved in respect of the transmission asset for the 2009-14 tariff period is as follows:

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| 2721.33 | 2635.59 | 2624.12 | 2650.28 | 2658.91 |

- d) The trued-up AFC approved for the transmission asset for the 2014-19 tariff period are as under:

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 2595.41 | 1919.09 | 1972.90 | 2011.38 | 2058.62 |

- e) AFC allowed in respect of the transmission 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 |
| 1885.75 | 1877.84 | 1870.61 | 1866.63 | 1863.17 |

77. Annexure-I given hereinafter shall form part of the order.

78. This order disposes of Petition No. 215/TT/2020 in terms of the above discussions and findings.

sd/-

(P. K. Singh)
Member

sd/-

(Arun Goyal)
Member

sd/-

(I. S. Jha)
Member



Annexure-I

| Particulars | Admitted Capital Cost as on 1.4.2014 (₹ in lakh) | Admitted Capital Cost as on 31.3.2019 (₹ in lakh) | Rate of Depreciation (%) | Annual Depreciation as per Regulations (₹ in lakh) | | | | | |
|-------------------|--|---|--------------------------|--|------------------|---------------|---------------|---------------|--|
| | | | | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | |
| Building | 110.27 | 110.27 | 3.34 | 3.68 | Spreading | | | | |
| Transmission Line | 17807.74 | 17807.74 | 5.28 | 940.25 | | | | | |
| Sub Station | 1863.87 | 1863.87 | 5.28 | 98.41 | | | | | |
| PLCC | 65.68 | 65.68 | 6.33 | 4.16 | | | | | |
| TOTAL | 19847.56 | 19847.56 | | 1046.50 | 380.34 | 380.34 | 380.34 | 380.34 | |
| | | Average Gross Block (₹ in lakh) | | 19847.56 | 19847.56 | 19847.56 | 19847.56 | 19847.56 | |
| | | Weighted Average Rate of Depreciation (%) | | 5.27 | 1.92 | 1.92 | 1.92 | 1.92 | |

