

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 325/TT/2020

Coram:

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

Date of Order: 22.01.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of 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 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for Kawas Transmission System in Western Region.

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,
3rd Floor Hongkong Bank Building, 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, Near Mandvi Hotel,
Panaji, 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 Despach 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 the transmission tariff of the 2001-04, 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 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”) for Kawas Transmission System in Western Region (hereinafter referred to as “the transmission system”).

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

- “1) Approve the revised Transmission Tariff for 2001-04 block, Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.*
- 2) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 9 and 10 above.*
- 3) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 9 and 10 above for respective block.*

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

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



- 5) *Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) *Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.*
- 7) *Allow the petitioner to 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.*
- 8) *Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 9) *Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.*

and pass such other relief as 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 implementation of the transmission system was approved by the Central Government with its execution commenced by NTPC Limited followed by its completion by the Petitioner. The Ministry of Power (MoP) vide letter dated 21.10.1986 approved the transmission system at a total cost of ₹3686.00 lakh with the scope of work as follows:

- i. 220 kV Kawas-Navsari Transmission Line with bays at both ends;
- ii. 220 kV Kawas-Valthan Transmission Line* with bays at both ends; and
- iii. 220 kV Kawas-Bharuch Transmission Line* with bays at both ends.

(Valthan Sub-station has also been known as “Vav” earlier. One circuit of 220 kV Kawas-Valthan line was looped-in-looped-out at Ichchapur Sub-station. “Bharuch” Sub-station was also known as “Haldarwa” earlier.)*

b) The afore-mentioned transmission lines were commissioned on 22.3.1992, 22.3.1992 and 1.12.1992 respectively. The tariff of the transmission system for the period ending 31.3.2001 was notified by MoP vide notifications dated 20.7.1998 and 14.5.1999. Further, based on the terms and conditions of tariff contained in the Commission's notification dated 26.3.2001, the transmission tariff of the transmission system for the period from 1.4.2001 to



31.3.2004 was allowed by the Commission vide order dated 4.8.2003 in Petition No. 28/2002.

c) The transmission tariff of the transmission system for the period from 1.4.2004 to 31.3.2009 was allowed vide order dated 26.10.2005 in Petition No. 114/2004 which was revised vide order dated 14.3.2008 in Petition No. 114/2004 in the process of implementation of the judgment of the Appellate Tribunal for Electricity (APTEL) dated 16.5.2007 in Appeal No. 121 of 2005.

d) The Commission vide order dated 1.2.2010 in Interlocutory Application No. 5/2010 (in Petition No. 110/2009) had allowed the Petitioner to file a revised petition incorporating the expected Additional Capital Expenditure (ACE) during the 2009-14 tariff period and subsequently the tariff for the 2009-14 tariff period was allowed vide order dated 25.2.2011 in Petition No. 110/2009. The same was trued-up and tariff for the 2014-19 tariff period was allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014.

e) The entire scope of work is complete and is covered in the instant petition and the Petitioner vide affidavit dated 30.7.2021 has filed the scope of work covered in this petition as follows:

Transmission Lines:

- i. 220 kV Kawas-Navsari (GETCO) ckt I and II transmission line;
- ii. 220 kV Kawas-Haldarwa (GETCO) ckt I and II transmission line; and
- iii. 220 kV Kawas-Ichchapur-Vav (GETCO) transmission line.

Sub-station Extension:

- i. 220 kV Kawas Sub-station Extension.

f) The Petitioner has prayed for revision of transmission tariff allowed for the 2001-04, 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 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 system.

g) 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 the APTEL and its decisions/ directions are as follows:

| Sr. No. | Issue | APTEL's decisions/ directions |
|---------|---|---|
| 1 | Whether the 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 the 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 <i>ex-gratia</i> payment to employees | Commission's view upheld |
| 4 | Cost of spares for calculation of working capital | Commission's view upheld |

h) 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 9 (nine) issues. The issues considered and the decisions/ directions of the APTEL are as follows:

| Sr. 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% | 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 | 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 Station | Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. The Commission shall re-compute the interest accordingly |

- i) The Commission and certain interested parties preferred Civil Appeals against the APTEL's judgments before the Hon'ble Supreme Court in 2007. The Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC 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.
- j) Based on the APTEL's judgments dated 22.1.2007 and 13.6.2007, the Petitioner had sought re-determination of transmission 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.



k) 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.

l) Consequent to the Hon'ble Supreme Court's judgment 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.

m) The instant petition was heard on 3.8.2021 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 transmission utilities, distribution licensees and power departments which are procuring transmission services from the Petitioner, mainly beneficiaries of Western 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 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 27.5.2020 and has raised the issues of effective tax rates for grossing up of Return on Equity (RoE) during 2014-19, ACE and de-capitalization during the 2014-19 and 2019-24 tariff



period. The Petitioner vide affidavit dated 23.7.2021 has filed rejoinder to MPPMCL's reply.

6. It has been placed before us that MPPMCL has been raising the same issue(s) in other petitions as well despite clear findings of the Commission. The contentions of MPPMCL have been rejected by the Commission in other petitions including Petition No. 326/TT/2020 vide order dated 21.9.2021. As MPPMCL has not challenged the findings, the same have attained finality. In view of these, the pleas raised by MPPMCL are rejected. Also, MPPMCL's submissions, Petitioner's clarifications thereto and the Commission's findings on the said issue(s) have not been repeated herein for the sake of brevity. Further, the issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant portions of this order.

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 from 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for the 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 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 2001-04 and 2004-09 periods 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, the outstanding loan allowed for the 2001-04 and 2004-09 periods is revised in the instant order.

10. 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 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 15.1.2020, MPPMCL's reply filed vide affidavit dated 27.5.2020, the Petitioner's affidavit dated 1.7.2021 filed in response to technical validation letter, the Petitioner's rejoinder and additional information filed vide affidavit dated 23.7.2021 and 30.7.2021 respectively.

12. The hearing in this matter was held on 3.8.2021 through video conference and the 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 4.8.2003 in Petition No. 28/2002 had allowed transmission tariff of the transmission system for the 2001-04 tariff period as follows:

| Particulars | (₹ in lakh) | | |
|------------------------------|---------------|---------------|---------------|
| | 2001-02 | 2002-03 | 2003-04 |
| Depreciation | 57.14 | 57.14 | 57.14 |
| Return on Equity | 199.73 | 199.73 | 199.73 |
| O&M Expenses | 172.05 | 182.37 | 193.31 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 13.93 | 14.46 | 15.03 |
| Total | 442.85 | 453.71 | 465.22 |

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



| Particulars | (₹ in lakh) | | |
|------------------------------|---------------|---------------|---------------|
| | 2001-02 | 2002-03 | 2003-04 |
| Depreciation | 57.14 | 57.14 | 57.14 |
| Return on Equity | 199.73 | 199.73 | 199.73 |
| O&M Expenses | 172.05 | 182.37 | 193.31 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 13.93 | 14.46 | 15.03 |
| Total | 442.85 | 453.70 | 465.21 |

15. We have considered the Petitioner's claim. The transmission tariff is revised for the transmission system on the basis of the following:

a) Admitted capital cost of ₹3139.72 lakh as on 1.4.2001; and

b) Weighted Average Rate of Interest (WAROI) on actual loan, Weighted Average Rate of Depreciation (WAROD), Rate of IWC and O&M Expense as per order dated 4.8.2003 in Petition No. 28/2002.

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

| Particulars | (₹ in lakh) | | |
|------------------------------|---------------|---------------|---------------|
| | 2001-02 | 2002-03 | 2003-04 |
| Depreciation | 57.14 | 57.14 | 57.14 |
| Return on Equity | 199.73 | 199.73 | 199.73 |
| O&M Expenses | 172.05 | 182.37 | 193.31 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 13.93 | 14.46 | 15.03 |
| Total | 442.85 | 453.70 | 465.21 |

17. The Annual Fixed Charges (AFC) for the transmission system allowed for the 2001-04 tariff period vide order dated 4.8.2003 in Petition No. 28/2002, 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) | | |
|---|-------------|---------|---------|
| | 2001-02 | 2002-03 | 2003-04 |
| Allowed vide order dated 4.8.2003 in Petition No. 28/2002 | 442.85 | 453.71 | 465.22 |
| Claimed by the Petitioner in the instant petition | 442.85 | 453.70 | 465.21 |
| Approved in the instant order | 442.85 | 453.70 | 465.21 |



2004-09 Period

18. The Commission vide order dated 26.10.2005 in Petition No. 114/2004 had allowed the transmission tariff of the transmission system for the 2004-09 period which was revised vide order dated 14.3.2008 in Petition No. 114/2004 in the process of implementation of the judgment of the APTEL dated 16.5.2007 in Appeal No. 121 of 2005 as follows:

| Particulars | (₹ in lakh) | | | | |
|------------------------------|--------------------|----------------|----------------|----------------|----------------|
| | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Return on Equity | 219.78 | 219.78 | 219.78 | 219.78 | 219.78 |
| O&M Expenses | 244.54 | 254.32 | 264.68 | 274.95 | 286.24 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 16.36 | 16.93 | 17.53 | 18.14 | 18.81 |
| Total | 537.82 | 548.17 | 559.13 | 570.01 | 581.97 |

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

| Particulars | (₹ in lakh) | | | | |
|------------------------------|--------------------|----------------|----------------|----------------|----------------|
| | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Return on Equity | 219.78 | 219.78 | 219.78 | 219.78 | 219.78 |
| O&M Expenses | 244.54 | 254.32 | 264.68 | 274.95 | 286.24 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 15.29 | 15.79 | 16.32 | 16.86 | 17.45 |
| Total | 536.75 | 547.03 | 557.92 | 568.73 | 580.61 |

20. We have considered the Petitioner's claim. The transmission tariff is revised for the transmission system on the basis of the following:

- a) Admitted capital cost of ₹3139.72 lakh as on 1.4.2004; and
- b) WAROI on actual loan, WAROD, Rate of IWC as per order dated 14.3.2008 in Petition No. 114/2004.

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



| (₹ in lakh) | | | | | |
|------------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Return on Equity | 219.78 | 219.78 | 219.78 | 219.78 | 219.78 |
| O&M Expenses | 244.54 | 254.32 | 264.68 | 274.95 | 286.24 |
| Advance against Depreciation | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 15.29 | 15.79 | 16.32 | 16.86 | 17.45 |
| Total | 536.75 | 547.03 | 557.92 | 568.73 | 580.61 |

22. AFC for the transmission system allowed for the 2004-09 tariff period vide order dated 14.3.2008 in Petition No. 114/2004, revised AFC claimed by the Petitioner in the instant petition and the revised AFC approved in the instant order are as follows:

| (₹ in lakh) | | | | | |
|---|---------|---------|---------|---------|---------|
| Particulars | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| Allowed vide order dated 14.3.2008 in Petition No. 114/2004 | 537.82 | 548.17 | 559.13 | 570.01 | 581.97 |
| Claimed by the Petitioner in the instant petition | 536.75 | 547.03 | 557.92 | 568.73 | 580.61 |
| Approved in the instant order | 536.75 | 547.03 | 557.92 | 568.73 | 580.61 |

2009-14 Period

23. The Commission vide order dated 25.2.2011 in Petition No. 110/2009 had allowed the transmission tariff of the transmission system for the 2009-14 period which was subsequently trued-up vide order dated 25.1.2016 in Petition No. 425/TT/2014. The trued-up tariff allowed vide order dated 25.1.2016 is as follows:

| (₹ in lakh) | | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Return on Equity | 293.16 | 303.89 | 304.19 | 304.19 | 307.85 |
| O&M Expenses | 265.00 | 280.11 | 296.27 | 313.15 | 331.03 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 20.56 | 21.54 | 22.35 | 23.19 | 24.17 |
| Total | 635.86 | 662.68 | 679.95 | 697.67 | 720.19 |

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



| Particulars | (₹ in lakh) | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Return on Equity | 293.16 | 303.89 | 304.19 | 304.19 | 307.85 |
| O&M Expenses | 265.00 | 280.11 | 296.27 | 313.15 | 331.03 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Interest on Working Capital | 20.56 | 21.54 | 22.35 | 23.20 | 24.17 |
| Total | 635.86 | 662.68 | 679.95 | 697.68 | 720.19 |

25. We have considered the Petitioner's claim. The transmission tariff is revised for the transmission system on the basis of the following:

a) Admitted capital cost of ₹3139.72 lakh as on 1.4.2009; and

b) WAROI on actual loan, WAROD and Rate of IWC as per order dated 25.1.2016 in Petition No. 425/TT/2014.

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

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| Depreciation | 57.14 | 57.14 | 57.14 | 57.14 | 57.14 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on equity | 293.16 | 303.89 | 304.19 | 304.19 | 307.85 |
| Interest on Working Capital | 20.56 | 21.54 | 22.35 | 23.20 | 24.17 |
| O&M Expenses | 265.00 | 280.11 | 296.27 | 313.15 | 331.03 |
| Total | 635.85 | 662.68 | 679.95 | 697.68 | 720.19 |

27. AFC for the transmission system allowed for the 2009-14 tariff period vide order dated 25.1.2016 in Petition No. 425/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 25.1.2016 in Petition No. 425/TT/2014 | 635.86 | 662.68 | 679.95 | 697.67 | 720.19 |
| Claimed by the Petitioner in the instant petition | 635.86 | 662.68 | 679.95 | 697.68 | 720.19 |
| Approved in the instant order | 635.85 | 662.68 | 679.95 | 697.68 | 720.19 |



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 for the transmission system for the 2014-19 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 57.92 | 58.57 | 58.56 | 58.57 | 63.20 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 308.55 | 310.43 | 310.27 | 310.27 | 311.09 |
| Interest on Working Capital | 25.22 | 25.84 | 26.41 | 27.00 | 27.75 |
| O&M Expenses | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |
| Total | 695.55 | 708.77 | 719.71 | 730.92 | 748.42 |

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

| Particulars | (₹ in lakh) | | | | |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| O&M Expenses | 25.32 | 26.16 | 27.04 | 27.92 | 28.87 |
| Maintenance Spares | 45.58 | 47.09 | 48.67 | 50.26 | 51.96 |
| Receivables | 115.93 | 118.13 | 119.95 | 121.82 | 124.74 |
| Total Working Capital | 186.83 | 191.38 | 195.66 | 200.00 | 205.57 |
| Rate of Interest (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest on Working Capital | 25.22 | 25.84 | 26.41 | 27.00 | 27.75 |

Capital Cost as on 1.4.2014

30. The capital cost of the transmission system has been calculated in accordance with Regulations 9(3) and 9(6) of the 2014 Tariff Regulations.

31. The details of the capital cost as on 1.4.2014, ACE and de-capitalization during the 2014-19 tariff period and estimated completion cost as admitted by the Commission vide order dated 25.1.2016 in Petition No. 425/TT/2014 as follows:

| Capital Cost admitted (as on 31.3.2014) | ACE and De-capitalization | | | | Estimated Completion Cost admitted (as on 31.3.2019) |
|---|---------------------------|-------------------|---------|-------------------|--|
| | 2014-15 | | 2017-18 | | |
| | ACE | De-capitalization | ACE | De-capitalization | |
| 3139.72 | 19.91 | 2.25 | 60.00 | 18.40 | 3198.98 |

32. The Petitioner has submitted the Auditor's Certificate dated 19.12.2019 wherein the details of the claimed capital cost as on 1.4.2014, as on 31.3.2019



(including ACE and de-capitalization during the 2014-19 tariff period) has been mentioned as follows:

| Capital Cost (as on 1.4.2014) | ACE and De-capitalization (as per Auditor's Certificate) | | | | Total Capital Cost (as on 31.3.2019) |
|----------------------------------|--|-------------------|---------|-------------------|---|
| | 2014-15 | | 2018-19 | | |
| | ACE | De-capitalization | ACE | De-capitalization | |
| 3139.72 | 19.91 | 2.50 | 57.73 | 35.04 | 3179.82 |

33. We have considered the submissions and claims of the Petitioner. Capital cost allowed by the Commission as on 1.4.2014 vide order dated 25.1.2016 in Petition No. 425/TT/2014 for the transmission system shall be considered as the opening capital cost as on 1.4.2014 for truing up of tariff. Further, we have given our findings on ACE and de-capitalization in the relevant portions of this order.

Additional Capital Expenditure and De-capitalization

34. The Petitioner has submitted the description with respect to actual ACE and de-capitalization claimed during the 2014-19 tariff period in this petition. CTs and CBs of the transmission system were commissioned during 1992-93 and some of these equipment have worn out, leading to frequent faults and repair. Therefore, it is necessary to replace them in a progressive manner so that the transmission system is not affected and functions smoothly. Also, ACE and de-capitalization during the 2014-19 tariff period is beyond cut-off date. Further, the admissibility of Operation and Maintenance ACE incurred after cut-off date is to be dealt in accordance with Regulations 14(3)(viii) and 14(3)(ix) of the 2014 Tariff Regulations.

35. The Petitioner has submitted that as against ACE of ₹59.26 lakh allowed by the Commission for the 2014-19 tariff period on account of ACE for replacement of problematic/ defective equipment that are completing 25 years of service during the 2014-19 period for efficient and secure operation of the transmission system, the actual ACE incurred for the same is ₹40.10 lakh during the 2014-19 period which is



in accordance with the provision of Regulations 14(3)(vii) and 14(3)(ix) of the 2014 Tariff Regulations.

36. The Petitioner vide affidavit dated 1.7.2021 has submitted that as allowed by the Commission, equipment proposed under ACE during the 2014-19 had been replaced and working satisfactorily and no recovery has been made from Insurance Proceeds in respect of ACE claimed under Regulation 14(3)(ix) of the 2014 Tariff Regulations.

37. Based on the Auditor's Certificate dated 19.12.2019, the details of ACE and de-capitalisation during 2014-19 tariff period as claimed by the Petitioner for the transmission system are as follows:

(₹ in lakh)

| ACE and De-capitalization (as per Auditor's Certificate) | | | |
|--|-------------------|---------|-------------------|
| 2014-15 | | 2018-19 | |
| ACE | De-capitalization | ACE | De-capitalization |
| 19.91 | 2.50 | 57.73 | 35.04 |

38. The details pertaining to de-capitalization during the 2014-19 period as submitted in Form-10B are as follows:

| Year of decapitalization | Work/Equipment proposed to be decapitalized | Year of capitalisation of asset/equipment being decapitalized | Original book value of the asset being decapitalized (₹ in lakh) | Cumulative depreciation corresponding to decapitalization (₹ in lakh) | Cumulative repayment of loan corresponding to decapitalization (₹ in lakh) |
|--------------------------|---|---|--|---|--|
| 2014-15 | Sub-station Equipment | 1991-92 | 2.50 | 2.25 | 1.25 |
| 2018-19 | Sub-station Equipment | 1991-92 | 22.84 | 20.55 | 11.42 |
| 2018-19 | Sub-station Equipment | 1992-93 | 12.20 | 10.98 | 6.10 |

39. MPPMCL has submitted that the Petitioner has intimated about ACE and de-capitalization of various equipment during the 2014-19 tariff period and since the equipment were commissioned way back (nearly more than 20 years ago), some of the equipment have worn out leading to frequent faults and repairs. Therefore, the



Petitioner felt it necessary to replace them in progressive manner to facilitate smooth functioning of the transmission system.

40. MPPMCL has further submitted that the petitioner has claimed the same on the basis of auditor's certificate and has not submitted any document showing that transparency has been adopted while disposing of the worn out instruments and its valuation. Also, the Petitioner has not submitted any criteria for finalizing the equipment that needs immediate replacement and reason related thereto.

41. In response, the Petitioner has submitted that ACE/ de-capitalization for the 2014-19 tariff period is towards replacement of SF6 density monitors, CBs and CTs which was allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014.

42. We have considered the submissions of the Petitioner and MPPMCL and observe that ACE claimed is towards replacement of problematic/ defective equipment, and, accordingly, the same is allowed under Regulations 14(3)(vii) and 14(3)(ix) of the 2014 Tariff Regulations.

43. In view of the above, the details of the capital cost (along with ACE and de-capitalization during the 2014-19 period) considered for the true up of tariff for the 2014-19 tariff period are as follows:

| Capital Cost (as on 1.4.2014) | ACE and de-capitalization approved | | | | Capital Cost (as on 31.3.2019) |
|----------------------------------|------------------------------------|-------------------|---------|-------------------|-----------------------------------|
| | 2014-15 | | 2018-19 | | |
| | ACE | De-capitalization | ACE | De-capitalization | |
| 3139.72 | 19.91 | 2.50 | 57.73 | 35.04 | 3179.82 |

Debt-Equity Ratio

44. The Petitioner has claimed debt-equity ratio as on 31.3.2014 allowed by the Commission vide order dated 25.1.2016 in Petition No. 425/TT/2014 and the same has been considered as opening debt-equity ratio as on 1.4.2014 as provided under



Regulation 19(3) of the 2014 Tariff Regulations. The details of the same are as follows:

| Funding | Amount (₹ in lakh) | (in %) |
|----------------|---------------------------|---------------|
| Debt | 1569.86 | 50.00 |
| Equity | 1569.86 | 50.00 |
| Total | 3139.72 | 100.00 |

45. The debt-equity ratio of 70:30 has been considered for ACE allowed during 2014-19 tariff period in accordance with Regulation 19(5) of the 2014 Tariff Regulations. The de-capitalisation in this case is carried out in the debt-equity ratio as claimed by the Petitioner in Form 10B. Accordingly, the details of debt-equity as on 1.4.2014 and 31.3.2019 for the transmission system considered for the purpose of tariff for 2014-19 tariff period is as follows:

Debt-Equity for Capital Cost as on 1.4.2014

| Funding | Amount (₹ in lakh) | (in %) |
|----------------|---------------------------|---------------|
| Debt | 1569.86 | 50.00 |
| Equity | 1569.86 | 50.00 |
| Total | 3139.72 | 100.00 |

Debt-Equity for ACE and De-capitalisation during the 2014-19 period

| Funding | ACE | | De-Capitalization | | ACE | | De-Capitalization | |
|----------------|----------------|---------------|--------------------------|----------------|----------------|---------------|--------------------------|----------------|
| | 2014-15 | (in %) | 2014-15 | (in %)* | 2018-19 | (in %) | 2018-19 | (in %)* |
| Debt | 13.94 | 70.00 | 1.25 | 50.00 | 40.41 | 70.00 | 17.52 | 50.00 |
| Equity | 5.97 | 30.00 | 1.25 | 50.00 | 17.32 | 30.00 | 17.52 | 50.00 |
| Total | 19.91 | 100.00 | 2.50 | 100.00 | 57.73 | 100.00 | 35.04 | 100.00 |

*as per the Form 10B submitted by the Petitioner

Debt-Equity for Capital Cost as on 31.3.2019

| Funding | Amount (₹ in lakh) | (in %) |
|----------------|---------------------------|---------------|
| Debt | 1605.44* | 50.49 |
| Equity | 1574.38** | 49.51 |
| Total | 3179.82 | 100.00 |

*Debt as on 1.4.2014 plus debt considered for ACE minus adjustment made in debt on de-capitalization.

** Equity as on 1.4.2014 plus equity considered for ACE minus adjustment made in equity on de-capitalization.

Depreciation

46. The transmission system has already completed 12 years before 1.4.2014. Accordingly, depreciation has been calculated based on the remaining depreciable



value to be recovered over the balance useful life. Thus, the trued-up depreciation allowed during the 2014-19 period is as follows:

| (₹ in lakh) | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Gross Block | 3139.72 | 3157.13 | 3157.13 | 3157.13 | 3157.13 |
| ACE during 2014-19 | 19.91 | 0.00 | 0.00 | 0.00 | 57.73 |
| De-capitalisation | 2.50 | 0.00 | 0.00 | 0.00 | 35.04 |
| Closing Gross Block | 3157.13 | 3157.13 | 3157.13 | 3157.13 | 3179.82 |
| Average Gross Block | 3148.43 | 3157.13 | 3157.13 | 3157.13 | 3168.48 |
| Weighted Average Rate of Depreciation (in %) | 1.83 | 1.86 | 1.86 | 1.86 | 1.88 |
| Balance useful life of the asset at the beginning of the year (Year) | 13.00 | 12.00 | 11.00 | 10.00 | 9.00 |
| Lapsed life at the beginning of the year (Year) | 22.00 | 23.00 | 24.00 | 25.00 | 26.00 |
| Aggregated Depreciable Value | 2833.58 | 2841.42 | 2841.42 | 2841.42 | 2851.63 |
| Depreciation during the year | 57.74 | 58.58 | 58.58 | 58.58 | 59.72 |
| Cumulative Depreciation at the end of the year | 2138.42 | 2197.01 | 2255.59 | 2314.17 | 2342.35 |
| Remaining Aggregate Depreciable Value at the end of the year | 692.91 | 644.41 | 585.83 | 527.25 | 477.74 |

47. Depreciation for the transmission system as allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

| (₹ in lakh) | | | | | |
|--|---------|---------|---------|---------|---------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014 | 57.75 | 58.41 | 58.41 | 60.29 | 62.37 |
| Claimed by the Petitioner in the instant petition | 57.92 | 58.57 | 58.56 | 58.57 | 63.20 |
| Approved after true-up in this order | 57.74 | 58.58 | 58.58 | 58.58 | 59.72 |

Interest on Loan

48. The Petitioner has not claimed any IoL during the 2014-19 tariff period as the entire loan has been repaid, and, accordingly, no IoL has been considered in this order.



Return on Equity

49. The Petitioner has claimed RoE for the transmission system 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 the 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 |

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

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

51. MAT rates as allowed vide order dated 27.4.2020 in Petition No. 274/TT/2019 for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 period, in terms of the provisions of the 2014 Tariff Regulations, are considered in the instant case which is as follows:

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



52. The Petitioner has claimed RoE for the 2014-19 period after grossing up the RoE @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 for the transmission system for the 2014-19 tariff period as follows:

| (₹ in lakh) | | | | | |
|--------------------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Opening Equity | 1569.86 | 1574.58 | 1574.58 | 1574.58 | 1574.58 |
| Addition due to ACE | 5.97 | 0.00 | 0.00 | 0.00 | 17.32 |
| De-Capitalisation | 1.25 | 0.00 | 0.00 | 0.00 | 17.52 |
| Closing Equity | 1574.58 | 1574.58 | 1574.58 | 1574.58 | 1574.38 |
| Average Equity | 1572.22 | 1574.58 | 1574.58 | 1574.58 | 1574.48 |
| 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 | 308.31 | 310.27 | 310.27 | 310.27 | 311.09 |

53. RoE for the transmission system as allowed vide order dated 25.1.2016 in Petition No. 425/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 25.1.2016 in Petition No. 425/TT/2014 | 308.37 | 308.89 | 308.89 | 310.11 | 311.34 |
| Claimed by the Petitioner in the instant petition | 308.55 | 310.43 | 310.27 | 310.27 | 311.09 |
| Approved after true-up in this order | 308.31 | 310.27 | 310.27 | 310.27 | 311.09 |

Operation & Maintenance Expenses (O&M Expenses)

54. O&M Expenses for the various elements covered under the transmission system as claimed by the Petitioner are within the norms specified under the 2014 Tariff Regulations, and, accordingly, the same are allowed as follows:



| (₹ in lakh) | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Transmission Lines | | | | | |
| 220 kV Kawas-Navsari (GETCO) Ckt. I and Ckt.II | 49.00 | 49.00 | 49.00 | 49.00 | 49.00 |
| 220 kV Kawas-Haldarwa(GETCO) Ckt I and Ckt.II | 81.00 | 81.00 | 81.00 | 81.00 | 81.00 |
| 220 kV Kawas-Ichchapur-Vav | 37.00 | 37.00 | 37.00 | 37.00 | 37.00 |
| Norms (₹ lakh/km) | | | | | |
| D/C (Single Conductor) | 0.303 | 0.313 | 0.324 | 0.334 | 0.346 |
| Total Transmission Line O&M Expenses | 50.60 | 52.27 | 54.11 | 55.78 | 57.78 |
| Sub-station | | | | | |
| 220 kV: Kawas:Navsari - I | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Ichchapur-Vav | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Navsari - II | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Haldarwa - II | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Haldarwa - I | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Vav | 1 | 1 | 1 | 1 | 1 |
| Norms (₹ lakh/Bay) | | | | | |
| 220 kV | 42.21 | 43.61 | 45.06 | 46.55 | 48.10 |
| Total Sub-station O&M Expenses | 253.26 | 261.66 | 270.36 | 279.30 | 288.60 |
| Total O&M Expenses (₹ in lakh) | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |

55. O&M Expenses for the transmission system as allowed vide order dated 25.1.2016 in Petition No. 425/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 25.1.2016 in Petition No. 425/TT/2014 | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |
| Claimed by the Petitioner in the instant petition | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |
| Approved after true up in this order | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |

Interest on Working Capital

56. 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 the transmission system 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) | 25.32 | 26.16 | 27.04 | 27.92 | 28.87 |
| Working Capital for Maintenance Spares (15% of O&M) | 45.58 | 47.09 | 48.67 | 50.26 | 51.96 |
| Working Capital for Receivables (Equivalent to 2 months of annual transmission charges) | 115.85 | 118.10 | 119.96 | 121.82 | 124.14 |
| Total Working Capital | 186.76 | 191.35 | 195.67 | 200.01 | 204.97 |
| Rate of Interest on working capital (in %) | 13.50 | 13.50 | 13.50 | 13.50 | 13.50 |
| Interest of Working Capital | 25.21 | 25.83 | 26.41 | 27.00 | 27.67 |

57. IWC for the transmission system as allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

| (₹ in lakh) | | | | | |
|--|---------|---------|---------|---------|---------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Allowed vide order dated 25.1.2016 in Petition No. 425/TT/2014 | 25.21 | 25.80 | 26.38 | 27.04 | 27.74 |
| Claimed by the Petitioner in the instant petition | 25.22 | 25.84 | 26.41 | 27.00 | 27.75 |
| Approved after true-up in this order | 25.21 | 25.83 | 26.41 | 27.00 | 27.67 |

Approved Annual Fixed Charges for the 2014-19 Tariff Period

58. The trued-up AFC approved for the transmission system for the 2014-19 tariff period are as follows:

| (₹ in lakh) | | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| Depreciation | 57.74 | 58.58 | 58.58 | 58.58 | 59.72 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 308.31 | 310.27 | 310.27 | 310.27 | 311.09 |
| O&M Expenses | 303.86 | 313.93 | 324.47 | 335.08 | 346.38 |
| Interest on Working Capital | 25.21 | 25.83 | 26.41 | 27.00 | 27.67 |
| Total | 695.13 | 708.62 | 719.74 | 730.93 | 744.86 |

59. Accordingly, the Annual Transmission Charges as allowed vide order dated 25.1.2016 in Petition No. 425/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 25.1.2016 in Petition No. 425/TT/2014 | 695.19 | 707.03 | 718.15 | 732.52 | 747.83 |
| Claimed by the Petitioner in the instant petition | 695.55 | 708.77 | 719.71 | 730.92 | 748.42 |
| Approved after true-up in this order | 695.13 | 708.62 | 719.74 | 730.93 | 744.86 |

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

60. The details of the transmission charges for the transmission system 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 | 66.64 | 69.10 | 69.11 | 76.12 | 102.64 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 296.78 | 297.86 | 297.86 | 299.48 | 302.94 |
| Interest on Working Capital | 14.09 | 14.48 | 14.79 | 15.25 | 16.01 |
| O&M Expenses | 198.02 | 205.10 | 212.19 | 219.73 | 227.35 |
| Total | 575.53 | 586.54 | 593.95 | 610.58 | 648.94 |

61. The details of IWC for the transmission system for the 2019-24 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 | 16.50 | 17.09 | 17.68 | 18.31 | 18.95 |
| Maintenance Spares | 29.70 | 30.77 | 31.83 | 32.96 | 34.10 |
| Receivables | 70.76 | 72.31 | 73.23 | 75.28 | 79.79 |
| Total Working Capital | 116.96 | 120.17 | 122.74 | 126.55 | 132.84 |
| Rate of Interest (in %) | 12.05 | 12.05 | 12.05 | 12.05 | 12.05 |
| Interest on Working Capital | 14.09 | 14.48 | 14.79 | 15.25 | 16.01 |

Capital Cost

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

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

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



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

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

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



scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

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

(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and

(b) cost of the developer’s 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

(a) The asset forming part of the project, but not in use, as declared in the tariff petition;

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

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

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

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

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

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

63. The Petitioner has claimed capital cost of ₹3179.82 lakh (including actual ACE and de-capitalization) as on 31.3.2019 for the transmission system. The same capital cost has been worked out by the Commission in preceding paragraphs and is considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure

64. Regulation 25 of the 2019 Tariff Regulations provides as follows:

“25. Additional Capitalisation within the original scope and after the cut-off date:



(1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cutoff date may be admitted by the Commission, subject to prudence check:

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;
- (b) Change in law or compliance of any existing law;
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;
- (d) Liability for works executed prior to the cut-off date;
- (e) Force Majeure events;
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and
- (g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

65. The Petitioner vide Auditor’s Certificate dated 19.12.2019 has projected net ACE of ₹193.18 lakh in respect of the transmission system after adjusting for de-capitalization during the 2019-24 tariff period. The proposed ACE/ de-capitalization during the 2019-24 period as submitted vide Auditor’s Certificate is tabulated as follows:

| Particulars | (₹ in lakh) |
|---------------------------------------|-----------------------|
| | Amount Sub-station |
| Proposed ACE in 2019-20 | 38.29 |
| Proposed ACE in 2022-23 | 70.34 |
| Proposed ACE in 2023-24 | 132.63 |
| Proposed De-capitalization in 2022-23 | 7.67 |
| Proposed De-capitalization in 2023-24 | 40.41 |
| NET ACE | 193.18 |



66. The Petitioner has submitted the description of projected ACE and de-capitalization considered for computation of tariff for the 2019-24 tariff period.

Further, the Petitioner has submitted as follows:

a) CTs, CBs, Wave Traps (WTs), Control and Protection Panels, Power and Control Cables of the transmission system were commissioned during 1992-93 and some of these equipment have worn out, leading to frequent faults, burn outs and repairs.

b) CTs and Capacitive Voltage Transformers (CVTs) have completed more than 25 years of service. Hence, frequent oil leakages and hot spots are observed due to ageing. These CTs and CVTs have become obsolete and neither timely support from OEM nor spares are available. There are chances of breakdown which may create element outage due to failure.

c) WTs have completed more than 25 years of service. As a result, failure of terminal connectors occurs frequently and also there have been incidences of burning of WTs and unwinding of WT coils because of deterioration of insulation between turns of coil due to ageing. Hence, dismantling of complete WTs is also required for rectification of above issues, which increase outage period of the element.

d) Relays installed are of static type and due to ageing, problem of mal-operation/ non-operation occurs frequently because of sticking up of relay contacts as coils of auxiliary relays have weakened. Moreover, operation of switchyard equipment from Control Panel is difficult due to ageing of switches.

e) Power and Control Cables, Wiring and Terminal Blocks inside both Control and Protection Panels and Equipment MBs have become brittle leading to DC leakages and other frequent failures. These issues results in spurious/ non-desirable tripping of elements.

f) Therefore, it has become necessary to replace above mentioned equipment in a progressive manner so that the transmission system is not affected and functions smoothly.



67. The Petitioner has submitted that the admissibility of ACE incurred after cut-off date is to be dealt in accordance with Regulation 25(2)(c) of the 2019 Tariff Regulations and ACE proposed to be incurred has become necessary for efficient and secure operation of the transmission system.

68. The Petitioner vide affidavit dated 1.7.2021 has submitted OEM communication along with the following justification for replacement of equipment and switchyard civil works under ACE with respect to the transmission system:

i. Current Transformer (3 numbers):

- These CTs are of WSI make dead tank type with Porcelain housing and have completed 25 years of service life. Oil leakages from their different points such as dead tank joint gasket portion, secondary terminals, primary terminals, domes, oil sight glass etc. have been noticed.
- Leakage in CTs - In the long run, it may lead to low oil level, moisture ingress and subsequent failure. As CTs are hermetically sealed equipment their major repairs at site is not recommended and as there is ingress of moisture, complete replacement of active insulation part is required at manufacturer works, which will not be techno-economically viable.
- In view of the above, replacement of 3 numbers 220 kV CT at Navsari Sub-station has been proposed.

ii. Capacitive Voltage Transformers (18 numbers):

- These CVTs were commissioned in 1992 and have completed more than 25 years of service life. They are used for protection and metering purpose. Due to ageing, leakage/ seepage from multiple points such as EMU tank, oil level glass, secondary terminal boxes are observed. Their capacitance have changed due to internal failure of capacitor elements resulting into drift in secondary voltage.
- CVT secondary output is used for metering and protection system. The variation in secondary voltage may result into inaccurate metering and wrong operation of protection relays of transmission elements. These



CVTs are hermetically sealed equipment and repairing of these equipment at site level is not recommended.

- After 25 years of operation, repairing of these CVTs at manufacturer works is also not techno-economically viable due to change in design by the manufacturer and repair requires change of majority parts of these CVTs even in case of problem in any one part of equipment. Also, manufacturer has stopped manufacturing and repair works of these types of CVTs.
- In view of the above, replacement of 6 numbers CVTs each at Vav, Navsari and Haldwara has been proposed.

iii. Wave Traps (6 numbers):

- These WTs were installed in 1992 and have completed more than 25 years of service and are of hanging type. Due to ageing, instances of uncoiling of WTs have been observed and inter-turn insulation between coils of WTs has also been deteriorated.
- WTs play a vital role for proper functioning of the PLCC system. In case, the PLCC system does not function properly, there is a chance of mal operation/ wrong operation in the system.
- In view of the above, replacement of 2 numbers WTs each at Vav, Navsari and Haldwara has been proposed.

iv. CB Relay Panel (6 numbers), Control Panel (6 numbers), Line Protection Panel (6 numbers):

- These panels were installed in 1992 and have completed more than 25 years of service and these relays are of electromechanical/ static type and obsolete. OEMs have also phased out these models of relays and there is no more spares and service support available due to which, in case of any problem, the relays are to be kept out of service to avoid mal operation and the only option left is replacement.
- Due to ageing, problem of mal-operation/ non-operation have been experienced because of problem in the coils, sluggish/ sticking-up of contacts etc. Non-operation/ mal-operation of relays may result into failure to protect in case of transmission system fault and also lead to failure of costly equipment like transformers/ reactors. This may also result into grid disturbance.



- These relays are non-numerical type and do not comply IEC 61850 and they do not have DR and time synchronization facility, therefore do not help in fault analysis through stored tripping and event data. Cable, Wiring and Terminal Blocks inside both Control and Protection Panels and Equipment MBs have become brittle leading to DC leakages and other circuit failures. It is not feasible to replace TBs and wiring inside these old and damaged panels.
- In view of the above, replacement of CB Relay Panel (6 numbers), CB Control Panels (6 numbers) and Line Protection Panel (6 numbers) at Vav, Navsari and Haldwara have been proposed.

v. Power and Control Cables:

- These Power and Control Cables are in service for more than 25 years and due to ageing, most of them have been deteriorated and are showing signs of surface damages/ cracks, causing earth faults and DC earth leakages and many times resulting into mal-operation of control and protection system.
- It is unsafe and difficult to re-use inter-pole cables after replacement of equipment. It is required to replace interpole cables in the switchyard, especially the cables laid between poles of isolators, CT, CVT and between C&R Panels and equipment for smooth operation of sub-stations.
- In view of the above, replacement of interpole cables of Isolator, CT, CVT and main control cables between equipment and C&R Panels at Vav, Navsari and Haldwara has been proposed.

69. The Petitioner vide affidavit dated 1.7.2021 has further submitted as follows:

a) ACE projected during the 2019-24 tariff period has been accorded approval by Director (Operations) of the Petitioner's company and, accordingly, the said ACE may be considered for approval and on its approval, execution of work shall be carried out, keeping provisions in the budget which is approved by Board of Directors of the Petitioner's company (year-to-year basis).

b) Work of proposed replacement of equipment is yet to be started and exact date of commencement of dismantling of old equipment to be carried



cannot be ascertained in advance as it depends on many factors such as shutdown and availability, as the work is to be carried out in an existing system. However, after dismantling, the equipment will be replaced as early as possible. The exact date will be submitted after completion of the work in true-up of tariff for the 2019-24 period.

c) The proposed replacement of equipment has been claimed under Chapter-7, Regulation 25(2) of the 2019 Tariff Regulations (i.e. ACE after cut-off date). Even in the past, approvals have been accorded by the Commission towards replacement of problematic equipment under ACE.

d) The Petitioner has long experience in operation and maintenance of EHV transmission system and follows the best in class practices. The decision on replacement of equipment is taken keeping in view the reliability of the system and based on difficulties being faced during maintenance.

e) The beneficiaries are Respondents in this petition and none of them have raised any question with regard to the replacement.

f) There is no life defined by the manufacturer for the individual equipment. However, the life of individual equipment may be considered as 25 years in line with sub-station's life as mentioned in the 2019 Tariff Regulations.

g) Some problematic equipment like CB, CT, CVT, Isolators, C&R Panel, Control and Power Cable have been proposed to be replaced to ensure system reliability. Other equipment/ materials like earthing system, tower, gantry structures, cables that play very important role in operation of any sub-station require replacement. As a whole, it is very difficult to assess the life of the complete project. The equipment are replaced based on condition monitoring. However, balance of the system still remains under service, for which replacement may be required in near future.

h) The gross block of old equipment, proposed to be replaced is approx. 2.01% of the total gross block of the transmission system. However, other equipment of the project remains the same as commissioned with original



project. As only some of the equipment are proposed to be replaced, it is difficult to determine the life extension of entire project including old equipment. The new equipment can definitely run for more than five years but considering the combination of equipment, in which majority of items are old, and may require replacement in future, which cannot be assessed at this stage.

i) Considering the above facts and the fact that life of the transmission system completes in 2028-2029, no further life extension has been proposed.

j) The Petitioner carries out periodic maintenance of sub-station equipment as per standard practice. In case of violation of parameters based on condition monitoring test, action for repair/ replacement of equipment is taken. It has been observed that with the passage of time, there is advancement in technology and new design equipment are being used in the transmission system. In many cases, either the manufacturers close the manufacturing units or migrate to the new design equipment. Service support for these old equipment either becomes not available, or available with very high cost and high lead time.

k) In case of old equipment, due to ageing and wear and tear, the failure rate of equipment increases and results in abrupt failure which is extremely difficult to predict even with the help of condition monitoring test.

l) Reliability of old equipment also becomes poor due to ageing and wear and tear and prone to safety risk for O&M staff. In order to address the above concerns, and to achieve better reliability and security of system, replacement of the equipment is planned under ACE.

70. MPPMCL has submitted that the Petitioner has proposed ACE and de-capitalization during the 2019-24 period on the plea that the equipment have been installed long back and some of them have completed their service life and that it has become necessary to replace these in a progressive manner so that the system is not affected and continue to function smoothly. However, the Petitioner has not



submitted any study to arrive at the conclusion that which equipment need replacement on priority and reason related thereto.

71. In view of the above, MPPMCL has requested that the Petitioner's claim be admitted only after prudence check of the pre-study/ survey of the problem mentioned by the Petitioner.

72. In response, the Petitioner has submitted the justification for replacement of equipment and switchyard civil works under ACE with respect to the transmission system.

73. We have considered the submissions of the Petitioner and MPPMCL and note that the proposed ACE is towards replacement of 3 numbers 220 kV CTs at Navsari Sub-station, 6 numbers CVTs at Navsari and Haldarwa Sub-station, 2 numbers WTs each at Navsari, Vav and Haldarwa Sub-stations, 6 numbers CB Relay Panels, 6 numbers Control Panel and 6 numbers Line Protection Panel at Navsari, Vav and Haldarwa Sub-stations, Power and Control Cables at Navsari, Vav and Haldarwa Sub-stations.

74. We are of the view that these items are of critical nature and their failure may affect the stability and reliability of the grid and, accordingly, the replacement of these obsolete equipment and the consequent ACE is allowed, subject to true-up on actual basis.

75. We observe that the Petitioner has not submitted OEM Certificate in respect of the sub-stations equipment that is sought to be replaced in the 2019-24 tariff period. We direct the Petitioner to submit OEM Certificate in respect of the sub-station equipment which are sought to be replaced along with actual cost details of the replaced equipment and cost details of the new equipment sub-station wise at the time of truing up.



76. In view of the foregoing, ACE and de-capitalisation allowed for the 2019-24 tariff period is as follows:

| (₹ in lakh) | | | |
|--------------------------|--------------|--------------|--------------|
| Particulars | 2019-20 | 2022-23 | 2023-24 |
| ACE (A) | 38.29 | 70.34 | 132.63 |
| De-capitalization (B) | 0.00 | 7.67 | 40.41 |
| Net ACE (C)=(A-B) | 38.29 | 62.67 | 92.22 |

77. Accordingly, the details of capital cost (including ACE/ de-capitalization) considered with respect to the transmission system for the 2019-24 tariff period are as follows:

| (₹ in lakh) | | | | |
|----------------------------------|--------------------------------|---------|---------|-----------------------------------|
| Capital Cost (as on 1.4.2019) | ACE (net of De-capitalization) | | | Capital Cost (as on 31.3.2024) |
| | 2019-20 | 2022-23 | 2023-24 | |
| 3179.82 | 38.29 | 62.67 | 92.22 | 3373.00 |

Debt-Equity Ratio

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

“18. Debt-Equity Ratio: (1) For new projects, the debt: equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

Explanation-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

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



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

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

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

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

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

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

79. The debt-equity ratio for the 2019-24 period is allowed as per Regulation 18(3) of the 2019 Tariff Regulations. The debt-equity ratio considered for the purpose of computation of tariff for the 2019-24 tariff period is as follows:

Debt-Equity for Capital Cost as on 1.4.2019

| Funding | Amount (A) (₹ in lakh) | (in %) |
|----------------|-----------------------------------|---------------|
| Debt | 1605.44 | 50.49 |
| Equity | 1574.38 | 49.51 |
| Total | 3179.82 | 100.00 |

Debt-Equity for ACE and De-capitalisation during the 2019-24 period

| Funding | (₹ in lakh) | | | | | |
|----------------|--------------------|---------------|----------------|---------------|------------------------------|---------------|
| | ACE (B) | | ACE (C) | | De-capitalization (D) | |
| | 2019-20 | (in %) | 2022-23 | (in %) | 2022-23 | (in %) |
| Debt | 26.80 | 70.00 | 49.24 | 70.00 | 3.84 | 50.00 |
| Equity | 11.49 | 30.00 | 21.10 | 30.00 | 3.84 | 50.00 |



| | | | | | | |
|--------------|--------------|---------------|--------------|---------------|-------------|---------------|
| Total | 38.29 | 100.00 | 70.34 | 100.00 | 7.67 | 100.00 |
|--------------|--------------|---------------|--------------|---------------|-------------|---------------|

(₹ in lakh)

| Funding | ACE (E) | | De-capitalization (F) | |
|--------------|---------------|---------------|-----------------------|---------------|
| | 2023-24 | (in %) | 2023-24 | (in %) |
| Debt | 92.84 | 70.00 | 20.21 | 50.00 |
| Equity | 39.79 | 30.00 | 20.21 | 50.00 |
| Total | 132.63 | 100.00 | 40.41 | 100.00 |

Debt-Equity for Capital Cost as on 31.3.2024

| Funding | Amount (G)=(A)+(B)+(C)-(D)+(E)-(F) (₹ in lakh) | (in %) |
|--------------|---|---------------|
| Debt | 1750.28 | 51.89 |
| Equity | 1622.72 | 48.11 |
| Total | 3373.00 | 100.00 |

Depreciation

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or

b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more



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

81. The transmission system has already completed 12 years of life. Accordingly, depreciation has been calculated based on the remaining depreciable value (up to 90% of existing gross block of assets) to be recovered over the balance useful life. As discussed above, the Petitioner has proposed ACE towards replacement of sub-station equipment. Hence, depreciation corresponding to ACE (new additions) claimed for 2019-20 onwards is allowed at normative rate of depreciation as specified in the 2019 Tariff Regulations. Depreciation allowed for the transmission system for the 2019-24 tariff period is as follows:

| | (₹ in lakh) | | | | |
|--|--------------|--------------|--------------|--------------|--------------|
| (A) Existing Assets | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Gross Block | 3179.82 | 3179.82 | 3179.82 | 3179.82 | 3172.15 |
| De-capitalisation | 0.00 | 0.00 | 0.00 | 7.67 | 40.41 |
| Closing Gross Block | 3179.82 | 3179.82 | 3179.82 | 3172.15 | 3131.74 |
| Average Gross Block | 3179.82 | 3179.82 | 3179.82 | 3175.99 | 3151.95 |
| Depreciable Value | 2861.84 | 2861.84 | 2861.84 | 2858.39 | 2836.75 |
| Weighted average rate of Depreciation (WAROD) (in %) | 2.04 | 2.04 | 2.04 | 2.02 | 1.92 |
| Remaining life at the beginning of the year (Year) | 8.00 | 7.00 | 6.00 | 5.00 | 4.00 |
| Lapsed life at the beginning of the year (Year) | 27.00 | 28.00 | 29.00 | 30.00 | 31.00 |
| Cumulative Depreciation at the beginning of the year | 2342.35 | 2407.29 | 2472.22 | 2537.16 | 2594.50 |
| Remaining depreciable value at the beginning of the year | 519.49 | 454.55 | 389.61 | 321.23 | 242.25 |
| Depreciation during the year | 64.94 | 64.94 | 64.94 | 64.25 | 60.56 |
| Depreciation adjustment on account of de-capitalisation | 0.00 | 0.00 | 0.00 | 6.90 | 36.37 |
| Cumulative Depreciation at the end of the year | 2407.29 | 2472.22 | 2537.16 | 2594.50 | 2618.70 |
| Remaining depreciable value at the end of the year | 454.55 | 389.61 | 324.68 | 263.88 | 218.06 |



| (₹ in lakh) | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|
| (B) New Additions | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Gross Block | 0.00 | 38.29 | 38.29 | 38.29 | 108.63 |
| Addition during the year | 38.29 | 0.00 | 0.00 | 70.34 | 132.63 |
| Closing Gross Block | 38.29 | 38.29 | 38.29 | 108.63 | 241.26 |
| Average Gross Block | 19.15 | 38.29 | 38.29 | 73.46 | 174.95 |
| WAROD | 5.28 | 5.28 | 5.28 | 5.28 | 5.28 |
| Depreciable Value | 17.23 | 34.46 | 34.46 | 66.11 | 157.45 |
| Cumulative Depreciation at the beginning of the year | 0.00 | 1.01 | 3.03 | 5.05 | 8.93 |
| Depreciation during the year | 1.01 | 2.02 | 2.02 | 3.88 | 9.24 |
| Cumulative Depreciation at the end of the year | 1.01 | 3.03 | 5.05 | 8.93 | 18.17 |
| Remaining Depreciation at the end of the year | 16.22 | 31.43 | 29.41 | 57.18 | 139.28 |

| (₹ in lakh) | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|
| (C) Total | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation during the year (A+B) | 65.95 | 66.96 | 66.96 | 68.13 | 69.80 |

Interest on Loan

82. The Petitioner has not claimed IoL during the 2019-24 tariff period as the entire loan has been paid prior to 1.4.2019. Accordingly, no IoL has been considered in this order.

Return on Equity

83. 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 cutoff date beyond the original scope, excluding additional capitalization on 7 account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%;

Provided further that:



i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

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

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

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

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

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

“31. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

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

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

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



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

85. We have considered the submissions of the Petitioner. MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the transmission system for the 2019-24 tariff period is as follows:

| (₹ in lakh) | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Equity | 1574.38 | 1585.87 | 1585.87 | 1585.87 | 1603.14 |
| Additions due to ACE | 11.49 | 0.00 | 0.00 | 21.10 | 39.79 |
| De-capitalisation | 0.00 | 0.00 | 0.00 | 3.84 | 20.21 |
| Closing Equity | 1585.87 | 1585.87 | 1585.87 | 1603.14 | 1622.72 |
| Average Equity | 1580.13 | 1585.87 | 1585.87 | 1594.50 | 1612.93 |
| 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 | 296.78 | 297.86 | 297.86 | 299.48 | 302.94 |

Operation & Maintenance Expenses

86. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as follows:

“35. Operation and Maintenance Expenses:

...

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

| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|---------|---------|---------|---------|---------|
| <i>Norms for sub-station Bays (₹ Lakh per bay)</i> | | | | | |
| 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 |
| <i>Norms for Transformers (₹ Lakh per MVA)</i> | | | | | |
| 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 |
| <i>Norms for AC and HVDC lines (₹ Lakh per km)</i> | | | | | |
| Single Circuit (Bundled Conductor with six or more sub-conductors) | 0.881 | 0.912 | 0.944 | 0.977 | 1.011 |



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

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

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar



- HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. *the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*
 - iii. *the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (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."

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

| | (₹ in lakh) | | | | |
|--|--------------|--------------|--------------|--------------|--------------|
| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Transmission Lines | | | | | |
| 220 kV Kawas-Navsari (GETCO) Ckt. I and Ckt.II | 49.00 | 49.00 | 49.00 | 49.00 | 49.00 |
| 220 kV Kawas-Haldarwa (GETCO) Ckt. I and Ckt.II | 81.00 | 81.00 | 81.00 | 81.00 | 81.00 |
| 220 kV Kawas-Ichchapur-Vav | 37.00 | 37.00 | 37.00 | 37.00 | 37.00 |
| Norms (₹ lakh/km) | | | | | |
| D/C (Single Conductor) | 0.377 | 0.391 | 0.404 | 0.419 | 0.433 |
| Total Transmission Line O&M Expenses | 62.96 | 65.30 | 67.47 | 69.97 | 72.31 |
| Sub-station | | | | | |
| 220 kV: Kawas: Navsari - I | 1 | 1 | 1 | 1 | 1 |



| Particulars | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|---------------|---------------|---------------|---------------|---------------|
| 220 kV: Ichchapur-Vav | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Navsari - II | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Haldarwa - II | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Haldarwa - I | 1 | 1 | 1 | 1 | 1 |
| 220 kV: Kawas:Vav | 1 | 1 | 1 | 1 | 1 |
| Norms (₹ lakh/Bay) | | | | | |
| 220 kV | 22.51 | 23.30 | 24.12 | 24.96 | 25.84 |
| Total Sub-station O&M Expenses | 135.06 | 139.80 | 144.72 | 149.76 | 155.04 |
| Total O&M Expenses (₹ in lakh) | 198.02 | 205.10 | 212.19 | 219.73 | 227.35 |

Interest on Working Capital

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

“34. Interest on Working Capital: The working capital shall cover ...

(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;”



89. 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, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and from 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).

90. We have considered the submissions of the Petitioner and, accordingly, 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 for the transmission system for the 2019-24 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Working Capital for O&M Expenses (O&M Expenses for one month) | 16.50 | 17.09 | 17.68 | 18.31 | 18.95 |
| Working Capital for Maintenance Spares (15% of O&M Expenses) | 29.70 | 30.76 | 31.83 | 32.96 | 34.10 |
| Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges) | 70.68 | 71.92 | 72.72 | 74.03 | 75.44 |
| Total Working Capital | 116.88 | 119.78 | 122.23 | 125.30 | 128.49 |
| Rate of Interest (in %) | 12.05 | 11.25 | 10.50 | 10.50 | 10.50 |
| Interest of Working Capital | 14.08 | 13.48 | 12.83 | 13.16 | 13.49 |

Annual Fixed Charges of the 2019-24 Tariff Period

91. The transmission charges for the transmission system allowed for the 2019-24 tariff period are as follows:

| Particulars | (₹ in lakh) | | | | |
|------------------|-------------|---------|---------|---------|---------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation | 65.95 | 66.96 | 66.96 | 68.12 | 69.80 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



| | | | | | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Return on Equity | 296.78 | 297.86 | 297.86 | 299.48 | 302.94 |
| O&M Expenses | 198.02 | 205.10 | 212.19 | 219.73 | 227.35 |
| Interest on Working Capital | 14.08 | 13.48 | 12.83 | 13.16 | 13.49 |
| Total | 574.83 | 583.39 | 589.84 | 600.49 | 613.58 |

Filing Fee and Publication Expenses

92. 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

93. 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

94. 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.

95. 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

96. 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.

97. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses for all the transmission asset 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

98. 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

99. During the 2001-04, 2004-09 and 2009-14 tariff periods (up to 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.

100. To summarise:

- a) The revised AFC approved for the transmission system for the 2001-04 tariff period as per the APTEL's judgment is as follows:

| (₹ in lakh) | | |
|-------------|---------|---------|
| 2001-02 | 2002-03 | 2003-04 |
| 442.85 | 453.70 | 465.21 |

- b) The revised AFC approved for the transmission system for the 2004-09 tariff period as per the APTEL's judgment is as follows:

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 |
| 536.75 | 547.03 | 557.92 | 568.73 | 580.61 |

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

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
| 635.85 | 662.68 | 679.95 | 697.68 | 720.19 |

- d) The trued-up AFC approved for the transmission system for the 2014-19 tariff period is as follows:

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
| 695.13 | 708.62 | 719.74 | 730.93 | 744.86 |



e) AFC approved for the transmission system for the 2019-24 tariff period in this order are as follows:

| (₹ in lakh) | | | | |
|-------------|---------|---------|---------|---------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 574.83 | 583.39 | 589.84 | 600.49 | 613.58 |

101. This order disposes of Petition No. 325/TT/2020 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member

sd/-
(P. K. Pujari)
Chairperson

