### CENTRAL ELECTRICITY REGULATORY COMMISSION **NEW DELHI**

# **Petition No. 422/TT/2019**

Coram:

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

Date of Order: 01.06.2021

### In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for 2 numbers 765 kV Line bays along with 2x240 MVAR Switchable Line reactors each at Srikakulam & Angul for termination of both circuit of 765 kV D/C Srikakulam-Angul Transmission line, and 1x330 MVAR 765 kV Bus Reactor at Srikakulam under Common System associated with East Coast Energy Private Limited and NCC Power Projects Limited LTOA generation projects in Srikakulam Area-Part-C in the Southern Region and Eastern Region.

### And in the matter of:

Power Grid Corporation of India Ltd., "SAUDAMINI", Plot No-2, Sector 29, Gurgaon-122001.

.....Petitioner

### Vs

- Karnataka Power Transmission Corporation Ltd., 1. Kaveri Bhavan, Bangalore-560009.
- 2. Transmission Corporation of Andhra Pradesh Ltd., Vidyut Soudha, Hyderabad-500082.
- 3. Kerala State Electricity Board, Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram-695004.
- Tamil Nadu Generation and Distribution Corporation Ltd., 4. (Formerly Tamilnadu Electricity Board-TNEB) NPKRR Maaligai, 800, Anna Salai Chennai-600002.



- 5. Electricity Department, Government of Pondicherry, Pondicherry-605001.
- 6. Eastern Power Distribution Company of Andhra Pradesh Ltd., APEPDCL, P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh.
- Southern Power Distribution Company of Andhra Pradesh Ltd., 7. Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road, Kesavayana Gunta, Tirupati-517501, Chittoor District, Andhra Pradesh.
- 8. Central Power Distribution Company of Andhra Pradesh Ltd., Corporate Office, Mint Compound, Hyderabad-500063, Telangana.
- 9. Northern Power Distribution Company of Andhra Pradesh Ltd., Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet, Warangal-506004, Telangana.
- 10. Bangalore Electricity Supply Company Ltd., Corporate Office, K.R. Circle, Bangalore-560001, Karnataka.
- 11. Gulbarga Electricity Supply Company Ltd., Station Main Road, Gulburga, Karnataka.
- 12. Hubli Electricity Supply Company Ltd., Navanagar, PB Road, HUBLI, Karnataka.
- 13. MESCOM Corporate Office, Paradigm Plaza, AB Shetty Circle, Mangalore-575001, Karnataka.
- 14. Chamundeswari Electricity Supply Corporation Ltd., 927, LJ Avenue, Ground Floor, New Kantharaj URS Road, Saraswatipuram, Mysore-570009, Karnataka.
- 15. Electricity Department, Government of Goa, Vidyuti Bhawan, Panaji, Goa-403001.
- 16. Transmission Corporation of Telangana Ltd., Vidhyut Sudha, Khairatabad, Hyderabad-500082.
- 17. Tamil Nadu Transmission Corporation, NPKRR Maaligai, 800, Anna Salai, Chennai-600002.



- 18. Bihar State Electricity Board, Vidyut Bhawan, Bailey Road, Patna-800001.
- 19. West Bengal State Electricity Distribution Company Ltd., Vidyut Bhawan, Bidhan Nagar, Block- DJ, Sector-II, Salt Lake City, Kolkata-700091.
- 20. Grid Corporation of Orissa Ltd., Shahid Nagar, Bhubaneswar-751007.
- 21. Damodar Valley Corporation, DVC Tower, Maniktala, Civic Centre, VIP Road, Kolkata-700054.
- 22. Power Department, Government of Sikkim, Gangtok-737101.
- 23. Jharkhand State Electricity Board, In Front of main Secretariat, Doranda, Ranchi-834002.
- 24. East Coast Energy Pvt. Ltd., 7-1-24, B Block, 5<sup>th</sup> Floor, Roxana Towers, Green lands, Begumpet, Hyderabad-500016.
- NCC Power Projects Ltd., 6<sup>th</sup> Floor, NCC House, Madhapur, Hyderabad-500081.

.....Respondent(s)

For Petitioner Shri S. S. Raju, PGCIL

> Shri A. K. Verma, PGCIL Shri B. Dash, PGCIL

Shri Ved Prakash Rastogi, PGCIL

For Respondents: None

### **ORDER**

The instant petition has been filed by Power Grid Corporation of India Ltd., a deemed transmission licensee, for truing up of transmission tariff of the period from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff



Regulations") and determination of transmission tariff of 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 2 numbers 765 kV Line bays along with 2x240 MVAR Switchable Line reactors each at Srikakulam & Angul for termination of both circuit of 765 kV D/C Srikakulam-Angul Transmission Line, and 1x330 MVAR 765 kV Bus Reactor at Srikakulam (hereinafter referred to as "the transmission assets") under Common System associated with East Coast Energy Private Ltd. and NCC Power Projects Ltd. LTOA generation projects in Srikakulam Area-Part-C in the Southern Region and Eastern Region (hereinafter referred to as "the transmission system").

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

- "1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the asset covered under this petition, as per para 10.2 and 11 above.
- 2) Approve the Completion cost and additional capitalization incurred during 2014-19, also allow the projected additional capitalization during 2019-24.
- 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 10.2 and 11 above for respective block.
- 4) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure ( if any) in relation to the filing of petition.
- 5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.
- 6) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the respondents.



- 7) Allow the petitioner to 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 11.6 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"

## Backdrop of the petition

- 3. The brief facts of the case are as follows:
  - The Investment Approval (IA) for the transmission system was accorded (a) by the Board of Directors (BOD) of the Petitioner's company vide Memorandum No. C/CP/ Srikakulam-Part-C dated 5.4.2013. at an estimated cost of ₹51420 lakh, including IDC of ₹2879 lakh (based on February, 2013 price level).
  - (b) The Revised Cost Estimate (RCE) for the transmission system was accorded by BOD of Petitioner company vide letter dated 31.3.2017 at an estimated cost of ₹70310 lakh, including IDC of ₹7643 lakh (based on August, 2016 price level).
  - The scope of work covered under the original transmission system is as (c) follows:

### **Sub-station:**

# a) Up gradation of 765/400 kV Srikakulam Pooling Station (765 kV-40 kA, 400 kV-50 kA)

The Srikakulam 765/400 kV Sub-station (initially charged at 400 kV) is envisaged under Part-A shall be upgraded to its rated voltage 765 kV under this transmission system. The 400 kV switchyard to be constructed as AIS and 765 kV switchyard to be constructed as GIS. The up gradation shall comprise of following scope of works:



- i) 2x1500 MVA, 765/400 kV transformers along with associated 765 kV & 400 kV Bays;
- ii) 2 numbers 765 kV line bays for termination of Srikakulam PS-Angul 765 kV D/C line.

## b) Extension of 765/400 kV Angul Sub-station

This sub-station is owned by POWERGRID and shall be executed to accommodate following bays under this transmission system:

i) 2 numbers 765 kV line bays for termination of Srikakulam PS-Angul 765 kV D/C line.

## **Reactive Compensation:**

### Bus Reactors (765 kV)

1x330 MVAR 765 kV Bus reactor at Srikakulam Pooling Station.

### Line Reactors (400 kV)

- 240 MVAR Switchable line reactors with 800 ohms NGR at each end at Srikakulam Pooling station and Angul for both the circuits of Srikakulam Pooling Station-Angul 765 kV D/C line.
- (d) The Petitioner initially claimed the transmission tariff for (i) 2 numbers 765 kV line bay along with 2X240 MVAR Switchable Line Reactors each at Srikakulam and Angul for termination of both circuit of 765 kV D/C Srikakulam-Angul Transmission Line (Asset-I) and (ii) 2x1500 MVA 765/400 kV ICTs and 1x330 MVAR 765 kV bus reactor at Srikakulam (Asset-II) on the basis of anticipated Date of Commercial Operation (COD). Later, the Petitioner, vide affidavit dated 2.3.2017, split the asset into two on the basis of COD of the assets as mentioned in the table below. As the actual COD of the Asset-II was not certain, the Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016 had given liberty to the Petitioner to file a separate petition for determination of transmission tariff for Asset-II. Therefore, in the instant petition true up of the tariff of the period from COD to 31.3.2019 and determination of tariff of Asset-I only is approved. The details of the assets are as follows:

| Asset     | Description  | Actual COD                                   |
|-----------|--|--|
| Asset-I   | 2 numbers 765 kV Line bays along with 2x240 MVAr Switchable Line reactors each at Srikakulam & Angul for termination of both circuit of 765 kV D/C Srikakulam- Angul Transmission line and 1x330 MVAr 765 kV Bus Reactor at Srikakulam | 1.2.2017                                     |
| Asset-II* | 2x1500 MVA 765/400 kV ICTs along with associated bays at Srikakulam  | Covered under<br>Petition No.<br>103/TT/2019 |

<sup>\*</sup>Truing up for the said asset shall be filed on receipt of final order of the 2014-19 tariff period. The Commission vide order dated 5.3.2021 in Petition No. 103/TT/2019 has allowed transmission tariff of the 2014-19 tariff period.

- The COD of Asset-I was approved by the Commission vide order dated (e) 23.7.2018 in Petition No. 231/TT/2016 as 1.2.2017 taking into consideration the CEA energisation certificate, RLDC charging certificate and CMD certificate as required under Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010.
- As per I.A., Asset-I under the transmission system was scheduled to be (f) put under commercial operation within 27 months from the date of I.A. dated 28.3.2013. Accordingly, the scheduled COD was 28.6.2015 against which Asset-I was put under commercial operation on 1.2.2017. The time over-run of 19 months 4 days, due to non-readiness of 765 kV Transmission line, which was beyond the control of the Petitioner, was condoned by the Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016.
- (g) The Annual Fixed Charges (AFC) approved by the Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016 and the trued-up transmission tariff claimed by the Petitioner in respect of Asset-I for the 2014-19 tariff period are as follows:

(₹ in lakh)

| Particulars  | 2014-15 | 2015-16 | 2016-17 | 2017-18  | 2018-19  |
|--|---------|---------|---------|----------|----------|
| AFC approved vide order dated 23.7.2018 in Petition No. 231/TT/2016      |         | 0.00    | 1401.54 | 9,236.17 | 9,750.47 |
| AFC claimed by the Petitioner based on truing up in the instant petition | 0.00    | 0.00    | 1416.69 | 9,127.73 | 9,393.39 |

4. The Respondents are distribution licensees, departments power transmission licensees, who are procuring transmission service from the Petitioner and are mainly beneficiaries of the Southern and Eastern Region.

- 5. The Petitioner has served the petition on the Respondents and notice of this application has also been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notices published in the newspapers. None of the Respondents have filed any reply in the matter.
- 6. This order is being issued in view of the submissions made by the Petitioner in petition vide affidavit dated 5.10.2019, the Petitioner's affidavits dated 30.7.2020 and 22.3.2021 and the revised tariff calculations submitted vide affidavit dated 30.3.2021.
- 7. The hearing in this matter was held on 24.3.2021 through video conference and the order was reserved. Having heard the representatives of the Petitioner and after perusal of the materials on record, we proceed to dispose of the petition.

### Truing up of Annual Fixed Charges of the 2014-19 Period

The Petitioner has claimed the following trued-up tariff for Asset-I for the period from COD to 31.3.2019:

(₹ in lakh)

| Particulars                 | 2016-17<br>(Pro-rata for 59 days) | 2017-18 | 2018-19 |
|-----------------------------|-----------------------------------|---------|---------|
| Depreciation                | 380.18                            | 2516.04 | 2664.19 |
| Interest on Loan            | 438.18                            | 2690.58 | 2599.64 |
| Return on Equity            | 433.10                            | 2863.37 | 3037.51 |
| Interest on Working Capital | 34.14                             | 219.75  | 226.25  |
| O&M Expenses                | 131.09                            | 837.99  | 865.80  |
| Total                       | 1416.69                           | 9127.73 | 9393.39 |

9. The Petitioner has claimed the following trued-up Interest on Working Capital (IWC) for Asset-I for the period from COD to 31.3.2019:

(₹ in lakh)

| Particulars                 | 2016-17<br>(Pro-rata for 59 days) | 2017-18 | 2018-19 |
|-----------------------------|-----------------------------------|---------|---------|
| O&M expenses                | 67.59                             | 69.83   | 72.15   |
| Maintenance Spares          | 121.66                            | 125.70  | 129.87  |
| Receivables                 | 1460.73                           | 1521.29 | 1565.57 |
| Total                       | 1649.98                           | 1716.82 | 1767.59 |
| Rate of Interest (%)        | 12.80%                            | 12.80%  | 12.80%  |
| Interest on Working Capital | 34.14                             | 219.75  | 226.25  |

## **Capital Cost**

10. The Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016 approved the following capital cost as on COD and ACE in respect of Asset-I as follows:

(₹ in lakh)

| Apportioned                      | Apportioned                 | Capital    |         | ACE     |         | Total Capital        |
|----------------------------------|-----------------------------|------------|---------|---------|---------|----------------------|
| Approved<br>Capital Cost<br>(FR) | approved cost<br>as per RCE | Cost as on | 2016-17 | 2017-18 | 2018-19 | Cost as on 31.3 2019 |
| 40254.06                         | 57269.41                    | 44469.69   | 794.36  | 6901.36 | 1144.21 | 53309.62             |

11. The Petitioner in the instant true up petition vide Auditor's certificate dated 30.7.2019 and reply to Record of Proceedings (RoP) dated 30.3.2021, has submitted the capital cost incurred up to COD, ACE from COD to 31.3.2019 and estimated ACE during 1.4.2019 to 31.3.2020 period. The details of approved apportioned capital cost, capital cost as on COD (including IDC and IEDC) and ACE up to 31.3.2019 claimed by the Petitioner for Asset-I are as follows:

| Apportioned                      | Apportioned                 | Capital           |         | ACE     |         | Total Capital        |
|----------------------------------|-----------------------------|-------------------|---------|---------|---------|----------------------|
| Approved<br>Capital Cost<br>(FR) | approved cost<br>as per RCE | Cost as on<br>COD | 2016-17 | 2017-18 | 2018-19 | Cost as on 31.3 2019 |
| 40254.06                         | 57269.41                    | 44523.89          | 1596.63 | 4628.64 | 992.41  | 51741.57             |

### Cost Over-run

12. The completion cost including ACE in respect of Asset-I is ₹51741.57 lakh and the approved cost as per RCE is ₹57269.41 lakh. Hence, the completion cost is within the RCE approved apportioned cost. Therefore, there is no cost over-run.

### Time Over-run

13. The time over-run of 19 months 4 days in case of Asset-I was condoned by the Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016.

### Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC)

14. The Petitioner has claimed IDC for Asset-I and in support of the same, it has also submitted the Auditor certificate. The Petitioner has submitted statement showing IDC claim, discharge of IDC liability as on COD and thereafter as follows:

| IDC as per Auditor<br>Certificate | IDC Discharged up to COD | IDC discharged during 2016-17 | IDC discharged during 2017-18 |
|-----------------------------------|--------------------------|-------------------------------|-------------------------------|
| 4451.03                           | 3763.77                  | 129.90                        | 557.36                        |

- 15. The Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016 has directed the Petitioner to submit the detailed IDC computation statement explaining/ reconciling the deviations. In compliance of the Commission's directions vide RoP dated 24.3.2021, the Petitioner has submitted the revised IDC computation vide affidavit dated 30.3.2021.
- 16. The allowable IDC has been worked out considering the information submitted by the Petitioner for Asset-I on cash basis. The loan details submitted in Form-9C for the 2014-19 tariff period and the IDC computation sheet have been considered for the purpose of IDC calculation on cash and accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged. IDC upto COD is allowed as the time over-run in case of the Asset-I was condoned by

the Commission vide order dated 23.7.2018 in Petition No. 231/TT/2016. Accordingly, IDC allowed is as follows:

(₹ in lakh)

| IDC as per<br>Auditor<br>Certificate | IDC up to COD as worked out | IDC disallowed due to computation difference | IDC allowed<br>up to COD<br>on cash basis | Un-discharged<br>IDC<br>as on COD |
|--------------------------------------|-----------------------------|--|---|-----------------------------------|
| Α                                    | В                           | C=A-B  | D   | E=B-D                             |
| 4451.03                              | 4450.03                     | 1.00   | 3763.77                                   | 686.26                            |

17. The un-discharged portion of IDC is being allowed as ACE during the respective year of discharge and the same is as follows:

(₹ in lakh)

| Un-discharged portion of | IDC being discharged as ACE |         |  |
|--------------------------|-----------------------------|---------|--|
| entitled IDC as on COD   | 2016-17                     | 2017-18 |  |
| 686.26                   | 129.91                      | 556.35  |  |

The Petitioner has also claimed IEDC of ₹1025.47 lakh for Asset-I as per the table given below. The Petitioner has claimed IEDC as on COD, which is within the percentage of hard cost as indicated in the abstract cost estimate. Hence, the entire amount of IEDC has been allowed. Accordingly, IEDC details considered for the purpose of tariff calculation are as follows:

(₹ in lakh)

| IEDC claimed by Petitioner (as per Auditor Certificate) | Entitled IEDC<br>up to COD | IEDC disallowed due to time over-run | IEDC allowed<br>on cash basis<br>as on COD |
|---|----------------------------|--------------------------------------|--|
| A   | В                          | C=A-B                                | D=A-C                                      |
| 1025.47   | 1025.47                    | 0.00                                 | 1025.47                                    |

# **Initial Spares**

19. The Petitioner has claimed the following initial spares for Asset-I:

| Asset       | Estimated   | Initial     | Ceiling | Initial Spares    | Excess Initial |
|-------------|-------------|-------------|---------|-------------------|----------------|
| Type        | Completion  | Spares      | limit   | worked out        | Spares         |
|             | Cost        | claimed     | (%)     | D =               | E = B-D        |
|             | (A)         | (B)         | (C)     | [(A-B)*C/(100-C)] | (₹ in lakh)    |
|             | (₹ in lakh) | (₹ in lakh) |         | (₹ in lakh)       |                |
| Sub-station | 44436.77    | 1290.74     | 5.00    | 2270.84           | 0.00           |
| (GIS)       |             |             |         |                   |                |

20. The Petitioner has submitted that the initial spares included in the Auditor's Certificate is as per actual cash expenditure incurred and the initial spares discharged after COD is considered as ACE in the respective years. The discharge of initial spares submitted by the Petitioner is as follows:

(₹ in lakh)

| Initial Spares claimed | Initial Spares | Initial Spares | Initial Spares |
|------------------------|----------------|----------------|----------------|
|                        | discharged     | discharged     | discharged     |
|                        | up to COD      | in 2016-17     | in 2017-18     |
| 1290.74                | 907.24         | 234.66         | 148.84         |

21. We have considered the submissions made by the Petitioner. The initial spares claimed by the Petitioner for Asset-I is within the permissible limit and the same is allowed. Accordingly, the initial spares allowed is as follows:

| Asset<br>type            | Capital<br>Cost as on<br>cut-off date<br>(A)<br>(₹ in lakh) | Initial<br>Spares<br>claimed<br>(B)<br>(₹ in lakh) | Ceiling<br>limit<br>(C)<br>(%) | Initial Spares worked out  D = [(A-B)*C/(100-C)] (₹ in lakh) | Excess Initial Spares E = D-B (₹ in lakh) | Initial<br>Spares<br>allowed<br>(₹ in lakh) |
|--------------------------|---|--|--------------------------------|--|---|---|
| Sub-<br>station<br>(GIS) | 44436.77  | 1290.74  | 5.00                           | 2270.84  | 0.00                                      | 1290.74                                     |

### Capital Cost allowed as on COD

22. Accordingly, the capital cost allowed as on COD is summarized as follows:

(₹ in lakh)

| Capital Cost       | Un-discharged | IDC disallowed as on   | Capital Cost      |
|--------------------|---------------|------------------------|-------------------|
| claimed in Auditor | IDC as on COD | COD due to             | allowed as on COD |
| Certificate as on  | (B)           | computation difference | (E) = (A-B-C)     |
| COD (A)            |               | (C)                    |                   |
| 45211.15           | 686.26        | 1.00                   | 44523.89          |

### **Additional Capital Expenditure (ACE)**

23. The cut-off date for Asset-I is 31.3.2021. The Petitioner has claimed ACE as follows:



| ACE Claimed (₹ in lakh) |          |         |  |  |
|-------------------------|----------|---------|--|--|
| 2016-17                 | 2017-18  | 2018-19 |  |  |
| 1596.63*                | 4628.64* | 992.41  |  |  |

<sup>\*</sup>Includes IDC discharge

The Petitioner has submitted that ACE incurred from 2016-17 to 2018-19 is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date and work to be executed within the cut-off date. The Petitioner has claimed the same under Regulation 14(1)(i) (un-discharged liabilities recognized to be payable at a future date) and Regulation 14(1)(ii) (works deferred for execution) respectively of the 2014 Tariff Regulations. The break-up of ACE claimed by the Petitioner is as follows:

(₹ in lakh)

| Particulars                    | Regulation | ACE Claimed |         |         |
|--------------------------------|------------|-------------|---------|---------|
|                                |            | 2016-17     | 2017-18 | 2018-19 |
| Balance and retention payments | 14(1)(i)   | 1463.07     | 3553.45 | 816.92  |
| for liabilities other than IDC |            |             |         |         |
| Works deferred for execution   | 14(1)(ii)  | 3.66        | 517.83  | 175.49  |
| IDC Discharged after COD       | 14(1)(i)   | 129.90      | 557.36  | 0.00    |
| Total ACE                      | 1596.63    | 4628.24     | 992.41  |         |

25. We have considered the submissions made by the Petitioner. The undischarged IDC as on COD has been allowed as ACE during the year of discharge. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) and 14(1)(ii) of the 2014 Tariff Regulations which pertain to un-discharged liabilities recognized to be payable at a future date and liabilities toward works deferred for execution respectively. Accordingly, ACE allowed for the 2014-19 period is as follows:

| Particulars                        | Regulation | ACE Claimed |         |         |
|------------------------------------|------------|-------------|---------|---------|
|                                    |            | 2016-17     | 2017-18 | 2018-19 |
| Balance and retention payments for | 14(1)(i)   | 1697.73     | 3702.29 | 816.92  |
| liabilities other than IDC         |            |             |         |         |
| Works deferred for execution       | 14(1)(ii)  | 3.66        | 517.83  | 175.49  |
| IDC Discharged after COD           | 14(1)(i)   | 129.90      | 556.36  | 0.00    |
| Total ACE                          |            | 1596.63     | 4627.64 | 992.41  |

26. Accordingly, the capital cost considered as on 31.3.2019 for Asset-I is considered as follows:

|              |               |            |         |         |         | (₹ in iakn)   |
|--------------|---------------|------------|---------|---------|---------|---------------|
| Apportioned  | Apportioned   | Capital    |         | ACE     |         | Total Capital |
| Approved     | approved cost | Cost as on |         |         |         | Cost as on    |
| Capital Cost | as per RCE    | COD        | 2016-17 | 2017-18 | 2018-19 | 31.3 2019     |
| (FR)         |               | OOD        |         |         |         | 31.3 2013     |
| 40254.06     | 57269.41      | 44523.89   | 1596.63 | 4627.64 | 992.41  | 51740.57      |

### **Debt-Equity Ratio**

27. Debt-equity ratio is considered as per Regulation 19 of the 2014 Tariff Regulations. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and ACE allowed during 2014-19 period in accordance with Regulation 19(3) of the 2014 Tariff Regulations. The details of the debt-equity ratio in respect of Asset-I as on COD and as on 31.3.2019 are as follows:

| Particulars | Capital Cost<br>as on COD<br>(₹ in lakh) | (%)    | ACE during<br>2014-19<br>(₹ in lakh) | (%)    | Amount as on<br>31.3.2019<br>(₹ in lakh) | (%)    |
|-------------|--|--------|--------------------------------------|--------|--|--------|
| Debt        | 31166.73                                 | 70.00  | 5051.69                              | 70.00  | 36218.42                                 | 70.00  |
| Equity      | 13357.16                                 | 30.00  | 2164.99                              | 30.00  | 15522.15                                 | 30.00  |
| Total       | 44523.89                                 | 100.00 | 7216.68                              | 100.00 | 51740.57                                 | 100.00 |

### **Depreciation**

28. The Petitioner's claim towards depreciation in this petition was found to be higher than the depreciation allowed for Asset-I vide order dated 23.7.2018 in Petition No. 231/TT/2016. The Petitioner has neither given any justification for claiming higher depreciation than that was allowed in previous orders nor made any specific prayer for allowing higher depreciation in this petition. It is observed that vide order dated 23.7.2018 in Petition No. 231/TT/2016, the depreciation for IT equipment was allowed @5.28%. The Petitioner now at the time of truing-up for the 2014-19 period has segregated the IT equipment cost from the sub-station cost and has considered depreciation rate for IT Equipment @15% and the salvage value for IT Equipment is

/**3**:.. | ... | ... |

NIL as per the 2014 Tariff Regulations. Similar issue had come up in Petition No. 19/TT/2020 wherein the Commission vide order dated 9.5.2020 decided as follows:

- "31. We have considered the submissions of the Petitioner. The instant assets were put into commercial operation during the 2009-14 period and the tariff from the respective CODs to 31.3.2014 was allowed vide orders dated 30.8.2012and 9.5.2013in Petition No.343/2010 and Petition No. 147/TT/2011 respectively. Further, the tariff of the 2009-14 period was trued up and tariff for the 2014-19 period was allowed vide order dated 25.2.2016 in Petition No.10/TT/2015. The Petitioner did not claim any capital expenditure towards "IT Equipment" in the above said three petitions where tariff for the instant assets for the 2009-14 period was allowed, tariff of the 2009-14 period was trued up and tariff for 2014- 19 period was allowed even though there was a clear provision in the 2009 Tariff Regulations and 2014 Tariff Regulations providing depreciation @15% for IT Equipment. Having failed to make a claim as per the 2009 Tariff Regulations(the period during which COD of assets was achieved), the Petitioner has now, at the time of truing up of the tariff allowed for the 2014-19 period has apportioned apart of the capital expenditure to "IT Equipment". The Petitioner has adopted similar methodology not only in this but in some of the other petitions listed along with the instant petition on 26.2.2020. It is observed that the Petitioner has for the first time apportioned a part of the capital expenditure towards IT Equipment and has claimed depreciation under the head "IT Equipment" @15% at the time of truing up of the tariff of 2014- 19 period. Regulation 8(1) of the 2014 Tariff Regulations provides for truing up of the capital expenditure including the additional capital expenditure, incurred upto 31.3.2019, admitted by the Commission after prudence check. We are of the view that scope of truing up exercise is restricted to truing up of the capital expenditure already admitted and apportionment or reapportionment of the capital expenditure cannot be allowed at the time of truing up. Therefore, we are not inclined to consider the Petitioner's prayer for apportionment of capital expenditure towards IT Equipment and allowing depreciation @ 15% from 1.4.2014 onwards. Accordingly, the depreciation @ 5.28% has been considered for IT Equipment as part of the substation upto 31.3.2019while truing up the capital expenditure for the 2014-19 period. During the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @ 15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read with Sr. No. (p) of the Appendix-I (Depreciation Schedule) of the 2019 Tariff Regulations."
- 29. In accordance with the order dated 9.5.2020 in Petition No. 19/TT/2020, depreciation has been considered for IT Equipment @5.28% as part of the substation upto 31.3.2019 while truing up the capital expenditure for the 2014-19 period. During the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 of the 2019 Tariff Regulations.
- 30. Accordingly, the Gross Block during the 2014-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD). WAROD has been



worked out (given in Annexure-I) taking into account the depreciation rates of Asset-I specified in the 2014 Tariff Regulations and the trued up depreciation allowed for Asset-I for the period from COD to 31.3.2019 is as follows:

(₹ in lakh)

|   |                                      |          | ( iii iaitii) |
|---|--------------------------------------|----------|---------------|
| Particulars                             | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18  | 2018-19       |
| Opening Gross Block                     | 44523.89                             | 46120.52 | 50748.16      |
| Additional Capital Expenditure          | 1596.63                              | 4627.64  | 992.41        |
| Closing Gross Block                     | 46120.52                             | 50748.16 | 51740.57      |
| Average Gross Block                     | 45322.21                             | 48434.34 | 51244.37      |
| WAROD (%)                               | 5.19                                 | 5.19     | 5.20          |
| Balance useful life of the asset (Year) | 25.00                                | 25.00    | 24.00         |
| Aggregated Depreciable Value            | 40789.98                             | 43590.91 | 46119.93      |
| Depreciation during the year            | 380.17                               | 2516.02  | 2664.13       |
| Remaining Aggregated Depreciable Value  | 40409.81                             | 40694.71 | 40559.60      |

31. Accordingly, depreciation approved vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 375.72                               | 2519.62 | 2745.04 |
| Claimed by the Petitioner in the instant petition                    | 380.18                               | 2516.04 | 2664.19 |
| Allowed after true-up in this order                                  | 380.17                               | 2516.02 | 2664.13 |

# Interest on Loan (IoL)

The Petitioner has claimed the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. IoL has been calculated based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up loL allowed for the Asset-I for the period from its COD to 31.3.2019 is as follows:

| Particular                                | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18  | 2018-19  |
|---|--------------------------------------|----------|----------|
| Gross Normative Loan                      | 31166.73                             | 32284.37 | 35523.73 |
| Cumulative Repayments up to Previous Year | 0.00                                 | 380.17   | 2896.19  |

| Net Loan-Opening                              | 31166.73 | 31904.20 | 32627.54 |
|---|----------|----------|----------|
| Additions due to ACE                          | 1117.64  | 3239.36  | 694.69   |
| Repayment during the year                     | 380.17   | 2516.02  | 2664.13  |
| Net Loan-Closing                              | 31904.20 | 32627.54 | 30658.09 |
| Average Loan                                  | 31535.46 | 32265.87 | 31642.82 |
| Weighted Average Rate of Interest on Loan (%) | 8.596    | 8.339    | 8.215    |
| Interest on Loan                              | 438.18   | 2690.57  | 2599.59  |

33. Accordingly, loL approved vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 434.23                               | 2790.61 | 2803.22 |
| Claimed by the Petitioner in the instant petition                    | 438.18                               | 2690.58 | 2599.64 |
| Allowed after true-up in this order                                  | 438.18                               | 2690.57 | 2599.59 |

## Return on Equity (RoE)

34. The Petitioner has claimed RoE for the Asset-I as per Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:

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

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

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

| Year    | MAT Rate | Grossed up RoE        |
|---------|----------|-----------------------|
| I Cai   | (%)      | [Base Rate/(1-t)] (%) |
| 2014-15 | 20.961   | 19.610                |
| 2015-16 | 21.342   | 19.705                |
| 2016-17 | 21.342   | 19.705                |
| 2017-18 | 21.342   | 19.705                |
| 2018-19 | 21.549   | 19.758                |

37. Trued-up RoE approved for Asset-I from its COD to 31.3.2019 on the basis of the MAT rates applicable for the respective years is as follows:

(₹ in lakh) 2016-17 (Pro-rata for **Particulars** 2017-18 2018-19 59 days) Opening Equity 13357.16 13836.15 15224.43 Additions due to ACE 478.99 1388.28 297.72 Closing Equity 15224.43 13836.15 15522.15 **Average Equity** 13596.65 14530.29 15373.29 Return on Equity (Base Rate) (%) 15.500 15.500 15.500 Tax Rate applicable (%) 21.342 21.342 21.549 Rate of Return on Equity (Pre-tax) (%) 19.705 19.705 19.758 **Return on Equity (Pre-tax)** 433.08 2863.19 3037.45

38. Accordingly, RoE approved vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner in the instant petition and trued-up in the instant order is as follows:

(₹ in lakh)

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 426.66                               | 2865.89 | 3102.55 |
| Claimed by the Petitioner in the instant petition                    | 433.10                               | 2863.37 | 3037.51 |
| Allowed after true-up in this order                                  | 433.08                               | 2863.19 | 3037.45 |

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

39. The O&M Expenses claimed by the Petitioner for Asset-I for the 2014-19 tariff period are as follows:

(₹ in lakh)

| O&M Expenses | 2016-17 | 2017-18 | 2018-19 |
|--------------|---------|---------|---------|
| 765 kV Bays  | 131.09  | 837.99  | 865.80  |

Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. Norms specified in respect of the elements covered in Asset-I for the 2014-19 period are as follows:

| Particular       | Unit             | 2016-17 | 2017-18 | 2018-19 |
|------------------|------------------|---------|---------|---------|
| Sub-Station bays |                  |         |         |         |
| 765 kV           | (₹ lakh per bay) | 90.12   | 93.11   | 96.20   |
| 765 kV GIS       | (₹ lakh per bay) | 90.12   | 93.11   | 96.20   |

41. The O&M Expenses are allowed for Asset-I as per the norms specified in the 2014 Tariff Regulations and are as follows:

| O&M Expenses                         | 2016-17<br>(Pro-rata for 59<br>days) | 2017-18 | 2018-19 |
|--------------------------------------|--------------------------------------|---------|---------|
| Sub-station bays                     |                                      |         |         |
| 765 kV Sub-station bays (Number)     | 4                                    | 4       | 4       |
| 765 kV GIS Sub-station bays (Number) | 5                                    | 5       | 5       |
| Total O&M Expenses (₹ in lakh)       | 131.11                               | 837.99  | 865.80  |

42. Accordingly, the O&M Expenses approved vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner in the instant petition and truedup in the instant order are as follows:

(₹ in lakh)

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 131.11                               | 837.99  | 865.80  |
| Claimed by the Petitioner in the instant petition                    | 131.09                               | 837.99  | 865.80  |
| Allowed after true-up in this order                                  | 131.11                               | 837.99  | 865.80  |

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

43. The Petitioner has claimed IWC as per Regulation 28(1)(c) of the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are worked out on the basis of the following:

#### i. **Maintenance spares:**

Maintenance spares have been worked out based on 15% of O&M Expenses specified in Regulation 28 of the 2014 Tariff Regulations.

#### ii. O&M Expenses:

O&M Expenses have been considered for one month of the allowed O&M Expenses.

#### iii. Receivables:

The receivables have been worked out on the basis of 2 months of annual transmission charges as worked out above.

#### iv. Rate of interest on working capital:

Rate of interest on working capital is considered on normative basis in accordance with Regulation 28(3) of the 2014 Tariff Regulations.

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

| Particulars                                  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| O & M Expenses<br>(O&M expenses for 1 month) | 67.59                                | 69.83   | 72.15   |
| Maintenance Spares (15% of O&M expenses)     | 121.66                               | 125.70  | 129.87  |
| Receivables                                  | 1460.69                              | 1521.25 | 1565.54 |



| (Equivalent to 2 months of annual fixed cost / annual transmission charges) |         |         |         |
|---|---------|---------|---------|
| Total   | 1649.95 | 1716.78 | 1767.56 |
| Rate of Interest on working capital (%)                                     | 12.80   | 12.80   | 12.80   |
| Interest of working Capital   | 34.14   | 219.75  | 226.25  |

45. Accordingly, IWC approved vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner and trued-up IWC allowed in the instant order is shown in the table below:

(₹ in lakh)

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 33.82                                | 222.07  | 233.87  |
| Claimed by the Petitioner in the instant petition                    | 34.14                                | 219.75  | 226.25  |
| Allowed after true-up in this order                                  | 34.14                                | 219.75  | 226.25  |

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

46. The trued-up annual fixed charges allowed for Asset-I for the 2014-19 tariff period are as follows:

(₹ in lakh)

|                                    |                                      |         | (       |
|------------------------------------|--------------------------------------|---------|---------|
| Particulars                        | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
| Depreciation                       | 380.17                               | 2516.02 | 2664.13 |
| Interest on Loan                   | 438.18                               | 2690.57 | 2599.59 |
| Return on Equity                   | 433.08                               | 2863.19 | 3037.45 |
| Interest on Working Capital        | 34.14                                | 219.75  | 226.25  |
| Operation and Maintenance Expenses | 131.11                               | 837.99  | 865.80  |
| Total                              | 1416.67                              | 9127.52 | 9393.23 |

47. Accordingly, the Annual Transmission Charges allowed vide order dated 23.7.2018 in Petition No. 231/TT/2016, claimed by the Petitioner in the instant petition and trued-up AFC allowed in the instant order are as follows:

| Particulars  | 2016-17<br>(Pro-rata for<br>59 days) | 2017-18 | 2018-19 |
|--|--------------------------------------|---------|---------|
| Allowed earlier in order dated 23.7.2018 in Petition No. 231/TT/2016 | 1401.54                              | 9236.18 | 9750.48 |



| Claimed by the Petitioner in the instant petition | 1416.69 | 9127.73 | 9393.39 |
|---|---------|---------|---------|
| Allowed after true-up in this order               | 1416.67 | 9127.52 | 9393.23 |

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

48. The Petitioner has claimed the following transmission charges for Asset-I for the 2019-24 tariff period:

(₹ in lakh)

| Particulars                 | 2019-20 | 2020-21 | 201-22  | 2022-23 | 2023-24 |
|-----------------------------|---------|---------|---------|---------|---------|
| Depreciation                | 2721.26 | 2726.11 | 2726.11 | 2726.11 | 2726.11 |
| Interest on Loan            | 2427.38 | 2199.06 | 1986.81 | 1775.22 | 1547.56 |
| Return on Equity            | 2920.60 | 2925.77 | 2925.77 | 2925.77 | 2925.77 |
| Interest on Working Capital | 136.23  | 133.81  | 131.14  | 128.51  | 125.33  |
| O&M Expenses                | 341.50  | 353.43  | 365.65  | 378.40  | 391.53  |
| Total                       | 8546.97 | 8338.18 | 8135.48 | 7934.01 | 7716.30 |

49. The Petitioner has claimed the following IWC for Asset-I for the 2019-24 tariff period:

(₹ in lakh)

| Particulars                 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|-----------------------------|---------|---------|---------|---------|---------|
| O&M Expenses                | 28.46   | 29.45   | 30.47   | 31.53   | 32.63   |
| Maintenance Spares          | 51.23   | 53.01   | 54.85   | 56.76   | 58.73   |
| Receivables                 | 1050.86 | 1027.99 | 1003.00 | 978.17  | 948.73  |
| Total                       | 1130.55 | 1110.45 | 1088.32 | 1066.46 | 1040.09 |
| Rate of Interest            | 12.05   | 12.05   | 12.05   | 12.05   | 12.05   |
| Interest on Working Capital | 136.23  | 133.81  | 131.14  | 128.51  | 125.33  |

## **Capital Cost**

- 50. Regulation 19 of the 2019 Tariff Regulations provides as follows:
  - "19 Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.
  - (2) The Capital Cost of a new project shall include the following:
    - (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;
    - (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
    - (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;



- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;
- (e) Capitalised Initial Spares subject to the ceiling rates in accordance with these regulations;
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;
- (h) Adjustment of revenue earned by the transmission licensee by using the asset before the date of commercial operation;
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;
- (I) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;
- (n) Expenditure on account of change in law and force majeure events; and
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.
- (3) The Capital cost of an existing project shall include the following:
  - (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
  - (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
  - (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
  - (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
  - (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
  - (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries."
- (4) The capital cost in case of existing or new hydro generating station shall also include:
  - (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and



- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.
- (5) The following shall be excluded from the capital cost of the existing and new projects:
  - (a) The asset forming part of the project, but not in use, as declared in the tariff petition;
  - (b) De-capitalised Asset after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

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

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

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment."
- 51. The Petitioner has claimed capital cost of ₹51741.57 lakh as on 31.3.2019 for Asset-I. Against the overall FR approved capital cost of ₹57269.41 lakh, the estimated completion cost including ACE is ₹51924.15 lakh as on 31.3.2024. The Commission has worked out capital cost of ₹51740.57 lakh as on 31.3.2019 and it has been 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.

### <u>Additional Capital Expenditure (ACE)</u>

- 52. Regulation 24 of the 2019 Tariff Regulations provide as follows:
  - "24. Additional Capitalisation within the original scope and upto the cut-off date
  - (1) The Additional Capital Expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:



- (a) Undischarged liabilities recognized to be payable at a future date;
- (b) Works deferred for execution:
- (c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;
- (d) 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;
- (e) Change in law or compliance of any existing law; and
- (f) Force Majeure events:

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

- (2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution."
- 53. The Petitioner has claimed ACE of ₹183.58 lakh during 2019-20 period for Asset-I on account of undischarged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date under Regulation 24(1)(a) of the 2019 Tariff Regulations. The capital cost projected by the Petitioner during the 2019-24 period is as follows:

(₹ in lakh)

| Capital Cost claimed as on 1.4.2019 | ACE claimed<br>2019-20 | Capital Cost claimed as on 31.3.2024 |  |
|-------------------------------------|------------------------|--------------------------------------|--|
| 51741.57                            | 183.58                 | 51925.15                             |  |

54. We have considered the submissions of the Petitioner, ACE claimed on account of balance and retention payments and deferred works is allowed under Regulation 24(1)(a) and (b) of the 2019 Tariff Regulations. Therefore, the capital cost considered for the 2019-24 tariff period is as follows:

(₹ in lakh)

| FR Capital Cost | Capital Cost as on | Admitted ACE | Capital Cost as on |
|-----------------|--------------------|--------------|--------------------|
|                 | 1.4.2019           | 2019-20      | 31.3.2024          |
| 57269.41        | 51740.57           | 183.58       | 51924.15           |



### **Debt-Equity Ratio**

- 55. Regulations 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:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- the equity invested in foreign currency shall be designated in Indian ii. 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

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."

The debt-equity considered for the purpose of computation of transmission tariff 56. of the 2019-24 tariff period for Asset-I is as follows:

| Particulars | Capital Cost<br>as on 1.4.2019<br>(₹ in lakh) | (%)    | Total Capital Cost<br>as on 31.3.2024<br>(₹ in lakh) | (%)    |
|-------------|---|--------|--|--------|
| Debt        | 36218.42                                      | 70.00  | 36346.93   | 70.00  |
| Equity      | 15522.15                                      | 30.00  | 15577.22   | 30.00  |
| Total       | 51740.57                                      | 100.00 | 51924.15   | 100.00 |

# **Depreciation**

- Regulations 33 of the 2019 Tariff Regulations provide as follows:-
  - "33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

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

- (2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."
- (3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

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

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

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



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

- (4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
- (5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the asset of the generating station and transmission system:

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

- (6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.
- (7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.
- (8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the decapitalized asset during its useful services."
- The IT equipment has been considered as a part of the Gross Block and depreciated using WAROD. As stated in paragraph 29 above, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 of the 2019 Tariff Regulations. WAROD has been worked out (as placed in Annexure-II) after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered as nil i.e., IT asset has been considered as 100 per cent depreciable. The depreciation has been worked out considering the admitted capital expenditure as on



31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for Asset-I is as follows:

(₹ in lakh)

| Particulars                    | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|--------------------------------|----------|----------|----------|----------|----------|
| Opening Gross Block            | 51740.57 | 51924.15 | 51924.15 | 51924.15 | 51924.15 |
| Addition during the year       |          |          |          |          |          |
| 2019-24 due to projected       | 183.58   | 0.00     | 0.00     | 0.00     | 0.00     |
| Additional Capitalisation      |          |          |          |          |          |
| Closing Gross Block            | 51924.15 | 51924.15 | 51924.15 | 51924.15 | 51924.15 |
| Average Gross Block            | 51832.36 | 51924.15 | 51924.15 | 51924.15 | 51924.15 |
| WAROD (%)                      | 5.25     | 5.25     | 5.25     | 5.25     | 5.25     |
| Balance useful life at the     | 23.00    | 22.00    | 21.00    | 20.00    | 19.00    |
| beginning of year (Year)       | 23.00    | 22.00    | 21.00    | 20.00    | 19.00    |
| Aggregated Depreciable Value   | 46675.91 | 46758.52 | 46758.52 | 46758.52 | 46758.52 |
| Depreciation during the year   | 2721.21  | 2726.06  | 2726.06  | 2726.06  | 2726.06  |
| Remaining Aggregate            |          |          |          |          |          |
| Depreciable Value at the end   | 38394.37 | 35750.92 | 33024.86 | 30298.80 | 27572.74 |
| of the year                    |          |          |          |          |          |
| Aggregate Cumulative           |          |          |          |          |          |
| Depreciation at the end of the | 8281.54  | 11007.60 | 13733.66 | 16459.72 | 19185.78 |
| year                           |          |          |          |          |          |

# Interest on Loan (IoL)

- 59. Regulation 32 of the 2019 Tariff Regulations provides as follows:
  - "32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.
  - (2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.
  - (3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalization of asset, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.
  - (4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
  - (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:



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

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

- (6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
- (7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing".
- 60. The weighted average rate of loL has been considered on the basis of the rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. Therefore, loL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. loL allowed for Asset-I for the 2019-24 period is as follows:

(₹ in lakh)

| Particular                                    | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|---|----------|----------|----------|----------|----------|
| Gross Normative Loan                          | 36218.42 | 36346.93 | 36346.93 | 36346.93 | 36346.93 |
| Cumulative Repayments upto Previous Year      | 5560.33  | 8281.54  | 11007.60 | 13733.66 | 16459.72 |
| Net Loan-Opening                              | 30658.09 | 28065.39 | 25339.33 | 22613.27 | 19887.21 |
| Addition due to ACE                           | 128.51   | 0.00     | 0.00     | 0.00     | 0.00     |
| Repayment during the year                     | 2721.21  | 2726.06  | 2726.06  | 2726.06  | 2726.06  |
| Net Loan-Closing                              | 28065.39 | 25339.33 | 22613.27 | 19887.21 | 17161.16 |
| Average Loan                                  | 29361.74 | 26702.36 | 23976.30 | 21250.24 | 18524.18 |
| Weighted Average Rate of Interest on Loan (%) | 8.267    | 8.235    | 8.286    | 8.354    | 8.354    |
| Interest on Loan                              | 2427.34  | 2199.02  | 1986.77  | 1775.19  | 1547.53  |

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

- 61. 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 due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

### Provided further that:

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

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

- iii. in case of a thermal generating station, with effect from 1.4.2020:
- a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute:
- b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

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

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

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

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



company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

### Illustration-

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

Rate of return on equity = 15.50/(1-0.2155) = 19.758%

- (ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:
  - (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore:
  - (b) Estimated Advance Tax for the year on above is Rs 240 crore;
  - (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore
  - (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."
- The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for Asset-I for the 2019-24 tariff period is as follows:

| Particulars                         | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|-------------------------------------|----------|----------|----------|----------|----------|
| Opening Equity                      | 15522.15 | 15577.22 | 15577.22 | 15577.22 | 15577.22 |
| Additions due to ACE                | 55.07    | 0.00     | 0.00     | 0.00     | 0.00     |
| Closing Equity                      | 15577.22 | 15577.22 | 15577.22 | 15577.22 | 15577.22 |
| Average Equity                      | 15549.68 | 15577.22 | 15577.22 | 15577.22 | 15577.22 |
| Return on Equity<br>(Base Rate) (%) | 15.500   | 15.500   | 15.500   | 15.500   | 15.500   |
| Tax Rate applicable (%)             | 17.472   | 17.472   | 17.472   | 17.472   | 17.472   |
| Rate of Return on Equity (Pre-tax)  | 18.782   | 18.782   | 18.782   | 18.782   | 18.782   |



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

Regulation 35(3)(a) of the 2019 Tariff Regulations provides as follows: 63.

"35 (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 |
|--|---------|---------|---------|---------|---------|
| Particulars  | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Norms for sub-station Bays (₹ Lakh per bay)                              |         | ı       |         |         |         |
| 765 kV   | 45.01   | 46.60   | 48.23   | 49.93   | 51.68   |
| 400 kV   | 32.15   | 33.28   | 34.45   | 35.66   | 36.91   |
| 220 kV   | 22.51   | 23.30   | 24.12   | 24.96   | 25.84   |
| 132 kV and below   | 16.08   | 16.64   | 17.23   | 17.83   | 18.46   |
| Norms for Transformers (₹ Lakh per MVA)                                  |         |         |         |         |         |
| 765 kV   | 0.491   | 0.508   | 0.526   | 0.545   | 0.564   |
| 400 kV   | 0.358   | 0.371   | 0.384   | 0.398   | 0.411   |
| 220 kV   | 0.245   | 0.254   | 0.263   | 0.272   | 0.282   |
| 132 kV and below   | 0.245   | 0.254   | 0.263   | 0.272   | 0.282   |
| Norms for AC and HVDC lines (₹ Lakh per kn                               | 1)      |         |         |         |         |
| Single Circuit (Bundled Conductor with six or more sub-conductors)       | 0.881   | 0.912   | 0.944   | 0.977   | 1.011   |
| Single Circuit (Bundled conductor with four sub-conductors)              | 0.755   | 0.781   | 0.809   | 0.837   | 0.867   |
| Single Circuit (Twin & Triple<br>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<br>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<br>Conductor)                               | 1.544   | 1.598   | 1.654   | 1.713   | 1.773   |
| Norms for HVDC stations  |         |         |         |         |         |
| HVDC Back-to-Back stations (Rs Lakh per<br>500 MW) (Except Gazuwaka BTB) | 834     | 864     | 894     | 925     | 958     |
| Gazuwaka HVDC Back-to-Back station (₹<br>Lakh per 500 MW)                | 1,666   | 1,725   | 1,785   | 1,848   | 1,913   |
| 500 kV Rihand-Dadri HVDC bipole<br>scheme (Rs Lakh) (1500 MW)            | 2,252   | 2,331   | 2,413   | 2,498   | 2,586   |
| ±500 kV Talcher- Kolar HVDC bipole<br>scheme (Rs Lakh) (2000 MW)         | 2,468   | 2,555   | 2,645   | 2,738   | 2,834   |
| ±500 kV Bhiwadi-Balia HVDC bipole<br>scheme (Rs Lakh) (2500 MW)          | 1,696   | 1,756   | 1,817   | 1,881   | 1,947   |
| ±800 kV, Bishwanath-Agra HVDC<br>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:

- 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;
- the O&M expenses norms for HVDC bi-pole line shall be considered as Double ii. Circuit quad AC line;
- the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme iii. (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;
- the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 V. 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.
- 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.
- The Security Expenses and Capital Spares for transmission system shall be (c) allowed separately after prudence check:

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

- (4) Communication system: The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up."
- The O&M Expenses claimed by the Petitioner for Asset-I for 2019-24 period are as follows:



| O&M Expenses                     |         |         |         |         |         |  |  |
|----------------------------------|---------|---------|---------|---------|---------|--|--|
| Particulars                      | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |  |  |
| 4 bays of 765 kV Sub-station     | 180.04  | 186.40  | 192.92  | 199.72  | 206.72  |  |  |
| 5 bays of 765 kV GIS Sub-station | 157.53  | 163.10  | 168.80  | 174.75  | 180.88  |  |  |
| O&M Expenses for PLCC            | 3.93    | 3.93    | 3.93    | 3.93    | 3.93    |  |  |
| Total O&M Expenses               | 341.50  | 353.43  | 365.65  | 378.40  | 391.53  |  |  |

- 65. The Petitioner has claimed O&M Expenses separately for the PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the substation in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. The relevant portions of the order dated 24.1.2021 in Petition No.126/TT/2020 are extracted hereunder:
  - "103. Thus, although PLCC equipment is a communication system, it has been considered as a part of sub-station, as it is used both for protection and communication. Therefore, we are of the considered view that rightly, it was not considered for separate O&M Expenses while framing norms of O&M for 2019-24 tariff period. While specifying norms for bays and transformers, O&M Expenses for PLCC have been included within norms for O&M Expenses for sub-station. Norms of O&M Expenses @2% of the capital cost in terms of Regulation 35(4) of the 2019 Tariff Regulations have been specified for communication system such as PMU, RMU, OPGW etc. and not for PLCC equipment."
  - "105. In our view, granting of O&M Expenses for PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations under the communication system head would tantamount to granting O&M Expenses twice for PLCC equipment as PLCC equipment has already been considered as part of the sub-station. Therefore, the Petitioner's prayer for grant of O&M Expenses for the PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations is rejected.
  - 106. The principle adopted in this petition that PLCC is part of sub-station and accordingly no separate O&M Expenses is admissible for PLCC equipment in the 2019-24 tariff period under Regulation 35(4) of the 2019 Tariff Regulations shall be

applicable in case of all petitions where similar claim is made by the Petitioner. As already mentioned, the Commission, however, on the basis of the claim made by the Petitioner has inadvertently allowed O&M Expenses for PLCC equipment @2% of its original project cost, which is applicable for other "communication system", for 2019-24 period in 31 petitions given in Annexure-3 of this order. Therefore, the decision in this order shall also be applicable to all the petitions given in Annexure-3. Therefore, PGCIL is directed to bring this decision to the notice of all the stakeholders in the 31 petitions given in Annexure-3 and also make revised claim of O&M Expenses for PLCC as part of the sub-station at the time of truing up of the tariff allowed for 2019-24 period in respective petitions."

Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

Accordingly, the O&M Expenses allowed for Asset-I as per the norms are as follows:

(₹ in lakh)

| O&M Expenses        |   |        |        |        |        |  |  |  |  |  |
|---------------------|---|--------|--------|--------|--------|--|--|--|--|--|
| Particulars         | ulars 2019-20 2020-21 2021-22 2022-23 2 |        |        |        |        |  |  |  |  |  |
| 765 kV Conventional |   |        |        |        |        |  |  |  |  |  |
| Number of Bays      | 4                                       | 4      | 4      | 4      | 4      |  |  |  |  |  |
| Norms (₹ lakh/Bay)  | 45.01                                   | 46.60  | 48.23  | 49.93  | 51.68  |  |  |  |  |  |
| 765 kV GIS          |   |        |        |        |        |  |  |  |  |  |
| Number of Bays      | 5                                       | 5      | 5      | 5      | 5      |  |  |  |  |  |
| Norms (₹ lakh/Bay)  | 31.51                                   | 32.62  | 33.76  | 34.95  | 36.18  |  |  |  |  |  |
| Total O&M Expenses  | 337.58                                  | 349.50 | 361.73 | 374.48 | 387.60 |  |  |  |  |  |

# Interest on Working Capital (IWC)

- Regulations 34(1)(c), 34(3) and 34(4) and Regulation 3(7) of the 2019 Tariff 67. Regulations provide as follows:
  - **"34**. Interest on Working Capital: (1) The working capital shall cover:
  - (c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:
    - (i) Receivables equivalent to 45 days of annual fixed cost;
    - (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
    - (iii) Operation and maintenance expenses, including security expenses for one month."



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

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

- (4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency."
- "3. **Definition** In these regulations, unless the context otherwise requires:-
- (7) 'Bank Rate' means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points:
- 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 IWC considered is 12.05% (SBI 1 year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20 and 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-24. The components of the working capital and interest allowed thereon are as follows:

| Particulars                | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|----------------------------|---------|---------|---------|---------|---------|
| O & M Expenses             |         |         |         |         |         |
| (O&M expenses for 1        | 28.13   | 29.13   | 30.14   | 31.21   | 32.30   |
| month)                     |         |         |         |         |         |
| Maintenance Spares         | 50.64   | 52.43   | 54.26   | 56.17   | 58.14   |
| (15% of O&M Expenses)      | 30.04   | 32.43   | 34.20   | 30.17   | 30.14   |
| Receivables (Equivalent    |         |         |         |         |         |
| to 45 days of annual fixed | 1050.34 | 1026.36 | 1001.39 | 976.58  | 947.17  |
| cost / annual transmission | 1000.04 | 1020.50 | 1001.00 | 370.50  | 347.17  |
| charges)                   |         |         |         |         |         |
| Total                      | 1129.10 | 1107.91 | 1085.80 | 1063.96 | 1037.61 |
| Rate of Interest (%)       | 12.05   | 11.25   | 11.25   | 11.25   | 11.25   |
| Interest of working        | 136.06  | 124.64  | 122.15  | 119.69  | 116.73  |
| capital                    |         |         |         |         |         |

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

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

(₹ in lakh)

| Particulars                 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|-----------------------------|---------|---------|---------|---------|---------|
| Depreciation                | 2721.21 | 2726.06 | 2726.06 | 2726.06 | 2726.06 |
| Interest on Loan            | 2427.34 | 2199.02 | 1986.77 | 1775.19 | 1547.53 |
| Return on Equity            | 2920.54 | 2925.71 | 2925.71 | 2925.71 | 2925.71 |
| Interest on Working Capital | 136.06  | 124.64  | 122.15  | 119.69  | 116.73  |
| O&M Expenses                | 337.58  | 349.50  | 361.73  | 374.48  | 387.60  |
| Total                       | 8542.72 | 8324.93 | 8122.42 | 7921.13 | 7703.64 |

### Filing Fee and Publication Expenses

70. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

## Licence Fee and RLDC Fees and Charges

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

### **Goods and Services Tax**

72. The Petitioner has submitted that if GST is levied at any rate and at any point of time in future on Charges of Transmission of Electricity, the same shall be borne and additionally paid by the Respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further, additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

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

### **Security Expenses**

74. The Petitioner has submitted that security expenses for the transmission asset is not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 will be filed on yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

75. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses of all the transmission assets owned by it in one petition. It is observed that the Petitioner has already filed the Petition No. 260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19. Therefore, security expenses will be dealt with in Petition No. 260/MP/2020 in accordance with the applicable provisions of the 2019 Tariff Regulations.

### **Capital Spares**

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

## **Sharing of Transmission Charges**

77. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 or Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, as applicable, as provided in Regulation 43 of the 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.

### 78. To summarise:

The trued-up Annual Fixed Charges allowed for Asset-I for the 2014-19 tariff period are:

|                      |                                   | (₹      | f in lakh) |
|----------------------|-----------------------------------|---------|------------|
| Particulars          | 2016-17<br>(Pro-rata for 59 days) | 2017-18 | 2018-19    |
| Annual Fixed Charges | 1416.67                           | 9127.52 | 9393.23    |

(b) The Annual Fixed Charges allowed for Asset-I for the 2019-24 tariff period are:

|                      |         |         |         |         | (₹ in lak |
|----------------------|---------|---------|---------|---------|-----------|
| Particulars          | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24   |
| Annual Fixed Charges | 8542.72 | 8324.93 | 8122.42 | 7921.13 | 7703.64   |

79. Annexure-I and Annexure-II given hereinafter shall form part of the order.



80. This order disposes of Petition No. 422/TT/2019 in terms of the above discussion and findings.

sd/sd/sd/sd/-

(Pravas Kumar Singh) Member

(Arun Goyal) Member

(I. S. Jha) Member

(P. K. Pujari) Chairperson

# Annexure- I

| 2014-19                             | Admitted<br>Capital<br>Cost as<br>on COD | ACE<br>(₹ in lakh) |         | Capital (₹ in lakh) Cost as Operaciat (%)  Cost as Operaciat (%) |   | Rate of<br>Depreciation<br>(%) | Annual Depreciation as per<br>Regulations |                        |                        |  |
|-------------------------------------|--|--------------------|---------|--|---|--------------------------------|---|------------------------|------------------------|--|
| Capital<br>Expenditure as on<br>COD | (₹ in lakh)                              | 2016-17            | 2017-18 | 2018-19  |   |                                | 2016-17<br>(₹ in lakh)                    | 2017-18<br>(₹ in lakh) | 2018-19<br>(₹ in lakh) |  |
| Building                            | 2214.91                                  | 6.46               | 27.68   | 0.00   | 2249.05                                   | 5.28                           | 85.18                                     | 74.66                  | 75.12                  |  |
| Sub Station                         | 41889.30                                 | 1570.02            | 4590.00 | 977.91   | 49027.23                                  | 5.28                           | 874.50                                    | 2415.83                | 2562.82                |  |
| PLCC                                | 174.73                                   | 19.44              | 2.30    | 0.00   | 196.47                                    | 6.33                           | 1.99                                      | 12.36                  | 12.44                  |  |
| IT Equipment and software           | 244.95                                   | 0.71               | 7.66    | 14.50  | 267.82                                    | 5.28                           | 12.95                                     | 13.17                  | 13.76                  |  |
| TOTAL                               | 44523.89                                 | 1596.63            | 4627.64 | 992.41   | 51740.57                                  |                                | 974.62                                    | 2516.02                | 2664.13                |  |
|                                     |  |                    |         |  | Average Gı<br>(₹ in lakh)                 | ross Block                     | 45322.21                                  | 48434.34               | 51244.37               |  |
|                                     |  |                    |         |  | Weighted Average Rate of Depreciation (%) |                                | 5.19                                      | 5.19                   | 5.20                   |  |

# **Annexure-II**

| 2019-24                                  | Combined<br>admitted<br>Capital Cost<br>as on | ACE<br>2019-20 | Admitted<br>Capital<br>Cost as<br>on      | Rate of Depreciation | ation                     |                        | preciation as          | eciation as per Regulations |                        |  |  |
|--|---|----------------|---|----------------------|---------------------------|------------------------|------------------------|-----------------------------|------------------------|--|--|
| Capital<br>Expenditure as<br>on 1.4.2019 | 1.4.2019 (₹<br>in lakh)                       | (₹ in lakh)    | 31.3.2024<br>(₹ in lakh)                  | (%)                  | 2019-20<br>(₹ in<br>lakh) | 2020-21<br>(₹ in lakh) | 2021-22<br>(₹ in lakh) | 2022-23<br>(₹ in<br>lakh)   | 2023-24<br>(₹ in lakh) |  |  |
| Building                                 | 2249.05                                       | 0.00           | 2249.05                                   | 5.28                 | 75.12                     | 75.12                  | 75.12                  | 75.12                       | 75.12                  |  |  |
| Sub Station                              | 49027.23                                      | 183.58         | 49210.81                                  | 5.28                 | 2593.48                   | 2598.33                | 2598.33                | 2598.33                     | 2598.33                |  |  |
| PLCC                                     | 196.47  | 0.00           | 196.47                                    | 6.33                 | 12.44                     | 12.44                  | 12.44                  | 12.44                       | 12.44                  |  |  |
| IT Equipment and software                | 267.82  | 0.00           | 267.82                                    | 15.00                | 40.17                     | 40.17                  | 40.17                  | 40.17                       | 40.17                  |  |  |
| TOTAL                                    | 51740.57                                      | 183.58         | 51924.15                                  |                      | 2721.21                   | 2726.06                | 2726.06                | 2726.06                     | 2726.06                |  |  |
|  |   |                | Average Gross Block<br>(₹ in lakh)        |                      | 51832.36                  | 51924.15               | 51924.15               | 51924.15                    | 51924.15               |  |  |
|  |   |                | Weighted Average Rate of Depreciation (%) |                      | 5.25                      | 5.25                   | 5.25                   | 5.25                        | 5.25                   |  |  |

