

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 385/GT/2020**

**Coram:**

**Shri I. S. Jha, Member  
Shri Arun Goyal, Member  
Shri Pravas Kumar Singh, Member**

**Date of Order: 10<sup>th</sup> March, 2023**

**In the matter of:**

Petition for approval of tariff for NLC Thermal Power Station-II, 1470 MW (TPS- II Stage-I (630 MW) and Stage-II (840 MW) for the period 2019-24.

**And**

**In the matter of:**

NLC India Limited,  
135/73, EVR Periyar High Road, Kilpauk,  
Chennai – 600 010, Tamil Nadu

**..... Petitioner**

**Vs**

1. Tamilnadu Generation and Distribution Corporation Limited,  
NPKRR Maaligai, 144, Anna Salai,  
Chennai – 600002
2. Transmission Corporation of Andhra Pradesh Limited,  
(APTRANSCO), Vidyut Soudha,  
Hyderabad- 500082
3. Southern Power Distribution Company of Andhra Pradesh Limited,  
Srinivasasa Kalyana Mandapam Backside,  
Tiruchanoor Road, Kesavayana Gunta,  
Tirupati – 517 501, Chittoor District, Andhra Pradesh.
4. Eastern Power Distribution Company of Andhra Pradesh Limited,  
P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh - 503013
5. Transmission Corporation of Telangana Limited  
Vidyut Soudha, Khairatabad, Hyderabad-500082
6. Norther Power Distribution Company of Telangana Limited,  
H. No. 1-1-504, Opposite NIT Petrol Pump,  
Chaityanayapuri Colony, Hanmkonda,  
Warangal Telangana - 506004



7. Southern Power Distribution Company of Telangana Limited  
6-1-50, MINT Compound, Hyderabad-500 063 (Telangana)
8. Power Company of Karnataka Limited,  
KPTCL Complex, Kaveri Bhavan,  
Bangalore – 560009
9. Bangalore Electricity Supply Company Limited,  
Krishna Rajendra Circle, Bangalore - 560 001
10. Mangalore Electricity Supply Company Limited,  
Corporate Office, MESCOM Bhavana, Bejai, Kavour Cross Road,  
Mangalore- 575 004
11. Chamundeshwari Electricity Supply Company Limited  
Corporate Office No CA 29, Vijayanagar 2nd Stage  
Hinakal, Mysore -570017
12. Gulbarga Electricity Supply Company Limited  
Station Main Road, Gulbarga, Gulbarga -585 102  
Karnataka
13. Hubli Electricity Supply Company Limited,  
Corporate office, P. B. Road, Navanagar, Hubli - 580 025
14. Kerala State Electricity Board Limited,  
Vaidyuthi Bhavanam, Pattom,  
Thiruvananthapuram-695004
15. Puducherry Electricity Department,  
137, NSC Bose Salai, Puducherry – 605 001

.... Respondents

**Parties Present:**

Ms. Anushree Bardhan, Advocate, NLC  
Ms. Srishti Khindaria, Advocate, NLC  
Shri Ravi Nair, Advocate, NLC  
Shri Nambirajan K., NLC  
Shri Srinivasan A., NLC  
Shri A.K. Sahni, NLC  
Shri M. Ravi Kumar, NLC  
Shri S. Vallinayagam, Advocate, TANGEDCO  
Shri B. Rajeswari, TANGEDCO  
Ms. R. Ramalakshmi, TANGEDCO  
Ms. R. Alamelu, TANGEDCO  
Ms. Srimathi Shashi, PCKL



## ORDER

This petition has been filed by the Petitioner, NLC India Limited, for approval of tariff of NLC TPS-II, Stage-I (630 MW) and Stage-II (840 MW) (in short 'the generating stations') for the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

### Background

2. The generating station with an installed capacity of 1470 MW, comprises of three units with a capacity of 210 MW each under Stage-I and four units with a capacity of 210 MW each under Stage-II. The dates of commercial operation of the units of the generating station of Stage-I and Stage-II are as under:

| <b>Stage-I</b> |           | <b>Stage-II</b> |           |
|----------------|-----------|-----------------|-----------|
| Unit-I         | 29.9.1986 | Unit-I          | 25.1.1992 |
| Unit-II        | 8.5.1987  | Unit-II         | 2.6.1992  |
| Unit-III       | 23.4.1988 | Unit-III        | 17.3.1993 |
|                |           | Unit-IV         | 9.4.1994  |

3. The Commission vide order dated 8.3.2017 in Petition No. 256/GT/2014 had approved the tariff of the generating station for the period 2014-19, which was subsequently revised vide corrigendum order 12.6.2017. Thereafter, Petition No. 368/GT/2020 was filed by the Petitioner for revision of tariff of the generating station, based on truing-up exercise for the period 2014-19, and the Commission vide its order dated 28.2.2023 had approved the capital cost and annual fixed charges as under:

### **Capital Cost allowed for Stage-I**

|                                     | <i>(Rs. in lakh)</i> |                 |                 |                 |                 |
|-------------------------------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Stage-I</b>                      | <b>2014-15</b>       | <b>2015-16</b>  | <b>2016-17</b>  | <b>2017-18</b>  | <b>2018-19</b>  |
| Opening Capital Cost                | 32023.21             | 32023.21        | 32023.21        | 32023.21        | 32023.21        |
| Add: Additional Capital Expenditure | 0.00                 | 0.00            | 0.00            | 0.00            | 0.00            |
| Less: Decapitalization              | 0.00                 | 0.00            | 0.00            | 0.00            | 0.00            |
| Less: Assumed Deletion              | 0.00                 | 0.00            | 0.00            | 0.00            | 0.00            |
| <b>Closing Capital Cost</b>         | <b>32023.21</b>      | <b>32023.21</b> | <b>32023.21</b> | <b>32023.21</b> | <b>32023.21</b> |
| Average Capital Cost                | 32023.21             | 32023.21        | 32023.21        | 32023.21        | 32023.21        |



### Annual Fixed Charges allowed for Stage-I

(Rs. in lakh)

| Stage-I                                    | 2014-15         | 2015-16         | 2016-17         | 2017-18         | 2018-19         |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                               | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Interest on Loan                           | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Return on Equity                           | 873.45          | 732.99          | 732.99          | 732.99          | 734.96          |
| Interest on Working Capital                | 4108.49         | 4170.22         | 4233.44         | 4292.27         | 4356.98         |
| O&M Expenses                               | 15492.28        | 16454.62        | 17554.84        | 18501.35        | 19541.94        |
| <b>Total annual fixed charges approved</b> | <b>20474.22</b> | <b>21357.83</b> | <b>22521.27</b> | <b>23526.60</b> | <b>24633.88</b> |
| Special Allowance                          | 4364.88         | 4642.05         | 4936.82         | 5250.31         | 5583.69         |
| <b>Total</b>                               | <b>24839.10</b> | <b>25999.88</b> | <b>27458.09</b> | <b>28776.91</b> | <b>30217.57</b> |

### Capital Cost allowed for Stage-II

(Rs. in lakh)

| Stage-II                            | 2014-15          | 2015-16          | 2016-17          | 2017-18          | 2018-19          |
|-------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Opening Capital Cost                | 118778.71        | 118778.71        | 118786.99        | 118853.85        | 118853.85        |
| Add: Additional Capital Expenditure | 0.00             | 8.28             | 66.86            | 0.00             | 0.00             |
| Less: Decapitalization              | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Less: Assumed Deletion              | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| <b>Closing Capital Cost</b>         | <b>118778.71</b> | <b>118786.99</b> | <b>118853.85</b> | <b>118853.85</b> | <b>118853.85</b> |
| Average Capital Cost                | 118778.71        | 118782.85        | 118820.42        | 118853.85        | 118853.85        |

### Annual Fixed Charges allowed for Stage-II

(Rs. in lakh)

| Stage-II                                   | 2014-15         | 2015-16         | 2016-17         | 2017-18         | 2018-19         |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation                               | 1086.28         | 1087.21         | 1098.40         | 1113.30         | 1113.30         |
| Interest on Loan                           | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Return on Equity                           | 3988.03         | 3133.38         | 2925.45         | 2714.13         | 2501.46         |
| Interest on Working Capital                | 5567.98         | 5634.94         | 5714.71         | 5788.62         | 5869.96         |
| O&M Expenses                               | 20656.37        | 21939.50        | 23406.45        | 24668.46        | 26055.93        |
| <b>Total annual fixed charges approved</b> | <b>31298.66</b> | <b>31795.03</b> | <b>33145.01</b> | <b>34284.51</b> | <b>35540.64</b> |
| Compensation Allowance                     | 735.00          | 840.00          | 840.00          | 630.00          | 210.00          |
| Special Allowance                          | -               | -               | -               | 1,894.49        | 6,044.37        |
| <b>Total</b>                               | <b>32033.66</b> | <b>32635.03</b> | <b>33985.01</b> | <b>36809.00</b> | <b>41795.01</b> |

### Present Petition

4. The Petitioner has filed the present Petition for approval of tariff of the generating station for the period 2019-24, in accordance with Regulation 9(2) of the 2019 Tariff Regulations and has claimed the following annual fixed charges and capital cost:



### Capital Cost claimed for Stage-I

(Rs. in lakh)

| Stage-I                                | 2019-20          | 2020-21          | 2021-22          | 2022-23          | 2023-24          |
|--|------------------|------------------|------------------|------------------|------------------|
| Opening Capital Cost                   | 40,261.21        | 40,736.07        | 43,355.50        | 44,366.50        | 44,561.50        |
| Add: Additions during the year         | 474.86           | 2619.43          | 1011.00          | 195.00           | 0.00             |
| Less: Decapitalization during the year | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Less: Reversal during the year         | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Add: Discharges during the year        | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| <b>Closing capital cost</b>            | <b>40,736.07</b> | <b>43,355.50</b> | <b>44,366.50</b> | <b>44,561.50</b> | <b>44,561.50</b> |

### Annual Fixed Charges claimed for Stage-I

(Rs. in lakh)

| Stage-I                     | 2019-20          | 2020-21          | 2021-22          | 2022-23          | 2023-24          |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|
| Depreciation                | 778.61           | 971.20           | 1,233.43         | 1,337.20         | 1,357.94         |
| Interest on Loan            | -                | -                | -                | -                | -                |
| Return on Equity            | 2,091.60         | 2,061.59         | 2,061.59         | 2,061.59         | 1,955.46         |
| Interest on Working Capital | 4,821.24         | 4,867.12         | 4,914.55         | 4,959.96         | 5,002.76         |
| O&M Expenses                | 21,580.84        | 22,400.04        | 23,250.97        | 24,154.78        | 25,094.91        |
| Compensation Allowance      | 5,985.00         | 5,985.00         | 5,985.00         | 5,985.00         | 5,985.00         |
| <b>Total</b>                | <b>35,257.29</b> | <b>36,284.95</b> | <b>37,445.55</b> | <b>38,498.53</b> | <b>39,396.07</b> |

### Capital Cost claimed for Stage-II

(Rs. in lakh)

| Stage-II                               | 2019-20          | 2020-21          | 2021-22          | 2022-23          | 2023-24          |
|--|------------------|------------------|------------------|------------------|------------------|
| Opening Capital Cost*                  | 129764.71        | 129534.85        | 132164.42        | 132649.42        | 132046.42        |
| Add: Additions during the year         | 633.14           | 3492.57          | 1348.00          | 260.00           | 0.00             |
| Less: Decapitalization during the year | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Less: Reversal during the year         | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Add: Discharges during the year        | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| <b>Closing capital cost</b>            | <b>129534.85</b> | <b>132164.42</b> | <b>132649.42</b> | <b>132046.42</b> | <b>131183.42</b> |

\*The Petitioner has stated that it has inadvertently submitted the capital cost of Stage-I while providing the details of opening capital cost of Stage-II in Form 1(I). We have considered the claimed opening capital cost for Stage-II from the summary sheet provided by the Petitioner for Stage-II of the generating station.

### Annual Fixed Charges claimed for Stage-II

(Rs. in lakh)

| Stage-II                    | 2019-20          | 2020-21          | 2021-22          | 2022-23          | 2023-24          |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|
| Depreciation                | 20.72            | 166.30           | 351.63           | 418.92           | 430.92           |
| Interest on Loan            | -                | -                | -                | -                | -                |
| Return on Equity            | 2,894.90         | 3,107.77         | 3,341.38         | 3,386.64         | 3,354.76         |
| Interest on Working Capital | 6,414.62         | 6,476.09         | 6,538.84         | 6,600.47         | 6,660.53         |
| O&M Expenses                | 28,774.46        | 29,866.72        | 31,001.29        | 32,206.37        | 33,459.87        |
| Special Allowance           | 7,980.00         | 7,980.00         | 7,980.00         | 7,980.00         | 7,980.00         |
| <b>Total</b>                | <b>46,084.69</b> | <b>47,596.87</b> | <b>49,213.14</b> | <b>50,592.41</b> | <b>51,886.09</b> |



5. The Respondents, TANGEDCO and Respondent KSEBL have filed their replies vide affidavits dated 21.12.2020 and 15.4.2021 respectively and the Petitioner has filed its rejoinder to the said replies, on 27.5.2021 and 23.6.2021 respectively. This Petition, along with Petition No. 385/GT/2020 (tariff of the generating station for the period 2019-24) was heard through video conferencing, on 15.3.2022, and the Commission, after directing the Petitioner, to submit certain additional information, reserved its order in both petitions. In compliance to the above directions, the Petitioner has filed the additional information vide affidavit dated 2.5.2022, after serving copies to the Respondents. The Respondent TANGEDCO has also filed the note of the arguments made during the hearing on 15.3.2022. Based on the submissions of the parties and documents available on record and after prudence check, we proceed for truing up the tariff of the generating station, in this petition, as stated in the subsequent paragraphs.

### **Capital Cost**

6. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check, in accordance with this regulation, shall form the basis of determination of tariff for existing and new projects.

Clause 3 of Regulation 19 of the 2019 Tariff Regulations provides as under:

*“(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 renovation and modernisation as admitted by this Commission in accordance with these regulations;*
- (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 upto 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.”*

7. The annual fixed charges claimed by the Petitioner, is based on the opening capital cost of Rs.40261.21 lakh for Stage-I and Rs. 129764.71 lakh for Stage-II, as against the closing capital cost of Rs. 32023.21 lakh (for Stage-I) and Rs. 118853.85 lakh (for Stage-II), on cash basis, as on 31.3.2019, as allowed vide Commission’s order dated 28.2.2023 in Petition No. 368/GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs. 32023.21 lakh (for Stage-I) and Rs. 118853.85 lakh (for Stage-II), on cash basis, has been considered as the opening capital cost as on 1.4.2019.

### **Additional Capital Expenditure**

8. Regulation 25 and 26 of the 2019 Tariff Regulations, provides as under:

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

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

*(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*

*(b) Change in law or compliance of any existing law;*

*(c) Deferred works relating to ash pond or ash handling system in the original scope of work;*

*(d) Liability for works executed prior to the cut-off date;*

*(e) Force Majeure events;*

*(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*

*(g) Raising of ash dyke as a part of ash disposal system.*

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

*(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;*

*(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*

*(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*



(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

26. Additional Capitalisation beyond the original scope

(1) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

(2) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of decapitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised.”

9. The Petitioner has claimed the additional capital expenditure for the period 2019-24 as under:

| <i>(Rs. in lakh)</i>                |       |                                    |  |
|-------------------------------------|-------|------------------------------------|--|
| Year                                |       | Special Allowance @ Rs 9.5 lakh/MW | Balance additional capital expenditure claimed |
| <b>Total Additions for Stage-I</b>  |       |                                    |  |
| 2019-20                             | 6460  | 5985                               | 475  |
| 2020-21                             | 8604  | 5985                               | 2619   |
| 2021-22                             | 6996  | 5985                               | 1,011  |
| 2022-23                             | 6180  | 5985                               | 195  |
| 2023-24                             | -     | 5985                               | -  |
| <b>Total Additions for Stage-II</b> |       |                                    |  |
| 2019-20                             | 8613  | 7980                               | 633  |
| 2020-21                             | 11473 | 7980                               | 493  |
| 2021-22                             | 9328  | 7980                               | 1348   |
| 2022-23                             | 8240  | 7980                               | 260  |
| 2023-24                             | -     | 7980                               | -  |

10. The Petitioner has further submitted that the projected additional capital





expenditure is met through special allowance and the balance, if any, is considered as additional capital expenditure for the units. The Commission vide ROP of the hearing dated 15.3.2022, had directed the Petitioner to submit revised Form-9A clearly indicating the sub-clause of the regulation under which the additional capital expenditure has been claimed. In response, the Petitioner vide its affidavit dated 2.5.2022, has furnished revised Form 9A, wherein, it is observed that the Petitioner has not indicated the break-up details/bifurcation of the additional capital expenditure claimed for assets and the expenditure claimed under Special allowance, in respect of the stages of the generating station.

11. The Respondent TANGEDCO and Respondent KSEBL have submitted that the additional capital expenditure claimed by the Petitioner, after adjusting the Special allowance eligible to the Petitioner is as under:

| Year     | <i>(Rs. in lakh)</i> |         |         |         |         |
|----------|----------------------|---------|---------|---------|---------|
|          | 2019-20              | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Stage I  | 475                  | 2619    | 1011    | 195     | -       |
| Stage II | 633                  | 3493    | 1348    | 260     | -       |

12. The Respondent TANGEDCO has referred to Regulation 28 of the 2019 Tariff Regulations and submitted that in case the Petitioner is opting for Special allowance, then revision of capital cost shall not be allowed. The Respondent KSEB also mentioned that the claim of the Petitioner towards additional capital expenditure under Regulation 25 and Regulation 26 is also not applicable and the Petitioner is only eligible to claim special allowance as compensation for meeting the requirement of expenses including Renovation and modernization beyond useful life of the generating station. Accordingly, the Respondents have prayed that the Commission may reject the claim of the Petitioner for additional capital expenditure for the period 2019-24.

13. We have examined the matter. Regulation 27 of the 2019 Tariff Regulations



provides as under:

*“27. Additional Capitalisation on account of Renovation and Modernisation*

*(1) The generating company or the transmission licensee, as the case may be, intending to undertake renovation and modernization (R&M) of the generating station or unit thereof or transmission system or element thereof for the purpose of extension of life beyond the originally recognised useful life for the purpose of tariff, shall file a petition before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, and any other information considered to be relevant by the generating company or the transmission licensee:*

*Provided that the generating company making the applications for renovation and modernization (R&M) shall not be eligible for Special Allowance under Regulation 28 of these regulations;*

*Provided further that the generating company or the transmission licensee intending to undertake renovation and modernization (R&M) shall be required to obtain the consent of the beneficiaries or the long term customers, as the case may be, for such renovation and modernization (R&M) and submit the same along with the petition.*

*(2) Where the generating company or the transmission licensee, as the case may be, makes an application for approval of its proposal for renovation and modernisation (R&M), approval may be granted after due consideration of reasonableness of the proposed cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, expected duration of life extension, consent of the beneficiaries or long term customers, if obtained, and such other factors as may be considered relevant by the Commission.*

*(3) In case of gas/ liquid fuel based open/ combined cycle thermal generating station after 25 years of operation from date of commercial operation, any additional capital expenditure which has become necessary for renovation of gas turbines/steam turbine or additional capital expenditure necessary due to obsolescence or non-availability of spares for efficient operation of the stations shall be allowed:*

*Provided that any expenditure included in the renovation and modernisation (R&M) on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted from the expenditure to be allowed after prudence check.*

*(4) After completion of the renovation and modernisation (R&M), the generating company or the transmission licensee, as the case may be, shall file a petition for determination of tariff. Expenditure incurred or projected to be incurred and admitted by the Commission after prudence check, and after deducting the accumulated depreciation already recovered from the admitted project cost, shall form the basis for determination of tariff.*

14. Regulation 28 of the 2019 Tariff Regulation provides as under:

*“28. Special Allowance for Coal-based/Lignite fired Thermal Generating station;*

*(1) In case of coal-based/lignite fired thermal generating stations, the generating company, instead of availing renovation and modernization (R&M) may opt to avail a ‘special allowance’ in accordance with the norms specified in this Regulation, as compensation for meeting the requirement of expenses including renovation and modernisation beyond the useful life of the generating station or a unit thereof and in such an event, upward revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the Special Allowance shall be included in the annual fixed cost:*

*Provided that such option shall not be available for a generating station or unit thereof for*



*which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms;*

*Provided further that special allowance shall also be available for a generating station which has availed the Special Allowance during the tariff period 2009-14 or 2014-19 as applicable from the date of completion of the useful life.*

*(2) The Special Allowance admissible to a generating station shall be @ Rs 9.5 lakh per MW per year for the tariff period 2019-24.*

*(3) In the event of a generating station availing Special Allowance, the expenditure incurred upon or utilized from Special Allowance shall be maintained separately by the generating station and details of same shall be made available to the Commission as and when directed.*

*(4) The Special Allowance allowed under this Regulation shall be transferred to a separate fund for utilization towards Renovation & Modernisation activities, for which detailed methodology shall be issued separately.*

15. The COD of the generating station is 9.4.1994 and accordingly the units of Stage-I have completed more than 25 years of useful life as on 1.4.2014 and Units- I, II, III and IV of Stage-II of the generating station, have also completed their useful life of 25 years on 25.1.2017, 2.6.2017, 17.3.2018 and 9.4.2019 respectively. Since the units of both stages of the generating station have completed the useful life during the period 2014-19, except for Unit-IV of Stage-II of the generating station, the Petitioner is at liberty to approach the Commission with a proposal for comprehensive R&M in terms of Regulation 27 of the 2019 Tariff Regulations, for life extension of the project, at the time of truing up of tariff. It is observed that the Petitioner has opted for Special allowance in terms of Regulation 28 of the 2019 Tariff Regulations, as compensation for meeting the requirement of expenses, including R & M, beyond useful life of the unit or the generating station. Also, the units of Stage-I and Stage-II of the generating station have been granted Special allowance as claimed by the Petitioner, in this order. In this background, we find no reason to allow the additional capitalisation of the expenditure beyond the Special allowance granted to the Petitioner. Accordingly, the prayer of the Petitioner for additional capitalization of expenditure is not allowed.



## **Capital Cost**

16. Based on the above, the capital cost allowed for the purpose of tariff for the period 2019-24 is as under:

*(Rs. in lakh)*

| <b>Stage-I</b>                      | <b>2019-20</b>  | <b>2020-21</b>  | <b>2021-22</b>  | <b>2022-23</b>  | <b>2023-24</b>  |
|-------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Opening Capital Cost                | 32023.21        | 32023.21        | 32023.21        | 32023.21        | 32023.21        |
| Add: Additional capital expenditure | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| <b>Closing Capital Cost</b>         | <b>32023.21</b> | <b>32023.21</b> | <b>32023.21</b> | <b>32023.21</b> | <b>32023.21</b> |
| Average Capital Cost                | 32023.21        | 32023.21        | 32023.21        | 32023.21        | 32023.21        |

*(Rs. in lakh)*

| <b>Stage-II</b>                     | <b>2019-20</b>   | <b>2020-21</b>   | <b>2021-22</b>   | <b>2022-23</b>   | <b>2023-24</b>   |
|-------------------------------------|------------------|------------------|------------------|------------------|------------------|
| Opening Capital Cost                | 118853.85        | 118853.85        | 118853.85        | 118853.85        | 118853.85        |
| Add: Additional capital expenditure | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| <b>Closing Capital Cost</b>         | <b>118853.85</b> | <b>118853.85</b> | <b>118853.85</b> | <b>118853.85</b> | <b>118853.85</b> |
| Average Capital Cost                | 118853.85        | 118853.85        | 118853.85        | 118853.85        | 118853.85        |

## **Debt-Equity Ratio**

17. Regulation 18 of the 2019 Tariff Regulations provides as under:

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

*Provided that:*

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

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

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

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



Provided that in case of 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.

18. As the Commission has considered Net Fixed Asset (NFA) method in the case of the generating stations of the Petitioner, the actual source of funding has been considered for calculating the debt-equity ratio. Accordingly, the net fixed asset details are as under:

|  | (Rs. in lakh) |         |         |         |         |
|--|---------------|---------|---------|---------|---------|
| Stage-I  | 2019-20       | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Net Fixed Asset (A)=Opening Capital Cost-Cumulative depreciation up to previous year | 3719.81       | 3719.81 | 3719.81 | 3719.81 | 3719.81 |
| Closing Net Fixed Asset (B)=Closing capital cost-Cumulative depreciation up to current year  | 3719.81       | 3719.81 | 3719.81 | 3719.81 | 3719.81 |
| Average Net Fixed Asset (C)=(A+B)/2  | 3719.81       | 3719.81 | 3719.81 | 3719.81 | 3719.81 |
| Average Loan (D)(Based on actual)  | 0.00          | 0.00    | 0.00    | 0.00    | 0.00    |
| Average Equity (E)=C-D   | 3719.81       | 3719.81 | 3719.81 | 3719.81 | 3719.81 |

|  | (Rs. in lakh) |          |          |          |          |
|--|---------------|----------|----------|----------|----------|
| Stage-II   | 2019-20       | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
| Opening Net Fixed Asset (A)=Opening Capital Cost-Cumulative depreciation up to previous year | 12103.85      | 12081.59 | 12081.59 | 12081.59 | 12081.59 |
| Closing Net Fixed Asset (B)=Closing capital cost-Cumulative depreciation up to current year  | 12081.59      | 12081.59 | 12081.59 | 12081.59 | 12081.59 |
| Average Net Fixed Asset (C) = (A+B)/2  | 12092.72      | 12081.59 | 12081.59 | 12081.59 | 12081.59 |



| Stage-II                           | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|------------------------------------|----------|----------|----------|----------|----------|
| Average Loan (D) (Based on actual) | 0.00     | 0.00     | 0.00     | 0.00     | 0.00     |
| Average Equity (E)=C-D             | 12092.72 | 12081.59 | 12081.59 | 12081.59 | 12081.59 |

## **Return on Equity**

19. Regulation 30 of the 2019 Tariff Regulations provides as under:

*“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 stations transmission system including communication system and run of river hydro generating station and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:*

*Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;*

*Provided further that:*

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

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

*(iii) in case of a thermal generating station with effect from 1.4.2020:*

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

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

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

20. Regulation 31 of the 2019 Tariff Regulations provides as under:

*“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 the generating company or the 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 the 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 1000 crore;

(b) Estimated Advance Tax for the year on above is Rs 240 crore;

(c) Effective Tax Rate for the year 2019-20 =  $\text{Rs } 240 \text{ Crore} / \text{Rs } 1000 \text{ Crore} = 24\%$ ;

(d) Rate of return on equity =  $15.50 / (1 - 0.24) = 20.395\%$ .

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

21. As the Commission has considered the Net Fixed Asset (NFA) method in the case of the generating stations of the Petitioner, the actual source of funding has been considered for calculating the debt-equity ratio. The Petitioner has claimed Return on Equity (ROE) considering the base rate of 15.50% and effective tax rate of 19.758% for the opening equity as on 1.4.2019 and projected additional capital expenditure claimed under original scope of work, change in law etc., for the period 2019-24. For grossing up of ROE, for the period 2019-24 the effective tax rate as MAT rate of 17.472% has been considered. Accordingly, ROE has been worked out as under:



### Return on Equity at Normal Rate:

(Rs. in lakh)

| Stage-I  | 2019-20       | 2020-21       | 2021-22       | 2022-23       | 2023-24       |
|--|---------------|---------------|---------------|---------------|---------------|
| Average Normative Equity                         | 3719.81       | 3719.81       | 3719.81       | 3719.81       | 3719.81       |
| Return on Equity (Base Rate)                     | 15.500%       | 15.500%       | 15.500%       | 15.500%       | 15.500%       |
| Effective Tax Rate                               | 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%       |
| <b>Return on Equity (Pre-tax) - (annualized)</b> | <b>698.65</b> | <b>698.65</b> | <b>698.65</b> | <b>698.65</b> | <b>698.65</b> |

(Rs. in lakh)

| Stage-II   | 2019-20        | 2020-21        | 2021-22        | 2022-23        | 2023-24        |
|--|----------------|----------------|----------------|----------------|----------------|
| Average Normative Equity                         | 12092.72       | 12081.59       | 12081.59       | 12081.59       | 12081.59       |
| Return on Equity (Base Rate)                     | 15.500%        | 15.500%        | 15.500%        | 15.500%        | 15.500%        |
| Effective Tax Rate                               | 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%        |
| <b>Return on Equity (Pre-tax) - (annualized)</b> | <b>2271.25</b> | <b>2269.16</b> | <b>2269.16</b> | <b>2269.16</b> | <b>2269.16</b> |

### Interest on Loan

22. Regulation 32 of the 2019 Tariff Regulations provides as under:

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

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

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





23. The actual loan of the project has already been repaid. As no additional capital expenditure has been admitted for the period 2019-24, there is no normative loan addition during the said period. Hence, the interest on loan during the period 2019-24 is “nil” for both the stages of the generating station.

### **Depreciation**

24. Regulation 33 of the 2019 Tariff Regulations provides as under:

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

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

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

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

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



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

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

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

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

25. The Petitioner has submitted that the entire depreciable value has been depreciated as on 31.3.2014 in terms of order dated 10.2.2017 in Petition No. 473/GT/2014. Therefore, the Petitioner, on account of life extension plan for Stage-I of the generating station, has worked out the balance useful life of 8.23 years, as on 1.4.2019, and claimed the same. It is observed that the Commission vide its order dated 8.3.2017 in Petition No. 256/GT/2014, had granted liberty to the Petitioner to approach the Commission, with a comprehensive R&M proposal, in terms of Regulation 15 of the 2014 Tariff Regulations. However, the Petitioner has not submitted any R&M proposal for both Stages of the generating station. In view of this, and considering the fact that Stage-I of the generating station has already completed its useful life during the period 2009-14 and no additional capital expenditure is allowed for Stage-I of the generating station, we are not inclined to consider the extension of useful life of the Stage-I of the generating station, at this stage. Since the entire depreciable value for Stage-I has been depreciated as on 31.3.2014, in terms of order dated 8.3.2017 in Petition No. 256/GT/2014 and since no additional capital expenditure has been allowed for the period 2019-24, the remaining depreciable value and depreciation for the period 2019-24 is “nil”.



26. As regard Stage-II of the generating station, the entire depreciable value for stage-II of the generating station has been depreciated during the year 2019-20, and thereafter, the Petitioner, on account of life extension plan for Stage-II of the generating station, has worked out balance useful life of 13.75 years, as on 1.4.2019, and has claimed depreciation accordingly. It is observed that the Commission vide its order dated 8.3.2017 in Petition No. 256/GT/2014, had granted liberty to the Petitioner to approach the Commission with the comprehensive R&M proposal in terms of Regulation 15 of the 2014 Tariff Regulations. However, as stated, the Petitioner has not submitted any R&M proposal for both Stages of the generating station. In view of this, and considering the fact that Stage-II of the generating station has already completed its useful life during the period 2019-24 and since no additional capital expenditure has been allowed for Stage-II of the generating station, in this order, we are not inclined to consider the extension of useful life of Stage-II of the generating station, at this stage. Accordingly, the depreciation allowed for Stage-II of the generating station is as under:

(Rs. in lakh)

|   | <b>Stage-II</b>  | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
|---|--|----------------|----------------|----------------|----------------|----------------|
| A | Average Capital Cost   | 118853.85      | 118853.85      | 118853.85      | 118853.85      | 118853.85      |
| B | Value of freehold land included above  | 218.00         | 218.00         | 218.00         | 218.00         | 218.00         |
| C | Depreciable value [(A-B) x 0.9]  | 106772.27      | 106772.27      | 106772.27      | 106772.27      | 106772.27      |
| D | Remaining depreciable value at the beginning of the year (C – Cumulative depreciation at the end of the preceding period)        | 22.27          | 0.00           | 0.00           | 0.00           | 0.00           |
| E | Balance useful life at the beginning of the year   | 0.02           | 0.00           | 0.00           | 0.00           | 0.00           |
| F | WAROD  | -              | -              | -              | -              | -              |
| G | <b>Depreciation during the year</b>  | <b>22.27</b>   | <b>0.00</b>    | <b>0.00</b>    | <b>0.00</b>    | <b>0.00</b>    |
| H | Cumulative depreciation at the end (Cumulative depreciation at the end of the preceding period + Depreciation during the period) | 106772.27      | 106772.27      | 106772.27      | 106772.27      | 106772.27      |



|   |   |           |           |           |           |           |
|---|---|-----------|-----------|-----------|-----------|-----------|
| I | <b>Less:</b> Cumulative Depreciation reduction due to decapitalization                      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      |
| J | Cumulative Depreciation after adjustment due to decapitalization (at the end of the period) | 106772.27 | 106772.27 | 106772.27 | 106772.27 | 106772.27 |

Note- Cumulative Depreciation up to 31.3.2019 is Rs.106750.00 lakh

### **Operation & Maintenance Expenses**

27. The O&M expenses claimed by the Petitioner is as under:

(Rs. in lakh)

| Stage-I   | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Normative O&M expenses under Regulation 35(1)(1) of the 2019 Tariff Regulations (a) | 20764.80        | 21495.60        | 22245.30        | 23032.80        | 23839.20        |
| <b>O&amp;M expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations:</b>   |                 |                 |                 |                 |                 |
| - Water Charges   | 273.47          | 280.44          | 288.24          | 296.98          | 306.85          |
| - Security Expenses   | 542.57          | 624.00          | 717.43          | 825.00          | 948.86          |
| - Capital Spares consumed   | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| <b>Total O&amp;M Expenses</b>   | <b>21580.84</b> | <b>22400.04</b> | <b>23250.97</b> | <b>24154.78</b> | <b>25094.91</b> |

(Rs. in lakh)

| Stage-II  | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Normative O&M expenses under Regulation 35(1)(1) of the 2019 Tariff Regulations (a) | 27686.40        | 28660.80        | 29660.40        | 30710.40        | 31785.60        |
| <b>O&amp;M expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations:</b>   |                 |                 |                 |                 |                 |
| - Water Charges   | 364.63          | 373.92          | 384.32          | 395.97          | 409.13          |
| - Security Expenses   | 723.43          | 832.00          | 956.57          | 1,100.00        | 1,265.14        |
| - Capital Spares consumed   | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| <b>Total O&amp;M Expenses</b>   | <b>28774.46</b> | <b>29866.72</b> | <b>31001.29</b> | <b>32206.37</b> | <b>33459.87</b> |

28. As the normative O&M expenses claimed by the Petitioner, are in terms of Regulation 35(1)(1) of the 2019 Tariff Regulations, the same is allowed.

### **Water Charges**

29. Regulation 35(1)(6) of the 2019 Tariff Regulations provides for claim towards water charges, security expenses and capital spares as under:

*“35(1)(6) The Water, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately and after prudence check:*

*Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:*

Xxxx'



30. The actual water charges claimed by the Petitioner in Petition No. 368/GT/2020 for the period 2014-19 and those allowed by order dated 28.2.2023 are as under:

| <i>(Rs. in lakh)</i>            |                |                |                |                |                |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Water charges (Stage-I)</b>  | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
| Claimed for the period 2014-19  | 185.17         | 180.72         | 183.63         | 206.09         | 138.75         |
| Allowed for the period 2014-19  | 140.36         | 141.02         | 140.59         | 118.81         | 83.75          |
| <b>Water charges (Stage-II)</b> |                |                |                |                |                |
| Claimed for the period 2014-19  | 246.89         | 240.97         | 244.83         | 274.78         | 185.00         |
| Allowed for the period 2014-19  | 187.15         | 188.03         | 187.45         | 158.41         | 111.67         |

31. The Petitioner has claimed water charges for the period 2019-24 as under:

| <i>(Rs. in lakh)</i> |                |                |                |                |                |
|----------------------|----------------|----------------|----------------|----------------|----------------|
|                      | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I              | 273.47         | 280.44         | 288.24         | 296.98         | 306.85         |
| Stage-II             | 364.63         | 373.92         | 384.32         | 395.97         | 409.13         |

32. In terms of Regulation 35(1)(6) of the 2019 Tariff Regulations, Water charges shall be allowed separately, based on the water consumption, depending upon the type of plant, type of cooling water system etc., subject to prudence check. The Petitioner has claimed water charges consisting of pumping cost incurred by ground water control and storm water control for the year, consent fee payable to Government account, Personnel charges and Lake maintenance charges. The details of water charges as furnished by the Petitioner is as under:

| Period  | Water Quantity | Pumping charges (Rs. /KL) | Water Consent Fee | Personnel Charges | Lake Maintenance | Water Charges |
|---------|----------------|---------------------------|-------------------|-------------------|------------------|---------------|
|         | (KL)           | (Rs. In lakh)             | (Rs. In lakh)     | (Rs. In lakh)     | (Rs. In lakh)    | (Rs. In lakh) |
|         | 1              | 2                         | 4                 | 5                 | 6                | 7=2+3+4+5+6   |
| 2019-20 | 64034100       | 481.54                    | 20.43             | 135.04            | 1.10             | 638.10        |
| 2020-21 | 64034100       | 481.54                    | 20.43             | 151.24            | 1.16             | 654.36        |
| 2021-22 | 64034100       | 481.54                    | 20.43             | 169.39            | 1.21             | 672.56        |
| 2022-23 | 64034100       | 481.54                    | 20.43             | 189.72            | 1.27             | 692.95        |
| 2023-24 | 64034100       | 481.54                    | 20.43             | 212.48            | 1.34             | 715.78        |

33. We have considered the matter. It is noticed that the Commission, vide its order dated 9.6.2022 in Petition No. 367/GT/2020 (NLC TPS-II Expansion) respectively, had disallowed the Personnel charges claimed in water charges. Aggrieved by the order dated 9.6.2022 in Petition No. 367/GT/2020, the Petitioner has filed Review Petition No.



33/RP/2022, raising several issues, including the disallowance of Personnel charges in water charges and the same is pending for consideration. In view of this, we are constrained not to allow the Personnel charges claimed in water charges, at this stage. This is however subject to the outcome of the decision in Review Petition No.33/RP/2022. As regards lake maintenance charges claimed, it is observed that the Petitioner has not furnished any justification for claiming the same. However, the Commission has provisionally considered the lake maintenance charges claimed, subject to the Petitioner furnishing detailed justification for the same, at the time of truing-up of tariff. Accordingly, water charges are allowed for the purpose of tariff, as under:

*(Rs. in lakh)*

| Period  | Water Quantity | Pumping charges (Rs. /KL) | Water Consent Fee | Personnel Charges | Lake Maintenance | Water Charges | Stage-I | Stage-II |
|---------|----------------|---------------------------|-------------------|-------------------|------------------|---------------|---------|----------|
|         | (KL)           | (Rs. In lakh)             | (Rs. In lakh)     | (Rs. In lakh)     | (Rs. in lakh)    | (Rs. in lakh) |         |          |
|         | 1              | 2                         | 3                 | 4                 | 5                | 6=2+3+5       |         |          |
| 2019-20 | 64034100       | 481.54                    | 20.43             |                   | 1.10             | 503.06        | 215.60  | 287.46   |
| 2020-21 | 64034100       | 481.54                    | 20.43             |                   | 1.16             | 503.12        | 215.62  | 287.50   |
| 2021-22 | 64034100       | 481.54                    | 20.43             |                   | 1.21             | 503.18        | 215.65  | 287.53   |
| 2022-23 | 64034100       | 481.54                    | 20.43             |                   | 1.27             | 503.24        | 215.67  | 287.56   |
| 2023-24 | 64034100       | 481.54                    | 20.43             |                   | 1.34             | 503.30        | 215.70  | 287.60   |

34. The water charges allowed as above, is subject to truing-up, based on actuals to be furnished by the Petitioner.

**Security Expenses**

35. The second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

*“35(1)(6) The Water, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately and after prudence check:*

*xxxxx:*

*Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;*

*xxxxx.”*



36. The security expenses claimed by the Petitioner for the period 2019-24 is as under:

| <i>(Rs. in lakh)</i> |                |                |                |                |                |
|----------------------|----------------|----------------|----------------|----------------|----------------|
|                      | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I              | 542.57         | 624.00         | 717.43         | 825.00         | 948.86         |
| Stage-II             | 723.43         | 832.00         | 956.57         | 1100.00        | 1265.14        |

37. The Petitioner has submitted that above expenses have been claimed based on the estimated expenses for the period 2019-24, and shall be subject to retrospective adjustment, based on actuals at the time of truing up of tariff.

38. We have examined the matter. Though the Petitioner has claimed projected security expenses for the period 2019-24, it has however, not furnished the assessment of security requirement, in terms of aforesaid provision of the regulations. Accordingly, the Petitioner, shall, at the time of truing-up, furnish the requisite details of the security expenses, for carrying out prudence check. However, for the present, the projected security expenses claimed for the period 2019-24, has been considered and allowed. Accordingly, the security expenses claimed and allowed, for the generating station for the period 2019-24 are as under:

| <i>(Rs. in lakh)</i> |                |                |                |                |                |
|----------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-I</b>       | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Claimed              | 542.57         | 624.00         | 717.43         | 825.00         | 948.86         |
| Allowed              | 542.57         | 624.00         | 717.43         | 825.00         | 948.86         |

| <i>(Rs. in lakh)</i> |                |                |                |                |                |
|----------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-II</b>      | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Claimed              | 723.43         | 832.00         | 956.57         | 1,100.00       | 1,265.14       |
| Allowed              | 723.43         | 832.00         | 956.57         | 1,100.00       | 1,265.14       |

### **Capital Spares**

39. The Petitioner has not claimed any capital spares during the period 2019-24. It has however submitted that the same shall be claimed, based on actual consumption of spares, at the time of truing up of tariff, in terms of the last proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. In view of this, the same has not been



considered in this order. The claim of the Petitioner, if any, towards capital spares at the time of truing up of tariff, shall be considered on merits, after prudence check.

**Summary**

40. Accordingly, the total O&M expenses, including water charges and security expenses, as claimed by the Petitioner and those allowed to the generating station for the period 2019-24, is summarised below:

| <i>(Rs. in lakh)</i>   |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|
| <b>Stage-I</b>   | <b>2019-20</b>   | <b>2020-21</b>   | <b>2021-22</b>   | <b>2022-23</b>   | <b>2023-24</b>   |
| Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)            | 20,764.80        | 21,495.60        | 22,245.30        | 23,032.80        | 23,839.20        |
| <b>Normative O&amp;M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)</b> | <b>20,764.80</b> | <b>21,495.60</b> | <b>22,245.30</b> | <b>23,032.80</b> | <b>23,839.20</b> |
| Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (c)                     | 273.47           | 280.44           | 288.24           | 296.98           | 306.85           |
| <b>Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)</b>              | <b>215.60</b>    | <b>215.62</b>    | <b>215.65</b>    | <b>215.67</b>    | <b>215.70</b>    |
| Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)                 | 542.57           | 624.00           | 717.43           | 825.00           | 948.86           |
| <b>Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)</b>          | <b>542.57</b>    | <b>624.00</b>    | <b>717.43</b>    | <b>825.00</b>    | <b>948.86</b>    |
| Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)              | 21,580.84        | 22,400.04        | 23,250.97        | 24,154.78        | 25,094.91        |
| <b>Total O&amp;M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)</b>   | <b>21,522.97</b> | <b>22,335.22</b> | <b>23,178.38</b> | <b>24,073.47</b> | <b>25,003.76</b> |

| <i>(Rs. in lakh)</i>  |                |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-II</b>   | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a) | 27,686.40      | 28,660.80      | 29,660.40      | 30,710.40      | 31,785.60      |





| Stage-II   | 2019-20          | 2020-21          | 2021-22          | 2022-23          | 2023-24          |
|--|------------------|------------------|------------------|------------------|------------------|
| <b>Normative O&amp;M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)</b> | <b>27,686.40</b> | <b>28,660.80</b> | <b>29,660.40</b> | <b>30,710.40</b> | <b>31,785.60</b> |
| Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (c)                     | 364.63           | 373.92           | 384.32           | 395.97           | 409.13           |
| <b>Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)</b>              | <b>287.46</b>    | <b>287.50</b>    | <b>287.53</b>    | <b>287.56</b>    | <b>287.60</b>    |
| Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)                 | 723.43           | 832.00           | 956.57           | 1,100.00         | 1,265.14         |
| <b>Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)</b>          | <b>723.43</b>    | <b>832.00</b>    | <b>956.57</b>    | <b>1,100.00</b>  | <b>1,265.14</b>  |
| Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)              | 28,774.46        | 29,866.72        | 31,001.29        | 32,206.37        | 33,459.87        |
| <b>Total O&amp;M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)</b>   | <b>28,697.29</b> | <b>29,780.30</b> | <b>30,904.50</b> | <b>32,097.96</b> | <b>33,338.34</b> |

### Operational Norms

41. The Petitioner has considered following norms of operation, for the purpose of tariff, for the period 2019-24:

|  |         |
|--|---------|
| Normative Annual Plant Availability Factor (NAPAF) (%) | 85      |
| Heat Rate (kCal/kwh)                                   | 2890.00 |
| Auxiliary Power Consumption (%)                        | 10.00   |
| Specific Oil Consumption (ml/kwh)                      | 1.00    |

### Normative Annual Plant Availability Factor

42. Regulation 49(A) of the 2019 Tariff Regulations provides as under:

***“(A) Normative Annual Plant Availability Factor (NAPAF)***

*(a) For all thermal generating stations, except those covered under clauses (b), (c), (d), & (e) - 85%;  
xxx.”*

43. In terms of Regulation 49(A)(a) of the 2019 Tariff Regulations, the Petitioner has considered the NAPAF of 85% for the period 2019-24, and the same is allowed.



### **Gross Station Heat Rate (kCal/kWh)**

44. Regulation 49(C)(a)(v) of 2019 Tariff Regulations provides as under:

*“TPS-I and TPS-II (Stage I & II) of NLC India Ltd:  
TPS-I: 4,000 kCal/kWh  
TPS-II: 2,890 kCal/kWh  
TPS- I (Expansion): 2,720 kCal/kWh”*

45. In terms of Regulation 49(C)(a)(v) of the 2019 Tariff Regulations, the Petitioner has considered the Gross Station Heat Rate (GSHR) of 2890 kCal/kWh during the period 2019-24 and hence, the same is allowed.

### **Secondary Fuel Oil Consumption**

46. Regulation 49(D)(b) of 2019 Tariff Regulations provides as under:

*“(i) For Lignite-fired generating stations except TPS-I: 1.0 ml/kWh*

47. In terms of Regulation 49(D)(b) of the 2019 Tariff Regulations, the Petitioner has considered secondary fuel oil consumption of 1.00 ml/kWh during the period 2019-24 tariff period and hence, the same is allowed.

### **Auxiliary Power Consumption**

48. Regulation 49(E)(d) of 2019 Tariff Regulations provides as under:

*“(d) For Lignite-fired thermal generating stations:*

*xxx*

*(iii) For TPS-I, TPS-I (Expansion) and TPS-II Stage-I&II of NLC India Ltd.:*

|                          |               |
|--------------------------|---------------|
| <i>TPS-I</i>             | <i>12.00%</i> |
| <i>TPS-II</i>            | <i>10.00%</i> |
| <i>TPS-I (Expansion)</i> | <i>8.50%</i>  |

49. In terms of Regulation 49(E)(d)(iii) of the 2019 Tariff Regulations, the Petitioner has considered the auxiliary energy consumption of 10.00% during the period 2019-24 and hence, the same is allowed.

### **Interest on Working Capital**

50. Sub-section (a) of clause (1) of Regulation 34 of the 2019 Tariff Regulations provides as under:



**“34. Interest on Working Capital:** (1) *The working capital shall cover:*

**(a) For Coal-based/lignite-fired thermal generating stations:**

*(i) Cost of coal or lignite and limestone towards stock if applicable for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*

*(ii) Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;*

*(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor and in case of use of more than one secondary fuel oil cost of fuel oil stock for the main secondary fuel oil;*

*(iv) Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;*

*(v) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and*

*(vi) Operation and maintenance expenses including water charges and security expenses for one month.*

**(b) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:**

*(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*

*(ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;*

*(iii) Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;*

*(iv) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor duly taking Order in Petition No. 410/GT/2020 Page 32 of 37 into account mode of operation of the generating station on gas fuel and liquid fuel; and*

*(v) Operation and maintenance expenses including water charges and security expenses for one month.*

**(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.*

*(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:*

*Provided that in case of new generating station the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months*



as used for infirm power preceding date of commercial operation for which tariff is to be determined.

(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.”

51. Regulation 36 of 2019 Tariff Regulations relating to the input price for coal and lignite from integrated mines, provides as under:

(1) xxx

(2) xxx

(3) The generating company shall, after the Date of Commercial Operation of the integrated mines, till the input price of lignite is determined by the Commission under these regulations, fix the input price of lignite for the generating station at the last available pooled lignite price as determined by the Commission for transfer price of lignite or the estimated price available in the investment approval, whichever is lower;

Provided that the difference between the input price of lignite determined under these regulations and the input price of lignite so fixed prior to such determination, for the quantity of lignite billed, shall be adjusted in accordance with Clause (4) of this Regulation.

(4) In case of excess or short recovery of input price under Clause (2) or Clause (3) of this Regulation, the generating company shall refund the excess amount or recover the short amount, as the case may be, with simple rate of interest, equal to the bank rate prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments.

36A. Input Price of coal or Lignite: (1) Input price of coal or lignite from integrated mine shall be computed based on the following components:

(I) Run of Mine (ROM) Cost; and

(II) Additional charges:

(III) crushing charges;

a. transportation charge within the mine up to the washery end or coal handling plant associated with the integrated mine, as the case may be;

b. handling charges at mine end;

c. washing charges; and

d. transportation charges beyond the washery end or coal handling plant, as the case may be, and up to the Loading Point:

Provided that one or more components of additional charges may be applicable on case-to-case basis, based on the scope and nature of the mining activities.

Provided further that the input price of lignite shall be computed based on Run of Mine (ROM) Cost based on the technology such as bucket excavator-conveyor belt-spreader or its combination and handling charges, if any.

Statutory Charges, as applicable, shall be allowed.



**Fuel Cost and Energy Charges in working capital**

52. The Petitioner has claimed following cost for fuel components:

- a) Lignite and Secondary fuel rates for October 2018, November 2018 and December 2018 were adopted in the computation of interest on working capital and energy charges in respect of the generating station for the period 1.4.2019 to 31.3.2024.
- b) The price of fuel as computed by the Petitioner is shown as under:

|  |         |
|--|---------|
| Base price of lignite (Rs/MT)  | 2085.00 |
| Royalty @ 6%   | 125.00  |
| DMF 30%  | 37.50   |
| NMET @2%   | 2.50    |
| GST @ 18%  | 29.70   |
| Average price of Lignite (October, 2018 to December, 2018) per tonne (Rs/MT) | 2279.70 |

(Rs. in lakh)

| Stage-I  | 2019-20  | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
|--|----------|----------|----------|----------|----------|
| Cost of Lignite towards Stock (10 days stock corresponding to NAPAF)           | 3,213.89 | 3,213.89 | 3,213.89 | 3,213.89 | 3,213.89 |
| Cost of Lignite towards Generation (30 days generation corresponding to NAPAF) | 9,641.67 | 9,641.67 | 9,641.67 | 9,641.67 | 9,641.67 |
| Cost of Secondary Fuel Oil (2 months generation corresponding to NAPAF)        | 349.79   | 348.83   | 348.83   | 348.83   | 349.79   |

(Rs. in lakh)

| Stage-II   | 2019-20   | 2020-21   | 2021-22   | 2022-23   | 2023-24   |
|--|-----------|-----------|-----------|-----------|-----------|
| Cost of Lignite towards Stock (10 days stock corresponding to NAPAF)           | 4,285.19  | 4,285.19  | 4,285.19  | 4,285.19  | 4,285.19  |
| Cost of Lignite towards Generation (30 days generation corresponding to NAPAF) | 12,855.56 | 12,855.56 | 12,855.56 | 12,855.56 | 12,855.56 |
| Cost of Secondary Fuel Oil (2 months generation corresponding to NAPAF)        | 466.38    | 465.11    | 465.11    | 465.11    | 466.38    |

**Lignite Transfer Price and Energy Charges**

53. The Petitioner has submitted that it has filed Petition No: 452/MP/2019 for truing-up of lignite transfer price of NLC mines for the period 2014-19. It is noticed that the Commission vide its order dated 24.3.2022 (read with corrigendum order dated



26.4.2022) in Petition No 452/MP/2019 had determined the pooled lignite transfer price, after truing up, as under:

|  | <b>2014-15</b> | <b>2015-16</b> | <b>2016-17</b> | <b>2017-18</b> | <b>2018-19</b> |
|--|----------------|----------------|----------------|----------------|----------------|
| Pooled price of Lignite after truing up (Rs. /Tonne) | 1547.00        | 1689.00        | 1891.00        | 1983.00        | 2021.00        |

54. The base lignite price, as determined above, does not include Royalty charges, DMF, NMET and GST. Hence, to work out the landed price of fuel, we have considered the Royalty charges at 6%, DMF @ 30%, NMET @ 2% and GST @ 18%, in line with the Petitioner's claim.

55. Keeping in view the above aspects, the lignite transfer price is computed, considering the base lignite price, as on 2018-19, as under:

|   | <b>Particulars</b>                     | <b>2018-19</b> |
|---|--|----------------|
| A | Base Price Excl. Royalty Rs/T          | 2021.00        |
| B | Royalty @ 6% on (A)                    | 121.00         |
| C | DMF @ 30% on (B)                       | 36.30          |
| D | NMET @ 2% on (B)                       | 2.42           |
| E | Total Royalty (B+C+D)                  | 159.72         |
| F | GST on Royalty on (E)                  | 28.75          |
| G | <b>Transfer Price (A+E+F) (Rs. /T)</b> | <b>2209.47</b> |

56. Also, the Petitioner has submitted two types of secondary fuel oil i.e HFO and LDO. However, in terms of Regulation 34(1)(a)(iii) of the 2019 Tariff Regulations, the working capital shall cover the cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil. Therefore, in terms of the said regulation, we have considered the main secondary fuel oil as HFO. Further, the Petitioner has claimed the landed cost, including the cost of opening stock, which is not in terms of the 2019 Tariff Regulations and therefore, the opening stock and price, has not been considered. Also, the Petitioner has not provided the details of Form-15 for Lignite. Accordingly, the price and GCV of lignite for the years 2019-20 to 2023-24 and the secondary oil as considered by the Petitioner and allowed



for computation of lignite cost, secondary oil and 2-month energy charges in working capital is as under:

| <i>(Rs. in lakh)</i>                 |                |                |                |                |                |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-I</b>                       | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Price of Lignite (Rs. / Tonne)       | 2,209.47       | 2,209.47       | 2,209.47       | 2,209.47       | 2,209.47       |
| GCV of Lignite (kCal/kg)             | 2,625.33       | 2,625.33       | 2,625.33       | 2,625.33       | 2,625.33       |
| Price of Secondary fuel oil (Rs./kL) | 44,860.22      | 44,860.22      | 44,860.22      | 44,860.22      | 44,860.22      |
| GCV of secondary fuel oil (kCal/kg)  | 10,162.95      | 10,162.95      | 10,162.95      | 10,162.95      | 10,162.95      |

| <i>(Rs. in lakh)</i>                 |                |                |                |                |                |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-II</b>                      | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Price of Lignite (Rs. / Tonne)       | 2,209.47       | 2,209.47       | 2,209.47       | 2,209.47       | 2,209.47       |
| GCV of Lignite (kCal/kg)             | 2,625.33       | 2,625.33       | 2,625.33       | 2,625.33       | 2,625.33       |
| Price of Secondary fuel oil (Rs./kL) | 44,860.22      | 44,860.22      | 44,860.22      | 44,860.22      | 44,860.22      |
| GCV of secondary fuel oil (kCal/kg)  | 10,162.95      | 10,162.95      | 10,162.95      | 10,162.95      | 10,162.95      |

57. Accordingly, the weighted average GCV and cost for fuel components as claimed, the working capital and two months energy charges are worked out as under:

| <i>(Rs. in lakh)</i>   |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-I</b>   | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Cost of Lignite for 40 days (including stock and generation) | 12459.55       | 12459.55       | 12459.55       | 12459.55       | 12459.55       |
| Cost of secondary fuel oil for 2 months                      | 351.69         | 350.73         | 350.73         | 350.73         | 351.69         |
| Energy Charge for 45 days                                    | 14277.48       | 14277.48       | 14277.48       | 14277.48       | 14277.48       |

| <i>(Rs. in lakh)</i>   |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|
| <b>Stage-II</b>  | <b>2019-20</b> | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Cost of Lignite for 40 days (including stock and generation) | 16612.73       | 16612.73       | 16612.73       | 16612.73       | 16612.73       |
| Cost of secondary fuel oil for 2 months                      | 468.92         | 467.64         | 467.64         | 467.64         | 468.92         |
| Energy Charge for 45 days                                    | 19036.64       | 19036.64       | 19036.64       | 19036.64       | 19036.64       |

58. The Petitioner, on a month to month basis, shall compute and claim the energy charges from the beneficiaries based on formulae given under Regulation 43 of the 2019 Tariff Regulations.



### **Working Capital for Maintenance Spares**

59. The Petitioner in Form-O has claimed the maintenance spares in the working capital as under:

|          | <i>(Rs. in lakh)</i> |                |                |                |                |
|----------|----------------------|----------------|----------------|----------------|----------------|
|          | <b>2019-20</b>       | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I  | 4,316.17             | 4,480.01       | 4,650.19       | 4,830.96       | 5,018.98       |
| Stage-II | 5,754.89             | 5,973.34       | 6,200.26       | 6,441.27       | 6,691.97       |

60. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for maintenance spares @ 20% of O&M expenses (including water charges and security expenses). Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and security expenses) allowed for the period 2019-24 is as under:

|          | <i>(Rs. in lakh)</i> |                |                |                |                |
|----------|----------------------|----------------|----------------|----------------|----------------|
|          | <b>2019-20</b>       | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I  | 4304.59              | 4467.04        | 4635.68        | 4814.69        | 5000.75        |
| Stage-II | 5739.46              | 5956.06        | 6180.90        | 6419.59        | 6667.67        |

### **Working Capital for Receivables**

61. In terms of Regulation 34(1)(a)(v) of the 2019 Tariff Regulations, the receivables equivalent to 45 days of capacity charges and energy charges is worked out and allowed as under:

|                                | <i>(Rs. in lakh)</i> |                 |                 |                 |                 |
|--------------------------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Stage-I</b>                 | <b>2019-20</b>       | <b>2020-21</b>  | <b>2021-22</b>  | <b>2022-23</b>  | <b>2023-24</b>  |
| Variable Charges - for 45 days | 14277.48             | 14277.48        | 14277.48        | 14277.48        | 14277.48        |
| Fixed Charges - for 45 days    | 3272.33              | 3349.73         | 3423.73         | 3538.86         | 3648.40         |
| <b>Total</b>                   | <b>17549.81</b>      | <b>17627.21</b> | <b>17701.21</b> | <b>17816.34</b> | <b>17925.88</b> |

|                                | <i>(Rs. in lakh)</i> |                 |                 |                 |                 |
|--------------------------------|----------------------|-----------------|-----------------|-----------------|-----------------|
| <b>Stage-II</b>                | <b>2019-20</b>       | <b>2020-21</b>  | <b>2021-22</b>  | <b>2022-23</b>  | <b>2023-24</b>  |
| Variable Charges - for 45 days | 19036.64             | 19036.64        | 19036.64        | 19036.64        | 19036.64        |
| Fixed Charges - for 45 days    | 4533.08              | 4633.54         | 4732.06         | 4885.56         | 5031.15         |
| <b>Total</b>                   | <b>23569.72</b>      | <b>23670.18</b> | <b>23768.69</b> | <b>23922.20</b> | <b>24067.79</b> |

62. As per Regulation 34(2) of the 2019 Tariff Regulations, the cost of fuel (Lignite in this case) shall be based on landed fuel cost (taking into account the normative transit and handling losses in terms of Regulation 39 of the 2019 Tariff Regulations) by the generating station and GCV of fuel, as per the actual weighted average for the third





quarter of preceding financial year. Hence, the Petitioner shall, at the time of truing up, furnish the details of quantity of lignite as per Regulation 34(2) of 2019 Tariff Regulations. The Petitioner shall not alter or modify the column/lines provided in the forms/annexures and shall submit details strictly in accordance with the said forms/annexures in terms of the 2019 Tariff Regulations.

63. The Petitioner is directed to calculate the input price of lignite as per Regulation 36 of the 2019 Tariff Regulations.

**Working Capital for O&M Expenses for 1 month**

64. The Petitioner in Form-O has claimed the O&M expenses for 1 month in the working capital as under:

|          | <i>(Rs. in lakh)</i> |                |                |                |                |
|----------|----------------------|----------------|----------------|----------------|----------------|
|          | <b>2019-20</b>       | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I  | 1,798.40             | 1,866.67       | 1,937.58       | 2,012.90       | 2,091.24       |
| Stage-II | 2,397.87             | 2,488.89       | 2,583.44       | 2,683.86       | 2,788.32       |

65. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provide for O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses). Accordingly, O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses) allowed for the 2019-24 tariff period is as under:

|          | <i>(Rs. in lakh)</i> |                |                |                |                |
|----------|----------------------|----------------|----------------|----------------|----------------|
|          | <b>2019-20</b>       | <b>2020-21</b> | <b>2021-22</b> | <b>2022-23</b> | <b>2023-24</b> |
| Stage-I  | 1793.58              | 1861.27        | 1931.53        | 2006.12        | 2083.65        |
| Stage-II | 2391.44              | 2481.69        | 2575.38        | 2674.83        | 2778.20        |

66. In line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 01.04.2019 + 350 bps) for the year 2019-20, 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 01.04.2020 + 350 bps) for the year 2020-21 ,10.50% (i.e. 1 year SBI MCLR of 7.00% as on 01.04.2021 + 350 bps) and 10.50% (i.e. 1 year SBI MCLR of 7.00% as on



01.04.2022 + 350 bps) for the period 2022-24. Accordingly, Interest on working capital has been computed as under:

| (Rs. in lakh)   |                 |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Stage-I   | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
| Cost of Lignite towards Stock - (10 days stock corresponding to NAPAF)      | 3114.89         | 3114.89         | 3114.89         | 3114.89         | 3114.89         |
| Cost of Lignite towards Generation - (30 days stock corresponding to NAPAF) | 9344.66         | 9344.66         | 9344.66         | 9344.66         | 9344.66         |
| Cost of Secondary fuel oil - (2 months stock corresponding to NAPAF)        | 351.69          | 350.73          | 350.73          | 350.73          | 351.69          |
| Maintenance Spares @ 20% of O&M expenses                                    | 4304.59         | 4467.04         | 4635.68         | 4814.69         | 5000.75         |
| Receivables - 45 days   | 17549.81        | 17627.21        | 17701.21        | 17816.34        | 17925.88        |
| O&M expenses - 1 month  | 1793.58         | 1861.27         | 1931.53         | 2006.12         | 2083.65         |
| <b>Total Working Capital</b>  | <b>36459.23</b> | <b>36765.80</b> | <b>37078.70</b> | <b>37447.44</b> | <b>37821.52</b> |
| Rate of Interest  | 12.0500%        | 11.2500%        | 10.5000%        | 10.5000%        | 10.5000%        |
| <b>Interest on Working Capital</b>  | <b>4393.34</b>  | <b>4136.15</b>  | <b>3893.26</b>  | <b>3931.98</b>  | <b>3971.26</b>  |

| (Rs. in lakh)   |                 |                 |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Stage-II  | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
| Cost of Lignite towards Stock - (10 days stock corresponding to NAPAF)      | 4153.18         | 4153.18         | 4153.18         | 4153.18         | 4153.18         |
| Cost of Lignite towards Generation - (30 days stock corresponding to NAPAF) | 12459.55        | 12459.55        | 12459.55        | 12459.55        | 12459.55        |
| Cost of Secondary fuel oil - (2 months stock corresponding to NAPAF)        | 468.92          | 467.64          | 467.64          | 467.64          | 468.92          |
| Maintenance Spares @ 20% of O&M expenses                                    | 5739.46         | 5956.06         | 6180.90         | 6419.59         | 6667.67         |
| Receivables - 45 days   | 23569.72        | 23670.18        | 23768.69        | 23922.20        | 24067.79        |
| O&M expenses - 1 month  | 2391.44         | 2481.69         | 2575.38         | 2674.83         | 2778.20         |
| <b>Total Working Capital</b>  | <b>48782.27</b> | <b>49188.30</b> | <b>49605.34</b> | <b>50096.99</b> | <b>50595.30</b> |
| Rate of Interest  | 12.0500%        | 11.2500%        | 10.5000%        | 10.5000%        | 10.5000%        |
| <b>Interest on Working Capital</b>  | <b>5878.26</b>  | <b>5533.68</b>  | <b>5208.56</b>  | <b>5260.18</b>  | <b>5312.51</b>  |

### **Special Allowance**

67. Regulation 28 of the 2019 Tariff Regulation for special allowances provides as under:

***“28. Special Allowance for Coal-based/Lignite fired Thermal Generating station***

*(1) In case of coal-based/lignite fired thermal generating stations, the generating company, instead of availing renovation and modernization (R&M) may opt to avail a ‘special allowance’ in accordance with the norms specified in this Regulation, as compensation for meeting the requirement of expenses including renovation and modernisation beyond the useful life of the generating station or a unit thereof and in such an event, upward revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the Special Allowance shall be included in the annual fixed cost:*



Provided that such option shall not be available for a generating station or unit thereof for which renovation and modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these regulations, or for a generating station or unit which is in a depleted condition or operating under relaxed operational and performance norms;

Provided further that special allowance shall also be available for a generating station which has availed the Special Allowance during the tariff period 2009-14 or 2014-19 as applicable from the date of completion of the useful life.

(2) The Special Allowance admissible to a generating station shall be @ Rs 9.5 lakh per MW per year for the tariff period 2019-24.

(3) In the event of a generating station availing Special Allowance, the expenditure incurred upon or utilized from Special Allowance shall be maintained separately by the generating station and details of same shall be made available to the Commission as and when directed.

(4) The Special Allowance allowed under this Regulation shall be transferred to a separate fund for utilization towards Renovation & Modernisation activities, for which detailed methodology shall be issued separately.

68. The Petitioner has claimed Special Allowance for Stage-I and Stage-II of the generating station as under:

|          | (Rs. in lakh) |          |          |          |          |
|----------|---------------|----------|----------|----------|----------|
|          | 2019-20       | 2020-21  | 2021-22  | 2022-23  | 2023-24  |
| Stage-I  | 5,985.00      | 5,985.00 | 5,985.00 | 5,985.00 | 5,985.00 |
| Stage-II | 7,980.00      | 7,980.00 | 7,980.00 | 7,980.00 | 7,980.00 |

69. Accordingly, in terms of the aforesaid regulations, Special allowance @Rs. 9.5 lakh per MW per year is allowed to the generating station as shown under:

|  | 2019-20         | 2020-21         | 2021-22         | 2022-23         | 2023-24         |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>Stage I</b>                             | 630.00          | 630.00          | 630.00          | 630.00          | 630.00          |
| Special Allowance @ Rs. 9.5 Lakh/ MW/ Year | <b>5,985.00</b> | <b>5,985.00</b> | <b>5,985.00</b> | <b>5,985.00</b> | <b>5,985.00</b> |
| <b>Stage-II</b>                            | 840.00          | 840.00          | 840.00          | 840.00          | 840.00          |
| Special Allowance @ Rs. 9.5 Lakh/ MW/ Year | <b>7,980.00</b> | <b>7,980.00</b> | <b>7,980.00</b> | <b>7,980.00</b> | <b>7,980.00</b> |

### **Annual Fixed Charges**

70. Accordingly, the annual fixed charges approved for the period 2019-24 for Stage-I and Stage-II of the generating station is summarized as under:

|                             | (Rs. in lakh) |         |         |         |         |
|-----------------------------|---------------|---------|---------|---------|---------|
| <b>Stage-I</b>              | 2019-20       | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Depreciation                | 0.00          | 0.00    | 0.00    | 0.00    | 0.00    |
| Interest on Loan            | 0.00          | 0.00    | 0.00    | 0.00    | 0.00    |
| Return on Equity            | 698.65        | 698.65  | 698.65  | 698.65  | 698.65  |
| Interest on Working Capital | 4393.34       | 4136.15 | 3893.26 | 3931.98 | 3971.26 |



| <b>Stage-I</b>                            | <b>2019-20</b>   | <b>2020-21</b>   | <b>2021-22</b>   | <b>2022-23</b>   | <b>2023-24</b>   |
|---|------------------|------------------|------------------|------------------|------------------|
| O&M Expenses                              | 21522.97         | 22335.22         | 23178.38         | 24073.47         | 25003.76         |
| <b>Total annual fixed charges</b>         | <b>26614.96</b>  | <b>27170.03</b>  | <b>27770.29</b>  | <b>28704.11</b>  | <b>29673.67</b>  |
| Special Allowance                         | 5,985.00         | 5,985.00         | 5,985.00         | 5,985.00         | 5,985.00         |
| <b>Total annual fixed charges allowed</b> | <b>32,599.96</b> | <b>33,155.03</b> | <b>33,755.29</b> | <b>34,689.11</b> | <b>35,658.67</b> |

| <i>(Rs. in lakh)</i>                      |                  |                  |                  |                  |                  |
|---|------------------|------------------|------------------|------------------|------------------|
| <b>Stage-II</b>                           | <b>2019-20</b>   | <b>2020-21</b>   | <b>2021-22</b>   | <b>2022-23</b>   | <b>2023-24</b>   |
| Depreciation                              | 22.27            | 0.00             | 0.00             | 0.00             | 0.00             |
| Interest on Loan                          | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Return on Equity                          | 2271.25          | 2269.16          | 2269.16          | 2269.16          | 2269.16          |
| Interest on Working Capital               | 5878.26          | 5533.68          | 5208.56          | 5260.18          | 5312.51          |
| O&M Expenses                              | 28697.29         | 29780.30         | 30904.50         | 32097.96         | 33338.34         |
| <b>Total annual fixed charges</b>         | <b>36869.08</b>  | <b>37583.14</b>  | <b>38382.22</b>  | <b>39627.31</b>  | <b>40920.01</b>  |
| Special Allowance                         | 7,980.00         | 7,980.00         | 7,980.00         | 7,980.00         | 7,980.00         |
| <b>Total annual fixed charges allowed</b> | <b>44,849.08</b> | <b>45,563.14</b> | <b>46,362.22</b> | <b>47,607.31</b> | <b>48,900.01</b> |

*Note: All figures are on annualized basis. All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.*

71. The annual fixed charges approved as above is subject to truing up in terms of Regulation 13 of the 2019 Tariff Regulations.

### **Application Fee and Publication expenses**

72. The Petitioner has sought reimbursement of fee paid by it for filing the petition for the period 2019-24 and for 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.

73. Similarly, RLDC Fees & Charges paid by the Petitioner in terms of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Dispatch Centre and other related matters) Regulations, 2019, shall be recovered from the beneficiaries. In addition, the Petitioner is entitled for recovery of statutory taxes, levies, duties, cess etc. levied by the statutory authorities in accordance with the 2019 Tariff Regulations.



74. Petition No. 385/GT/2020 is disposed of in terms of the above.

**Sd/-**  
**(Pravas Kumar Singh)**  
**Member**

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

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

