

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 487/GT/2020

Coram:

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

Date of Order: 31st March, 2023

In the matter of:

Petition for approval of tariff of Faridabad Gas Based Power Station (431.59 MW), for the period 2019-24.

And

In the matter of:

NTPC Limited,
Corporate Office: NTPC Bhawan,
Core-7, Scope Complex 7, Institutional Area,
Lodhi Road, New Delhi-110 003.

...Petitioner

Vs

Haryana Power Purchase Centre.
Shakti Bhawan, Sector -6
Panchkula -134109, Haryana.

...Respondent

Parties Present:

Shri Anand K. Ganesan, Advocate, NTPC
Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Deepak Thakur, Advocate, NTPC
Shri Samir Malik, Advocate, HPPC
Ms. Nikita Choukse, Advocate, HPPC

ORDER

The petition has been filed by the Petitioner, NTPC Limited, for approval of tariff of Faridabad Gas based Power Station (431.59 MW) (in short 'the generating station') for



the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations'). The generating station with a capacity of 431.586 MW comprises of two Gas Turbine Units of 140.827 MW each, and one Steam Turbine Unit of 149.932 MW. The dates of commercial operation of the units of the generating station are as under:

| | Capacity (MW) | Actual COD |
|--------------------------------|----------------------|-------------------|
| GT Unit-I | 140.827 | 1.9.1999 |
| GT Unit-II | 140.827 | 1.1.2000 |
| ST Unit-III/Generating Station | 149.932 | 1.1.2001 |

2. The Commission vide its order dated 7.12.2022 in Petition No. 299/GT/2020 had approved the tariff of the generating station for the period 2014-19, after truing-up exercise, based on the actual additional capital expenditure incurred for the period 2014-19. Accordingly, the capital cost and the annual fixed charges approved by order dated 7.12.2022 are as under:

Capital Cost allowed

(Rs. in lakh)

| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|---|----------------|----------------|----------------|----------------|----------------|
| Opening Capital Cost | 97804.38 | 100857.95 | 100891.16 | 100867.07 | 100517.99 |
| Add: Additional Capital Expenditure allowed | 3053.57 | 33.21 | (-)24.10 | (-)349.08 | (-)158.00 |
| Closing Capital Cost | 100857.95 | 100891.16 | 100867.07 | 100517.99 | 100359.99 |
| Average Capital Cost | 99331.17 | 100874.56 | 100879.11 | 100692.53 | 100438.99 |

Annual Fixed Charges allowed

(Rs. in lakh)

| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 |
|-----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation | 2412.99 | 2417.41 | 2419.35 | 2400.78 | 2407.06 |
| Interest on Loan | 631.15 | 503.48 | 273.55 | 78.91 | 0.00 |
| Return on Equity | 9296.96 | 9431.25 | 9430.51 | 9411.08 | 9408.94 |
| Interest on Working Capital | 3797.13 | 3802.91 | 3820.41 | 3847.31 | 3881.96 |
| O & M Expenses | 6872.28 | 6872.80 | 7244.74 | 7669.34 | 8148.20 |
| Total | 23010.50 | 23027.85 | 23188.56 | 23407.41 | 23846.16 |



Present Petition

3. The Petitioner has filed the present petition for determination of tariff for the generating station for the period 2019-24, in terms of the 2019 Tariff Regulations. Accordingly, the annual fixed charges and the capital cost claimed by the Petitioner are as follows:

Capital Cost claimed

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| Opening Capital Cost | 100754.06 | 100794.06 | 103899.06 | 103899.06 | 103899.06 |
| Add: Addition during the year/period | 40.00 | 3105.00 | 0.00 | 0.00 | 0.00 |
| Closing Capital Cost | 100794.06 | 103899.06 | 103899.06 | 103899.06 | 103899.06 |
| Average Capital Cost | 100774.06 | 102346.56 | 103899.06 | 103899.06 | 103899.06 |

Annual Fixed Charges claimed

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation | 2441.75 | 2725.37 | 3075.56 | 3075.56 | 3075.56 |
| Interest on Loan | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity | 8987.18 | 9075.19 | 9162.08 | 9162.08 | 9162.08 |
| Interest on Working Capital | 3824.21 | 3849.87 | 3876.14 | 3896.44 | 3916.56 |
| O&M Expenses | 8865.74 | 9173.29 | 9490.86 | 9818.51 | 10160.61 |
| Annual Fixed Charges | 24118.89 | 24823.72 | 25604.64 | 25952.59 | 26314.81 |

4. The Respondent, Haryana Power Purchase Centre (HPPC) has filed its reply vide affidavit dated 17.2.2022 and the Petitioner vide affidavit dated 18.8.2022, has filed its rejoinder to the said reply. The Petitioner has also filed certain additional information vide affidavit dated 30.6.2021. The Commission, after hearing the parties, on 23.8.2022, reserved its order in the matter. Taking into consideration, the submissions of the parties and the documents available on record, we now proceed to examine the claims of the Petitioner in this Petition, as stated in the subsequent paragraphs.

Capital Cost

5. Clause (1), (3) and (5) of Regulation 19 (3) 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.*
- (5) The following shall be excluded from the capital cost of the existing and new projects:*
- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;*
 - (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:
Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be decapitalised only after its redeployment;
Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.*
 - (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;*
 - (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and*
 - (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”*

6. The Petitioner has claimed capital cost of Rs. 100754.06 lakh, as on 1.4.2019. However, the closing capital cost of Rs. 100359.99 lakh, as on 31.3.2019, as approved by order dated 7.12.2022 in Petition No. 299/GT/2020, has been considered as the opening capital cost, as on 1.4.2019, for the period 2019-24, in accordance with the above regulations.



Additional Capital Expenditure

7. Regulation 25(2) and Regulation 26(1) of the 2019 Tariff Regulations provides as under:

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

(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”*

8. The Petitioner, in Form-9 of the petition, has claimed the year-wise projected additional capital expenditure, for the period 2019-24, as summarized below:



(Rs. in lakh)

| Sr. No | Head of Work/ Equipment | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|----------|---|--------------|----------------|---------|---------|---------|
| A | Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate | | | | | |
| 1 | Installation of 'Sewage Treatment Plant' (STP) | 40.00 | - | - | - | - |
| 2 | Installation of Chlorine Di-oxide System | - | 1050.00 | - | - | - |
| 3 | R&M of C&I equipment's | - | 2000.00 | - | - | - |
| | Sub-total-A | 40.00 | 3050.00 | - | - | - |
| B | Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Weighted Average Rate of Interest | | | | | |
| 1 | Aragonite based Fire Fighting System in PCC- 1 & 2 | - | 55.00 | - | - | - |
| | Sub-total-B | - | 55.00 | - | - | - |
| C | Total Additional Capital Expenditure claimed | 40.00 | 3105.00 | - | - | - |

Additional Capital Expenditure claimed under Regulation 25(2)(c) of the 2019 Tariff Regulations

9. The Petitioner has claimed additional capital expenditure of Rs. 2000.00 lakh in 2020-21, towards R&M of C&I equipment under this head. In justification of the same, the Petitioner has submitted that the Digital Control System in Faridabad is SIEMENS make SPPA T2000. It has also submitted that SIEMENS had informed that this system is out of production, and since September, 2014 it has stopped the spares support. Accordingly, the Petitioner has submitted that it has become necessary to replace the existing system with the latest system, due to obsolescence of technology of the existing system. The Petitioner has added that the actual decapitalization shall be provided at the time of truing up of tariff.

10. The Respondent has submitted that the Petitioner has claimed the additional capital expenditure, on the basis of a communication dated 19.2.2015 of M/s SIEMENS, which is about seven years old. It has also submitted that the generating station is working well for the past seven years without any upgradation, and hence, there is no cause for the modernisation of the C&I equipment. In response, the Petitioner has stated that the Commission vide its order dated 15.2.2016 in Petition No. 459/GT/2014,



had permitted the additional capitalisation of this expenditure and hence the contention of Respondent may be rejected.

11. The matter has been considered. We notice that the additional capital expenditure claimed by the Petitioner is for replacement of the asset/equipment, on account of obsolescence of technology. In view of this, the additional capital expenditure claimed by the Petitioner **is allowed** under Regulation 25(2)(c) of the 2019 Tariff Regulations. However, it is noticed that the Petitioner has not furnished the actual decapitalisation value and the details of the liability discharged, corresponding to the claim. Therefore, the Petitioner is directed to submit the actual decapitalisation value of the replaced asset along with the liability discharge statement duly certified by the Auditor, at the time of truing up exercise.

Additional Capital Expenditure claimed under Regulation 26(1)(b) of the 2019 Tariff Regulations

12. The Petitioner has claimed additional capital expenditure of Rs. 40.00 lakh towards installation of Sewage Treatment Plant (STP) in 2019-20 under this head. In justification of the same, the Petitioner has submitted that the National Green Tribunal (NGT) vide its order dated 13.1.2015, had directed the State of Haryana, to ensure that there should preferably be no discharge units, located at or near the banks of the river Yamuna. The Petitioner has also stated that the additional capitalization is for the balance work of the STP scheme, claimed in 2018-19.

13. The Respondent has submitted that the NGT order dated 13.2.2015, is advisory in nature and therefore, the Petitioner cannot claim any relief under change in law. It has also pointed out that while the NGT order speaks about the Effluent Treatment Plant (ETP), the Petitioner has proposed STP. The Respondent has stated that ETP cleanses



pharma waste, chemicals, etc., and is used in industrial area, whereas STP cleanses household water and therefore, there is a material difference between these two waste water plants. The Respondent has further submitted that as per clause 6.2(5) of the National Tariff Policy 2016,(Tariff structuring and associated issues), only thermal plants have been mandated to put up STP, to use wastewater, and not the gas based power plants and hence, the proposal of the Petitioner, to install STP, cannot be considered to have been undertaken, in terms of the directions under the statute or by any Government instrumentality. The Respondent has added that this generating station has not been generating to its optimum capacity, and therefore, any infrastructure added to the existing set-up, will be least used, and therefore, the Petitioner should refrain from incurring any additional capitalisation, on this plant.

14. In response to the above, the Petitioner has clarified that the additional capital expenditure for STP had been allowed by Commission's order dated 19.7.2019 in Petition No. 314/GT/2018, wherein, the order of NGT requiring the installation of STP was treated as a 'change in law' event during the period 2014-19. It has further submitted that the order of the NGT cannot be termed as advisory, since, it directs all industries/industrial clusters located near the banks of river Yamuna, to not discharge any effluents into the river. The Petitioner has also pointed out that since the definition of 'Thermal Power Plant' under Regulation 3(65) of the 2019 Tariff Regulations, considers the Gas power plants, as 'Thermal Power Plants', the Respondents contention with regard to clause 6.2(5) of the National Tariff Policy, is not acceptable. The Petitioner has also stated that the National Tariff Policy, 2016 does not require the Petitioner to set-up STP, but only to use the treated water from STP's set-up by municipalities/local bodies within 50 km radius.



15. The matter has been considered. It is observed that, the Petitioner's claim towards the STP is in compliance to the directions of NGT order dated 13.5.2015. Also, Regulation 26(1)(f) read with Regulation 3(65) of the 2019 Tariff Regulations provides for the allowance of additional capital expenditure, for use of water from STP in 'Thermal Generating Stations'. Accordingly, the claim of the Petitioner **is allowed** under this head.

Additional Capital Expenditure claimed under Regulation 26(1)(d) of the 2019 Tariff Regulations

16. The Petitioner has claimed additional capital expenditure of Rs. 55.00 lakh in 2020-21, for Aragonite based Fire Fighting System, in Power Control Centres (PCC) - 1 & 2. In justification of the same, the Petitioner has submitted that CO₂ based firefighting system was provided in PCC- I & II and since PCC being in a confined space, presents serious health hazard and high risk of suffocation, to anyone in the vicinity. Keeping this in view, the CO₂ based firefighting system is being replaced with Aragonite based firefighting system.

17. The Respondent has submitted that the claim of the Petitioner may be rejected in terms of the findings in order dated 31.5.2016 in Petition No. 286/GT/2014, wherein, the expenditure claimed for Inert Gas Fire Extinguishing system, was rejected, since it did not in any way, contribute to the efficient operation of the generating station. It has stated that the additional capital expenditure claimed by the Petitioner may be considered only after due prudence check as per its order dated 31.5.2016.

18. The matter has been considered. It is observed that the Petitioner has not furnished any documentary evidence in support of or to substantiate the necessity of the said works under Regulation 26(1)(d) of the 2019 Tariff Regulations. In view of this,



the additional capital expenditure claimed by the Petitioner for the said item/asset is **not allowed**. The Petitioner is, however, granted liberty to claim additional capital expenditure for the said asset/item, at the time of truing-up of tariff, subject to adequate justification and production of relevant documentary evidence.

Additional Capital Expenditure claimed under Regulation 26(1) (b) and (d) of the 2019 Tariff Regulations

19. The Petitioner has claimed additional capital expenditure of Rs. 1050.00 lakh in 2020-21 towards 'Installation of Chlorine Di-Oxide System' (ClO₂). In justification of the same, the Petitioner has submitted that the ClO₂ Plant is being installed to enable a much safer way of producing ClO₂ on site, by use of commercial grade HCl and sodium chlorite, instead of present practice of Chlorine gas, being dozed directly. It has stated that Chlorine gas is very hazardous and may prove fatal in case of leakage and handling & storage of same involves risk to the life of public at large and in the interest of public safety, the chlorine dozing system is now being replaced by ClO₂ system, which is much safer and less hazardous than chlorine. The Petitioner has further submitted that at Kudgi project of the Petitioner, the Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka, has directed the Petitioner to consider the replacement of highly hazardous gas chlorination system with ClO₂ system. It has stated that the State Pollution Control Board, Odisha while issuing consent to establish in case of Darlipalli Station has asked the Petitioner to explore the possibility of installing ClO₂ system, instead of Chlorine gas system. In view of the directions of various statutory authorities in different states of the country and for enhancing the safety of O&M personnel's, the Petitioner has considered the replacement of the chlorination system with ClO₂ system.

20. The Respondent has submitted that the additional capital expenditure claimed may not be allowed, as the same is not necessary, as the plant is not scheduled to



normative PLF and the same will also not increase the efficiency of the plant. It has also stated that the proposal of the Petitioner, is not on account of any 'change in law' event. The Respondent has stated that though the Petitioner has been directed by the Government of Karnataka and the Government of Orissa to explore the possibility of enhancing the safety of O&M personnel in respect of their plants situated in those States, there is no such direction from the Government of Haryana. Accordingly, the Respondent has submitted that there are no grounds for the Petitioner, to claim additional capitalisation of the said asset, under 'change in law'.

21. In response, the Petitioner has submitted that the Commission in its order dated 25.10.2021 in Petition No. 410/GT/2020 had permitted the additional expenditure on this count, under the 2019 Tariff Regulations. It has further submitted that the "Draft Safety, Health and Working Conditions Code 2018" was put up by Ministry of Labour and Employment, GOI in March, 2018 inviting comments/suggestions of various stakeholders, wherein, the responsibilities of various faculties of industries/factories were mentioned including the employer. The Petitioner has also stated that as a responsible employer, it took cognizance of the requirement of ClO₂ system for safe handling of Chlorine gas. It has also submitted that "The Occupational Safety, Health and Working Conditions Code, 2020" was notified by Ministry of Law & Justice, Gol vide notification dated 29.9.2020 and the installation of the said system was in line with the duties necessitated by clause 6(1)(a) and clause 6(1)(d) of the said Code.

22. The submissions have been considered. The Petitioner has claimed projected additional capital expenditure of Rs.1050.00 lakh in 2020-21, towards ClO₂ system under Regulation 26(1)(b) and under Regulation 26(1)(d) of the 2019 Tariff Regulations. Though the Petitioner has contended that the Chlorine dosing system is to be replaced



by the ClO₂ system, in the interest of public safety, it has not demonstrated that the projected additional capital expenditure is on account of 'change in law' or for compliance with the existing law. Similarly, the Petitioner has also not enclosed any documentary evidence indicating that the projected additional capital expenditure for the generating station is required for safety and security of the plant, based on the advice and or directions of the appropriate Governmental agency or statutory authorities. In view of this, the projected additional capital expenditure claimed by the Petitioner is **not allowed**.

Assumed Deletion

23. As per the consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is allowed for the purpose of tariff provided that the capitalisation of the said asset, is followed by the de-capitalisation of the gross value of the old asset. However, in certain cases, where the de-capitalisation is proposed to be affected during the future year of capitalisation of the new asset, the decapitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as 'Assumed Deletion'. Therefore, the methodology of arriving at the fair value of the decapitalised asset, i.e., escalation rate of 5% per annum from the COD gas been considered in order to arrive at the gross value of the old asset under consideration as on COD as 100% and escalated it @5% per annum, till the year, during which additional capital expenditure is claimed against the replacement of the same. The amount claimed for the additional capital expenditure against the asset is multiplied by the derived ration from above values i.e., value in year of COD divided by value in capitalized year.



24. The Petitioner, in this petition, has claimed 'R&M of C&I Equipment' on replacement basis, but has not furnished the de-capitalized value of the old assets. Accordingly, the de-capitalized value of the assets/works has been calculated in terms of the above-mentioned methodology. Accordingly, the 'Assumed Deletions' allowed of the purpose of tariff is as under:

| <i>(Rs. in lakh)</i> | | | |
|----------------------|------------------------|--|------------------|
| Year of Claim | Head | Additional Capital Expenditure allowed | Assumed Deletion |
| 2020-21 | R&M of C&I Equipment's | 2000.00 | 753.78 |

25. Based on the above discussions, the projected additional capital expenditure allowed for the generating station for the period 2019-24, is summarized as under:

Additional Capital Expenditure Eligible for Normal ROE:

| <i>(Rs. in lakh)</i> | | | | | | |
|---|--------------|----------------|----------|----------|----------|----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Total |
| Admitted projected additional capital expenditure (A) | 40.00 | 2000.00 | - | - | - | 2040.00 |
| Less: De-capitalization of assets (B) | - | 753.78 | - | - | - | 753.78 |
| Less: Undischarged Liabilities (C) | - | - | - | - | - | 0.00 |
| Add: Discharges of liabilities (against allowed assets / works) (D) | - | - | - | - | - | 0.00 |
| Net projected additional capital expenditure allowed (on cash basis) (E) = (A-B-C+D) | 40.00 | 1246.22 | - | - | - | 1286.22 |

Capital cost allowed for the period 2019-24

26. Accordingly, the capital cost approved for the generating station is summarised as under:

| <i>(Rs. in lakh)</i> | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Opening Capital Cost (A) | 100359.99 | 100399.99 | 101646.21 | 101646.21 | 101646.21 |
| Add: Admitted Additional capital expenditure (B) | 40.00 | 1246.22 | 0.00 | 0.00 | 0.00 |
| Closing Gross Block (C) = (A+B) | 100399.99 | 101646.21 | 101646.21 | 101646.21 | 101646.21 |



| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------|
| Average Gross Block (D) = (A+C)/2 | 100379.99 | 101023.10 | 101646.21 | 101646.21 | 101646.21 |

Debt-Equity Ratio

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

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

Provided that:

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

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

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

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

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

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

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

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff,



and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

28. The Commission vide order dated 7.12.2022 in Petition No. 299/GT/2020 had considered the gross loan and equity, amounting to Rs. 52785.94 lakh and Rs. 47574.06 lakh, respectively, as on 31.3.2019. Accordingly, the gross loan and equity amounting to Rs. 52785.94 lakh and Rs. 47574.06 lakh, has been considered as opening gross loan and equity as on 1.4.2019. The details of debt-equity ratio considered is shown as under:

(Rs. in lakh)

| | Capital cost upto COD / 1.4.2019 | | Additional capitalization | | De-capitalization | | Capital cost as on 31.3.2024 | |
|--------------|----------------------------------|----------------|---------------------------|----------------|-------------------|----------------|------------------------------|----------------|
| | Amount | (%) | Amount | (%) | Amount | (%) | Amount | (%) |
| Debt | 52785.93 | 52.60% | 1428.00 | 70.00% | 376.89 | 50.00% | 53837.04 | 52.96% |
| Equity | 47574.06 | 47.40% | 612.00 | 30.00% | 376.89 | 50.00% | 47809.17 | 47.04% |
| Total | 100359.99 | 100.00% | 2040.00 | 100.00% | 753.78 | 100.00% | 101646.21 | 100.00% |

Return on Equity

29. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

“30. Return on Equity:

(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope 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:

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;

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;



in case of a thermal generating station, with effect from 1.4.2020:
rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

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

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

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

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

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

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

Illustration-

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

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

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

Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;

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

Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;

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

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



30. The Respondent has submitted that the Petitioner does not have sufficient gas to run the generating station and has a notion that it will run as a base load plant. The Commission may consider reducing the tariff, due to Covid-19 impact on consumers' demand and their paying capacity. The Respondent has referred to the Haryana Electricity Regulatory Commission (HERC) tariff order dated 24.4.2020 in Petition No. 58 of 2019, wherein, no Return on Equity (ROE) was allowed for HPGCL (State generating station). The Respondent has further submitted that the Commission may consider reducing ROE, keeping in view the non-availability of domestic gas to run the plant, as base load plant, and to reduce burden on the consumers of the State.

31. In response, the Petitioner has submitted that the tariff order dated 24.4.2020 of the State Commission is not binding on this Commission. It has stated that any proposals made by the State Commission to reduce the ROE of the State Utilities, cannot be cited as a precedent to reduce the ROE of the Petitioner. It has further stated that ROE is one of the elements of fixed cost which enables recovery of the capital cost invested in the project over the operating life of the plant. The Petitioner has stated that ROE cannot be denied on the basis of Covid-19 or for consumer interest, as this would lead to non-servicing of the capital cost, which is against the provisions of Section 61 of the Electricity Act, 2003. The Petitioner has also stated that it has passed on the relief to all the beneficiaries including the Respondent, in the form of additional rebate on energy bills, as well as deferred payments of capacity charges, as per MoP guidelines, issued from time to time.

32. The matter has been considered. In consideration of the submissions of the Petitioner, the contentions of the Respondent to reduce the ROE of the Petitioner is not



accepted. Accordingly, for grossing up of ROE during the period 2019-24, the Petitioner has applied the MAT rate of 17.472% and the same is allowed. Accordingly, ROE has been worked out and allowed as under:

| | (Rs. in lakh) | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Normative Equity-Opening (A) | 47574.06 | 47586.06 | 47809.17 | 47809.17 | 47809.17 |
| Addition of Equity due to additional capital expenditure (B) | 12.00 | 223.11 | 0.00 | 0.00 | 0.00 |
| Normative Equity-Closing (C) = (A) + (B) | 47586.06 | 47809.17 | 47809.17 | 47809.17 | 47809.17 |
| Average Normative Equity (D) = (A+C)/2 | 47580.06 | 47697.62 | 47809.17 | 47809.17 | 47809.17 |
| Return on Equity (Base Rate) (E) | 15.500% | 15.500% | 15.500% | 15.500% | 15.500% |
| Effective Tax Rate (F) | 17.472% | 17.472% | 17.472% | 17.472% | 17.472% |
| Rate of Return on Equity (Pre Tax) (G) = (E)/(1-F) | 18.782% | 18.782% | 18.782% | 18.782% | 18.782% |
| Return on Equity (Pre Tax) annualised (H) = (D)x(G) | 8936.49 | 8958.57 | 8979.52 | 8979.52 | 8979.52 |

Interest on Loan

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

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

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.

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

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.

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.



The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.”

34. The Petitioner has not claimed any ‘interest on loan’ for the period 2019-24.

Depreciation

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

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

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

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.

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

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

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

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

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

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.

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.

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

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.

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.”

36. Depreciation has been worked out considering the admitted capital cost of Rs. 100379.99 lakh, as on 1.4.2019, and the cumulative depreciation, amounting to Rs. 66229.76 lakh, as on 31.3.2019, as considered in order dated 7.12.2022 in Petition No. 299/GT/2020. Since, as on 1.4.2019, the used life of the generating station is more than 12 years from the effective station COD 28.3.2000, depreciation has been computed by spreading over the balance depreciable value over the balance useful life of the assets. Accordingly, depreciation allowed for the generating station is as follows:

| | <i>(Rs. in lakh)</i> | | | | |
|--|----------------------|----------------|----------------|----------------|----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Average Capital Cost (A) | 100379.99 | 101023.10 | 101646.21 | 101646.21 | 101646.21 |
| Value of freehold land included in average capital cost (B) | 10660.64 | 10660.64 | 10660.64 | 10660.64 | 10660.64 |
| Value of software and IT equipment included in average capital cost (C) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Aggregated Depreciable Value (D)= (A-B-C) *90%+ (C) | 80747.41 | 81326.21 | 81887.01 | 81887.01 | 81887.01 |
| Remaining aggregate depreciable value at the beginning of the year (E) = (D) - (Cumulative Depreciation (shown at K), at the end of the previous year) | 14517.66 | 12672.25 | 11185.70 | 8381.31 | 5576.91 |
| No. of completed years at the beginning of the year (F) | 19.01 | 20.01 | 21.01 | 22.01 | 23.01 |
| Balance useful life at the beginning of the year (G) = 25 - (F) | 5.99 | 4.99 | 3.99 | 2.99 | 1.99 |
| Combined Depreciation during the year/ period (H) = (E) / (G) | 2424.20 | 2540.23 | 2804.40 | 2804.40 | 2804.40 |



| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| Cumulative depreciation at the end of the year (before adjustment for de-capitalisation) (I) = (H) + (Cumulative Depreciation, at the end of the previous year) | 68653.96 | 71194.19 | 73505.71 | 76310.10 | 79114.50 |
| Less: Depreciation adjustment on account of de-capitalisation (J) | 0.00 | 492.88 | 0.00 | 0.00 | 0.00 |
| Cumulative depreciation at the end of the year (K) = (I) - (J) | 68653.96 | 70701.31 | 73505.71 | 76310.10 | 79114.50 |

Operation & Maintenance Expenses

37. Regulation 35(1)(3) of the 2019 Tariff Regulations provides for the O&M expense norms for combined cycle gas turbine power generating stations as follows:

(Rs. in lakh/MW)

| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---------|---------|---------|---------|---------|
| 17.58 | 18.20 | 18.84 | 19.50 | 20.19 |

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

(Rs. in lakh)

| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---------|---------|---------|---------|---------|
| 7587.28 | 7854.87 | 8131.08 | 8415.93 | 8713.72 |

39. As the year-wise O&M expenses claimed by the Petitioner for the period 2019-24, is in accordance with Regulation 35(1)(1) of the 2019 Tariff Regulations, the same is allowed.

Water Charges, Security Charges and Capital Spares

40. Regulation 35(6) of the 2019 Tariff Regulations provides for the following:

“The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:

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

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

Provided also that the generating station shall submit the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Regulation 17 of Central Electricity Regulatory Commission (Terms



and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.”

Water Charges

41. The water charges claimed by the Petitioner, in terms of the first proviso to Regulation 35(6) of the 2019 Tariff Regulations, are as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 136.71 | 136.71 | 136.71 | 136.71 | 136.71 |

42. The Petitioner has furnished details in respect of water charges namely the type of cooling water system, water consumption, rate of water charges as applicable for the year 2018-19 as follows:

| | Remarks |
|------------------------------|------------------------------|
| Type of Plant | Gas |
| Type of cooling water system | Closed Cycle |
| Consumption of water | 33600000 Cubic Feet |
| Rate of water charges | Rs. 012 per cft/0.28 per cft |
| Total Water Charges | Rs. 68.91 lakh |

43. The Petitioner has claimed water charges for Rs. 136.71 lakh, for each year of the period 2019-24. It has further submitted that the claim of water charges is subject to retrospective adjustment, based on actuals, at the time of truing up of tariff. The Petitioner has however, finished the actual water charges incurred during the years 2019-20 and 2020-21 as under:

| <i>(Rs. in lakh)</i> | |
|----------------------|----------------|
| 2019-20 | 2020-21 |
| 94.76 | 154.06 |



44. The Respondent has submitted that the Petitioner has claimed water charges for consumption of water, quantifying 3360000 cubic feet @ Rs. 0.28 per cubic feet, which works out as Rs. 95.15 lakh, however, the Petitioner has claimed water charges for Rs. 136.71 lakh, under O&M expenses. It has submitted that the Commission may allow the water charges to the Petitioner, only after prudence check. In response, the Petitioner has submitted that water charges for the period 2019-24 had been claimed, on estimated basis, and the details of the actual water charges incurred for the said period, shall be furnished at the time of truing up of tariff, and shall be subject to retrospective adjustment.

45. The matter has been considered. The Petitioner has claimed actual water charges incurred during the years 2019-20 and 2020-21. However, the Petitioner has not submitted any documentary evidence to justify/verify the water charges claimed during the said years. Thus, the actual water charges of Rs. 94.76 lakh and Rs. 154.06 lakh, as claimed by the Petitioner during the years 2019-20 and 2020-21 have been considered and allowed. However, for the remaining periods (2021-22 to 2023-24), the estimated water charges, as claimed by the Petitioner for the said period, has been considered and allowed. This is however subject to the Petitioner, at the time of truing-up of tariff, furnishing the actual bills along with other relevant details, in terms of the said proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. Accordingly, water charges allowed for the period 2019-24 is as under:

(Rs. in lakh)

| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|----------------|----------------|----------------|----------------|----------------|
| 94.76 | 154.06 | 136.71 | 136.71 | 136.71 |



Security Charges

46. The Petitioner has claimed projected security expenses, in terms of the second proviso to Regulation 35(6) of the 2019 Tariff Regulations, as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 1141.75 | 1181.71 | 1223.07 | 1265.88 | 1310.18 |

47. Thereafter, the Petitioner has claimed the actual security charges incurred during the years 2019-20 and 2020-21 as under:

| <i>(Rs. in lakh)</i> | |
|----------------------|----------------|
| 2019-20 | 2020-21 |
| 1191.18 | 1118.03 |

48. The Respondent has submitted that the Petitioner has claimed Rs. 1100 to 1200 lakh, as Security expenses, under the head of O&M expenses, which is not practical, and is an unnecessary burden on the consumers of the State. In response, the Petitioner has clarified that the security expenses for the period 2019-24, has been claimed on estimation basis and the details of the same, shall be furnished at the time of truing up of tariff and is subject to retrospective adjustment.

49. We have examined the matter. The Petitioner has claimed actual security charges incurred for the years 2019-20 and 2020-21 and the same has been considered and allowed, subject to prudence check. As regards the projected security expenses claimed for the period from 2021-22 to 2023-24, we allow the actual security expenses of Rs. 1118.03 lakh incurred in 2020-21, without any escalation, with the direction that the Petitioner shall, at the time of truing-up of tariff, submit the actual bills along with other relevant details in terms of the said proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. Accordingly, the security expenses allowed are as under:



| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 1191.18 | 1118.03 | 1118.03 | 1118.03 | 1118.03 |

Capital spares

50. The Petitioner has not claimed any capital spares, during the period 2019-24 and has submitted that the same shall be claimed at the time of truing up of tariff, in terms of the last proviso to Regulation 35(6) of the 2019 Tariff Regulations, based on actual consumption of capital spares. Accordingly, the same has not been considered in this order. The claim of the Petitioner, if any, at the time of truing-up of tariff, shall be considered on merits, after prudence check.

51. Accordingly, the total O&M expenses, including Water charges and Security expenses, allowed for the period 2019-24 is summarised as under:

| <i>(Rs. in lakh)</i> | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| O&M expenses allowed under Regulation 35(1)(1) | 7587.28 | 7854.87 | 8131.08 | 8415.93 | 8713.72 |
| O&M Expenses allowed under Regulation 35(6) | | | | | |
| Water Charges | 94.76 | 154.06 | 136.71 | 136.71 | 136.71 |
| Security Expenses | 1191.18 | 1118.03 | 1118.03 | 1118.03 | 1118.03 |
| Total O&M Expenses allowed | 8873.22 | 9126.96 | 9385.82 | 9670.67 | 9968.46 |

Operational Norms

52. The operational norms claimed by the Petitioner, are as under

| | Claimed | Allowed |
|--|----------------|----------------|
| Normative Annual Plant Availability Factor (NAPAF) (%) | 85.00% | 85.00% |
| Gross Station Heat Rate (kcal/kwh) | 1975.00 | 1975.00 |
| Auxiliary Power Consumption (%) | 2.75% | 2.75% |

53. Since the operational norms claimed by the Petitioner are in accordance with the provisions of Regulation 49 of the 2019 Tariff Regulations, the same has been allowed.



Interest on Working Capital

54. Regulation 34(1)(b) of 2019 Tariff Regulations provides as under:

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

(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 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.”

55. Clause (3) and (4) of Regulation 34 of the 2019 Regulations provides as under:

“(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.”

Fuel Components and Energy Charges in working capital

56. The Petitioner has claimed the following fuel components as part of working capital, based on the price and GCV of APM gas, RLNG and Naptha for the preceding three months i.e., October 2018, November 2018 and December 2018 and the mode of operation between APM gas, RLNG and Naptha (Liquid) projected for the generating station is 85.97%, 13.98% and 0.05%, respectively. Accordingly, based on the details



submitted by the Petitioner, under Form 15, of the petition, the fuel cost for 30 days for computation of working capital has been allowed as under:

| | <i>(Rs. in lakh)</i> | | | | |
|---------------------------------|----------------------|----------------|----------------|----------------|----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Cost of Fuel for 30 days | 10147.09 | 10147.09 | 10147.09 | 10147.09 | 10147.09 |
| Cost of Liquid Fuel for 15 days | 4.52 | 4.52 | 4.52 | 4.52 | 4.52 |

57. The Petitioner has claimed ECR of 3.95 Rs/kWh for 2019-24 based on the weighted average price and GCV of the Domestic gas, RLNG and Naptha used for the operation of the generating station, during the preceding three months i.e., October 2018, November 2018 and December 2018 and the mode of operation as follows:

| | | |
|---|------------|-----------|
| Landed Fuel Cost (Domestic Gas) | Rs/1000SCM | 14162.18 |
| (%) of Fuel Quantity | (%) | 85.97 |
| Landed Fuel Cost (RLNG) | Rs/1000SCM | 40338.693 |
| (%) of Fuel Quantity | (%) | 13.98 |
| Landed Fuel Cost (Liquid Fuel) | Rs/Kl | 31383.369 |
| (%) of Fuel Quantity | (%) | 0.05 |
| Secondary fuel oil cost (ex-bus) | Rs/kWh | NA |
| Energy Charge Rate (Gas) ex-bus-CC | Rs/kWh | 3.136 |
| Energy Charge Rate (LNG) ex-bus-CC | Rs/kWh | 8.947 |
| Energy Charge Rate (Naptha ex-bus-CC) | Rs/kWh | 7.034 |
| Weighted Average Energy Charge Rate ex-bus-CC | Rs/kWh | 3.950 |

58. Based on the operational norms, the price and GCV of the generating station during the preceding months i.e., October 2018, November 2018 and December 2018, the ECR, for the purpose of working capital has been worked out and allowed for the period 2019-23 is as under:

| <i>(Rs. per kWh)</i> | |
|------------------------------|------------------------------|
| 2019-24 (Claimed) | 2019-24 (Allowed) |
| 3.950 | 3.950 |



59. Energy charges for 45 days, on the basis of weighted average GCV and weighted average cost, for the purpose of interest on working capital has been worked out as follows:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------|----------|----------|----------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 15220.63 | 15220.63 | 15220.63 | 15220.63 | 15220.63 |

Working Capital for O&M Expenses

60. The O&M expenses for the purpose of working capital claimed by the Petitioner is as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|---------|---------|---------|---------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 738.81 | 764.44 | 790.90 | 818.21 | 846.72 |

61. Regulation 34(1)(b)(v) of the 2019 Tariff Regulations provides for O&M expenses for one month, including water charges and security expenses. Accordingly, the O&M expenses for working capital is allowed as under:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|---------|---------|---------|---------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 739.44 | 760.58 | 782.15 | 805.89 | 830.71 |

Working Capital for Maintenance Spares

62. The Petitioner has claimed the following maintenance spares in the working capital:

| <i>(Rs. in lakh)</i> | | | | |
|----------------------|---------|---------|---------|---------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 2659.72 | 2751.99 | 2847.26 | 2945.55 | 3048.18 |

63. Regulation 34(1)(b)(iii) of the 2019 Tariff Regulations provides for Maintenance spares @ 30% of the O&M expenses, including water charges and security expenses. Accordingly, maintenance spares have been considered and allowed as under:



| <i>(Rs. in lakh)</i> | | | | |
|----------------------|----------------|----------------|----------------|----------------|
| 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| 2661.97 | 2738.09 | 2815.75 | 2901.20 | 2990.54 |

Working Capital for Receivables

64. Receivables equivalent to 45 days of capacity charges and energy charges for the purpose of working capital, has been worked out and allowed as under:

| <i>(Rs. in lakh)</i> | | | | | |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| Energy Charge for 45 days corresponding to NAPAF | 15220.63 | 15220.63 | 15220.63 | 15220.63 | 15220.63 |
| Fixed Charge for 45 days corresponding to NAPAF | 2957.90 | 2984.73 | 3024.14 | 3061.15 | 3091.26 |
| Total | 18178.53 | 18205.37 | 18244.77 | 18281.78 | 18311.89 |

65. In line with Regulation 34(4) of the 2019 Tariff Regulations, the rate of interest on working capital has been 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 and 10.50% (i.e. 1 year SBI MCLR of 7.00% (as on 01.04.2021) + 350 bps) for the period 2021-24. Accordingly, the interest on working capital has been considered as 12.05% for 2019-20, 11.25% for 2020-21 and 10.50% for the period 2021-22 to 2023-24. Accordingly, interest on working capital is worked out and allowed as under:



(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Working Capital for Cost of fuel-30 Days (A) | 10147.09 | 10147.09 | 10147.09 | 10147.09 | 10147.09 |
| Working Capital for Cost of Liquid Fuel for 15 days (B) | 4.52 | 4.52 | 4.52 | 4.52 | 4.52 |
| Working Capital for Maintenance Spares - 30% of O&M (C) | 2661.97 | 2738.09 | 2815.75 | 2901.20 | 2990.54 |
| Working Capital for Receivables corresponding to NAPAF - 45 Days (D) | 18178.53 | 18205.37 | 18244.77 | 18281.78 | 18311.89 |
| Working Capital for O&M expenses - 1 month (E) | 739.44 | 760.58 | 782.15 | 805.89 | 830.71 |
| Total Working Capital (I) = (A+B+C+D+E) | 31731.53 | 31855.64 | 31994.27 | 32140.48 | 32284.74 |
| Rate of Interest (F) | 12.05% | 11.25% | 10.50% | 10.50% | 10.50% |
| Total Interest on Working capital (G) = (I)*(F) | 3823.65 | 3583.76 | 3359.40 | 3374.75 | 3389.90 |

Annual Fixed Charges

66. Accordingly, the annual fixed charges allowed for the generating station for the period 2019-24 is summarised as under:

(Rs. in lakh)

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Depreciation (A) | 2424.20 | 2540.23 | 2804.40 | 2804.40 | 2804.40 |
| Interest on Loan (B) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Return on Equity (C) | 8936.49 | 8958.57 | 8979.52 | 8979.52 | 8979.52 |
| Interest on Working Capital (D) | 3823.65 | 3583.76 | 3359.40 | 3374.75 | 3389.90 |
| O&M Expenses (E) | 8873.22 | 9126.96 | 9385.82 | 9670.67 | 9968.46 |
| AFC (F = A+B+C+D+E) | 24057.56 | 24209.51 | 24529.13 | 24829.33 | 25142.27 |

Application filing fees and Publication charges

67. The Petitioner has sought reimbursement of fees paid by it for filing the tariff 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.



68. 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.

69. Petition No. 487/GT/2020 is disposed of in terms of the above

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S. Jha)
Member

