

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 400/GT/2020**

**Coram:**

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

**Date of Order: 13<sup>th</sup> November, 2021**

**In the matter of:**

Petition for approval of tariff of Dadri Gas Power Station (829.78 MW) for the period from 1.4.2019 to 31.3.2024

**And**

**In the matter of:**

NTPC Limited,  
NTPC Bhawan,  
Core-7, Scope Complex,  
7, Institutional Area, Lodhi Road,  
New Delhi-110003.

**.....Petitioner**

**Vs**

1. Uttar Pradesh Power Corporation Limited,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226001.
2. Rajasthan Urja Vikas Nigam Limited,  
(on behalf of Discoms of Rajasthan),  
Vidyut Bhawan, Janpath,  
Jaipur – 302005.
3. Tata Power Delhi Distribution Limited,  
Grid Substation, Hudson Road,  
Kingsway Camp,  
Delhi – 110009
4. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi – 110019.
5. BSES Yamuna Power Limited,  
Shakti Kiran Building, Karkardooma,  
Delhi – 110092.



6. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector – VI, Panchkula  
Haryana – 134109.
7. Punjab State Power Corporation Limited,  
The Mall,  
Patiala – 147001.
8. Himachal Pradesh State Electricity Board Limited,  
Kumar Housing Complex Building-II, Vidyut Bhawan,  
Shimla – 171004.
9. J&K State Power Trading Company Limited,  
(on behalf of Power Development Department, J&K)  
Civil Secretariat,  
Srinagar.
10. Electricity Department, Chandigarh  
Union Territory of Chandigarh,  
Addl. Office Building, Sector-9 D,  
Chandigarh.
11. Uttarakhand Power Corporation Limited,  
Urja Bhavan, Kanwali Road,  
Dehradun – 248001

**...Respondents**

**Parties Present:**

**For Petitioner:** Shri Venkatesh, Advocate, NTPC  
Shri Anant Singh, Advocate, NTPC  
Shri Vikas Maini, Advocate, NTPC  
Shri Suhael Buttan, Advocate, NTPC  
Shri Abhishek Nangia, Advocate, NTPC  
Shri S.P. Kesarwani, NTPC

**For Respondent:** Shri Buddy Ranganadhan, Advocate, BRPL  
Shri Rahul Kinra, Advocate, BRPL  
Shri Anupam Varma, Advocate, BRPL  
Shri Utkarsh Singh, Advocate, BRPL  
Ms. Megha Bajpeyi, BRPL  
Shri Gurmeet Deogen, BRPL  
Shri Sameer Singh, BYPL  
Shri Abhishek Srivastava, BYPL  
Shri Anand Shrivastava, Advocate, TPDDL  
Ms. Shruti Kanodia, Advocate, TPDDL  
Ms. Priyansha Sharma, Advocate, TPDDL  
Shri Manish Garg, UPPCL



## ORDER

This petition has been filed by the Petitioner, NTPC Limited (in short, 'NTPC'), for determination of tariff for the 2019-24 tariff period in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations') in respect of Dadri Gas Power Station (829.78 MW) (in short, 'the generating station').

2. The generating station with a capacity of 829.78 MW comprises of four Gas Turbine (GT) units of 130.19 MW each and two Steam Turbine (ST) units of 154.51 MW each. The dates of commercial operation of the units of the generating station are as under:

Asset	Capacity (MW)	Module/Block	COD
GT-I	130.19	I	1.5.1992
GT-II	130.19		1.6.1992
ST-I	154.51		1.8.1996
GT-III	130.19	II	1.8.1992
GT-IV	130.19		1.12.1992
ST-II	154.51		1.4.1997

3. The Commission by its order dated 7.11.2021 in Petition No. 288/GT/2020 had approved the tariff of the generating station for the 2014-19 tariff period, after truing-up exercise based on the actual additional capital expenditure incurred for the generating station for the 2014-19 tariff period. Accordingly, the capital cost and the annual fixed charges approved by order dated 7.11.2021 are as follows:

### Capital Cost allowed

*(Rs. in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	86840.30	87407.25	87491.62	87367.94	93002.29
Add: Additional Capital Expenditure allowed	566.95	84.37	(-)123.69	5634.36	6234.85
Closing Capital Cost	87407.25	87491.62	87367.94	93002.29	99237.15
Average Capital Cost	87123.78	87449.44	87429.78	90185.12	96119.72



## Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	103.09	281.87	277.41	1639.08	8644.63
Interest on Loan	150.67	166.46	143.63	273.61	108.54
Return on Equity	8575.06	8635.85	8634.69	8797.57	9173.00
Interest on Working Capital	8853.95	8912.54	9054.66	9056.75	9312.38
O&M Expenses	12763.67	13272.06	15337.18	14863.35	16042.09
<b>Total</b>	<b>30446.45</b>	<b>31268.79</b>	<b>33447.57</b>	<b>34630.37</b>	<b>43280.65</b>

## Present Petition

4. The annual fixed charges claimed by the Petitioner for the 2019-24 tariff period are as follows:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	2849.34	0.00	0.00	0.00	0.00
Interest on Loan	11.87	0.00	0.00	0.00	0.00
Return on Equity	5622.99	5622.99	5622.99	5622.99	5622.99
Interest on Working Capital	7986.82	7988.45	8034.06	8082.21	8132.37
O&M Expenses	16106.51	16807.45	17543.45	18320.47	19151.84
<b>Total</b>	<b>32577.53</b>	<b>30418.88</b>	<b>31200.49</b>	<b>32025.67</b>	<b>32907.20</b>

5. The Respondent No.1, UPPCL has filed its reply vide affidavit dated 14.9.2020 and the Petitioner has filed its rejoinder to the said reply vide affidavit dated 15.12.2020. The Commission, after hearing the matter, along with Petition No. 288/GT/2020 (truing-up tariff of the generating station for the 2014-19 tariff period) on 17.3.2021, directed the Petitioner to submit certain additional information and reserved orders in these matters. In response, the Petitioner has filed the additional information vide affidavit dated 19.4.2021 after serving copies to the Respondents. The Respondents, BRPL and BYPL have filed their common reply vide affidavit dated 4.5.2021 and the Respondent TPDDL has filed its reply vide affidavit dated 31.5.2021. The Petitioner vide affidavits dated 11.5.2021 and 21.6.2021 has filed its rejoinder to the replies of the Respondents BRPL & BYPL and TPDDL respectively. Since these petitions could not be disposed of prior to one Member of the Commission (Shri



Prakash S. Mhaske) demitting office, the matter was again listed on 29.6.2021 and the Commission, after hearing the parties, reserved its order in these petitions. While Petition No. 288/GT/2020 has been disposed of by order dated 7.11.2021, this Petition (Petition No. 400/GT/2020) is being disposed of by this order. Taking into consideration the submissions of the parties and the documents available on record, we proceed to examine the claims of the Petitioner in this petition, on prudence check, as stated in the subsequent paragraphs.

### **Capital Cost**

6. Clauses (1), (3) and (5) of Regulation 19(3) of the 2019 Tariff Regulations provide as under:

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

*(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.*

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*(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 de-capitalised 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.”*

7. The Petitioner has claimed capital cost of Rs.99793.92 lakh as on 1.4.2019. However, the closing capital cost of Rs.99237.15 lakh as on 31.3.2019, as approved by order dated 7.11.2021 in Petition No. 288/GT/2020, has been considered as the opening capital cost as on 1.4.2019, for the purpose of determination of tariff for the 2019-24 tariff period, in accordance with Regulation 19(3) of the 2019 Tariff Regulations.

#### **Additional Capital Expenditure for the 2019-24 tariff period**

8. The Petitioner has submitted that additional capital expenditure for the 2019-24 tariff period, if any, shall be claimed/ submitted at the time of truing-up of tariff of the generating station for the 2019-24 tariff period. The Respondents have submitted that any interest claimed for the differential tariff on account of additional capital expenditure may not be allowed at the time of truing up. Since no additional capital expenditure has been claimed by the Petitioner in the present petition, the same has not been considered in this order. However, the Petitioner's claim for additional capital



expenditure, at the time of truing up of tariff for the 2019-24 tariff period, shall be considered in accordance with law.

### **Capital cost allowed for the 2019-24 tariff period**

9. Based on the above, the capital cost approved for the generating station for the 2019-24 tariff period is summarized as under:

<i>(Rs. in lakh)</i>	
Admitted capital cost as on 1.4.2019	99237.15
Admitted additional capital expenditure for the 2019-24 tariff period	0.00
<b>Total capital cost as on 31.3.2024</b>	<b>99237.15</b>

### **Debt-Equity Ratio**

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

*“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.”

11. The details of the debt and equity in respect of the generating station are as follows:

	Capital Cost as on 1.4.2019 (Rs. in lakh)	%	Additional Capital Expenditure 2019-24 (Rs. in lakh)	%	Capital Cost as on 31.3.2024 (Rs. in lakh)	%
Debt	51875.14	52.27	-	-	51875.14	52.27
Equity	47362.01	47.73	-	-	47362.01	47.73
<b>Total</b>	<b>99237.15</b>	<b>100.00</b>	-	-	<b>99237.15</b>	<b>100.00</b>

12. As the generating station has completed its useful life as on 1.4.2019, the equity component in excess of 30% of the capital cost has not been considered in accordance with the first proviso to Regulation 18(3) of 2019 Tariff Regulations. Accordingly, the equity component, for the purpose of computation of tariff for the 2019-24 tariff period, is restricted to 30% of the capital cost.

### **Return on Equity**

13. Regulations 30 and 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 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:*

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

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

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

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

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

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

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

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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

*Illustration-*



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

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

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

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

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

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

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

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

14. The Respondents TPDDL, BRPL and BYPL have submitted that the Petitioner may be directed to reimburse the extra payments made under the garb of deferred tax liabilities, for the period prior to 2009, under Regulation 67 of the 2019 Tariff Regulations. The Petitioner has, however, clarified that the recovery of deferred tax liabilities from the beneficiaries, for the period prior to 2009, is not barred and the same is based on Auditors certificate. We make it clear that the recovery of deferred tax liabilities shall be governed by Regulation 67 of the 2019 Tariff Regulations. For grossing up of Return on Equity during the 2019-24 tariff period, the Petitioner has applied the MAT rate of 17.472% and the same is allowed. This is, however, subject to revision, if any, at the time of truing up of tariff. Accordingly, Return on Equity has been worked out and allowed as follows:

	<b>(Rs. in lakh)</b>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Gross Normative equity - Opening	47362.01	47362.01	47362.01	47362.01	47362.01



Less: Adjustment to equity in terms of first proviso to Regulation 18(3) of the 2019 Tariff Regulations	17590.87	17590.87	17590.87	17590.87	17590.87
Normative Equity - Opening	29771.14	29771.14	29771.14	29771.14	29771.14
Addition of Equity due to additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Normative Equity - Closing	29771.14	29771.14	29771.14	29771.14	29771.14
Average Normative Equity	29771.14	29771.14	29771.14	29771.14	29771.14
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for the year	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) annualised</b>	<b>5591.62</b>	<b>5591.62</b>	<b>5591.62</b>	<b>5591.62</b>	<b>5591.62</b>

### **Interest on Loan**

15. 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-capitalisation of such asset.*

*(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*

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

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

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

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



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

16. Interest on loan has been computed as under:

- a. Gross normative loan amounting to Rs. 51875.14 lakh as on 31.3.2019 as considered in order dated 7.11.2021 in Petition No. 288/GT/2020 has been considered as on 1.4.2019;
- b. Cumulative repayment amounting to Rs. 48685.59 lakh as on 31.3.2019 as considered in order dated 7.11.2021 in Petition No. 288/GT/2020 has been considered as on 1.4.2019;
- c. Accordingly, the net normative opening loan considered as on 1.4.2019, is Rs. 3189.56 lakh.
- d. The weighted average rate of interest on loan, as claimed by the Petitioner has been considered;
- e. The repayments for the respective years of the 2019-24 tariff period, has been considered equal to the depreciation allowed for that year;
- f. Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

17. Interest on loan has been worked out as follows:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative loan	51875.14	51875.14	51875.14	51875.14	51875.14
Cumulative Repayments up to previous year	48685.59	51875.14	51875.14	51875.14	51875.14
Net loan-Opening	3189.56	0.00	0.00	0.00	0.00
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	3189.56	0.00	0.00	0.00	0.00
Net loan-Closing	0.00	0.00	0.00	0.00	0.00
Average loan	1594.78	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on loan (%)	8.3979%	8.4003%	8.4075%	8.4133%	8.4146%
<b>Interest on loan</b>	<b>133.93</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### **Depreciation**

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

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

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

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

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

*Provided that the remaining depreciable value as on 31<sup>st</sup> 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 upto 31.3.2019 from the gross depreciable value of the assets.*

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

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



19. Depreciation has been worked out considering the admitted capital cost of Rs.99237.15 lakh as on 1.4.2019 and the cumulative depreciation of Rs.83876.54 lakh as on 31.3.2019, as considered in order dated 7.11.2021 in Petition No. 288/GT/2020. As the balance useful life of asset is 'nil', the balance depreciable value of assets has been considered as the annualised depreciation for the year 2019-20. Accordingly, depreciation allowed for the generating station is as follows:

	<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>
Average capital cost	99237.15	99237.15	99237.15	99237.15	99237.15
Value of freehold land	68.76	68.76	68.76	68.76	68.76
Aggregated Depreciable value	89251.55	89251.55	89251.55	89251.55	89251.55
Remaining aggregate depreciable value at the beginning of the year	5375.01	0.00	0.00	0.00	0.00
Number of completed years at the beginning of the year	25.07	26.07	27.07	28.07	29.07
Balance useful life at the beginning of the year	0.00	0.00	0.00	0.00	0.00
Rate of depreciation	5.4163%	0.0000%	0.0000%	0.0000%	0.0000%
<b>Depreciation (annualized)</b>	<b>5375.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Cumulative depreciation (at the end of the period)	89251.55	89251.55	89251.55	89251.55	89251.55

### **Operation & Maintenance Expenses**

20. The year-wise O&M expense norms admissible for open cycle gas turbine/ combined cycle generating stations for the 2019-24 tariff period in terms of Regulation 35(1)(3) of the 2019 Tariff Regulations, are as under:

<i>(in Rs. lakh/MW)</i>				
<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
17.58	18.20	18.84	19.50	20.19

21. The normative O&M expenses claimed by the Petitioner for the 2019-24 tariff period is as follows:

<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>
14587.53	15102.00	15633.06	16180.71	16753.26





22. As the year-wise O&M expenses claimed by the Petitioner for the 2019-24 tariff period, is in accordance with Regulation 35(1)(3) of the 2019 Tariff Regulations, the same is allowed.

**Water Charges, Security Charges and Capital Spares**

23. 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**

24. The water charges claimed by the Petitioner for the 2019-24 tariff period in terms of the proviso to Regulation 35(6) of the 2019 Tariff Regulations are as under:

*(Rs. in lakh)*

<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
50.70	51.75	52.80	53.85	54.90

25. 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:

<b>Description</b>	<b>Remarks</b>
Type of Plant	Gas
Type of cooling water system	Closed Cycle
Consumption of Water	158,274,000 cft / 5.02 cusec
Rate of Water charges	Rs.12.48 per 1000 cft
Rate of Royalty Charge	Rs.6 lakh/cusec/yr
Total water charges (for 2018-19)	Rs.49.87 lakh



26. The Petitioner has escalated water charges for 2018-19 at the rate of 2% per year has accordingly claimed water charges for the 2019-24 tariff period as stated in the table under paragraph 24 above. The Petitioner has also submitted that the claim for water charges is subject to retrospective adjustment, based on actuals, at the time of truing up of tariff for the 2019-24 tariff period. In view of this, the claim of the Petitioner for water charges is allowed, subject to actual water charges incurred, based on bills, to be furnished at the time of truing-up of tariff for the 2019-24 tariff period.

**Security Expenses**

27. The Petitioner has claimed the following security expenses, on projection basis, for the 2019-24 tariff period, in terms of the second proviso to Regulation 35(6) of the 2019 Tariff Regulations.

*(Rs. in lakh)*

2019-20	2020-21	2021-22	2022-23	2023-24
1468.28	1653.70	1857.59	2085.91	2343.68

28. The Commission vide RoP of the hearing dated 17.3.2021, directed the Petitioner to submit the basis for the projected security expenses claimed during the 2019-24 tariff period. In response, the Petitioner has submitted that the security expenses claimed is based on the estimate. It has also submitted the total estimated security expenses for the entire Dadri station (2649.78 MW) as Rs 4688 lakh. Out of this, the share for this generating station (Dadri Gas station) works out to Rs 1468.28 lakh, on pro-rata basis, of the installed capacity (in MW) as given below:

	Unit	Dadri Thermal Stage-I	Dadri Thermal Stage-II	Dadri Gas	Total
Installed Capacity	MW	840.00	980.00	829.78	2649.78
Share	%	31.70	36.98	31.32	100.00
Security Expenses	Rs lakh	1486.10	1733.62	1468.28	4688.00





29. The Petitioner has submitted that the projected security expenses claimed for the 2019-24 tariff period is subject to retrospective adjustment based on actuals at the time of truing up of tariff. Accordingly, the security expenses claimed is allowed. The Petitioner, shall, furnish the actual security expenses incurred based on bills, at the time of truing-up of tariff for the 2019-24 tariff period.

**Capital Spares**

30. As regards capital spares consumed, the Petitioner 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 during the 2019-24 tariff period. In view of this, the Petitioner is allowed to claim actual capital spares consumed during the 2019-24 tariff period, at the time of truing-up of tariff, along with proper justification for the same.

31. Accordingly, the total O&M expenses allowed for the 2019-24 tariff period is summarised 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>
O&M expenses allowed under Regulation 35(1)(3)	14587.53	15102.00	15633.06	16180.71	16753.26
<b>O&amp;M expenses allowed under Regulation 35(6)</b>					
Water Charges	50.70	51.75	52.80	53.85	54.90
Security Expenses	1468.28	1653.70	1857.59	2085.91	2343.68
<b>Total O&amp;M expenses allowed</b>	<b>16106.51</b>	<b>16807.45</b>	<b>17543.45</b>	<b>18320.47</b>	<b>19151.84</b>

**Operational Norms**

32. The operational norms claimed by the Petitioner for the 2019-24 tariff period is as under:

Normative Annual Plant Availability Factor (NAPAF) %	85.00
Gross Station Heat Rate (kcal/kwh)	2000.00
Auxiliary Power Consumption %	2.75



33. As the operational norms claimed by the Petitioner as above, in respect of the generating station, are as per Regulation 49 of the 2019 Tariff Regulations, the same is allowed.

### **Interest on Working Capital**

34. Regulation 34(1)(b) of the 2019 Tariff Regulations provide 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.”*

35. Clauses (3) and (4) of Regulation 34 of the 2019 Tariff Regulations provide 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 1<sup>st</sup> 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.”*

36. Regulation 3(7) of the 2019 Tariff Regulations defines Bank Rate as under:

*“In these regulations, unless the context otherwise requires:-*

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



### **Fuel Cost and Cost of Liquid stock for Working Capital**

37. The Petitioner has claimed the following fuel components as part of working capital, based on the price and GCV of APM gas, RLNG and Naphtha for the preceding three months from October 2018 to December 2018 and the mode of operation between APM gas, RLNG and Naphtha achieved by the generating station during the year 2018-19 as 86.08%, 10.45% and 3.47% respectively:

	<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>
Fuel cost for 30 days	22016.29	22016.29	22016.29	22016.29	22016.29
Cost of Liquid stock for 15 days	1060.35	1060.35	1060.35	1060.35	1060.35

38. The fuel components based on the price and GCV of APM gas, RLNG and Naphtha for the preceding three months from October 2018 to December 2018 and mode of operation between APM gas, RLNG and Naphtha achieved by the generating station during the year 2018-19 was 86.08%, 10.45% and 3.47% respectively, as submitted by the Petitioner in Form 15F of the petition for the 2019-24 tariff period. The Commission had directed the Petitioner to submit the detailed splitting of the expenses claimed under “others” in Form 15 and in response, the Petitioner has submitted that ‘Other charges’ in Form 15 is due to VAT applied by the Government of Uttar Pradesh on the gas consumed during the months. Also, the Petitioner has submitted the details of the quantity of stock and quantity of fuel procured during the months of October 2018, November 2018 and December 2018, in Form-15. On scrutiny of Form 15, it is observed that the Petitioner has not procured any liquid fuel during the months of October 2018, November 2018 and December 2018 and only the opening stock has been carried forward. Therefore, GCV and fuel cost of stock of liquid fuel has been considered in the working capital computation. As per Regulations 34(1)(b)(i) and 34(1)(b)(ii) of the 2019 Tariff Regulations, fuel cost (gas) for 30 days



and the cost of liquid fuel for 15 days, are allowed as part of working capital as follows:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Fuel (gas) for 30 days	22040.08	22040.08	22040.08	22040.08	22040.08
Cost of liquid for 15 days	1060.39	1060.39	1060.39	1060.39	1060.39

39. The variation between the fuel components claimed by the Petitioner as against those allowed in the order, is on account of the difference in the weighted average value of GCV considered by Petitioner as against those allowed by the Commission.

**Energy Charge Rate (ECR) for Working Capital**

40. The Petitioner has claimed Energy Charge Rate (ECR) of Rs.4.458/kWh based on the weighted average price and GCV of domestic gas, RLNG and Naphtha used for operation of the generating station, during the preceding three months i.e. October 2018, November 2018 and December 2018 and the mode of operation for the preceding three months as follows:

Parameters	Unit	2019-24
Landed Fuel Cost (Domestic gas)	Rs./1000 SCM	15172.53
(%) of Fuel Quantity	(%)	86.08
Landed Fuel Cost (RLNG)	Rs./1000 SCM	47566.14
(%) of Fuel Quantity	(%)	10.45
Landed Fuel Cost (Naphtha)	Rs./kL	54936.49
(%) of Fuel Quantity	(%)	3.47
Energy Charge Rate (Gas) ex-bus-CC	Rs./kWh	3.385
Energy Charge Rate (LNG) ex-bus-CC	Rs./Kwh	10.668
Energy Charge Rate (Naphtha) ex-bus-CC	Rs./kWh	12.375
<b>Weighted Average Energy Charge Rate ex-bus - Closed Cycle (CC)</b>	<b>Rs./kWh</b>	<b>4.458</b>

41. Based on the operational norms, the weighted average price and GCV of APM gas, RLNG and Naphtha used for operation of the generating station during the preceding three months i.e. October 2018, November 2018 and December 2018 and the mode of operation, ECR, for the purpose of working capital, has been worked out and allowed for the 2019-24 tariff period as follows:



	<i>(Rs. per kWh)</i>	
	<b>2019-24 (Claimed)</b>	<b>2019-24 (Allowed)</b>
Energy Charge Rate (Gas) ex-bus-CC	3.385	3.391
Energy Charge Rate (LNG) ex-bus-CC	10.668	10.662
Energy Charge Rate (Naphtha) ex-bus-CC	12.375	12.375
Weighted Average Energy Charge Rate ex-bus	4.458	4.463

### **Energy Charges for 45 days for Working Capital**

42. 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>				
<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
33061.47	33061.47	33061.47	33061.47	33061.47

### **Working Capital for Maintenance spares**

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

<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>
4831.95	5042.23	5263.03	5496.14	5745.55

44. As the maintenance spares claimed by the Petitioner is in accordance with Regulation 34(1)(b)(iii) of the 2019 Tariff Regulations, the same is allowed.

### **Working Capital for Receivables**

45. Receivables equivalent to 45 days of capacity charge and energy charges (based on primary fuel only) for the purpose of working capital has been worked out and allowed as follows:



	<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>
Fixed Charges-45 days	4332.87	3680.90	3714.44	3815.40	3912.56
Variable Charges-45 days	33061.47	33061.47	33061.47	33061.47	33061.47
<b>Total</b>	<b>37394.34</b>	<b>36742.37</b>	<b>36775.90</b>	<b>36876.87</b>	<b>36974.03</b>

### **Working Capital for O & M Expenses**

46. The O&M expenses for 1 month claimed by the Petitioner for the purpose of working capital is allowed 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>
1342.21	1400.62	1461.95	1526.71	1595.99

47. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital considered on projection basis, for the 2019-24 tariff period is 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 basis points). As the tariff of the generating station for the 2019-24 tariff period, is being determined during the year 2021-22, the SBI MCLR as on 1.4.2020 (7.75%) and as on 1.4.2021 (7.00%) is also available, which is lower in comparison of the same, as on 1.4.2019 (8.55%). Since, the rate of interest on working capital is subject to revision at the time of truing-up of tariff, based on the bank rate as on 1st April of each financial year, we find it prudent to allow the rate of interest as on 1.4.2020 and 1.4.2021, for the subsequent financial years. Accordingly, the rate of interest for the year 2019-20 is 12.05%, 2020-21 is 11.25% and for the subsequent years the rate of interest of 10.50% has been considered (i.e., 1-year SBI MCLR of 7.75% as on 1.4.2020 + 350 basis points and 1 year SBI MCLR of 7.00% as on 1.4.2021 + 350 basis points). Accordingly, Interest on working capital is allowed 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>
Working capital for fuel cost in days	22040.08	22040.08	22040.08	22040.08	22040.08
Working capital for liquid fuel stock for 15 days	1060.39	1060.39	1060.39	1060.39	1060.39
Working capital for O & M expenses 1 month	1342.21	1400.62	1461.95	1526.71	1595.99
Working capital for Maintenance Spares (30% of O&M expenses)	4831.95	5042.23	5263.03	5496.14	5745.55
Working capital for Receivables for 45 days	37394.34	36742.37	36775.90	36876.87	36974.03
<b>Total Working Capital</b>	<b>66668.98</b>	<b>66285.70</b>	<b>66601.37</b>	<b>67000.19</b>	<b>67416.04</b>
Rate of Interest	12.05%	11.25%	10.50%	10.50%	10.50%
<b>Total Interest on Working capital</b>	<b>8033.61</b>	<b>7457.14</b>	<b>6993.14</b>	<b>7035.02</b>	<b>7078.68</b>

### **Annual Fixed Charges for the 2019-24 tariff period**

48. Based on the above discussion, the annual fixed charges allowed for the generating station for the 2019-24 tariff period is summarised as follows:

	<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>
Depreciation	5375.01	0.00	0.00	0.00	0.00
Interest on Loan	133.93	0.00	0.00	0.00	0.00
Return on Equity	5591.62	5591.62	5591.62	5591.62	5591.62
Interest on Working Capital	8033.61	7457.14	6993.14	7035.02	7078.68
O & M Expenses	16106.51	16807.45	17543.45	18320.47	19151.84
<b>Total</b>	<b>35240.68</b>	<b>29856.20</b>	<b>30128.20</b>	<b>30947.11</b>	<b>31822.14</b>

### **Application filing fees and Publication expenses**

49. The Petitioner has sought reimbursement of fees paid by it for filing the tariff petition and publication expenses. The Petitioner shall be entitled for reimbursement of the tariff petition filing fees along with the publication expenses incurred 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.

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



51. Petition No. 400/GT/2020 is disposed of in terms of the above.

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

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

**Sd/-**  
**(P. K. Pujari)**  
**Chairperson**

