

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 279/GT/2020**

**Coram:**

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

**Date of Order: 29<sup>th</sup> August, 2022**

**In the matter of:**

Petition for approval of tariff of Tripura Gas Based Power Plant 101 MW for the period from 1.4.2019 to 31.3.2024.

**And**

**In the matter of:**

North Eastern Electric Power Corporation Limited  
Corporate Office: Brookland Compound Lower New Colony,  
Shillong 793 003, Meghalaya

**...Petitioner**

**Vs**

1. Tripura State Electricity Corporation Limited,  
Bidyut Bhavan, North Banamalipur,  
Agartala -799 001, Tripura.
2. North Eastern Regional Power Committee,  
NERPC Complex, Dong Parmaw  
Lapalang, Shillong-793006, Meghalaya.
3. North Eastern Regional Load Despatch Centre  
Dongtieh, Lower Nongrah, Lapalang,  
Shillong -793006, Meghalaya.

**...Respondents**

**Parties Present:**

Shri Devapriya Choudhury, NEEPCO  
Shri Sushanta Deka, NEEPCO  
Shri Munin Choudhury, NEEPCO  
Shri Bornali Deori, NEEPCO  
Ms. Elizabeth Pyrbot, NEEPCO



## ORDER

This Petition has been filed by the Petitioner, North Eastern Electric Power Corporation Limited for approval of tariff of Tripura Gas based Power Plant (101 MW) (hereinafter referred to as “the project/generating station”) for the 2019-24 tariff period, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (hereinafter referred to as ‘the 2019 Tariff Regulations’).

2. The Petitioner has set up the 101 MW (1 x 65.42 + 1 x 35.58) Tripura Gas based generating station at Monarchak, Sepahijala District, in the State of Tripura. The generating station comprises of one combined cycle module consisting of one Gas Turbine (GT) unit with capacity of 65.42 MW and Steam Turbine (ST) unit of capacity 35.58 MW. The Power Purchase Agreement (PPA) dated 19.3.2008 has been entered into with the Respondent No. 1, TSECL (Tripura State Electricity Corporation Ltd.) for off-take of the entire power from the generating station. The date of commercial operation of GT and ST units of the generating station are as under:

Unit	COD
GT unit	24.12.2015
ST unit	31.03.2017
Station (101 MW)	31.03.2017

3. Petition No. 148/GT/2015 was filed by the Petitioner for approval of tariff of the generating station for the period from the anticipated COD of GT (30.6.2015) and ST (30.8.2015) till 31.3.2019 in accordance with the provisions of the 2014 Tariff Regulations. As the declaration of COD of the units/generating station was not possible within 180 days from the date of filing the said petition for various reasons thereof, the Commission vide its order dated 27.11.2015 disposed of Petition No. 148/GT/2015



granting liberty to the Petitioner to approach the Commission after the units are commissioned. In terms of the liberty granted, Petition No. 128/GT/2017 was filed by the Petitioner, for approval of tariff of the generating station for the period from COD of GT unit (24.12.2015) till 31.3.2019, in terms of the 2014 Tariff Regulations and the Commission vide its order dated 4.4.2019 approved the tariff of the generating station for the said period. Subsequently, in Petition No. 271/GT/2019, filed by the Petitioner for truing-up of tariff of the generating station for the 2014-19 tariff period, the Commission vide order dated 26.6.2021 approved the capital cost and the annual fixed charges as under:

**Capital Cost allowed**

*(Rs. in lakh)*

	<b>24.12.2015 to 31.3.2016</b>	<b>1.4.2016 to 30.3.2017</b>	<b>31.3.2017</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Capital Cost	2797.19	63289.96	63941.49	100189.44	101951.73
Add: Additional Capital Expenditure allowed	60492.77	651.53	36247.95	1762.29	1025.52
<b>Closing Capital Cost</b>	<b>63289.96</b>	<b>63941.49</b>	<b>100189.44</b>	<b>101951.73</b>	<b>102977.25</b>

**Annual Fixed Charges allowed**

*(Rs. in lakh)*

	<b>24.12.2015 to 31.3.2016</b>	<b>1.4.2016 to 30.3.2017</b>	<b>31.3.2017</b>	<b>2017-18</b>	<b>2018-19</b>
Return on Equity	560.95	4511.26	15.99	6471.45	6073.48
Interest on Loan	401.64	2993.97	10.49	4874.30	5060.48
Depreciation	373.53	2050.24	7.27	4821.76	4895.61
Interest on Working Capital	178.32	732.58	2.41	977.44	990.49
O & M Expenses	501.85	1976.14	8.38	3267.35	3490.56
<b>Total</b>	<b>2016.29</b>	<b>12264.18</b>	<b>44.53</b>	<b>20412.30</b>	<b>20510.62</b>

**Present Petition**

4. The Petitioner has filed the present petition for determination of tariff for the generating station for the 2019-24 tariff period, and has claimed the capital cost and annual fixed charges as follows:



### Capital cost claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	109322.38	122028.83	122691.60	122797.50	123185.50
Add: Addition during the year/period	10016.10	710.370	105.90	388.00	1805.89
Less: De-capitalization during the year/ period	0.00	47.60	0.00	0.00	28.00
Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	2690.35	0.000	0.000	0.000	0.000
Closing Capital Cost	122028.83	122691.60	122797.50	123185.50	124963.39
Average Capital Cost	115675.61	122360.22	122744.55	122991.50	124074.45

### Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	5209.88	5882.00	5921.36	5927.62	5932.90
Interest on Loan	5487.08	5494.61	5035.49	4562.13	4477.10
Return on Equity	6364.42	6581.62	6592.79	6599.65	6652.32
Interest on Working Capital	776.70	759.63	759.68	759.17	765.17
O&M Expenses	2660.34	2754.27	2851.23	2951.22	3054.24
Annual Fixed Charges	20498.42	21472.13	21160.55	20799.79	20881.73

5. The petition was heard on 15.3.2022 through video conferencing and the Commission, after directing the Petitioner to submit the details of the actual capital expenditure and decapitalization (if any) as claimed in the petition', reserved its order in the petition. In response, the Petitioner vide affidavit dated 11.4.2022 has filed the additional information, after serving copies on the Respondents. None of the Respondents have filed replies in the matter. 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, as stated in the subsequent paragraphs.



## **Capital Cost**

6. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new generating stations. However, capital cost for an existing generating station is governed as per clause (3) of Regulation 19 of the 2019 Tariff Regulations, which is as follows:

*“The Capital cost of an existing project shall include the following:*

*(a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019.*

*(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations.*

*(c) Capital expenditure on account of renovation and modernisation as admitted by this Commission in accordance with these regulations.*

*(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility.*

*(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*

*(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

7. The annual fixed charges claimed by the Petitioner, is based on the opening capital cost of Rs.109322.38 lakh. However, the Commission vide its order dated 26.6.2021 in Petition No. 271/GT/2019 had approved the closing capital cost of Rs.102977.25 lakh, on cash basis, as on 31.3.2019. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs.102977.25 lakh, on cash basis, as on 31.3.2019, has been considered as the opening capital cost, as on 1.4.2019.



## **Additional Capital Expenditure**

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

*“24. Additional Capitalisation within the original scope and upto the cut-off date*

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

*(a) Undischarged liabilities recognized to be payable at a future date;*

*(b) Works deferred for execution;*

*(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*

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

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

*(f) Force Majeure events:*

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

*(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.*

### 9. Regulations 25 of the 2019 Tariff Regulations provides as follows

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

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

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

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

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

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

*(e) Force Majeure events;*

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

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

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

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

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



- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.*

10. Regulations 26 of the 2019 Tariff Regulations provides as follows:

*26. Additional Capitalisation beyond the original scope:*

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

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

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

*(c) Force Majeure events;*

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

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

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

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

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

11. It is observed that the Petitioner, in the hard copy of the petition has not mentioned the amount of additional capital expenditure claimed, on cash basis, in Form 9A. However, in the soft copy (excel) the Petitioner, has indicated the value of additional capital expenditure claimed, on cash basis, in Form 9A. Therefore, the additional capital expenditure, on cash basis, as claimed in Form 9A of the soft copy (excel) has been considered. Further, the Petitioner is directed to submit the additional capital expenditure duly reconciled with hard copy and soft copy at the time of truing up. Accordingly, the year-wise projected additional capital expenditure claimed for the 2019-24 tariff period are summarized below:



(Rs. in lakh)

Sl. No	Head of Work/ Equipment	Regulation	2019-20	2020-21	2021-22	2022-23	2023-24	Total
<b>A</b>	<b>Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate</b>							
1	Electrification of O&M staff Hostel #2	24(1)(b)	2.00	0.00	0.00	0.00	0.00	2.00
2	Electrification of Security Barrack # 2	24(1)(b)	2.40	0.00	0.00	0.00	0.00	2.40
3	Left out works at non plant area like fencing and gravelling of 11/0.415KV colony sub-station, LT cable laying and campus lighting	24(1)(b)	15.60	0.00	0.00	0.00	0.00	15.60
4	NEEPCO Recreational Club at TGBPP.	24(1)(b)	75.00	0.00	0.00	0.00	0.00	75.00
5	2 nos. D- Type Quarters.	24(1)(b)	40.00	0.00	0.00	0.00	0.00	40.00
6	One no. C- Type Quarter consisting 04 Units	24(1)(b)	60.00	0.00	0.00	0.00	0.00	60.00
7	One no. B -Type Quarter consisting 04 Units	24(1)(b)	40.00	0.00	0.00	0.00	0.00	40.00
8	Construction of O&M Staff Hostel	76&77	5.00	0.00	0.00	0.00	0.00	5.00
9	Procurement of Furniture for Guest House	24(1)(b)	2.00	0.00	0.00	0.00	0.00	2.00
10	Construction of Security Barrack #2	24(1)(b)	18.43	0.00	0.00	0.00	0.00	18.43
11	Building Fence (Erector's Hostel)	76 & 77	1.25	0.00	0.00	0.00	0.00	1.25
12	Construction of Entrance footpath of A & B type quarter at TGBPP, NEEPCO Ltd., Monarchak, Tripura.	76&77	0.84	0.00	0.00	0.00	0.00	0.84
13	Construction of Footpath and shed from STG Building to SFC Building at TGBPP, NEEPCO Ltd., Monarchak, Tripura.	76 & 77	1.70	0.00	0.00	0.00	0.00	1.70
14	Electrification of NEEPCO Recreational club,	24(1)(b)	0.00	6.00	0.00	0.00	0.00	6.00
15	Electrification of 2 nos. D-Type Quarters, 1(one) no C-Type Quarter consisting 04 units and 1(one) no B-type Quarter consisting 4 units	24(1)(b)	0.00	11.00	0.00	0.00	0.00	11.00
16	Illumination of Lawn Tennis Court	76&77	0.00	3.00	0.00	0.00	0.00	3.00
17	Energy meter Networking and	25(2)(c)	0.00	30.00	0.00	0.00	0.00	30.00





Sl. No	Head of Work/ Equipment	Regulation	2019-20	2020-21	2021-22	2022-23	2023-24	Total
	Analysis of Energy meter data							
18	Procurement of BTS system for 6.6KV Switchgear	25(2)(c)	0.00	0.00	0.00	0.00	28.00	28.00
	<b>Subtotal-A</b>		<b>264.22</b>	<b>50.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>	<b>342.22</b>
<b>B</b>	<b>Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Weighted Average rate of Interest</b>							
1	Fencing works for Water Treatment Plant.	26(1)(d)	8.00	0.00	0.00	0.00	0.00	8.00
2	Construction of Shed for Fire Tender and fire staff.	26(1)(d)	9.20	0.00	0.00	0.00	0.00	9.20
3	Construction of foundation for additional Acid storage Tank at near DM Plant.	26(1)(d)	5.00	0.00	0.00	0.00	0.00	5.00
4	Construction of Parking facilities for Power House Staff.	26(1)(d)	5.20	0.00	0.00	0.00	0.00	5.20
5	ATM counter	26(1)(d)	0.74	0.00	0.00	0.00	0.00	0.74
6	Drivers' rest room cum ATM Dish Platform	26(1)(d)	2.00	0.00	0.00	0.00	0.00	2.00
7	Connecting foot path from STG Bldg. and GT Bldg. during emergency.	26(1)(d)	5.26	0.00	0.00	0.00	0.00	5.26
8	Approach road for Quarters of colony.	76&77	6.56	0.00	0.00	0.00	0.00	6.56
9	Online calibration of CEMS equipment.	26(1)(d)	11.50	0.00	0.00	0.00	0.00	11.50
10	Supply, Installation, Testing and Commissioning of Extension of LAN connection & installation of CCTV cum Surveillance System	26(1)(d)	50.00	0.00	0.00	0.00	0.00	50.00
11	Supply of HGPI Capital Parts and Hardware and site service for HGPI	35(6)	9519.00	0.00	0.00	0.00	0.00	9519.00
12	Supply of SFC spares for GTG	35(6)	100.10	0.00	0.00	0.00	0.00	100.10
13	Display of environmental data at main factory gate	26(1)(d)	3.10	0.00	0.00	0.00	0.00	3.10
14	Procurement of 3-phase Squirrel cage Induction Motor for STG Main Oil Lub Pump.	35(6)	(-) 9725.66	0.00	0.00	0.00	0.00	(-) 9725.66
15	Shed for storing Transformer Oil yard at Power House premises	26(1)(d)	0.00	14.00	0.00	0.00	0.00	14.00
16	Construction of civil store room.	76&77	0.00	10.00	0.00	0.00	0.00	10.00
17	Covering of BFP building with Chequered Plate at Floor level 105.425 M at Power House Premises	26(1)(d)	0.00	10.00	0.00	0.00	0.00	10.00



Sl. No	Head of Work/ Equipment	Regulation	2019-20	2020-21	2021-22	2022-23	2023-24	Total
18	Modification of Plant Gate.	26(1)(d)	0.00	8.00	0.00	0.00	0.00	8.00
19	Approach road for Guest House ,NRC, D-type, C-type Quarters	76&77	0.00	12.00	0.00	0.00	0.00	12.00
20	Fencing around Guest House	76&77	0.00	15.00	0.00	0.00	0.00	15.00
21	Development of a Regional Training Centre at TGBPP	26(1)(d)	0.00	20.00	0.00	0.00	0.00	20.00
22	Procurement of Mandatory Spares for ABB make 11KV, indoor type Generator Circuit Breaker (1-LOT)	35(6)	0.00	65.75	0.00	0.00	0.00	65.75
23	Procurement of 200KVA DG set for Intake	35(6)	0.00	20.00	0.00	0.00	0.00	20.00
24	Implementation of RGM control for Gas Turbine	26(1)(b)	0.00	100.00	0.00	0.00	0.00	100.00
25	Procurement of single-phase HV Coils for 100MVA and 55MVA, 11/132 transformer	35(6)	0.00	230.90	0.00	0.00	0.00	230.90
26	Procurement of Generator Bearing Shell for STG	35(6)	0.00	17.60	0.00	0.00	0.00	17.60
27	Online Condition Monitoring for 2 NOS. 132/6.6 Kv Station Service Transformer	26(1)(d)	0.00	117.12	0.00	0.00	0.00	117.12
28	Spares for 20 MVA, 132/6.6KV SST such as HV bushing, LV bushing, OLTC, PRV, CTs, relays etc.	35(6)	0.00	(-) 640.37	(-) 105.90	0.00	0.00	(-) 746.27
29	Construction of new Laboratory near the DM plant at TGBPP, NEEPCO, Monarchak.	26(1)(d)	0.00	0.00	17.00	0.00	0.00	17.00
30	Offline Standby CO2 Cylinders Bank for Zone-1	35(6)	0.00	0.00	41.40	0.00	0.00	41.40
31	Purchase of Thermo vision Camera	26(1)(d)	0.00	0.00	37.00	0.00	0.00	37.00
32	Purchase of 15 KV Insulation Tester	26(1)(d)	0.00	0.00	10.50	0.00	0.00	10.50
33	Cement Concrete flooring over the area surrounding Gas Chromatograph inside plant area of TGBPP.	76&77	0.00	0.00	0.00	11.00	0.00	11.00
34	Procurement of 1(one) no 1010 KVA DG set	26(1)(d)	0.00	0.00	0.00	357.00	0.00	357.00
35	Spare Coil for Dry Type excitation Transformers for GTG and STG unit.	35(6)	0.00	0.00	0.00	(-) 368.00	0.00	(-) 368.00
36	Construction of stand-in pipe line (1 km) for proving raw water to the water treatment plant at TGBPP.	76&77	0.00	0.00	0.00	0.00	17.89	17.89



Sl. No	Head of Work/ Equipment	Regulation	2019-20	2020-21	2021-22	2022-23	2023-24	Total
37	Periphery road	76&77	0.00	0.00	0.00	0.00	100.00	100.00
38	Procurement of Capital parts for Major inspection of Gas Turbine	76&77	0.00	0.00	0.00	0.00	1600.00	1600.00
39	Spare HV Coil for 20MVA, 132/6.6KV SST Power Transformer	35(C)	0.00	0.00	0.00	0.00	(-) 1717.89	(-) 1717.89
	<b>Subtotal-B</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	<b>Total additional capital Expenditure</b>		<b>264.22</b>	<b>50.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>	<b>342.22</b>
40	Discharge of liability of allowed items		2690.35	0.00	0.00	0.00	0.00	<b>2690.35</b>
	<b>Total additional capital Expenditure claimed including discharge of liability</b>		<b>2954.57</b>	<b>50.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>	<b>3032.57</b>

**Additional Capital Expenditure claimed under Regulation 24(1)(b) of the 2019 Tariff Regulations within cut-off date i.e. 31.3.2020**

12. The Petitioner has claimed the following additional capital expenditure within the cut-off date (31.3.2020) under Regulation 24(1)(b) of the 2019 Tariff Regulations:

Sl. No	Head of Work/ Equipment	2019-20
1	Electrification of O&M staff Hostel -2	2.00
2	Electrification of Security Barrack - 2	2.40
3	Left out works at non-plant area like fencing and gravelling of 11/0.415KV colony sub-station, LT cable laying and campus lighting	15.60
4	NEEPCO Recreational Club at TGBPP.	75.00
5	2 nos. D- Type Quarters.	40.00
6	One no. C- Type Quarter consisting 04 Units	60.00
7	One no. B -Type Quarter consisting 4 Units	40.00
8	Procurement of Furniture for Guest House	2.00
9	Construction of Security Barrack #2	18.43
	<b>Total additional capital expenditure claimed</b>	<b>255.43</b>

13. The Petitioner has claimed total additional capital expenditure of Rs 255.43 lakh in 2019-20 within the cut-off date, under Regulation 24(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the additional capital expenditure claimed form part of the original scope of work of the project and was also provisioned under RCE-II. The matter has been considered. It is observed that the Petitioner has claimed additional capital expenditure for the said works, which are



within the original scope of work, but deferred for execution and provisioned under RCE-II. The Petitioner has not submitted any documentary evidence such as RCE-II, DPR, work order etc., in support of its claim. The Commission in its order dated 4.4.2019 in Petition No.128/GT/2017 had admitted the RCE-II of Rs.1062.24 crore (also vetted by CEA vide order dated 7/14.6.2017), while approving the capital cost of the project. As the claim of the Petitioner is within the cut-off date of the generating station, the same is allowed in terms of Regulation 24(1)(b) of the 2019 Tariff Regulations. The Petitioner is however, directed to furnish proper justification along with documentary evidence (RCE-II and its bifurcation depicting the claimed work, DPR, work order etc.) for consideration, at the time of the truing up of the 2019-24 tariff period.

**Additional Capital Expenditure claimed under Regulation 24(1)(b) of the 2019 Tariff Regulations**

14. The Petitioner has claimed the following additional capital expenditure under Regulation 24(1)(b) of the 2019 Tariff Regulations:

<i>(Rs. in lakh)</i>							
Sl. No	Head of Work/ Equipment	2019-20	2020-21	2021-22	2022-23	2023-24	Total
1	Electrification of NEEPCO Recreational club	0.00	6.00	0.00	0.00	0.00	6.00
2	Electrification of 2 nos. D-Type Quarters, 1(one) no C-Type Quarter consisting 04 units and 1(one) no B-type Quarter consisting 4 units	0.00	11.00	0.00	0.00	0.00	11.00
	<b>Total additional capital expenditure claimed</b>	<b>0.00</b>	<b>17.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>17.00</b>

15. In justification of the additional capital expenditure claimed as above, the Petitioner has submitted that the additional capital expenditure is planned as per DPR and was also provisioned under RCE-II. It is observed that the Petitioner has submitted that the claimed additional capital expenditure has been planned as per DPR and were also provisioned under RCE-II. It is further observed that the Petitioner has not submitted any documentary evidence such as RCE-II, DPR, Work order etc., in support



of its claim. The cut-off date of the generating station is 31.3.2020 and the Petitioner has claimed the said additional capital expenditure in 2020-21 i.e. beyond the cut-off date. The Regulation 24(1)(b) of the 2019 Tariff Regulations provides for admittance of the additional capital expenditure claimed within the original scope of work, after the date of commercial operation and up to the cut-off date. Therefore, as the additional capital expenditure claimed by the Petitioner towards the said assets is claimed beyond the cut-off date, the same are being disallowed. However, the Petitioner is granted liberty to claim the above mentioned additional capital expenditure with proper justification along with documentary evidence (RCE-II and its bifurcation depicting the claimed work, DPR, Work order etc.,) and appropriate regulation at the time of the truing up of the 2019-24 tariff period, the same will be dealt in accordance with the 2019 Tariff Regulations, subject to prudence check.

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

***Energy meter networking and analysis of the energy meter data***

16. The Petitioner has claimed additional capital expenditure of Rs. 30.00 lakh towards Energy meter networking and analysis of the energy meter data, in 2020-21 under Regulation 25(2)(c) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the energy meter data networking and analysis system for 132 kV level Energy meter was provided by M/s BHEL. The Petitioner has submitted that it has been using APEX Energy meters having M-CUB and STAR software used for online and offline mode respectively, where each software is obsolete, and the data cannot be used to analyse the present DSM norms. The data downloading and analysis system for the generator terminal energy meter was not considered under the original scope. The Petitioner has pointed out that as per the metering norms, the data



downloading, and analysis system has to be available at the generating station. Therefore, the Petitioner has proposed to upgrade the energy meter data analysis system for 132 kV and 11 kV level and networking system for the 11-kV voltage level. The matter has been considered. In our view, the benefits of installation of ABT management system accrue only to the Petitioner, in order to avoid any penalties being imposed under the DSM Regulations and earning additional UI income based on the prevailing grid frequency. In view of this, the additional capital expenditure as projected by the Petitioner is not allowed.

***Procurement of BTS System for 6.6 kV switchgear***

17. The Petitioner has claimed additional capital expenditure of Rs. 28.00 lakh towards procurement of BTS system for 6.6 kV switchgear in 2023-24 under Regulation 25(2)(c) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the BTS system for 6.6 kV switchgear system was within the original scope and was installed and commissioned at the generating station. It has also submitted that the hardware and software of BTS has become obsolete and the OEM will not be giving any further support on the same. Therefore, the Petitioner has proposed to upgrade the BTS system. The matter has been considered. As the additional capital expenditure claimed is for replacement of the asset on account of obsolescence of the technology, the additional capital expenditure as claimed by the Petitioner is allowed under this head.

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

***Implementation of the RGMO control for Gas Turbine***

18. The Petitioner has claimed additional capital expenditure of Rs. 100.00 lakh towards implementation of RGMO control for Gas Turbine, in 2020-21, under



Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per IEGC, RGMO is mandatory for Gas Based Thermal unit having capacity of 50MW and above. It has stated that the rated capacity of Gas Turbine at the generating station is 65.42 MW and the existing control system at the generating station is Mark-Vie, where RGMO is not available. Thus, due to the change in the Regulation, the Petitioner has proposed to incorporate the RGMO control at its generating station. The matter has been considered. It is observed that as per IEGC, RGMO is mandatory for all generating units in view of grid reliability requirements. In view of this, the additional capital expenditure of Rs 100.00 lakh claimed for implementation of the RGMO control of the Gas Turbine is allowed to the generating station under Regulation 26(1)(b) of the 2019 Tariff Regulations.

***Online calibration of CEMS equipment***

19. The Petitioner has claimed additional capital expenditure of Rs. 11.50 lakh towards Online calibration of CEMS equipment in 2019-20, under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per the Central Pollution Control Board (CPCB) guidelines, now online calibration of CEMS equipment from CPCB portal is mandatory. Accordingly, for equipment required for online calibration of CEMS, analyser instruments for By-pass Stack and Main Stack have been installed at the generating station. It has also submitted that earlier online calibration was not mandatory and therefore facilities were not available in original equipment. The Petitioner has submitted that the additional capital expenditure is due to change in law, as per directions of CPCB. The matter has been considered. It is observed that the Petitioner has claimed the proposed additional capital expenditure on account of change in law but instead of referring to Regulation



26(1)(b) of the 2019 Tariff Regulations, the Petitioner has referred to the Regulation 26(1)(d) of the 2019 Tariff Regulations. The Regulation 26(1)(d) of the 2019 Tariff Regulations provides for consideration of additional capital expenditure needed 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. Considering the necessity of the additional capital expenditure, the same is being allowed under Regulation 26(1)(b) of the 2019 Tariff Regulation (as claimed by the Petitioner), subject to truing up. However, the Petitioner has not furnished the documents as directed by CPCB, accordingly, the Petitioner is directed to furnish proper justification along with documentary evidence at the time of the truing up of tariff.

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

*(Rs. in lakh)*

Sl. No	Head of Work/ Equipment	Total claim	Justification for claim
1	Construction of foundation for additional acid storage tank near the DM Plant in 2019-20.	5.00	Currently 2 Nos. Acid Storage Tanks of 10 MT capacity each is installed. Minimum Order quantity for Acid is 20 MT, hence another Tank of 8 MT capacity was procured to store additional acid, so that dead storage can be maintained in the existing 10 MT tanks. Therefore, the Petitioner has proposed to construct the foundation for new 8 MT Acid Storage Tank.
2	Supply, Installation, Testing and Commissioning of the extension of LAN connection and installation of the CCTV cum surveillance system in 2019-20.	50.00	The Petitioner has submitted that the generating station is located in vicinity of Bangladesh international boundary. This area is very vulnerable from the security point of view. Some portion of international border is still unfenced. Several instructions were received time to time from competent authority to be on alert in view of increased terrorist activities in nearby country Bangladesh.
3	Display of environmental data at the main factory gate in 2019-20.	3.10	The Petitioner has submitted that as per the order of Hon'ble Supreme Court, display of data outside main factory gate about water, air emission, Noise Level, solid waste, and hazardous chemical is essential. The Data display system was not included in the original scope. To maintain and compliance the law, immediate installation and commissioning of display system is required.
4	Modification of the Plant Gate in 2020-21.	8.00	The project is in the vicinity of the International Border. Several instructions were received from





			the Competent Authority to be on alert in view of increased terrorist activities in the neighboring country i.e., Bangladesh. Hence, modification of the Plant Gate from security perspective is felt necessary.
5	Online Condition Monitoring for 2 Nos. of 132/6.6 kV Station Service Transformer	117.12	There are 2 Nos. of Generator transformers viz rating 100MVA and 55 MVA, 11/132KV for GTG and STG respectively. Also, there are 2 Nos. power transformer (SST) for Station Supply of rating 20MVA, 132/6.6KV. To monitor the health of transformers, the Petitioner has proposed to incorporate online monitoring system.
6	Fencing works for the water treatment plant in 2019-20.	8.00	The Petitioner has submitted that to supply potable water to the residents of the project premises, raw water is collected in open RCC reservoir and then treated in the Colony premises. Currently, there is no fencing to restrict entry of unauthorised person to avoid any contamination to the water treatment process. Further to maintain safety and security of the area, construction of fencing is necessary.
7	Construction of shed for fire tender and fire staff in 2019-20	9.20	The Petitioner has submitted that in addition to automatic fire fighting system, provision for round the clock service of fire tender is mandatory to attend any fire incident within the premises of the generating station. The jungle around the generating station is prone to catch fire during dry season i.e., in the month of January/February, hence, attendance of Fire tender is must during such time. Hence, the Petitioner has proposed the requirement for the construction of shed for fire tender along with room for fire staff.
8	Construction of parking facilities for Powerhouse staff in 2019-20	5.20	The Petitioner has submitted that as per DPR , parking facility, Cycle Stand etc. shall be provided near to workstations and there is no existing parking facility nearby Powerhouse Area. Currently the vehicles are parked in open places in an unorganized way and during rainy season the problem of parking vehicle increases.
9	Construction of ATM counter in 2019-20	0.74	The Petitioner has submitted that due to remoteness of the area, there is no ATM counter in the vicinity. Further, because of rural area cashless transactions facilities are not available in the rural shops. Hence, an ATM counter is necessary for convenience of the Staff to meet up their day-to-day expenses.
10	Construction of the Driver's restroom cum ATM Dish Platform in 2019-20	2.00	The Petitioner has submitted that, there is no room available for sitting of Drivers. This is required for the drivers to wait nearby to their vehicles i.e., in the parking area. During rainy season it becomes inconvenient for the drivers without any designated place for sitting / waiting. Further for the ATM Counter, installation of ATM Signal Dish requires RCC roof top for permanent fixing of the Signal Dish. Therefore, the Petitioner has constructed a room for drivers, whose roof top will be used for installation of ATM Signal Dish.
11	Construction of the connecting footpath from STG building and GT building in 2019-20	5.26	The Petitioner has submitted that, the GT Building and STG Building are not connected directly via any approach road. During rainy season or night-



			time in case of emergency it becomes inconvenient for the O&M Staff to communicate between STG and GT building. Therefore, the Petitioner has constructed a footpath with shed connecting STG and GT building for its O&M staff.
12	Construction of shed for storing the Transformer Oil yard at the Powerhouse premises in 2020-21	14.00	The Petitioner has submitted that currently there is no designated area for storing of transformer oil, which is presently being kept at open area near the Central Store building. Due to wild growth of jungle the area becomes inaccessible. The vehicles also cannot move to carry oil barrels to the storing place. Therefore, the Petitioner has proposed a designated storage yard with a shed to avoid any damage to the oil barrels and for the ease of operations.
13	Covering of the BFP building with the Chequered Plate at the floor level of 105.425 m at Powerhouse premises in 2020-21	10.00	The Petitioner has submitted that during the rainy season, the BFP and auxiliaries need frequent attendance as there is no shed/protection to prevent rainwater damaging the equipment. To protect the BFP and its auxiliaries from rain and to facilitate the maintenance personnel to work during the exigency in rainy season, it is necessary to cover the BFP building with the chequered Plate at floor level of 105.425 m.
14	Development of a Regional Training Centre at the generating station in 2020-21	20.00	The Petitioner has submitted that to extend training facilities and to enable customized in-house training programme in a cost effecting manner at the project site a Regional Training centre is proposed. This will also serve as a means of interaction and knowledge sharing platform amongst the employees posted at different locations of the North East Region.
15	Construction of new laboratory near the DM Plant at the generating station in 2021-22	17.00	The Petitioner has submitted that the existing laboratory inside the DM Plant is very small and hence all the apparatus cannot be accommodated. Much of the equipment like oven, incubator, etc. could not be properly installed due to the space constraints. Further, the up-gradation of the DM Plant could not be taken up since there is no space for installation of new equipment, hence, a new laboratory room is proposed by the Petitioner.
16	Purchase of Thermo-vision Camera in 2021-22	37.00	The Petitioner has submitted that being a thermal generating station, the operating temperature is very high, where the loss of heat means loss in efficiency, which ultimately reduces the Plant output. To plan the preventive maintenance, periodical analysis of the hot spot without disturbing the generation the additional capital expenditure is essential. Also, the generating station has 9 bays of 132 kV switchyard and the hotspot of the switchyard cannot be visualized by the naked eyes. The conductors will snap if timely attention is not taken, therefore, a good quality of Thermo-vision camera is very essential, which was not kept under the original scope.
17	Purchase of 15 kV Insulation Tester in 2021-22	10.50	The Petitioner has submitted that the generating voltage of the generating station is at 11 kV and the transmission voltage is 132 kV and in a power station a good quality of Insulation Tester is very



			essential to measure the accurate IR and to analyse the condition of the equipment, which was not included under the original scope.
18	Procurement of 1 No. of 1010 kVA DG Set in 2022-23.	357.00	The Petitioner has submitted that there is one 1010 kVA DG set at the generating station as per the original scope for safe shutdown of the thermal machines. It is very difficult to carry periodical maintenance of EDG set during the running as well as shutdown of the machines. The 132 kV grid connected with the generating station is also very unstable specially during the rainy season. The existing DG set is feeding only emergency load which is not sufficient to maintain the machine in FSNL. To keep machine in FSNL condition, cooling water and IA/PA and N2 system, etc are required to be kept in service. Therefore, the Petitioner has proposed the requirement of procuring one more DG set of the same capacity, where the estimate is prepared considering the price escalation on the expenditure in original scope.

20. It is observed that the Petitioner has claimed total additional capital expenditure of Rs 322.12 lakh (against item nos. 1 to 17 above) under Regulation 26(1)(d) of the 2019 Tariff Regulations. Though the Petitioner has claimed the said additional capital expenditure as per Regulation 26(1)(d) of the 2019 Tariff Regulations (which provides for consideration of additional capital expenditure needed for higher safety and security of the generating station as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security), the Petitioner has not furnished any documentary evidence in support of the same as per requirement of Regulation 26(1)(d) of the 2019 Tariff Regulations. Further, the items claimed above are of O&M in nature. In the above background, the additional capital expenditure claimed by the Petitioner is not being allowed. However, the Petitioner is granted liberty to claim the said additional capital expenditure at the time of the truing up of tariff with proper justification, along with the documentary evidence and the same will be dealt in accordance with the 2019 Tariff Regulations and subject to prudence check.



21. As regards the additional capital expenditure claimed for the asset in Sl. No.18 above, it is observed that, the Petitioner has claimed the additional capital expenditure of Rs. 357.00 lakh towards procurement of 1 No. of 1010 kVA DG Set in 2022-23 under Regulation 26(1)(d) of the 2019 Tariff Regulations. In thermal generating stations, DG sets are used as an emergency backup power source for the station's critical auxiliary equipment such as cooling pumps, fans, hydraulic units, battery chargers, etc. Though the Petitioner has claimed the said additional capital expenditure for higher safety and security of the generating station, it is observed that the claims are devoid of any advice or directions by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security. We also observe that the Petitioner has not furnished any supporting document required in terms of Regulation 26(1)(d) of the 2019 Tariff Regulations. Considering this background, we are not inclined to allow the additional capital expenditure claimed by the Petitioner under Regulation 26(1)(d) of the 2019 Tariff Regulations. However, we observe that the Petitioner has not mentioned how many DG sets were provisioned under RCE-II. Since the DG set is required during emergency conditions and generally all the generating stations have a standby DG set, the Petitioner is directed to clarify that why it had provisioned for only for one DG set. The Petitioner is, granted liberty to claim the said additional capital expenditure under appropriate regulation, with justification, along with supporting documents at the time of the truing up of tariff.

**Additional Capital Expenditure claimed under Regulation 35(6) of the 2019 Tariff Regulations**

22. The Petitioner has claimed the following additional capital expenditure under Regulation 35(6) of the 2019 Tariff Regulations:



(Rs. in lakh)

S. No	Head of Work/ Equipment	Regulation	Total	Justification for claim
1	Supply of HGPI Capital Parts and Hardware and site service for HGPI	35(6)	9519.00	As per OEM manual, CIBI and HGPI is required for Gas Turbine after 12000 and 24000 running hrs. respectively. The HGPI is due in 2019-20. The temperature in the combustion chamber of Frame 6FA machine is very high and therefore required to replace the same after 12000 Fired Hours. Now, OEM has recommended post up-gradation HGPI through latest technology so that running hrs capability of Hot Gas path materials shall be increased to 24000 hrs and also CIBI will not be required. It will increase the availability of machine, increase thermal efficiency and eliminate CIBI cost which is nearly 25 crores.
2	Supply of SFC spares for GTG		100.10	Static Frequency Converter is the Starting Device of GTG which motorise GTG in the same direction of rotation and supply the torque till it self-sustains. This is very vital equipment of GTG and healthiness of SFC is most important for running of plant. Accordingly, order is placed with OEM for capital spares which will be utilised during breakdown of SFC. Only the item costing 5 lakh and more considered for additional capital expenditure.
3	Procurement of 3-phase Squirrel cage Induction Motor for STG Main Oil Lub Pump.		(-) 9725.66	Spare motor was not included in EPC contract with BHEL. STG cannot be run without lube oil pump. Therefore, to avoid the



S. No	Head of Work/ Equipment	Regulation	Total	Justification for claim
				STG generation loss, spare lube oil motor is required.
4	Procurement of Mandatory Spares for ABB make 11KV, indoor type Generator Circuit Breaker (1-LOT))		65.75	To facilitate the starting of GTG by SFC, 11KV, indoor type ABB make, SF6 Generator Circuit Breaker is in use at the generating station as per design. This breaker is most vital for generation and the spares for same are not available. The lead time of spares are very high as same is overseas materials. Therefore, in order to meet up the emergency demand mandatory spares are required to reduce the shutdown period of the generating station.
5	Procurement of 200KVA DG set for Intake		20.00	The generating station is drawing water from Gumti River which is nearly 7 KM far from the generating station. There is intake pump house near the river whose power is supplied from the generating station through 33KV overhead line. The line is passing through the village area and is very prone to the fault. There is 2 Nos. of 90KW pump motors, 2 Nos. sludge motors etc. It is proposed to procure 250KVA, 3-Phase EDG set to provide uninterrupted power supply at intake pump house during line fault.
6	Procurement of single-phase HV Coils for 100MVA and 55MVA, 11/132 transformer		230.90	3-phase, 100MVA and 55 MVA, 11/132KV Generator Transformer has been used at the generating station for GTG and STG respectively. The spare transformer and coils are not included in EPC



S. No	Head of Work/ Equipment	Regulation	Total	Justification for claim
				package. The lead time for manufacturing and transportation of coils are very high. It is proposed to procure the said capital spare to meet the emergency requirement and avoid the prolong shut down of machines due to non-availability of spare coils/transformer.
7	Procurement of Generator Bearing Shell for STG		17.60	The spare was not included in EPC contract with BHEL. For smooth running of STG, these capital spares are essential. The lead time of these items is very high. Therefore, to avoid generation loss, the said items are to be kept ready.
8	Spares for 20 MVA, 132/6.6KV SST such as HV bushing, LV bushing, OLTC, PRV, CTs, relays etc.		(-) 746.27	There are no spares available at site against the 20 MVA station service transformer. Considering the lead time for supply of spares, it is proposed to purchase the spares.
9	Offline Standby CO2 Cylinders Bank for Zone-1		41.40	CO2 bank is provided for safety of different zones of Gas-turbine and Generator. There are 39 Nos. of CO2 cylinders for fire safety of Zone-1 (Fire protection of Generator). The generating station is situated in very remote place and nearest CO2 cylinder filling facility is in Kolkata which is nearly 2200 Km from Monarchak site by road. There is transportation constraint due to hilly terrain. In case of fire in Generator portion and therefore release of CO2 from CO2 bank, minimum 3-months will be required to fill the cylinders. During that period GTG cannot be run



S. No	Head of Work/ Equipment	Regulation	Total	Justification for claim
				as per statutory guideline and safety reason. Considering above, it is proposed to procure and install of standby CO2 bank consisting of 39 Nos. cylinder for uninterrupted power generation.
10	Spare Coil for Dry Type excitation Transformers for GTG and STG unit.		(-) 368.00	There are no spares available at site against the dry type excitation transformers. Considering the lead time for supply of spares, it is proposed to purchase the spares.
11	Spare HV Coil for 20MVA, 132/6.6KV SST Power Transformer		(-) 1717.89	There are no spares available at site against the station service transformers. Considering the lead time for supply of spares, it is proposed to purchase the spares.
	<b>Total additional capital Expenditure</b>		<b>(-) 2563.07</b>	

23. The matter has been considered. As regards item no. 1 i.e. Supply of HGPI capital parts and hardware and site service for HGPI, the Petitioner has claimed Rs. 9519.00 lakh in 2019-20. The Petitioner is however, directed to submit the details of the work capitalised at the time of truing up of tariff for the 2019-24 tariff period. We also observe that the Petitioner, for item no. 3, as per Form 9A for 2019-20, has included undischarged liability of Rs. 9731.88 lakh, in the accrued additional capital expenditure of Rs. 6.22 lakh, which does not appear to be logical. Similar issues have been identified in item Nos. 8, 10 and 11 above. Therefore, the additional capital expenditure against these items shall be considered at the time of truing up on submission of factual details. Accordingly, the Petitioner is directed to submit proper justification for the additional capital expenditure claimed and the quantum of liabilities therein, against the items nos. 3, 8, 10 and 11 above, at the time of truing up of tariff. Moreover, the Petitioner has





claimed the additional expenditure under Regulation 35(6) of the 2019 Tariff Regulations, which provides for admittance of capital spares on the actual consumption basis in the respective years subject to prudence check. As the additional capital expenditure claimed above are in the nature of capital spares, the same has been dealt with under the head 'capital spares' at the time of truing up.

**Additional Capital Expenditure claimed under Regulation 76 and Regulation 77 of the 2019 Tariff Regulations**

24. The Petitioner has claimed the following additional capital expenditure under Regulation 76 and Regulation 77 of the 2019 Tariff Regulations:

*(Rs. in lakh)*

S. No	Head of Work/ Equipment	Regulation	Total claim	Justification for claim
<b>A Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate</b>				
1	Construction of O&M Staff Hostel	76 and 77	5.00	Due to non-availability of outside accommodation in the nearby area and limited rooms in the Guest House of our Project, instead of 1 Nos. 2 storied A-Type Quarter Unit (consisting of 4 Nos Quarter), O&M Staff Hostel consisting 6 Nos. rooms is constructed to accommodate different Service Engineers, who need to visit Project site for maintenance of various equipment / machine.
2	Building Fence (Erector's Hostel)		1.25	Fencing is required for general safety and security of the occupants of the Hostel
3	Construction of Entrance footpath of A & B type quarter at TGBPP, NEEPCO Ltd., Monarchak, Tripura.		0.84	The approach path towards the existing Residential quarters were made up of simple brick soiling due to which the surface gets slippery, and bushes grows over the paths during rainy seasons. In order to avoid regular maintenance expense and slippery surface, the paths are proposed to be cement concrete floored and finished with interlocking tiles.
4	Construction of Footpath and shed from STG Building to SFC Building at TGBPP, NEEPCO Ltd., Monarchak, Tripura.		1.70	A footpath with shed connecting the said buildings is proposed so that the O&M staffs posted at STG and SFC buildings face minimum hindrance during the to and fro movement during heavy rains for the O&M staff to attend emergency works.



5	Illumination of Lawn Tennis Court		3.00	The estimate for civil construction of Lawn Tennis Court is Rs 20.00 lakh
	<b>Subtotal-A</b>		<b>11.79</b>	
<b>B</b>	<b>Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at Weighted Average rate of Interest</b>			
6	Approach road for Quarters of colony.	76 and 77 of	6.56	The Colony Quarters were not connected with the road through approach road due to which wild vegetations, jungles grow rapidly and increases the risk of snakes, insects etc. Therefore, approach road for Quarters connecting the nearby bituminous road was required for convenience and safety of the residents.
7	Construction of civil store room.		10.00	For regular repair and maintenance works of Road & Buildings, Horticultural works etc. tools and tackles, consumables, sanitary items are required for the Project premises. Those items cannot be kept in Central Store as they are for day to day use. Presently, the residential colony does not have any room for storing tools, tackles and other consumable materials. Therefore, a civil store room is proposed for safety of materials, which cannot be kept in open places.
8	Approach road for Guest House, NRC, D-type, C-type Quarters		12.00	The said buildings are at a distant place from the existing road network. Because of absence of proper approach road wild due to which wild vegetations, jungles grow rapidly and increases the risk of snakes, insects etc. Therefore, approach road for Quarters connecting the nearby bituminous road was required for convenience and safety of the residents.
9	Fencing around Guest House		15.00	Fencing is required for general safety and security of the occupants of the Guest House.
10	Cement Concrete flooring over the area surrounding Gas Chromatograph inside plant area of TGBPP.		11.00	Due to lack of Cement Concrete flooring in the mentioned area, wild jungles / vegetations grows very frequently and causes inconvenience to the O&M staffs. Further, growth of wild vegetation damages installed equipment. Due to growing of jungles, the area is prone to fire hazard during dry season. In view of that, Cement concrete flooring over the area is proposed.
11	Construction of stand-in pipe line (1 km) for proving raw water to the water treatment plant at TGBPP.		17.89	The existing Water Treatment Plant to supply potable water to the residents of the Project premises is connected with 2 Nos. borewells, out of which 1(one) is defunct. To have uninterrupted water supply to the residents of the generating station premises, a pipe line connection to another existing borewell, which is 1 KM away from the place of treatment process, is proposed.



12	Periphery road		100.00	There is no motorable periphery road around the generating station premises. A bituminous periphery road is necessary for security patrolling of the generating station, as the area is very close to International Border. Further, several communications have been received from the Competent Authority to be on alert in view of increased terrorist activities in nearby country Bangladesh. Therefore, construction of periphery road around the generating station is required.
13	Procurement of Capital parts for Major inspection of Gas Turbine		1600.00	As per OEM manual, Major inspection of Gas Turbine will be due after 48000 running hours. Correspondingly, the inspection will be due in 2023-24. The temperature of combustion chamber of Frame 6FA machine is very high and therefore it is required to replace the same after 12000 Fired Hours. Now, OEM has recommended post up-gradation of equipment with latest technology so that running hour capability of Hot Gas path materials shall be increased to 24000 fired hours. The Hot Gas path materials which will be removed during the HGBI shall be used in inspection after refurbishment. For MI expenditure, only cost of re-furnishment, hardware and site service has been considered with 30% escalation for estimation purpose.
	<b>Subtotal-B</b>		<b>1772.45</b>	

25. Regulation, 76 of the 2019 Tariff Regulations provides as under:

*“76. Power to Relax: The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.”*

26. As regards the exercise of power to relax, APTEL vide its judgment dated 25.3.2011 in Appeal No. 130/2009 (RGPPL v. CERC & ors) had observed as under:

*“18.1 The Regulations of the Central Commission and the decision of the Tribunal and the Supreme Court confer the judicial discretion to the Central Commission to exercise power to relax in exceptional case. However, while exercising the power to relax there should be sufficient reason to justify the relaxation and non-exercise of discretion would cause hardship and injustice to a party or lead to unjust result. It has also to be established by the party that the circumstances are not created due to act of omission or commission attributable to the party claiming relaxation. Further, the reasons justifying relaxation have to be recorded in writing.”*

27. It is evident from the above, that the exercise of the power to relax is discretionary and there should be sufficient reason to justify the relaxation. The COD of the generating



station is 31.3.2017 and therefore, the cut-off date of the generating station is 31.3.2020. The generating station has already revised its cost estimate twice, after investment approval and the project cost after RCE-II has been increased to Rs.1062.24 crore as against Rs 421.01 crore, approved in the original Investment Approval. The expenditure claimed by the Petitioner are also not covered within the original scope of work and the works like construction of O&M staff hostel, fencing, construction of footpath and shed, approach roads for quarter, etc., as claimed above, are in the nature of civil works are not related to the operation of the generating station. In view of above, we find no justification to allow the additional capital expenditure claimed as above, in exercise of the power under Regulation 76 of the 2014 Tariff Regulations.

28. It is however noticed that the Petitioner has also claimed additional capital expenditure for Rs 1600.00 lakh towards the Procurement of capital parts for major inspection of Gas Turbine. From the justification furnished by the Petitioner, it is observed that as per OEM manual, major inspection of Gas Turbine will be due after 48000 running hours. However, the same is required to be replaced after 12000 Fired Hours, due to high temperature of combustion chamber of Frame 6FA machine. The procurement of capital parts is based on the recommendation of OEM, for post up-gradation of equipment with latest technology, so that running hour capability of Hot Gas path materials, is increased to 24000 fired hours. Though the additional capital expenditure claimed by the Petitioner is for the efficient operation of the generating station, the Petitioner has not clarified as to whether the said work is covered under the scope of Repair and Maintenance of the OEM and whether the defect liability was over. In this background, we are not inclined to allow the claim of the Petitioner. The Petitioner is however, granted liberty to claim the additional capital expenditure at the time of



truing-up and the same will be considered as per applicable regulations. The Petitioner is also directed to submit details of the work included in the contract issued to the OEM.

**Decapitalization**

29. The Petitioner has claimed de-capitalization 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>
Energy meter, Networking & Analysis of Energy meter data	0.00	30.00	0.00	0.00	0.00
Generator Bearing Shell for STG	0.00	17.60	0.00	0.00	0.00
BTS system for 6.6 KV system	0.00	0.00	0.00	0.00	28.00
<b>Total</b>	<b>0.00</b>	<b>47.60</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>

30. The matter has been considered. Regulation 26(2) of the 2019 Tariff Regulations provides that the original value of de-capitalized assets shall be deducted from the capital cost allowed to the generating station. Accordingly, the de-capitalization of the assets allowed as additional capitalisation, as claimed by the Petitioner, is allowed. However, the decapitalisation against assets not allowed for additional capitalisation has not been considered for the purpose of tariff. Based on this, the de-capitalisation allowed for the 2019-24 tariff period is as under:

<i>(Rs. in lakh)</i>					
<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>Total</b>
0.00	0.00	0.00	0.00	28.00	28.00

**Discharge of Liabilities**

31. The Petitioner has claimed discharge of liabilities in Form S, 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>	<b>Total</b>
2690.35	0.00	0.00	0.00	0.00	2690.35

32. The Petitioner has claimed discharges of Rs. 2690.35 lakh during 2019-20, which we find it difficult to identify with corresponding assets. We, however, are provisionally allowing the claimed amount and direct the Petitioner to submit the asset-wise discharge of liabilities against the admitted additional capital expenditure at the time of truing up, failing which, we shall be constrained to disallow the claims.



## Exclusions

33. The Petitioner has claimed positive exclusion of Rs. 13.16 lakh in 2019-20, Rs. 6.31 lakh in 2020-21 and Rs. 10.73 lakh in 2021-22, but has not submitted the details as required in Form 9(D). Considering the fact that the Petitioner has claimed positive exclusions, the same are allowed. However, the Petitioner is directed to submit the details of exclusions at the time of truing up of tariff.

34. Based on the above discussions, the total additional capital expenditure claimed by the Petitioner and allowed for the 2019-24 tariff period is summarized below:

		<i>(Rs. in lakh)</i>					
		2019-20	2020-21	2021-22	2022-23	2023-24	Total
<b>Additional Capital Expenditure under original scope of work (A)</b>							
Electrification of O&M staff Hostel - 2	Claimed	2.00	0.00	0.00	0.00	0.00	<b>2.00</b>
	Approved	2.00	0.00	0.00	0.00	0.00	<b>2.00</b>
Electrification of Security Barrack-2	Claimed	2.40	0.00	0.00	0.00	0.00	<b>2.40</b>
	Approved	2.40	0.00	0.00	0.00	0.00	<b>2.40</b>
Left out works at non plant area like fencing and gravelling of 11/0.415KV colony sub-station, LT cable laying and campus lighting	Claimed	15.60	0.00	0.00	0.00	0.00	<b>15.60</b>
	Approved	15.60	0.00	0.00	0.00	0.00	<b>15.60</b>
NEEPCO Recreational Club at TGBPP.	Claimed	75.00	0.00	0.00	0.00	0.00	<b>75.00</b>
	Approved	75.00	0.00	0.00	0.00	0.00	<b>75.00</b>
2 nos. D- Type Quarters.	Claimed	40.00	0.00	0.00	0.00	0.00	<b>40.00</b>
	Approved	40.00	0.00	0.00	0.00	0.00	<b>40.00</b>
One no. C- Type Quarter consisting 04 Units	Claimed	60.00	0.00	0.00	0.00	0.00	<b>60.00</b>
	Approved	60.00	0.00	0.00	0.00	0.00	<b>60.00</b>
One no. B -Type Quarter consisting 04 Units	Claimed	40.00	0.00	0.00	0.00	0.00	<b>40.00</b>
	Approved	40.00	0.00	0.00	0.00	0.00	<b>40.00</b>
Construction of O&M Staff Hostel	Claimed	5.00	0.00	0.00	0.00	0.00	<b>5.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Procurement of Furniture for Guest House	Claimed	2.00	0.00	0.00	0.00	0.00	<b>2.00</b>
	Approved	2.00	0.00	0.00	0.00	0.00	<b>2.00</b>
Construction of Security Barrack-2	Claimed	18.43	0.00	0.00	0.00	0.00	<b>18.43</b>
	Approved	18.43	0.00	0.00	0.00	0.00	<b>18.43</b>
Building Fence (Erector's Hostel)	Claimed	1.25	0.00	0.00	0.00	0.00	<b>1.25</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Construction of Entrance footpath of A & B type quarter at TGBPP, NEEPCO Ltd., Monarchak, Tripura.	Claimed	0.84	0.00	0.00	0.00	0.00	<b>0.84</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Construction of Footpath and shed from STG Building to SFC Building at TGBPP,	Claimed	1.70	0.00	0.00	0.00	0.00	<b>1.70</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>



		2019-20	2020-21	2021-22	2022-23	2023-24	Total
NEEPCO Ltd., Monarchak, Tripura.							
Electrification of NEEPCO Recreational club	Claimed	0.00	6.00	0.00	0.00	0.00	<b>6.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Electrification of 2 nos. D-Type Quarters, 1(one) no C-Type Quarter consisting 04 units and 1(one) no B- type Quarter consisting 4 units	Claimed	0.00	11.00	0.00	0.00	0.00	<b>11.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Illumination of Lawn Tennis Court	Claimed	0.00	3.00	0.00	0.00	0.00	<b>3.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Energy meter Networking and Analysis of Energy meter data	Claimed	0.00	30.00	0.00	0.00	0.00	<b>30.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Procurement of BTS system for 6.6KV Switchgear	Claimed	0.00	0.00	0.00	0.00	28.00	<b>28.00</b>
	Approved	0.00	0.00	0.00	0.00	28.00	<b>28.00</b>
<b>Subtotal (A)</b>	<b>Claimed</b>	<b>264.22</b>	<b>50.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>	<b>342.22</b>
	<b>Approved</b>	<b>255.43</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28.00</b>	<b>283.43</b>
<b>Additional Capital Expenditure beyond original scope of work (B)</b>							
Fencing works for Water Treatment Plant	Claimed	8.00	0.00	0.00	0.00	0.00	<b>8.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Construction of Shed for Fire Tender and fire staff.	Claimed	9.20	0.00	0.00	0.00	0.00	<b>9.20</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Construction of foundation for additional Acid storage Tank at near DM Plant.	Claimed	5.00	0.00	0.00	0.00	0.00	<b>5.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Construction of Parking facilities for Power House Staff.	Claimed	5.20	0.00	0.00	0.00	0.00	<b>5.20</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
ATM counter	Claimed	0.74	0.00	0.00	0.00	0.00	<b>0.74</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Drivers' rest room cum ATM Dish Platform	Claimed	2.00	0.00	0.00	0.00	0.00	<b>2.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Connecting foot path from STG Bldg. and GT Bldg. during emergency.	Claimed	5.26	0.00	0.00	0.00	0.00	<b>5.26</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Approach road for Quarters of colony.	Claimed	6.56	0.00	0.00	0.00	0.00	<b>6.56</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Online calibration of CEMS equipment.	Claimed	11.50	0.00	0.00	0.00	0.00	<b>11.50</b>
	Approved	11.50	0.00	0.00	0.00	0.00	<b>11.50</b>
Supply, Installation, Testing and Commissioning of Extension of LAN connection & installation of CCTV cum Surveillance System	Claimed	50.00	0.00	0.00	0.00	0.00	<b>50.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Supply of HGPI Capital Parts and Hardware and site service for HGPI	Claimed	9519.00	0.00	0.00	0.00	0.00	<b>9519.00</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Supply of SFC spares for GTG	Claimed	100.10	0.00	0.00	0.00	0.00	<b>100.10</b>
	Approved	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
	Claimed	3.10	0.00	0.00	0.00	0.00	<b>3.10</b>





		2019-20	2020-21	2021-22	2022-23	2023-24	Total
Display of environmental data at main factory gate	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Procurement of 3-phase Squirrel cage Induction Motor for STG Main Oil Lub Pump.	Claimed	(-) 9725.66	0.00	0.00	0.00	0.00	(-) 9725.66
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Shed for storing Transformer Oil yard at Power House premises	Claimed	0.00	14.00	0.00	0.00	0.00	14.00
	Approved	0.00	14.00	0.00	0.00	0.00	14.00
Construction of civil store room.	Claimed	0.00	10.00	0.00	0.00	0.00	10.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Covering of BFP building with chequered Plate at Floor level 105.425 M at Power House Premises	Claimed	0.00	10.00	0.00	0.00	0.00	10.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Modification of Plant Gate.	Claimed	0.00	8.00	0.00	0.00	0.00	8.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Approach road for Guest House, NRC, D-type, C-type Quarters	Claimed	0.00	12.00	0.00	0.00	0.00	12.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Fencing around Guest House	Claimed	0.00	15.00	0.00	0.00	0.00	15.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Development of a Regional Training Centre at TGBPP	Claimed	0.00	20.00	0.00	0.00	0.00	20.00
	Approved	0.00	20.00	0.00	0.00	0.00	20.00
Procurement of Mandatory Spares for ABB make 11KV, indoor type Generator Circuit Breaker (1-LOT)	Claimed	0.00	65.75	0.00	0.00	0.00	65.75
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Procurement of 200KVA DG set for Intake	Claimed	0.00	20.00	0.00	0.00	0.00	20.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Implementation of RGMO control for Gas Turbine	Claimed	0.00	100.00	0.00	0.00	0.00	100.00
	Approved	0.00	100.00	0.00	0.00	0.00	100.00
Procurement of single-phase HV Coils for 100MVA and 55MVA, 11/132 transformer	Claimed	0.00	230.90	0.00	0.00	0.00	230.90
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Procurement of Generator Bearing Shell for STG	Claimed	0.00	17.60	0.00	0.00	0.00	17.60
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Online Condition Monitoring for 2 NOS. 132/6.6 Kv Station Service Transformer	Claimed	0.00	117.12	0.00	0.00	0.00	117.12
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Spares for 20 MVA, 132/6.6KV SST such as HV bushing, LV bushing, OLTC, PRV, CTs, relays etc	Claimed	0.00	(-) 640.37	(-) 105.90	0.00	0.00	(-) 746.27
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Construction of new Laboratory near the DM plant at TGBPP, NEEPCO, Monarchak.	Claimed	0.00	0.00	17.00	0.00	0.00	17.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Offline Standby CO2 Cylinders Bank for Zone-1	Claimed	0.00	0.00	41.40	0.00	0.00	41.40
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Purchase of Thermo-vision Camera	Claimed	0.00	0.00	37.00	0.00	0.00	37.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
	Claimed	0.00	0.00	10.50	0.00	0.00	10.50





		2019-20	2020-21	2021-22	2022-23	2023-24	Total
Purchase of 15 KV Insulation Tester	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Cement Concrete flooring over the area surrounding Gas Chromatograph inside plant area of TGBPP.	Claimed	0.00	0.00	0.00	11.00	0.00	11.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Procurement of 1(one) no 1010KVA DG set	Claimed	0.00	0.00	0.00	357.00	0.00	357.00
	Approved	0.00	0.00	0.00	357.00	0.00	357.00
Spare Coil for Dry Type excitation Transformers for GTG and STG unit.	Claimed	0.00	0.00	0.00	(-) 368.00	0.00	(-) 368.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Construction of stand-in pipe line (1 km) for proving raw water to the water treatment plant at TGBPP.	Claimed	0.00	0.00	0.00	0.00	17.89	17.89
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Periphery road	Claimed	0.00	0.00	0.00	0.00	100.00	100.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Procurement of Capital parts for Major inspection of Gas Turbine	Claimed	0.00	0.00	0.00	0.00	1600.00	1600.00
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
Spare HV Coil for 20MVA, 132/6.6KV SST Power Transformer	Claimed	0.00	0.00	0.00	0.00	(-) 1717.89	(-) 1717.89
	Approved	0.00	0.00	0.00	0.00	0.00	0.00
<b>Subtotal (B)</b>	<b>Claimed</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
	<b>Approved</b>	<b>11.50</b>	<b>134.00</b>	<b>0.00</b>	<b>357.00</b>	<b>0.00</b>	<b>502.50</b>
<b>De-capitalization (C)</b>							
De-capitalization	Claimed	0.00	47.60	0.00	0.00	28.00	75.60
	Approved	0.00	0.00	0.00	0.00	28.00	28.00
<b>Discharge of liability (D)</b>							
Discharge of liability corresponding to allowed works	Claimed	2690.35	0.00	0.00	0.00	0.00	2690.35
	Approved	2690.35	0.00	0.00	0.00	0.00	2690.35
<b>Total Additional Capital Expenditure (E= A + B-C+D)</b>	<b>Claimed</b>	<b>2954.57</b>	<b>2.40</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2956.97</b>
	<b>Approved</b>	<b>2957.28</b>	<b>134.00</b>	<b>0.00</b>	<b>357.00</b>	<b>0.00</b>	<b>3448.28</b>

### **Additional Capital Expenditure Eligible for Normal ROE:**

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Admitted projected additional capital expenditure (A)	255.43	0.00	0.00	0.00	28.00	283.43
Less: De-capitalization of assets (B)	0.00	0.00	0.00	0.00	28.00	28.00
Less: Undischarged Liabilities (C)	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges of liabilities (against allowed assets / works) (D)	2690.35	0.00	0.00	0.00	0.00	2690.35
Net projected additional capital expenditure allowed (on cash basis) (E) = (A-B-C+D)	2945.78	0.00	0.00	0.00	0.00	2945.78



### **Additional Capital Expenditure Eligible for WAROI ROE:**

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24	Total
Admitted projected additional capital expenditure (A)	11.50	134.00	0.00	357.00	0.00	502.50
Less: De-capitalization of assets (B)	0.00	0.00	0.00	0.00	0.00	0.00
Less: Undischarged Liabilities (C)	0.00	0.00	0.00	0.00	0.00	0.00
Add: Discharges of liabilities (against allowed assets / works) (D)	0.00	0.00	0.00	0.00	0.00	0.00
Net projected additional capital expenditure allowed (on cash basis) (E) = (A-B-C+D)	11.50	134.00	0.00	357.00	0.00	502.50

### **Capital cost allowed**

35. Accordingly, the capital cost allowed for the purpose of tariff for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost (A)	102977.25	105934.53	106068.53	106068.53	106425.53
Add: Admitted Additional capital expenditure (B)	2957.28	134.00	0.00	357.00	0.00
<b>Closing Gross Block (C) = (A+B)</b>	<b>105934.53</b>	<b>106068.53</b>	<b>106068.53</b>	<b>106425.53</b>	<b>106425.53</b>
Average Gross Block (D) = (A+C)/2	104455.89	106001.53	106068.53	106247.03	106425.53

### **Debt-Equity Ratio**

36. 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.”

37. The gross loan and equity amounting to Rs. 72084.07 lakh and Rs. 30893.18 lakh respectively, as on 31.3.2019, was considered in order dated 26.6.2021 in Petition No. 271/GT/2019. Accordingly, the gross loan and equity amounting to Rs. 72084.07 lakh and Rs. 30893.18 lakh, has been considered as opening gross loan and equity, as on 1.4.2019. Further, the projected additional capital expenditure approved as above, has been claimed to be funded in the debt: equity ratio of 70:30. The details of debt-equity ratio considered are shown as under:



(Rs. in lakh)

	As on 1.4.2019		Projected additional capital expenditure during the 2019-24 tariff period		As on 31.3.2024	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt (A)	72084.07	70.00%	2413.80	70.00%	74497.87	70.00%
Equity (B)	30893.18	30.00%	1034.48	30.00%	31927.66	30.00%
<b>Total (C) = (A) + (B)</b>	<b>102977.25</b>	<b>100.00%</b>	<b>3448.28</b>	<b>100.00%</b>	<b>106425.53</b>	<b>100.00%</b>

### **Return on Equity**

38. 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.”

39. Regulation 31(3) of the 2019 Tariff Regulation provides for grossing up of Return on Equity (ROE) with effective tax rate during the 2019-24 tariff period. The ROE for the existing asset base and the additional capital expenditure allowed in this order for asset/works, within the original scope of work, has been calculated by grossing up of base ROE, at MAT rate of 17.472%, as submitted by the Petitioner. Regulation 30(1) of the 2019 Tariff Regulations provides for computation of ROE, on the equity base, as



determined in accordance with Regulation 18 of the 2019 Tariff Regulations. While clause (1) of Regulation 18 provides for the determination of the debt-equity ratio for new projects, clauses (3) and (4) of the said Regulation provides for consideration/ determination of the debt-equity ratio in respect of the generating stations declared under commercial operation prior to 1.4.2019. Further, clause (5) of the said regulation provides that the admitted additional capital expenditure incurred or projected to be incurred on or after 1.4.2019, is to be serviced in the manner specified in clause (1) of Regulation 18 of the 2019 Tariff Regulations. On the same analogy, Regulation 30(2) of the 2019 Tariff Regulations provides for the computation of at the base rate of 15.50% (for thermal generating stations) while the proviso to Regulation 30(2) provide for computation of ROE in respect of additional capitalization after cut-off date, beyond the original scope, excluding additional capitalization due to change in law, at the weighted average rate of interest on actual loan portfolio of the generating station. It is however noticed that as per clause (1) of Regulations 31 of the 2019 Tariff Regulations (Tax on ROE), the base rate of return on equity, as allowed by the Commission under Regulation 30 of the said regulations, is required to be grossed up with the effective tax rate of the respective financial year. Thus, we are of the view, that on a harmonious construction of the provisions of Regulation 18 with Regulation 30 and 31 of the 2019 Tariff regulations, the ROE computed at the pre-determined base rate of 15.50% and ROE computed at the weighted average rate of interest (WAROI) are required to be grossed up with the effective tax rate of the respective financial year. Accordingly, the ROE has been worked out as under:

**Return on Equity on additional capital expenditure up to cut-off date**

**(Rs. in lakh)**

	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Normative Equity-Opening (A)	30893.18	30969.81	30969.81	30969.81	30969.81





	2019-20	2020-21	2021-22	2022-23	2023-24
Addition of Equity due to additional capital expenditure (B)	76.63	0.00	0.00	0.00	0.00
Normative Equity-Closing (C) = (A) + (B)	30969.81	30969.81	30969.81	30969.81	30969.81
Average Normative Equity (D) = (A+C)/2	30931.49	30969.81	30969.81	30969.81	30969.81
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%
<b>Return on Equity (Pre-Tax) annualised (H) = (D)x(G)</b>	<b>5809.55</b>	<b>5816.75</b>	<b>5816.75</b>	<b>5816.75</b>	<b>5816.75</b>

#### Return on Equity on additional capital expenditure after to cut-off date

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Equity - Opening (A)	0.00	3.45	43.65	43.65	150.75
Addition of Equity due to additional capital expenditure (B)	3.45	40.20	0.00	107.10	0.00
Normative Equity-Closing (C) = (A) + (B)	3.45	43.65	43.65	150.75	150.75
Average Normative Equity (D) = (A+C)/2	1.73	23.55	43.65	97.20	150.75
Weighted average rate of interest on actual loan portfolio (E)	8.271%	8.392%	8.415%	8.435%	9.153%
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)	10.022%	10.169%	10.197%	10.220%	11.090%
<b>Return on Equity (Pre-Tax) annualised (H) = (D)x(G)</b>	<b>0.17</b>	<b>2.39</b>	<b>4.45</b>	<b>9.93</b>	<b>16.72</b>

#### Interest on Loan

40. 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.”*

41. Interest on loan has been computed as under:

- (i) The gross normative loan amounting to Rs. 72084.07 lakh has been considered as on 1.4.2019;
- (ii) Cumulative repayment amounting to Rs. 12148.41 lakh as on 31.3.2019 as considered in order dated 26.6.2021 in Petition No. 271/GT/2019 has been considered as on 1.4.2019;
- (iii) Accordingly, the net normative opening loan as on 1.4.2019 works out to be Rs. 59935.66 lakh;
- (iv) Addition to normative loan on account of additional capital expenditure approved above has been considered;
- (v) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2019-24 tariff period;

42. The Petitioner has claimed interest on loan by applying the weighted average rate of interest of 8.27% in 2019-20, 8.39% in 2020-21, 8.42% in 2021-22, 8.43% in 2022-23 and 9.15% in 2023-24. The Petitioner, is however, directed to submit the documentary evidence of rate of interest, considered in Form-N and for repayment schedule of loan at the time of truing up of tariff. Accordingly, Interest on loan has been worked out as follows:





(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross opening loan (A)	72084.07	74154.17	74247.97	74247.97	74497.87
Cumulative repayment of loan upto previous year (B)	12148.41	17207.55	22358.83	27510.41	32671.31
Net Loan Opening (C) = (A) - (B)	59935.66	56946.62	51889.13	46737.55	41826.56
Addition due to additional capital expenditure (D)	2070.10	93.80	0.00	249.90	0.00
Repayment of Loan during the period (E)	5059.14	5151.29	5151.58	5160.89	5170.16
Less: Repayment adjustment on a/c of decapitalization (F)	0.00	0.00	0.00	0.00	10.01
Net Repayment of Loan during the period (G) = (E) - (F)	5059.14	5151.29	5151.58	5160.89	5160.15
Net Loan Closing (H) = (C) + (D) - (G)	56946.62	51889.13	46737.55	41826.56	36666.41
Average Loan (I) = (C+H)/2	58441.14	54417.87	49313.34	44282.06	39246.49
Weighted Average Rate of Interest of loan (J)	8.2713%	8.3923%	8.4150%	8.4347%	9.1527%
<b>Interest on Loan (K) = (I)*(J)</b>	<b>4833.85</b>	<b>4566.92</b>	<b>4149.73</b>	<b>3735.06</b>	<b>3592.13</b>

## Depreciation

43. 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.”*

44. Accordingly, the cumulative depreciation amounting to Rs. 12144.77 lakh as on 31.3.2019, as considered in order dated 26.6.2021 in Petition No. 271/GT/2019, has been retained for the purpose of tariff. The balance depreciable value (before providing depreciation) for the year 2019-20 works out to Rs. 81865.53 lakh. Depreciation shall be calculated by applying the weighted average rate of depreciation (WAROD) for the



2019-24 tariff period. Since, as on 1.4.2019, the elapsed life of the generating station is 2.82 years, which is less than 12 years from the effective station COD of 4.6.2016, depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) for the 2019-24 tariff period. The calculations for WAROD is enclosed as Annexure-I to this order. Accordingly, depreciation 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>
Average Capital Cost (A)	104455.89	106001.53	106068.53	106247.03	106425.53
Value of freehold land included above (B)	0.00	0.00	0.00	0.00	0.00
Average Capital cost, net of freehold land (C)=(A-B)	0.00	0.00	0.00	0.00	0.00
Aggregated Depreciable Value (D)= (C*90%)	94010.30	95401.38	95461.68	95622.33	95782.98
Remaining aggregate depreciable value at the beginning of the year (E) = (D) - (M)	81865.53	78197.46	73106.48	68115.55	63115.31
No. of completed years at the beginning of the year (F)	2.82	3.82	4.82	5.82	6.82
Balance useful life at the beginning of the year (G) = 25 - (F)	22.18	21.18	20.18	19.18	18.18
Weighted Average Rate of Depreciation (WAROD) (H)	4.8433%	4.8596%	4.8568%	4.8574%	4.8580%
<b>Combined Depreciation during the year/ period (Prorated) (I) = (A) * (H)*(No. of days in operation/No. of days in year)</b>	<b>5059.14</b>	<b>5151.29</b>	<b>5151.58</b>	<b>5160.89</b>	<b>5170.16</b>
Combined Depreciation during the year/ period (Annualized) (J) = (A) * (H)	5059.14	5151.29	5151.58	5160.89	5170.16
Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (K) = (J) + (M)	17203.91	22355.20	27506.78	32667.67	37837.83
Less: Depreciation adjustment on account of de-capitalization (L)	0.00	0.00	0.00	0.00	10.01
Cumulative depreciation at the end of the year (M) = (K) - (L)	17203.91	22355.20	27506.78	32667.67	37827.82



### **Operation & Maintenance Expenses**

45. Regulation 35(1)(3) of the 2019 Tariff Regulations provides for the O&M expense norms for combined cycle gas turbine power generating stations equipped with Advance F Class Machines as follows:

*(in Rs. lakh/MW)*

2019-20	2020-21	2021-22	2022-23	2023-24
26.34	27.27	28.23	29.22	30.24

46. The O&M expenses claimed by the Petitioner are in terms of Regulation 35(1)(3) of the 2019 Tariff Regulations and the same is allowed as under:

*(Rs. in lakh)*

2019-20	2020-21	2021-22	2022-23	2023-24
2660.34	2754.27	2851.23	2951.22	3054.24

### **Water Charges**

47. The Petitioner has not claimed any water charges during the 2019-24 tariff period. Accordingly, water charges have not been considered in this order.

### **Security Charges**

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

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

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

49. The Petitioner has claimed total security expenses for Rs. 607.81 lakh for the 2019-24 tariff period (i.e., Rs. 101 lakh in 2019-20, Rs. 115.50 lakh in 2020-21, Rs. 121.27 lakh in 2021-22, Rs. 127.34 lakh in 2022-23 and Rs 133.70 lakh in 2023-24) in terms of Regulation 35(1)(6) of the 2019 Tariff Regulations. The Petitioner has submitted that above expenses has been claimed based on the estimated expenses for



the period 2019-24 and shall be subject to retrospective adjustment, based on actuals, at the time of truing up.

50. The matter has been considered. It is observed that the Petitioner has projected security expenses for the 2019-24 period, by considering 5% escalation over the actual security expenses of Rs. 95.84 lakh allowed in 2018-19. Considering the fact that security expenses for the 2019-24 tariff period, is required to be allowed separately, after prudence check, based on the assessment of the security requirement and estimated expenses to be furnished by the Petitioner, we provisionally allow the security expenses for the 2019-24 tariff period with 5% escalation per year, on the actual expenses incurred for 2018-19 (i.e. Rs. 95.84 lakh). The Petitioner shall, at the time of truing up, furnish the actual security expenses incurred along with proper justification and assessment in terms of Regulation 35(1)(6) of the 2019 Tariff Regulations. Accordingly, the security expenses as claimed by the Petitioner and allowed are summarised below:

*(Rs. in lakh)*

	2019-20	2020-21	2021-22	2022-23	2023-24
Claimed	110.00	115.50	121.27	127.34	133.70
<b>Allowed</b>	<b>100.63</b>	<b>105.66</b>	<b>110.95</b>	<b>116.49</b>	<b>122.32</b>

51. The Petitioner is however directed to furnish the requisite details of the security expenses incurred, at the time of truing up of tariff.

### **Capital spares**

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

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

*... 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”*

53. The third proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides that the Petitioner has to confirm that the capital spares claimed has not been funded through compensatory allowance as per Regulation 17 of the 2019 Tariff Regulations or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization. It is observed that the Petitioner has submitted that capital spares are being claimed as part of additional capital expenditure and same has also been included as part of Form 9A. As per proviso to Regulation 35(1)(6) of 2019 Tariff Regulations, the Petitioner is required to submit details of the year-wise actual capital spares consumed at the time of truing-up of tariff with proper justification of the same. In view of the above, the capital spares as claimed by the Petitioner have not been allowed. The Petitioner is however granted liberty to claim the actual capital spares consumed (year-wise) along with proper justification for the same along with confirmation that the same is not funded through compensatory allowance as per Regulation 17 of the 2019 Tariff Regulations or Special Allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

### **Summary of O&M expenses**

54. Accordingly, the total O&M expenses allowed for the generating station is summarised below:

		<i>(Rs. in lakh)</i>				
		2019-20	2020-21	2021-22	2022-23	2023-24
Installed Capacity (MW) (A)		101.00	101.00	101.00	101.00	101.00
	Claimed	2660.34	2754.27	2851.23	2951.22	3054.24



		2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses under Reg.35(1) in Rs lakh / MW (B)	Allowed	2660.34	2754.27	2851.23	2951.22	3054.24
Water Charges (in Rs lakh) (C)	Claimed	0.00	0.00	0.00	0.00	0.00
	Allowed	0.00	0.00	0.00	0.00	0.00
Security Expenses (in Rs lakh) (D)	Claimed	110.00	115.50	121.27	127.34	133.70
	Allowed	100.63	105.66	110.95	116.49	122.32
Capital Spares (in Rs lakh) (E)	Claimed	9578.45	471.37	88.90	377.00	1688.00
	Allowed	0.00	0.00	0.00	0.00	0.00
<b>Total O&amp;M Expenses as allowed (including Water Charges and Capital Spares Consumed) (F) = (B+C+D+E)</b>	<b>Claimed</b>	<b>12348.79</b>	<b>3341.14</b>	<b>3061.40</b>	<b>3455.56</b>	<b>4875.94</b>
	<b>Allowed</b>	<b>2760.97</b>	<b>2859.93</b>	<b>2962.18</b>	<b>3067.71</b>	<b>3176.56</b>

### Operational Norms

55. The operational norms claimed by the Petitioner is as follows:

Normative Annual Plant Availability Factor (NAPAF) (%)	85%
Gross Station Heat Rate (kcal/kwh)	1967.385
Auxiliary Power Consumption (%)	3.30

### **Normative Annual Plant Availability Factor**

56. Regulation 49 of the 2019 Tariff Regulations provides as follows:

- (A) Normative Annual Plant Availability Factor (NAPAF)  
(a) For all thermal generating stations, except those covered under clauses (b), (c), (d), & (e) - 85%.

57. The Normative Annual Plant Availability Factor (NAPAF) of 85% as claimed by the Petitioner has in terms of the said Regulations has been considered.

### **Gross Station Heat Rate**

58. Regulation 49(C)(c) of the 2019 Tariff Regulations provides as follows:

*“(c) For Gas-based/ Liquid-based Thermal Generating Unit(s)/ Block(s) having COD on or after 1.4.2009:  
For Natural Gas = 1.050 X Design Heat Rate of the unit/block (kCal/kWh)  
For RLNG =1.071 X Design Heat Rate of the unit/block for Liquid Fuel (kCal/kWh)  
Where the Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR and at site ambient conditions; and the Design Heat Rate of a block shall mean the guaranteed heat rate for a block at 100% MCR, site ambient conditions, zero percent make up, design cooling water temperature/back pressure”*





59. The Gross Station Heat Rate of 1967.385 kCal/kWh for Combined Cycle as claimed by the Petitioner and considered by the Commission in order dated 26.6.2021 in Petition No.271/GT/2019, has been considered for the purpose of tariff.

### **Auxiliary Power Consumption**

60. Regulation 49(E)(c)(i) of the 2019 Tariff Regulations provides Auxiliary power consumption as follows:

*(E) Auxiliary Energy Consumption*

*(c) For Gas Turbine /Combined Cycle generating stations:*

*(i) Combined Cycle : 2.75%*

*(ii) Open Cycle : 1.00%*

*Provided that where the gas based generating station is using electric motor driven Gas Booster Compressor, the Auxiliary Energy Consumption in case of Combine Cycle mode shall be 3.30% (including impact of air-cooled condensers for Steam Turbine Generators):*

*Provided further that an additional Auxiliary Energy Consumption of 0.35% shall be allowed for Combine Cycle Generating Stations having direct cooling air cooled condensers with mechanical draft fans:*

61. The first proviso of the 49(E)(c)(i) of the 2019 Tariff Regulations, provides for 3.30% of Auxiliary Energy Consumption for the generating station using electric motor driven Gas Booster Compressor. Accordingly, the normative AEC for the generating station is considered and allowed as 3.30% for Combined cycle mode.

### **Interest on Working Capital**

62. Regulation 34(1)(b) of the 2019 Tariff Regulations provides as follows:

*“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

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

63. Clauses (3) and (4) of Regulation 34 of the 2019 Tariff 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**

64. The Petitioner has claimed the following fuel components for computation of working capital in Form 15, based on the price and GCV of gas for preceding three months of January 2019, February 2019 and March 2019:

*(Rs. in lakh)*

2019-20	2020-2021	2021-22	2022-23	2023-24
1128.52	1128.52	1128.52	1128.52	1128.52

65. Accordingly, the fuel cost for 30 days for computation of working capital has been allowed as under:

*(Rs. in lakh)*

2019-20	2020-21	2021-22	2022-23	2023-24
945.95	945.95	945.95	945.95	945.95

66. The variation in fuel components claimed by the Petitioner as against the fuel components allowed as above, is mainly due to the difference between the weighted average value of GCV and landed cost of gas as considered by Petitioner and as against those allowed.



### Energy Charge Rate (ECR)

67. As stated, the Petitioner has claimed ECR of 1.868 Rs/kWh for 2019-24 based on the average price, GCV of gas procured and burnt for the above specified months. The ECR, as worked out, based on the operational norms specified under the 2019 Regulations and on “as received” GCV of gas, for the above specified three months, considered for allowing 2 months of energy charge in working capital is as follows:

Description	Unit	2019-24
Capacity	MW	101
Gross Station Heat Rate	Kcal/kWh	1967.39
Aux. Energy Consumption	%	3.30
Weighted average GCV of fuel	Rs/1000SCM	9186.597
Weighted average price of fuel	Kcal/SCM	7145.966
<b>ECR</b>	Rs. /kWh	<b>1.583</b>

68. ECR in Rs./kWh on ex-power plant on month-to-month basis shall be calculated up to three decimal places in accordance with the formulae given in Regulation 42 of the 2019 Tariff Regulations.

### Working Capital for O&M Expenses

69. The O&M expenses for 1 month as claimed by the Petitioner for the purpose of working capital, including security expenses, are as follows:

*(Rs. in lakh)*

2019-20	2020-21	2021-22	2022-23	2023-24
230.89	239.17	247.73	256.57	265.69

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

*(Rs. in lakh)*

2019-20	2020-21	2021-22	2022-23	2023-24
230.08	238.33	246.85	255.64	264.71



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

71. Regulation 34(1)(b)(iii) of the 2019 Tariff Regulations provides for Maintenance spares @ 30% of the O&M expenses, including security expenses. Accordingly, maintenance spares have been considered and 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>
828.29	857.98	888.65	920.31	952.97

### **Working Capital for Receivables**

72. Regulation 34(1)(b)(iv) of the 2019 Tariff Regulations provides for receivables for 45 days. Accordingly, after taking into account the mode of operation of the generating station on secondary fuel, the receivable component of working capital is 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>
Energy Charge for 45 days	1418.93	1418.93	1418.93	1418.93	1418.93
Fixed Charge for 45 days	2355.75	2348.74	2304.77	2268.53	2260.55
<b>Total</b>	<b>3774.67</b>	<b>3767.67</b>	<b>3723.69</b>	<b>3687.46</b>	<b>3679.48</b>

73. 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 2021-22 and 10.50% (i.e. 1 year SBI MCLR of 7.00% (as on 01.04.2022) + 350 bps) for the period 2022-24. Accordingly, 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 Fuel Cost (A)	945.95	945.95	945.95	945.95	945.95
Working Capital for O & M expenses - 1 month (B)	828.29	857.98	888.65	920.31	952.97
Working Capital for Maintenance Spares - 30% of O&M (C)	3774.67	3767.67	3723.69	3687.46	3679.48
Working Capital for Receivables - 45 Days (D)	230.08	238.33	246.85	255.64	264.71
<b>Total Working Capital (E) = (A+B+C+D)</b>	<b>5778.99</b>	<b>5809.92</b>	<b>5805.14</b>	<b>5809.37</b>	<b>5843.11</b>
Rate of Interest (F)	12.05%	11.25%	10.50%	10.50%	10.50%
<b>Interest on Working capital (G) = (E)x(F)</b>	<b>696.37</b>	<b>653.62</b>	<b>609.54</b>	<b>609.98</b>	<b>613.53</b>

### Annual Fixed Charges

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

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation (A)	5059.14	5151.29	5151.58	5160.89	5170.16
Interest on Loan (B)	4833.85	4566.92	4149.73	3735.06	3592.13
Return on Equity (C)	5809.73	5819.14	5821.20	5826.68	5833.47
Interest on Working Capital (D)	696.37	653.62	609.54	609.98	613.53
O&M Expenses (E)	2760.97	2859.93	2962.18	3067.71	3176.56
<b>Total AFC (F) = (A+B+C+D+E)</b>	<b>19160.06</b>	<b>19050.90</b>	<b>18694.22</b>	<b>18400.33</b>	<b>18385.84</b>

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

### Application filing fees and Publication charges

76. The Petitioner has sought reimbursement of fees paid by it for filing the tariff petition for the 2019-24 tariff period 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.



77. 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.

78. Petition No. 279/GT/2020 is disposed of in terms of the above.

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

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

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



**Annexure-I**

**Depreciation for the 2019-24 tariff period**

**(Rs. in lakh)**

		Rate of Dep (%)	GB as on 01.04.2019	Depreciation	GB as on 01.04.2020	Depreciation	GB as on 01.04.2021	Depreciation	GB as on 01.04.2022	Depreciation	GB as on 01.0.2023	Depreciation
1	Free Hold Land	0.00%	878.91	0.00	878.91	0.00	878.91	0.00	878.91	0.00	878.91	0.00
2	Road, bridges & culvert	3.34%	342.72	11.45	349.28	11.67	361.28	12.07	361.28	12.07	361.28	12.07
3	Helipad	3.34%	24.97	0.83	24.97	0.83	24.97	0.83	24.97	0.83	24.97	0.83
4	Main Plant Building	3.34%	23034.62	769.36	23044.11	769.67	23054.11	770.01	23071.11	770.57	23082.11	770.94
5	Gas Turbine	5.28%	42850.28	2262.49	52483.98	2771.15	52679.73	2781.49	52721.13	2783.68	53078.13	2802.53
6	Steam Turbine	5.28%	25934.27	1369.33	25945.49	1369.92	25963.09	1370.85	25963.09	1370.85	25963.09	1370.85
7	Gas Booster Station	5.28%	861.57	45.49	861.57	45.49	861.57	45.49	861.57	45.49	861.57	45.49
8	132 KV/ 220 KV Swithyard	5.28%	5538.00	292.41	5538.00	292.41	5538.00	292.41	5538.00	292.41	5538.00	292.41
9	Transformer rating of 100KV & above	5.28%	3581.85	189.12	3581.85	189.12	3812.75	201.31	3812.75	201.31	3812.75	201.31
10	Cooling Tower	5.28%	709.95	37.49	709.95	37.49	709.95	37.49	709.95	37.49	709.95	37.49
11	Make up Water System	5.28%	2123.49	112.12	2123.49	112.12	2143.49	113.18	2143.49	113.18	2143.49	113.18
12	Residential Building	3.34%	1107.20	36.98	1210.83	40.44	1497.36	50.01	1497.36	50.01	1497.36	50.01
13	Non Residential Building	3.34%	374.88	12.52	392.02	13.09	609.02	20.34	609.02	20.34	609.02	20.34
14	Boundary Wall	3.34%	324.92	10.85	334.17	11.16	384.17	12.83	384.17	12.83	384.17	12.83
15	Temp. Errection	100.00%	37.16	37.16	37.16	37.16	37.16	37.16	37.16	37.16	37.16	37.16
16	Water supply & drainage	3.34%	183.97	6.14	183.97	6.14	203.97	6.81	203.97	6.81	203.97	6.81
17	Fire Fighting Equipment	5.28%	30.92	1.63	30.92	1.63	30.92	1.63	30.92	1.63	30.92	1.63
18	Surevey Instruments	5.28%	0.28	0.01	0.28	0.01	0.28	0.01	0.28	0.01	0.28	0.01
19	Sub-station Equipments	5.28%	192.41	10.16	192.41	10.16	192.41	10.16	192.41	10.16	192.41	10.16
20	Transformer rating of 100KV & above	5.28%	11.21	0.59	11.21	0.59	11.21	0.59	11.21	0.59	11.21	0.59
21	Ordinary Tools & plants	5.28%	5.99	0.32	5.99	0.32	5.99	0.32	16.49	0.87	16.49	0.87
22	Special Tools & plants	5.28%	11.37	0.60	11.37	0.60	11.37	0.60	11.37	0.60	11.37	0.60
23	11 KV Transmission Line	5.28%	95.74	5.06	95.74	5.06	95.74	5.06	95.74	5.06	95.74	5.06
24	33 KV Transmission Line	5.28%	12.49	0.66	12.49	0.66	12.49	0.66	12.49	0.66	12.49	0.66
25	Outdoor Electrification	5.28%	77.12	4.07	92.72	4.90	92.72	4.90	92.72	4.90	92.72	4.90
26	Indoor Electrification	6.33%	41.79	2.65	46.19	2.92	66.19	4.19	66.19	4.19	66.19	4.19
27	Furniture & fixtures	6.33%	119.20	7.55	141.20	8.94	141.20	8.94	141.20	8.94	141.20	8.94
28	Other EDP Machine	15.00%	53.40	8.01	103.40	15.51	103.40	15.51	103.40	15.51	103.40	15.51
29	Office Equipments	6.33%	20.06	1.27	20.06	1.27	20.06	1.27	20.06	1.27	20.06	1.27
30	Hospital Equipment	5.28%	3.40	0.18	3.40	0.18	3.40	0.18	3.40	0.18	3.40	0.18
31	Guest house equipment	5.28%	4.39	0.23	4.39	0.23	4.39	0.23	4.39	0.23	4.39	0.23
32	Energy Conservation Equipment	5.28%	4.13	0.22	4.13	0.22	4.13	0.22	4.13	0.22	4.13	0.22
33	Misc. Equipments	5.28%	7.68	0.41	7.68	0.41	7.68	0.41	44.68	2.36	44.68	2.36
34	Tools & Plants (E)	5.28%	7.05	0.37	7.05	0.37	7.05	0.37	7.05	0.37	7.05	0.37
35	Audio Visual Equipments	5.28%	54.73	2.89	54.73	2.89	54.73	2.89	54.73	2.89	54.73	2.89
36	Fixed Assets of Minor Value >750 & <5000	0.00%	9.79	0.00	9.79	0.00	9.79	0.00	9.79	0.00	9.79	0.00
	<b>TOTAL</b>		108671.92	5240.61	118554.91	5764.74	119634.69	5810.40	119740.59	5815.67	120108.59	5834.88
	<b>Weighted Average Rate of Depreciation (%)</b>			4.84%		4.86%		4.86%		4.86%		4.86%

\*Calculated as per rate of depreciation in Appendix-II of the 2019 Tariff Regulations.

