CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 390/GT/2020

Coram:

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

Date of Order: 16th April, 2021

IN THE MATTER OF

Petition for determination of tariff of Tuirial Hydro Electric Power Plant (60 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-793003
Meghalaya **…Petitioner**

Vs

1. Power & Electricity Department
Government of Mizoram, New Secretariat Complex,
Kawlphetha, Aizawl-796006

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

4. State Load Despatch Centre
Power & Electricity Department,
Government of Mizoram, Power House Complex,
Electric Veng, Aizawl – 796006 **…Respondents**

Parties Present:

Shri Prabal Mukhopadhaya, NEEPCO
Shri Devapriya Choudhury, NEEPCO
Ms. Elizabeth Pyrbot, NEEPCO

<u>**ORDER**</u>

This Petition has been filed by the Petitioner, NEEPCO for approval of tariff of Tuirial Hydro Electric Plant (2 x 30 MW) (hereinafter referred to as “the generating station” or “the Project”) for the period from 1.4.2019 to 31.3.2024 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

2. The Petitioner, NEEPCO has set up the project in the Kolasib District of Mizoram to harness power from Tuirial river. The DPR (Detailed Project Report) for the project was prepared by the Central Water Commission in 1991 and Techno-Economic Clearance (TEC) was granted for execution of the project. The Government of Mizoram initiated discussion with the then Japan Bank for International Cooperation (JBIC) (earlier Overseas Economic Cooperation Fund - OECF) for availing the debt component in order to execute the Project under State sector. JBIC expressed its inability to fund the Project under the State sector. Subsequently, the Ministry of Power, Government of India, in consultation with the Government of Mizoram, invited the Petitioner to undertake the Project under Central sector in the early part of 1996 and accordingly an MOU (Memorandum of Understanding) was signed between the Government of Mizoram and the Petitioner in May 1996. The Petitioner took up the work of pre-construction survey and development of infrastructure after taking over the Project in 1996. The original CCEA clearance of the Project was accorded on 16th July 1998 at an estimated cost of ₹368.72 crore with a completion schedule of 8 years.

3. The Project works commenced in 2001 as per drawn up plan and was progressing. However, work of the Project came to a halt from June 2004 due to law

& order problem on account of an agitation launched by Tuirial Crop Compensation Claimant Association, claiming payment of crop compensation for the standing crops in the Riverine Reserve Forest. Prior to the suspension of work, about 30% of the Project work and 95% of design & engineering work of the Project were completed.

4. With support of the Government of Mizoram, the Project was revived and the Public Investment Board (PIB) accorded approval for the Revised Cost Estimate (RCE) of ₹913.63 crore (including IDC of ₹36.57 crore) at March 2010 Price Level on 4.6.2010. The revised CCEA clearance for the Project was accorded on 14.1.2011 with RCE of ₹913.63 crore and with a completion period of 36 months. It was discussed in the PIB meeting that with normal funding pattern of debt-equity ratio of 70:30, tariff of the project would be high. However, with the debt-equity ratio of 85:15 and with 2% depreciation applied for the first 15 years, the tariff would become affordable. The Joint Adviser, Project Appraisal and Management Division (PAMD), Planning Commission, GOI suggested that tariff as determined by the Central Commission may be acceptable to the Government of Mizoram. However, it was observed by PIB that the tariff for the project is to be worked out on the basis of funding of the project as approved by PIB. Accordingly, the Government of Mizoram signed Power Purchase Agreement (PPA) with the Petitioner on 2.7.2010 for the purchase of entire power from the project.

5. The following are the stipulations of the revised Investment Approval accorded by CCEA on 14.1.2011:

(a) Revised cost estimate at ₹913.63 crore at March 2010 PL (Hard cost: ₹877.06 crore; IDC& FC: ₹36.57 crore)

(b) Debt equity ratio at 85:15

(c) Financial pattern:

Equity	-	₹137.04 crore
Loan from Financial Institution	-	₹184.63 crore
Subordinate loan from Govt. of India	-	₹291.96 crore

Grant from DoNER Ministry	-	₹300.00 crore
Total	-	**₹913.63 crore**

(d) Subordinate loan from GOI will be charged @1% per annum from COD and repayment of principal to start from 16th year after commissioning and will continue till 30th year.

(e) Any further increase over the cost as approved above, except on account of indexation would be borne by the Petitioner. Further, the Government of Mizoram will sort out crop compensation issues, if any, separately without having any financial implication on the Project cost.

(f) The Project will be commissioned in 36 months from the date of investment approval.

6. RCE of the Project was again updated by the Petitioner at December 2015 price level for ₹1441.52 crore (including IDC & FC of ₹110.99 crore) with revised COD as June 2017, wherein the 1st year tariff of the Project was projected as ₹10.44 per unit and levelized tariff as ₹10.54 per unit. Central Electricity Authority (CEA) on 20.1.2017 had vetted RCE of the generating station at ₹1263.32 crore (hard cost) at December 2015 price level, while recommending IDC & FC up to December 2015 price level at actuals, and from January 2016 to September 2017, on estimation basis.

7. The Secretary, Power & Electricity Department, Government of Mizoram, vide letter dated 20.1.2017 informed MOP, GOI regarding intention of Government of Mizoram to surrender the power of the generating station, other than the 12% free power.

8. CEA vide letter dated 8.3.2017 addressed to MOP, GOI observed that an amount of ₹203.64 crore (price escalation ₹196.34 crore + taxes on escalated price ₹7.30 crore) due to indexation may only be added in the approved cost of the project for calculating the energy tariff and the balance increased amount of ₹182.62 crore (₹1263.32 crore – ₹877.06 crore – ₹203.64 crore) may be met by the Petitioner from

its own resources as agreed by it at the time of the revival of the project. However, the same was subject to approval of MOP, GOI, which is awaited. Thereafter, CEA vide its letter dated 18.4.2017 mentioned two scenarios as under:

(i) With fixed grant and subordinate loan as per Investment approval: ₹66.10 crore.

(ii) With financing pattern in terms of percentage (%) as per Investment approval: ₹58.20 crore.

Thus, RCE with the stipulation (i) will be ₹1263.32 crore + ₹66.10 crore = ₹1329.42 crore and RCE with the stipulation (ii) will be ₹1263.32 crore + ₹58.20 crore = ₹1321.52 crore.

9. Petition No. 15/GT/2018 was filed by the Petitioner for approval of tariff of the generating station for the period from COD to 31.3.2019 in accordance with the 2014 Tariff Regulations. The Commission vide its order dated 9.10.2018 determined the tariff of the generating station from COD of the units till 31.3.2019 based on the capital cost of ₹111727.32 lakh (including IDC) as recommended by CEA. Thereafter, Petition No. 329/GT/2019 was filed by the Petitioner for revision of tariff of the generating station, based on truing-up exercise for the period from 30.10.2017 till 31.3.2019 and the Commission vide order dated 10.3.2021 had approved the fixed charges, based on the capital cost of ₹65806.56 lakh for Unit-I (as on 30.10.2017) and ₹81727.32 lakh for Unit-II (as on 30.1.2018). The capital cost of ₹81727.32 lakh as on 30.1.2018 was allowed after deducting grant from DoNER, GOI of ₹30000 lakh from the capital cost (₹111727.32 lakh) of the Project. The fixed charges approved for the period from COD (30.10.2017) of Unit-I to 31.3.2019 in respect of the generating station are extracted hereunder:

(₹in lakh)

	30.10.2017 to 29.1.2018	30.1.2018 to 31.3.2018	1.4.2018 to 26.4.2018	27.4.2018 to 31.3.2019
Return on Equity	531.02	430.09	172.52	2394.53
Interest on Loan	705.66	569.40	282.31	3637.14
Depreciation	331.74	268.69	116.43	1518.01
Interest on Working Capital	69.05	54.10	23.77	312.13
O & M Expenses	805.56	600.61	239.96	3128.68
Fixed Charges *(pro-rata)*	**2443.03**	**1922.89**	**834.99**	**10990.50**

10. The Commission in the said order dated 10.3.2021 in Petition No.329/GT/2019 has granted liberty to the Petitioner to approach the Commission for revision of capital cost based on approval of RCE by CCEA and with the concurrence of the sole beneficiary of the project. The Petitioner has also been granted liberty to approach the Commission for revision of NAPAF, based on the decision by CEA on the request of the Petitioner.

11. The Petitioner vide affidavit dated 16.1.2020 has filed the present petition for determination of tariff of the generating station for the period from 1.4.2019 to 31.3.2024 in terms of the provisions of the 2019 Tariff Regulations. The capital cost and the annual fixed charges claimed by the Petitioner in the present petition are as under:

Capital Cost

(₹in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	86995.78	88222.97	88222.97	88222.97	88222.97
Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/period					
Less: De-capitalisation during the year/period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/period	1227.18	0.00	0.00	0.00	0.00
Closing Capital Cost	**88222.97**	**88222.97**	**88222.97**	**88222.97**	**88222.97**

Annual Fixed Charges

(₹in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	2627.36	2645.76	2645.76	2645.76	2645.76
Interest on Loan	4027.56	3893.69	3662.13	3424.13	3178.68
Depreciation	1752.19	1764.46	1764.46	1764.46	1764.46
Interest on Working Capital	258.29	250.66	253.40	256.33	259.46
O & M Expenses	2926.42	3066.01	3212.26	3365.48	3526.01
Total	**11591.82**	**11620.58**	**11538.01**	**11456.16**	**11374.37**

12. The petition was heard on 13.8.2020 through video conferencing and the Commission after directing the Petitioner to file certain additional information, reserved its order. None appeared on behalf of the Respondents. In compliance with the directions of the Commission, the Petitioner has filed additional information vide affidavit dated 11.9.2020 and has served the same on the Respondents. The Respondents 1 and 4 have filed their common reply vide affidavit dated 24.9.2020 and the Petitioner vide affidavit dated 5.10.2020 has filed its rejoinder to the said reply. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to determine the tariff of the generating station for the 2019-24 tariff period, as stated in the subsequent paragraphs.

Capital Cost

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

> *"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…."

14. The Petitioner vide Form-1i of the petition has claimed capital cost as follows:

(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	86995.78	88222.97	88222.97	88222.97	88222.97
Add: Addition during the year/period	0.00	0.00	0.00	0.00	0.00
Less: De-capitalisation during the year/period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/period	1227.18	0.00	0.00	0.00	0.00
Closing Capital Cost	**88222.97**	**88222.97**	**88222.97**	**88222.97**	**88222.97**

15. The Commission in its order dated 10.3.2021 in Petition No.329/GT/2019 had allowed the closing capital cost of ₹81721.90 lakh as on 31.3.2019. Accordingly, in terms of Regulation 19 of the 2019 Tariff Regulations, the capital cost of ₹81721.90 lakh as on 31.3.2019 has been considered as the opening capital cost as on 1.4.2019, for the purpose of determination of tariff for the period 2019-24.

<u>Additional Capital Expenditure</u>

16. The Petitioner has submitted that actual additional capital expenditure for the 2019-24 tariff period shall be claimed/ submitted at the time of truing-up of tariff for the generating station for 2019-24 tariff period. Since no additional capital expenditure has been claimed by the Petitioner for 2019-24 in the present petition, no additional capitalization has been considered in this order.

<u>Discharge of liabilities</u>

17. As regards discharge of liabilities, the Petitioner has claimed an amount of ₹1227.18 lakh in the year 2019-20. As stated, the capital cost of ₹111727.32 lakh has

been approved vide order dated 10.3.2021 in Petition No. 329/GT/2019, based on mutually agreed ceiling cost, which is the maximum permissible cost for assets/works related to the original scope of work of the project. The same has been allowed as on COD after adjusting the DoNER grant of ₹30000.00 lakh amount received by the Petitioner i.e. ₹81727.32 lakh (₹111727.32 lakh - ₹30000.00 lakh). As such, the limit for further additional capital expenditure pertaining to assets/works within the original scope of work of the project has been exhausted. Also, the capital cost allowed vide order dated 10.3.2021 in Petition No. 329/GT/2019 is without deduction of any un-discharged liabilities. Accordingly, the discharge of liability amounting to ₹1227.18 lakh, as claimed by the Petitioner, which are related to assets/ works within the original scope of work of the project, are not allowed for the purpose of tariff.

<u>Deletions</u>

18. The Petitioner has not claimed any de-capitalization of assets/ works for the 2019-24 tariff period. The Petitioner is, however, granted liberty to claim de-capitalization of assets/ works at the time of truing-up of tariff and the same will be considered in accordance with law.

<u>Capital Cost for 2019-24</u>

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

(₹in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening Capital Cost	81721.90	81721.90	81721.90	81721.90	81721.90
Additional Capital expenditure allowed	-	-	-	-	-
Closing Capital Cost	**81721.90**	**81721.90**	**81721.90**	**81721.90**	**81721.90**

<u>Return on Equity</u>

20. Regulations 30 and 31 of the 2019 tariff Regulations provides as under:

"30. Return on Equity:

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

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

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

Provided further that:

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

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

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

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

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

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

31. Tax on Return on Equity:

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

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

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

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

Illustration-

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

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

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

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

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

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

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

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

21. The Respondents 1 and 4 have submitted that the Minimum Alternate Tax (MAT) rate got reduced in the year 2019-20 from 18.5% to 15% and the same should be factored in the computation of Return on Equity (ROE) and the annual fixed charges. The Petitioner has clarified that it has considered MAT rate of 15% in the calculation of annual fixed charges for the year 2019-20 and thereafter. The Petitioner has further submitted that its bill dated 8.1.2020 was based on the MAT rate of 15% but other parameters were taken from the Commission's order dated 9.10.2018. The Petitioner has added that MAT rates are subject to variation and any change in the same will be considered at the time of truing-up of tariff.

22. The matter has been examined. For grossing up of ROE during the 2019-24 tariff period, the Petitioner has applied the MAT rate of 17.472% for the year 2019-20. The same has been allowed. This is however subject to revision, if any, at the time of truing up of tariff. Accordingly, ROE has been worked out and allowed as under:

(₹in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Notional Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Addition due to additional capitalization	0.00	0.00	0.00	0.00	0.00
Closing Notional Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Average Equity	12258.29	12258.29	12258.29	12258.29	12258.29
Return on Equity (Base Rate)	16.500%	16.500%	16.500%	16.500%	16.500%
Tax rate for the year	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity	19.993%	19.993%	19.993%	19.993%	19.993%
Return on Equity	**2450.83**	**2450.83**	**2450.83**	**2450.83**	**2450.83**

Interest on loan

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

"32. Interest on loan capital:

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

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

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

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

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

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

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

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

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

24. The salient features of computation of interest on loan are summarized as under:

a) The gross normative loan amounting to ₹69463.62 lakh has been considered as on 1.4.2019;

b) Cumulative repayment amounting to ₹2234.86 lakh as on 31.3.2019 as considered vide Commission's order dated 10.3.2021 in Petition No.329/GT/2019 has been considered as on 1.4.2019;

c) The repayment for the year of the 2019-24 tariff period has been considered equal to the depreciation allowed for that year;

d) Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest as claimed by the Petitioner. This is subject to true-up.

25. Accordingly, Interest on loan has been worked out as under:

(₹in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Gross Normative loan	69463.62	69463.62	69463.62	69463.62	69463.62
Cumulative Repayment up to Previous year	2234.86	3869.30	5503.74	7138.18	8772.61
Net loan-Opening	67228.75	65594.31	63959.88	62325.44	60691.00
Repayment during the year	1634.44	1634.44	1634.44	1634.44	1634.44
Addition due to additional capitalization	0.00	0.00	0.00	0.00	0.00
Net loan-Closing	65594.31	63959.88	62325.44	60691.00	59056.56
Average loan	66411.53	64777.10	63142.66	61508.22	59873.78
Weighted Average Rate of Interest on loan	5.70%	5.61%	5.42%	5.20%	4.96%
Interest *(pro-rata)*	**3787.18**	**3634.87**	**3419.43**	**3197.94**	**2969.42**

Depreciation

26. Regulation 33 of the 2019 tariff Regulations provides as under:

"33. Depreciation:

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

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

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

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

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

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

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

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

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

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

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

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

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

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

27. Accordingly, the cumulative depreciation amounting to ₹2234.82 lakh as on 31.3.2019 as considered in order dated 10.3.2021 in Petition No.329/GT/2019 has been considered for the purpose of tariff. As discussed in the PIB meeting and

mutually agreed by the parties, the Petitioner has claimed depreciation at the rate of 2% per annum in the instant petition. The same has been considered for the purpose of tariff.

28. The Petitioner in Form 12 of the petition has submitted the value of freehold land included in the gross block as 'nil'. It is noticed that the Petitioner in Petition No. 15/GT/2018 had indicated the value of freehold land as ₹972.00 lakh and the Commission vide its order dated 9.10.2018 in Petition No.15/GT/2018 and in Order dated 10.3.2021 in Petition No. 329/GT/2019 had considered the said value i.e. ₹972.00 lakh towards freehold land while allowing depreciation. In line with these orders, the value of freehold land included in the gross block has been considered as ₹972.00 lakh in this order also.

29. In terms of the 2014 Tariff Regulations, the useful life of the hydro generating station is 35 years. As stated in the Commission's order dated 10.3.2021 in Petition No.329/GT/2019, the expired life of the generating station till 31.3.2019 is 1.49 years and the balance useful life of the generating station, as on 31.3.2019, is 33.51 years. However, in contrast to the 2014 Tariff Regulations, the 2019 Tariff Regulations stipulates the useful life of the hydro generating station as 40 years. Accordingly, the balance useful life of the generating station as on 1.4.2019 has been considered as 38.51 years in line with the 2019 Tariff Regulations. Accordingly, depreciation has been worked out and allowed as under:

(₹in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Addition due to Projected additional capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Average Gross Block	81721.90	81721.90	81721.90	81721.90	81721.90
Value of Freehold Land included in Gross Block	972.00	972.00	972.00	972.00	972.00
Depreciable value including amortisation of lease land	72674.91	72674.91	72674.91	72674.91	72674.91

Remaining Depreciable Value at the beginning of the year	70440.09	68805.65	67171.21	65536.78	63902.34
Number of completed years at the beginning of the year	1.49	2.49	3.49	4.49	5.49
Balance useful life(Years) at the beginning of the year	38.51	37.51	36.51	35.51	34.51
Rate of Depreciation	2.00%	2.00%	2.00%	2.00%	2.00%
Depreciation	**1634.44**	**1634.44**	**1634.44**	**1634.44**	**1634.44**
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization)	3869.26	5503.70	7138.13	8772.57	10407.01
Less: Depreciation adjustment on account of de-capitalization	0.00	0.00	0.00	0.00	0.00
Net Cumulative Depreciation	**3869.26**	**5503.70**	**7138.13**	**8772.57**	**10407.01**

<u>O&M Expenses</u>

30. Regulation 35(2)(c) of the 2019 Tariff Regulations provides as follows:

> *"35(2)(c) In case of hydro generating stations which have not completed a period of three years as on 1.4.2019, operation and maintenance expenses for 2019-20 shall be worked out by applying escalation rate of 4.77% on the applicable operation and maintenance expenses as on 31.3.2019. The operation and maintenance expenses for subsequent years of the tariff period shall be worked out by applying escalation rate of 4.77% per annum…"*

31. The Petitioner has submitted that the O&M expenses for the period 2019-24 have been determined on the basis of the O&M expenses claimed for the year 2018-19 with an escalation rate of 4.77% per annum, in terms of Regulation 35(2)(c) of the 2019 Tariff Regulations. Accordingly, the Petitioner's claim for O&M expenses vide affidavit 11.9.2020 is as under :

(₹ in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2926.42	3066.01	3212.26	3365.48	3526.01

32. As stated, the capital cost of ₹81721.90 lakh allowed as on COD of the generating station is after exclusion of the DoNER grant of ₹30000 lakh received by Petitioner from DoNER and the same has been allowed as on the cut-off date of the generating station (31.3.2020). As such, O&M expenses have been calculated based on closing capital cost of ₹111721.90 lakh as on 31.3.2020, including the grant from DoNER. The Petitioner has stated that the Rehabilitation & Resettlement (R&R) cost

is ‘nil’. Accordingly, the admissible O&M expenses for the base year 2018-19 is worked out is as follows:

(₹ in lakh)

Total capital expenditure up to cutoff date i.e 31.3.2020 (a)	111721.90
R & R Expenditure (b)	0.00
Capital Cost considered for O&M expenses (excluding R&R expenses) (c)=(a)-(b)	111721.90
Annualized O&M Expenses (2017-18) @2.5% for 2 machines (d)= 2.5% of (c)	**2793.05**
Annualized O&M Expenses (2018-19) @6.64% of (d) for 2 machines (e)=6.64*(d)	**2978.51**

33. The above said O&M expenses of ₹2978.51 lakh for 2018-19 has been allowed by the Commission vide its order dated 10.3.2021 in Petition No. 329/GT/2019 based on the mutually agreed O&M expenses @ 2.5% of the mutually agreed capital cost (₹111721.90 lakh) instead of 4% as provided in the 2019 Tariff Regulations. As against the O&M expenses of ₹2978.51 lakh allowed for the year 2018-19, the actual O&M expenses incurred was ₹4953.28 lakh, including security expenses of ₹82.37 lakh. As such, the reduced normative O&M expenses allowed includes security expenses of ₹49.53 lakh, on pro-rata basis. Accordingly, from the above annualised O&M expenses of ₹2978.51 lakh for the year 2018-19, pro-rated security expenses (₹49.53 lakh) have been deducted and the remaining O&M expenses of ₹2928.98 lakh (excluding security expenses) have been escalated @4.77% per annum to arrive at the O&M expenses for the period 2019-24. Accordingly, the allowable O&M expenses, excluding Security expenses, are as under:

(₹in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
3068.69	3215.07	3368.43	3529.10	3697.44

34. As regards security expenses and capital spares for O&M expenses, Regulation 35(2)(c) of 2019 Tarff Regulations provides as under:

"(c) The Security Expenses and Capital Spares for hydro 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, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification."

35. The Petitioner has claimed security expenses as additional O&M expenses in terms of Regulations 35(2)(c) of the 2019 Tariff Regulations. The Respondents 1 and 4 have submitted that the security of electrical installations was in the interest of the home State (Mizoram) as the Indian Reserve Police and Central Reserve Police Force were deployed at the generating station. They have further submitted that the commencement of the project aimed at economic and employment upliftment. The Respondents have also submitted that the State security forces and other private security forces can be arranged through the State Government for the benefit of the State. The Petitioner vide its rejoinder affidavit dated 5.10.2020 has stated that the submissions of the Respondents are irrelevant and the same may not be considered.

36. As regards capital spares, the Petitioner has submitted that the details of the same shall be submitted at the time of truing up of tariff. The Commission vide ROP of the hearing dated 13.8.2020 had directed the Petitioner to submit the security expenses for 2018-19. In compliance with the said direction, the Petitioner vide affidavit dated 11.9.2020 has submitted that security expenses for 2018-19 is ₹82.37 lakh. However, the Petitioner has claimed security expenses, on projection basis, for the 2019-24 tariff period as under :

(₹ in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
50.00	50.00	50.00	50.00	50.00

37. Though the Petitioner has not furnished any documentary evidence indicating the security assessment for the generating station, in terms of Regulations 35(2)(c) of the 2019 Tariff Regulations, it has submitted vide affidavit dated 11.9.2020 that the

actual security expenses for the year 2018-19 towards the deployment of Indian Reserve Battalions (IRBN) and Meghalaya Home Gaurds was ₹82.37 lakh. It is observed that the details regarding security expenses for the year 2018-19 has not been certified by the Auditor, as mandated under the 2019 Tariff Regulations. However, considering the fact that the generating station is located in North Eastern Region, we are inclined to allow the projected security expenses of ₹50 lakh for each year of the 2019-24 tariff period. The Petitioner is, however, directed to submit the actual expenditure, duly audited, at the time of truing up of the tariff. Accordingly, the O&M expenses, (including Security expenses) allowed for the 2019-24 tariff period is as follows:

(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
O&M expenses	3068.69	3215.07	3368.43	3529.10	3697.44
Security expenses	50.00	50.00	50.00	50.00	50.00
Total O&M expenses including security expenses	**3118.69**	**3265.07**	**3418.43**	**3579.10**	**3747.44**

<u>Interest on working capital</u>

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

> *"34. Interest on Working Capital: (1) The working capital shall cover:*
>
> *(c) For Hydro generating station (Including Pumped Storage Hydro Generating Station) and transmission system:*
>
> *(i) Receivables equivalent to 45 days of annual fixed cost;*
>
> *(ii) Maintenance spares @ 15% of operation and maintenance expense including security expenses; and*
>
> *(iii) Operation and maintenance expenses including security expenses for one month"*

39. As regards the rate of interest on working capital, Clause (3) of Regulation 34 of the 2019 Tariff Regulations provides as under:

> *"34(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 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."*

40. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital considered on projection basis, for the 2019-24 tariff period is 12.05% (i.e. 1 year SBI MCLR of 8.55% as on 1.4.2019 + 350 basis points). As the tariff of the generating station for 2019-24 tariff period is being determined during the year 2020-21, the SBI MCLR as on 1.4.2020 (7.75%) is also available which is lower in comparison of the same, as on 1.4.2019 (8.55%). Since the rate of interest on working capital is subject to revision at the time of truing-up of tariff, based on the bank rate as on 1st April of each financial year, we find it prudent to allow the rate of interest as on 1.4.2020, for the subsequent financial years. Accordingly, the rate of interest for the year 2019-20 is 12.05% and for the subsequent years the rate of interest of 11.25% has been considered (i.e. 1 year SBI MCLR of 7.75% as on 1.4.2020 + 350 basis points). Accordingly, Interest on working capital is allowed as under:

(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance Spares	467.80	489.76	512.76	536.87	562.12
O & M expenses	259.89	272.09	284.87	298.26	312.29
Receivables	1884.31	1880.41	1870.55	1860.93	1851.46
Total	2612.01	2642.26	2668.18	2696.06	2725.87
Rate of interest	12.05%	11.25%	11.25%	11.25%	11.25%
Interest on working capital	**314.75**	**297.25**	**300.17**	**303.31**	**306.66**

Annual Fixed Charges

41. Based on the above, the annual fixed charges approved for the 2019-24 tariff period in respect of the generating station are summarized as under:

(₹ in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity	2450.83	2450.83	2450.83	2450.83	2450.83
Interest on Loan	3787.18	3634.87	3419.43	3197.94	2969.42
Depreciation	1634.44	1634.44	1634.44	1634.44	1634.44
Interest on Working Capital	314.75	297.25	300.17	303.31	306.66
O & M Expenses	3118.69	3265.07	3418.43	3579.10	3747.44
Annual Fixed Charges	**11305.88**	**11282.45**	**11223.29**	**11165.61**	**11108.78**

Normative Annual Plant Availability Factor (NAPAF)

42. As against the claim of the Petitioner for NAPAF of 82%, the Commission vide its Orders dated 9.10.2018 in Petition No. 15/GT/2018 and dated 10.3.2021 in Petition No.329/GT/2019 had allowed NAPAF of 85% subject to revision if any, based on approval of CEA on the request of the Petitioner. Considering the fact that the request of the Petitioner for NAPAF of 82% is still pending before CEA, we consider the NAPAF of 85% in this order. The Petitioner is, however, granted liberty to approach the Commission after obtaining approval of CEA with regard to revision of NAPAF.

Auxiliary Energy Consumption

43. Regulation 50(C) of the 2019 Tariff Regulations provides as follows:

Type of Station	Auxiliary Energy Consumption	
	Installed Capacity above 200 MW	Installed Capacity up to 200 MW
Surface		
Rotating Excitation	0.7%	0.7%
Static	1.0%	1.2%
Underground		
Rotating Excitation	0.9%	0.9%
Static	1.2%	1.3%

44. The Petitioner has claimed Auxiliary Energy Consumption (AEC) of 4% for the generating station. The Commission vide its order dated 9.10.2018 in Petition No. 15/GT/2018 and Order dated 10.3.2021 in Petition No.329/GT/2019 had considered AEC of 1% with liberty to the Petitioner to approach the Commission for enhancement of AEC by way of a separate application.

45. The Respondents 1 and 4 have submitted that the maximum permissible limit for surface hydro generating station with static excitation system is 1.2% in terms of Regulation 50(C) of the 2019 Tariff Regulations. They have further submitted that the Petitioner had pilfered more energy in and around power house due to inefficient

operations in the generating station and accordingly, the Petitioner has to rectify the same. The Petitioner has submitted that the Commission vide ROP of hearing dated 13.8.2020 had granted liberty to the Petitioner to approach the Commission through a separate application towards the enhancement of normative AEC from 1.2% to 4%. Having considered the submissions of the Petitioner and the Respondents, AEC of 1.2% is allowed for the 2019-24 tariff period in terms of Regulation 50(C) of the 2019 Tariff Regulations.

Design Energy

46. As regards Design Energy (DE), the Commission vide its order dated 9.10.2018 in Petition No. 15/GT/2018 had observed the following:

> *"88. As per the original DPR of the project, the annual Design Energy (DE) of the station is 240.89 MUs. However, the petitioner has claimed annual design Energy of 250.63 MUs for the generating station and has submitted that the same is yet to be approved by CEA. Considering the fact that this is beneficial to the beneficiary, we consider annual Design Energy of 250.63MUs. However, the petitioner is directed to submit the Design Energy of the station to the Commission as on when approved by CEA, the month-wise break-up the allowed Design Energy of 250.63Mus of the same is as under….:*
> *xxxx"*

47. The Petitioner has claimed DE for 250.63 MU and has furnished copy of the CEA letter dated 3.11.2005, which has authenticated the DE as 250.63 MU for the generating station. In view of this, DE of 250.63 MU as approved by CEA is considered for the generating station. The month-wise details are as under:

Month	Design Energy (MU)
April	14.37
May	17.37
June	20.79
July	27.24
August	35.17
September	36.23
October	26.08
November	17.77
December	14.61
January	13.73
February	13.60
March	13.67
Total	**250.63**

Application Fee and Publication Expenses

48. The Petitioner has sought reimbursement of fees paid by it for filing the petition and for publication expenses. The Respondents 1 and 4 have submitted that presently communication is sent through electronic means, instead of paper format to abridge the expenses. Accordingly, the Respondents have prayed that the claim of the Petitioner regarding publication expenses may be disallowed. The Petitioner has, however, submitted that reimbursement towards filing fees and publication expenses are in accordance in terms of the Regulation 70(1) of the 2019 Tariff Regulations. In view of the above, 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.

49. **Summary**

(a) The annual fixed charges allowed for the generating station in this order is as below:

(₹in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
11305.88	11282.45	11223.29	11165.61	11108.78

(b) The Petitioner is granted liberty to approach the Commission for revision of capital cost, if any, based on the approval of RCE by CCEA and with the concurrence of the sole beneficiary of this project.

(c) The Petitioner is also granted liberty to approach the Commission with regard to NAPAF, based on decision of the CEA on the request of the Petitioner.

50. Petition No. 390/GT/2020 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(Arun Goyal)	**(I.S Jha)**	**(P.K. Pujari)**
Member	**Member**	**Chairperson**