CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 212/GT/2021

Coram:

Shri Jishnu Barua, Chairperson
Shri I.S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: 10th January, 2024

IN THE MATTER OF

Application under 79(1) & 86 of the CERC (Conduct of Business), Regulations, 1999, Section 62(1)(a) of the Electricity Act, 2003 and Regulation 66 and 77 of CERC (Terms and Conditions of Tariff) Regulations, 2019 for approval of Tariff in deviation from norms specified in CERC (Terms and Conditions of Tariff) Regulations, 2019 in respect of Teesta Low Dam Hydroelectric power station (TLDPIV)(160 MW).

AND

IN THE MATTER OF

NHPC Limited,
NHPC Office Complex, Sector-33,
Faridabad (Haryana)- 121003 **…Petitioner**

Vs

West Bengal State Electricity Distribution Company Limited,
Vidhyut Bhawan (8th Floor)Block-DJ, Sector-II, Salt Lake,
Kolkata- 700091 (West Bengal) **…Respondent**

Parties Present:

Shri Rajiv Shankar Dvivedi, Advocate, NHPC
Shri Mohd. Faruque, NHPC
Shri R.D. Shende, NHPC
Shri Piyush Kumar, NHPC
Ms. Anushree Bardhan, Advocate, WBSEDCL
Ms. Surbhi Kapoor, Advocate, WBSEDCL
Ms. Tanya Sareen, Advocate, WBSEDCL
Shri Aneesh Bajaj, Advocate, WBSEDCL

ORDER

This Petition has been filed by the Petitioner, NHPC Limited seeking the following reliefs:

a) To approve tariff in deviation from norms specified in CERC (Terms and Conditions of Tariff) Regulations, 2019 in respect of Teesta Low Dam-IV Power Station as mentioned in para 12 and 20.

b) To allow raising of energy bills as single part tariff based on ex-bus generation as per Tariff mentioned at para-12 for the energy generated upto Design Energy and energy generated beyond Design Energy as well.

c) Hon'ble Commission is requested to exercise its power to remove difficulty (i.e. Regulation 77: Power to Remove Difficulty) to approve Tariff for the period from 01.04.2021 to 31.03.2031 in deviation from norms of CERC Regulations, 2019. Hon'ble Commission may kindly allow for truing up of capital cost of the power station as mentioned in para 23.

Background

2. The NHPC Limited (in short 'the Petitioner'), is a Government of India Company within the meaning of the Companies Act, 1956. Further, it is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003. The Teesta Low Dam -IV Power Station (160 MW) (in short, 'the generating station'), owned by the Petitioner, is located in West Bengal and supplies power to its sole beneficiary West Bengal. The unit wise date of commercial operation of the generating station is as under:

Unit no.	Date of Commercial operation
Unit -1	11.3.2016
Unit -2	31.3.2016
Unit -3	17.7.2016
Unit -4/generating station	19.8.2016

3. The Commission vide order dated 8.12.2023 in Petition No. 223/GT/2021, had determined the tariff of the generating station for the period from 11.3.2016 (COD of Unit #1) to 31.3.2019, and the approved capital cost and annual fixed charges of the generating station are as under:

Capital Cost allowed

(Rs. in lakh)

	11.3.2016 to 30.3.2016	31.3.2016 to 31.3.2016	1.4.2016 to 16.7.2016	17.7.2016 to 18.8.2016	19.8.2016 to 31.3.2017	2017-18	2018-19
Opening Capital Cost	39054.54	80268.26	80268.26	121745.66	163281.64	166839.28	167525.17
Add: ACE	0.00	0.00	0.00	0.00	3557.64	685.89	2814.87
Closing capital cost	39054.54	80268.26	80268.26	121745.66	166839.28	167525.17	170340.04
Average Cost allowed	39054.54	80268.26	80268.26	121745.66	165060.46	167182.22	168932.60

Annual Fixed Charges allowed

(Rs. in lakh)

	11.3.2016 to 30.3.2016	31.3.2016 to 31.3.2016	1.4.2016 to 16.7.2016	17.7.2016 to 18.8.2016	19.8.2016 to 31.3.2017	2017-18	2018-19
Depreciation	54.88	5.64	604.57	281.32	2599.75	4272.91	4320.23
Interest on Loan	131.48	14.17	1510.50	655.60	6006.24	9286.35	8381.02
Return on Equity	134.30	13.80	1480.81	692.69	6403.20	10520.94	10658.97
Interest on Working Capital	12.52	1.29	137.91	59.68	546.79	904.83	914.36
O&M expenses	93.03	9.30	998.14	461.76	4197.81	7261.94	7744.14
Total	**426.21**	**44.20**	**4731.94**	**2151.05**	**19753.79**	**32246.97**	**32018.71**

4. Further, the Commission, vide order dated 8.12.2023 in Petition No. 223/GT/2021, had determined the tariff of the generating station for the period 2019-21, in accordance with Regulation 9 (2) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short 'the 2019 Tariff Regulations'). Thereafter, the Commission, after considering the Security expenses claimed by the Petitioner, issued a corrigendum order dated 9.1.2024, thereby revising the annual fixed charges allowed vide order dated 8.12.2023, as under:

Capital Cost allowed

(Rs. in lakh)

	2019-20	2020-21
Opening Capital Cost	170340.04	170928.16
Net Additional capital expenditure allowed during the year/ period	588.12	221.62
Closing Capital Cost	**170928.16**	**171149.78**

Annual Fixed Charges allowed

(Rs. in lakh)

	2019-20	2020-21
Depreciation	8614.53	8629.41
Interest on loan	8570.60	7878.05
Return on Equity	10234.18	10257.71
Interest on Working capital	861.06	815.35
O&M Expenses	8113.53	8500.55
Additional O&M expenses	2183.34	2287.49
Total	**38577.24**	**38368.55**

<u>Present Petition</u>

5. In the above background, the present petition has been filed by the Petitioner vide affidavit dated 27.9.2021 with the following submissions:

(a) The Power Purchase Agreement (PPA) in respect of the generating station was signed between West Bengal State Electricity Distribution Company Limited (Respondent) and the Petitioner on 17.6.2005 for a period of 5 years from COD of the first unit of the project i.e. up to 10.3.2021.

(b) The Respondent, vide letter dated 11.1.2021 had served notice of termination of the PPA dated 17.6.2005 to the Petitioner regarding drawl of power from the generating station. However, in the same notice Respondent gave its willingness to consider any proposal of the Petitioner for extension of PPA subject to reasonableness of tariff keeping the present market scenario.

(c) Accordingly, the Petitioner pursued/negotiated with Respondent for renewal/extension of PPA beyond 10.3.2021. After a series of communications, a joint meeting of the Petitioner and Respondent was held at Kolkata on 23.2.2021 to 24.2.2021 in order to negotiate the tariff and to ensure the unhindered sale of power/scheduling from the generating station. The summary of the meeting held on 23.2.2021 to 24.2.2021 stand communicated by the Petitioner to Respondent vide letter dated 24.2.2021.

(d) In the detailed discussion between officers of the Petitioner and Respondent, a consensus was arrived for a levelized tariff (LT) of Rs. 4.39/ kwh for 10 years from 2021-22 to 2030-31. Wherein, the tariff for the initial 5 years i.e. from 2021-22 to 2025-26, is negotiated at Rs. 4.35/ kwh, and the tariff for another 5 year period, i.e. from 2026-27 to 2030-31, is negotiated at Rs. 4.46/ kwh. It was also agreed that the above tariff shall remain fixed and unaltered for the next 10 years i.e. from 2021-22 to 2030-31, irrespective of any other provisions of the existing tariff regulation as well as subsequent regulatory changes.

(e) The tariff for 2019-20 and 2020-21 is to be determined by the Commission as per 2019 Tariff Regulations. In the meeting, it was decided that the Petitioner and Respondent would approach their respective Board of Directors/Management for approval of the proposal. As per MOM, Respondent shall pay single part tariff on ex-bus energy w.e.f. 2020-21 to 2030-31, as mentioned hereunder:

Year	***Tariff agreed with WBSEDCL (from deviated norms) (Rs./kwh)***
2021-22	*4.35*
2022-23	*4.35*
2023-24	*4.35*
2024-25	*4.35*
2025-26	*4.35*
2026-27	*4.46*
2027-28	*4.46*
2028-29	*4.46*
2029-30	*4.46*
2030-31	*4.46*

(f) The levelized tariff from 1.4.2021 to 31.3.2031 for the capital cost of Rs. 1740.60 cr. as on 31.3.2021(arrived on the basis of capital cost allowed by the Commission as on 31.3.2019 plus projected add cap till 31.3.2021) is Rs. 5.28/ kwh.

(g) As per Regulation 30(2) of 2019 Tariff Regulations, ROE is computed 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 stations with pondage.

(h) As the generating station is a run-of river generating station with pondage, ROE has to be calculated at 16.50%, which has been reduced to @13.49% as a deviation from the 2019 Tariff Regulations, in order to arrive at the levelized tariff of Rs. 4.39/unit as agreed with Respondent from 2021-22 to 2030-31. The abstract of tariff as per CERC norms and as per Deviated norms is as under:

	Tariff as per CERC norms	**Modified tariff as per Deviated norms**
Tariff for 2021-22	Rs. 4.60/kwh	Rs. 4.29/ kwh
Levelized Tariff	Rs. 5.28/kwh	Rs. 4.39/ kwh
Period	1.4.2021 till the balance life i.e. 2056-57	1.4.2021 to 31.3.2031

(i) The tariff model in respect of the generating station with deviation in norms specified in CERC (Terms & Conditions of Tariff) Regulations, 2019 has been approved by the Board of Directors of the Petitioner in its 444th meeting of the Board of Directors of the Petitioner held on 21.3.2021. Further, Respondent, vide e-mail dated 15.6.2021, informed Petitioner that Board of Directors of Respondent has accorded approval for extension/ renewal of the generating station vide PPA dated 17.6.2005, for a further period of 10 years, on the terms and conditions mutually arrived at between Respondent and Petitioner vide letter dated 24.2.2021 and MoM dated 7.2.2020.

(j) After the approval of the respective Board of Directors of the Petitioner and Respondent, Petitioner started the process of signing of PPA with the Respondent and the same was executed on 2.9.2021, with the extension of the already signed PPA dated 17.6.2005 till 31.3.2021, with the same terms and conditions contained and with alternate tariff model from 1.4.2021 to 31.3.2031. The salient features of the PPA dated 2.9.2021 for the period 11.3.2021 to 31.3.2021 and 1.4.2021 to 31.3.2031 are as under:

i. *WBSEDCL agreed for further extension of PPA dated 17.06.2005 on CERC determined AFC/ tariff only up to 31.03.2021 from 11.03.2021 i.e. after expiry of 5 years from COD of the first unit dated 11.03.2016 and further extension of PPA for 10 years from 01.04.2021 to 31.03.2031 on alternative tariff model.*

ii. *Both the parties have agreed for an alternative tariff model &* ***deviation from norms specified in*** *CERC Tariff Regulations 2019 and respective board of Directors of NHPC Limited and WBSEDCL have also given approval for the same. The tariff shall be a single part tariff applicable on the quantum of energy supplied.*

iii. *The tariff for each financial year shall be as mentioned above, irrespective of any other provisions of the existing tariff regulations as well as regulatory changes in subsequent CERC Tariff Regulations in 2024 and onwards.*

iv. *No additional capitalization, arbitration cost etc shall be considered by WBSEDCL. Similarly sharing of gains mentioned in Chapter 14 of CERC Tariff Regulations 2019 and subsequent changes in future tariff regulations shall also not be applicable.*

v. *The impact of any variation in existing statutory levies or introduction of any new statutory levies shall be taken into effect.*

vi. *Petitioner shall be paid for generation ex-bus in respect of NHPC Station at the tariff mentioned above.*

vii. *The generating Station shall be treated as "must run" power station and any reduction in schedule approved by SLDC (backing down of Station) in comparison to the schedule given by Petitioner shall be considered as deemed generation and shall be paid at the tariff as agreed. However, less generation due to hydrology shall not be considered by WBSEDCL.*

DURATION OF AGREEMENT:

(I) The PPA dated 17th June 2005 has expired on 10.03.2021 on expiry of 05 years period of commercial operation of the first unit of TLDP-IV as the COD of the first unit of TLDP-IV was 11.03.2016. Both the parties agreed to extend the PPA dated 17th June 2005 further till 31.3.2021 with the terms and conditions contained in that PPA dated 17th June 2005.

(II) The revised terms and conditions in this Supplementary Agreement shall come into Force with effect from 01.04.2021 and shall remain valid till 31.03.2031.

6. Accordingly, the present petition has been filed by the Petitioner, seeking approval of the Commission, to charge a lower tariff for the period from 1.4.2021 to 31.3.2031, in deviation from the provisions of the 2019 Tariff Regulations, in terms of Regulation 66 read with Regulation 77 of the 2019 Tariff Regulations.

7. The Petition was listed and heard on 6.1.2023, along with Petition No. 223/GT/2021 (for truing up of tariff for the period 2016-19). However, since the prayer of the Petitioner, in the present petition, could be considered only after the tariff is trued-up for the previous period, the matter was again heard on 16.3.2023, and the Commission reserved its order in the matter. Based on the submissions of the parties

and documents available on record we proceed to examine the claims of the Petitioner, in this Petition, on prudence check, as stated in the subsequent paragraphs.

Analysis and Decision

8. Regulations 66 of the 2019 Tariff Regulations provides as under:

"66. Deviation from ceiling tariff:

(1) The tariff determined in these regulations shall be a ceiling tariff. The generating company or the transmission licensee and the beneficiaries or the long-term customer, as the case may be, may mutually agree to charge a lower tariff.

(2) The generating company or the transmission licensee, may opt to charge a lower tariff for a period not exceeding the validity of these regulations on agreeing to deviation from operational parameters, reduction in operation and maintenance expenses, reduced return on equity and incentive specified in these regulations.

(3) If the generating company or the transmission licensee opts to charge a lower tariff for a period not exceeding the validity of these regulations on account of lower depreciation based on the requirement of repayment in such case, the unrecovered depreciation on account of reduction of depreciation by the generating company or the transmission licensee during useful life shall be allowed to be recovered after the useful life in these regulations.

(4) The deviation from the ceiling tariff specified by the Commission, shall come into effect from the date agreed to by the generating company or the transmission licensee and the beneficiaries or the long-term customer, as the case may be.

(5) The generating company and the beneficiaries of a generating station or the transmission licensee and the long-term customer of transmission system shall be required to approach the Commission for charging lower tariff in accordance with clauses (1) to (3) above. The details of the accounts and the tariff actually charged under clauses (1) to (3) shall be submitted at the time of true up."

9. Thus, in terms of Regulation 66(5) of the 2019 Tariff Regulations, the generating company (as in the present case) is required to approach the Commission for charging a mutually agreed lower tariff, for a period not exceeding the validity of the said regulations, in deviation from norms, as mentioned in clauses (2) and (3) of the said regulation. It also provides that the deviation from the ceiling tariff shall come into effect from the date agreed to by the generating company and the details of the accounts and tariff actually charged are required to be submitted at the time of truing up.

10. The Petitioner has submitted that the Commission is vested with the power to remove difficulty in giving effect to the objectives of regulations under Regulation 77 (Power to Remove Difficulty) of the 2019 Tariff Regulations. Accordingly, the Petitioner has prayed that the Commission may approve the tariff in deviation from norms specified in the 2019 Tariff Regulations, in respect of the generating station for the period from 1.4.2021 to 31.3.2031 and to exempt the Petitioner from filing the true-up petition at the end of the control period, as a fixed single part tariff, for each financial year, as agreed upon by both parties, and there is nothing to be trued up.

11. Regulation 77 of the 2019 Tariff Regulations provides as under:

> *"**77. Power to Remove Difficulty**: If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision not inconsistent with the provisions of the Act or provisions of other regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations."*

12. Thus, the above quoted provisions in the 2019 Tariff Regulations provide that in case of giving effect to the regulations, the Commission by order make such provisions not inconsistent with the Act or Regulations, as may be considered necessary. So, the primary consideration is the difficulty in "giving effect to the provisions of the regulations," and if such difficulty is encountered, then the Commission, in the exercise of its power to remove difficulty can provide the missing link to make the regulations workable, without doing violence to the express provisions of Regulation 66 of the 2019 Tariff Regulations.

13. The Hon'ble Supreme Court in M.U. Sinai Vs Union of India {(1975) 2 SCR 640} has laid down as under:

> *"The existence or arising of a difficulty is the sine qua non for the exercise of power. If this condition precedent is not satisfied as an objective fact, the power under this clause cannot be invoked at all. Again, the "difficulty" contemplated by the clause must be a difficulty arising in giving effect to the provisions of the Act and not a difficulty arising aliunde, or an extraneous difficulty. Further, the Central Government can*

exercise the power under the clause only to the extent it is necessary for applying or giving effect to the Act etc., and no further. It may slightly tinker with the Act to round off angularities, and smoothen the joints or remove minor obscurities to make it workable, but it cannot change, disfigure or do violence to the basic structure and primary features of the Act. In no case, can it, under the guise of removing a difficulty change the scheme and essential provisions of the Act".

14. As per the above judgement, the difficulty must arise in giving effect to the provisions of the Act, not any extraneous difficulty that would justify the exercise of power to remove the difficulty. Further, the power of removal of difficulty cannot be exercised to change the scheme or essential provisions of the Act.

15. In the present case, the charging of a lower tariff, which has been mutually agreed upon between the Petitioner and the Respondent, vide letter dated 24.2.2021, read with PPA dated 2.9.2021, is for a period from 1.4.2021 to 31.3.2031, which is in deviation from the express provision in Regulation 66(2) and Regulation 66(3) of the 2019 Tariff Regulations. These provisions enable the parties to charge lower tariffs only for a period not exceeding the validity of the regulations, i.e. up to 31.3.2024. In our view, the power to remove difficulty can be exercised only to round off the angularities or minor obscurities to make the regulations workable and cannot be used to change the basic structure of the regulations. Since there is no difficulty in giving effect to the provisions of the Regulations with regard to the Petitioner charging a lower tariff until the validity of the regulations, the Petitioner's prayer to approve the tariff in deviation from norms for the period beyond the validity of the regulations (i.e. 31.3.2024) is not acceptable. However, the Petitioner is at liberty to approach the Commission seeking approval of the Commission to charge the mutually agreed tariff beyond 31.3.2024, at the time of truing up the tariff along with the tariff petition in terms of the applicable tariff regulations, for the next tariff period.

16. In order to examine whether the mutually agreed tariff in terms of Regulation 66 of the 2019 Tariff Regulations for the period from1.4.2021 to 31.3.2024 is less than the tariff to be determined in terms of the 2019 Tariff Regulations, we compute the tariff of the generating station for the period 2021-24 in accordance with the provisions of the 2019 Tariff Regulations, as discussed in the subsequent paragraphs.

Capital Cost as on 1.4.2021

17. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost, as determined by the Commission after prudence checks in accordance with the regulation shall form the basis of the determination of tariffs for existing and new projects. However, the capital cost of an existing project is governed as per clause (3) of Regulation 19 of the 2019 Tariff Regulations, which provides 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 modernization 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…."*

18. The capital cost of Rs.171149.78 lakh, as on 31.3.2021 has been approved by the Commission vide order dated 8.12.2023 in Petition No. 223/GT/2021. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the closing capital cost of Rs.171149.78 lakh, has been considered as the opening capital cost as on 1.4.2021.

Additional Capital Expenditure

19. No projected additional capitalization has been claimed by the Petitioner for the period 2021-24, and it has submitted that it will submit the actual capital cost at the time of truing up the tariff. Hence, no additional capital expenditure has been considered for the period 2021-24.

Capital cost for the period 2021-24

20. Based on the above, the capital cost considered for the purpose of computation of tariff of the generating station for the period 2021-24 is as under:

(Rs. in lakh)

	2021-22	**2022-23**	**2023-24**
Opening Capital Cost	171149.78	171149.78	171149.78
Add: Projected additional capital expenditure allowed	0.00	0.00	0.00
Closing Capital Cost	171149.78	171149.78	171149.78
Average Capital Cost	171149.78	171149.78	171149.78

Debt-Equity Ratio

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

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

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

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

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

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

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

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

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

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation."

22. The gross loan and equity amounting to Rs.119804.85 lakh and Rs.51344.93 lakh, respectively as on 31.3.2021, in the ratio 70:30, were considered in an order dated 8.12.2023 in Petition No. 223/GT/2021 and the same has been considered as on 1.4.2021.

Return on Equity

23. Regulations 30 and 31 of the 2019 tariff Regulations provide 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 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."

24. In terms of the above Regulations, the Return on Equity (ROE) has been calculated considering the base rate of ROE of 16.5% and the MAT rate of 17.472%. Hence, the rate of ROE considered for the period 2021-24 works out as 19.993%. Further, for the additional capital expenditure approved beyond the original scope of work for the period 1.4.2019 to 31.3.2021, vide order dated 8.12.2023 in Petition No. 223/GT/2021, ROE has been calculated after grossing up the weighted average rate of interest on loan (WAROI) of 8.320% as considered in Petition No. 223/GT/2021, for the period 2021-24 with an effective tax rate of 17.472%. Accordingly, ROE has been worked out as under:

Return on Equity at Normal Rate

(Rs. in lakh)

	2021-22	**2022-23**	**2023-24**
Opening Equity (A)	51329.57	51329.57	51329.57
Addition of Equity due to ACE (B)	0.00	0.00	0.00
Closing Equity (C) =(A)+(B)	51329.57	51329.57	51329.57
Average Equity (D)=(A+C)/2	51329.57	51329.57	51329.57
Base rate (%) (E)	16.500%	16.500%	16.500%
Effective Tax rate (%) (F)	17.472%	17.472%	17.472%
Effective ROE rate (%) (G) =E/(1-F)	19.993%	19.993%	19.993%
Return on Equity (H)=(D)*(G)	10262.32	10262.32	10262.32

Return on Equity at WAROI

(Rs. in lakh)

	2021-22	**2022-23**	**2023-24**
Opening Equity (A)	15.36	15.36	15.36
Addition of Equity due to ACE beyond scope of work (B)	0.00	0.00	0.00
Closing Equity (C)=(A)+(B)	15.36	15.36	15.36
Average Equity (D)=(A+C)/2	15.36	15.36	15.36
Base rate (%) (E)	8.320%	8.320%	8.320%
Effective Tax rate (%) (F)	17.472%	17.472%	17.472%
Effective ROE rate (%) (G) =E/(1-F)	10.081%	10.081%	10.081%
Return on Equity (H)=(D)*(G)	1.55	1.55	1.55

Total ROE allowed

(Rs. in lakh)

	2021-22	2022-23	2023-24
Return on Equity at Normal Rate (A)	10262.32	10262.32	10262.32
Return on Equity at WAROI (B)	1.55	1.55	1.55
Total Return on Equity allowed (C= A+B)	**10263.87**	**10263.87**	**10263.87**

Interest on Loan

25. 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 decapitalization 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 up to the date of de-capitalization of such asset.

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

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

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;
Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

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

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

26. Interest on the loan has been computed as under:

i) The gross normative loan amounting to Rs.119804.85 lakh, has been considered as on 1.4.2021;

ii) Cumulative repayment amounting to Rs.29341.65 lakh, as on 31.3.2021, as considered in an order dated 8.12.2023 has been considered as on 1.4.2021;

iii) Accordingly, the net normative opening loan as on 1.4.2021 works out to Rs.90463.20 lakh;

iv) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2021-24.

v) The interest rate has been calculated by applying the weighted average rate of interest (WAROI) of 8.32%, as considered in an order dated 8.12.2023, for the period 2021-24.

27. Accordingly, Interest on loan is worked out as under:

(Rs. in lakh)

	2021-22	**2022-23**	**2023-24**
Gross opening loan (A)	119804.85	119804.85	119804.85
Cumulative repayment of loan upto previous year (B)	29341.65	37976.65	46611.64
Net Loan Opening (C=A-B)	90463.20	81828.20	73193.20
Addition due to additional capital expenditure (D)	0.00	0.00	0.00
Repayment of loan during the year (E)	8635.00	8635.00	8635.00
Net Loan Closing (F = C+D-E)	81828.20	73193.20	64558.20
Average Loan (G= (C+F)/2)	86145.70	77510.70	68875.70
Weighted Average Rate of Interest of loan (H)	8.32%	8.32%	8.32%
Interest on Loan (I= G*H)	**7167.32**	**6448.89**	**5730.46**

Depreciation

28. 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."

29. Accordingly, cumulative depreciation amounting to Rs.29341.65 lakh, as on 31.3.2021, as considered in order dated 8.12.2023 in Petition No. 223/GT/2021, has been considered, as on 1.4.2021. In terms of the 2014 Tariff Regulations, the useful life of a hydro generating station was 35 years. However, the 2019 Tariff Regulations stipulates that the useful life of a hydro generating station is 40 years. Accordingly, the balance useful life of the generating station as on 1.4.2021 has been considered as 35.38 years in line with the 2019 Tariff Regulations. The depreciation has been calculated considering the weighted average rate of depreciation (WAROD) of 5.045% for the period 2021-24. Accordingly, in terms of Regulation 33 of the 2019 Tariff Regulations, depreciation has been calculated as under:

(Rs. in lakh)

	2020-21	2022-23	2023-24
Opening Capital Cost (a)	171149.78	171149.78	171149.78
Closing Capital Cost (b)	171149.78	171149.78	171149.78
Average Capital Cost (c)=(a+b)/2	171149.78	171149.78	171149.78
Rate of Depreciation (%) (d)	5.045%	5.045%	5.045%
Depreciable Value (e)=90%*(c)	154034.80	154034.80	154034.80
Balance life (f)	35.38	34.38	33.38
Cumulative depreciation at beginning of the year(g)	29341.65	37976.65	46611.64
Remaining Depreciable Value (h) = (c-g)	124693.16	116058.16	107423.16
Depreciation during the period (i)=(c*d)	8635.00	8635.00	8635.00
Cumulative depreciation at the end of year(j)=(g+i)	37976.65	46611.64	55246.64
Less: Adjustment on account of de-capitalization (k)	0.00	0.00	0.00
Net Cumulative Depreciation at the end of year (l=j-k)	**37976.65**	**46611.64**	**55246.64**

Operation & Maintenance Expenses

30. In terms of Regulation 35(2)(c) of the 2019 Tariff Regulations, the O&M expenses including the impact of wage revision and GST for the period 2021-24 have been calculated after applying yearly escalation rate of 4.77% in O&M approved as on 31.3.2021 vide order dated 8.12.2023 read with the corrigendum order dated 9.1.2024 in Petition No.223/GT/2021 as under:

(Rs. in lakh)

	2021-22	2022-23	2023-24
Normative O&M expenses (a)	8906.03	9330.84	9775.92
Impact of wage Revision (b)	1116.86	1170.13	1225.95
GST (c)	50.08	52.47	54.97
Security Expenses (d)	1229.66	1288.32	1349.77
Total O&M expenses allowed (e=a+b+c+d)	**11302.63**	**11841.76**	**12406.62**

Interest on Working Capital

31. 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"

32. Regulation 34(3) 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."

Receivables for Working Capital

33. The Receivable component of working capital has been worked out based on 45 days of fixed costs as under:

(Rs. in lakh)

2021-22	2022-23	2023-24
4702.12	4681.38	4665.14

Maintenance Spares for Working Capital

34. Maintenance spares @15% of O&M expenses are worked out as under:

(Rs. in lakh)

2021-22	2022-23	2023-24
1695.39	1776.26	1860.99

O&M Expenses for (1 month) Working Capital

35. O&M expenses including security expenses for 1 month for the purpose of working capital are as under:

(Rs. in lakh)

2021-22	2022-23	2023-24
941.89	986.81	1033.88

Rate of Interest on Working Capital

36. In accordance with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital shall be considered as 10.50% (i.e. 1-year SBI MCLR of 7.00% as on 01.04.2021 + 350 bps) for the year 2021-22, 10.50% (i.e. 1-year SBI MCLR of 7.00% as on 01.04.2022 + 350 bps) for the period 2022-23 and 12.00% (i.e.

1-year SBI MCLR of 8.50% as on 01.04.2023 + 350 bps) for the period 2023-24). Accordingly, interest on working capital is worked out as under:

(Rs. in lakh)

	2021-22	2022-23	2023-24
Working Capital for Receivables (45 days)	4702.12	4681.38	4665.14
Working Capital for Maintenance spares (15% of O&M Expenses)	1695.39	1776.26	1860.99
Working Capital for O&M expenses	941.89	986.81	1033.88
Total Working Capital	**7339.41**	**7444.46**	**7560.02**
Rate of interest on working capital (%)	10.50%	10.50%	12.00%
Interest on Working Capital	**770.64**	**781.67**	**907.20**

Annual Fixed Charges

37. Based on the above, the annual fixed charges worked out for the generating station for the period 2021-24, are summarized as under:

(Rs. in lakh)

	2021-22	2022-23	2023-24
Depreciation	8635.00	8635.00	8635.00
Interest on loan	7167.32	6448.89	5730.46
Return on Equity	10263.87	10263.87	10263.87
Interest on Working capital	770.64	781.67	907.20
O&M Expenses	11302.63	11841.76	12406.62
Total	**38139.46**	**37971.19**	**37943.15**

Note: (1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.

Composite Tariff

38. The Design Energy (DE) of the generating station is 717.717 MU, and keeping in view the provision of normative auxiliary losses (1.2%) as per Regulation 50(4)(C) of the 2019 Tariff Regulations and the Local Area Development Fund of 1%, the saleable energy works out to be 702.013 MU. Based on the annual fixed charges and saleable energy of the generating station, the per unit tariff worked out for the period 2021-24, as compared to the mutually agreed tariff by the parties for the period 2021-24, is as under:

(Rs. in lakh)

	2021-22	2022-23	2023-24
Annual Fixed Charges worked out as above	38139.46	37971.19	37943.15

Saleable Design Energy in MU	702.013	702.013	702.013
Per unit rate (Rs / kWh) as per norms	**5.43**	**5.41**	**5.40**
Mutually agreed tariff as per MOU (Rs / kWh)	**4.35**	**4.35**	**4.35**

39. It is therefore evident from the above, that the mutually agreed tariff to be charged by the Petitioner in terms of the letter dated 24.2.2021, for the period 2021-24, is lower than the tariff determined in terms of the provisions of the 2019 Tariff Regulations. In view of this, we accord approval to the tariff mutually agreed upon by the parties, for the period 2021-24, as stated below:

	2021-22	**2022-23**	**2023-24**
Mutually agreed tariff (Rs/kWh)	4.35	4.35	4.35

40. Petition No. 212/GT/2021 is disposed of in terms of the above.

Sd/-	***Sd/-***	***Sd/-***	***Sd/-***
(Pravas Kumar Singh) Member	**(Arun Goyal) Member**	**(I.S. Jha) Member**	**(Jishnu Barua) Chairperson**