Comments on Draft CERC (Terms and Conditions of Tariff) Regulations 2024

NHPC Limited

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Contents

Chapter 1: Preliminary

Change in Definitions

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Force Majeure	3(25). 'Force Majeure' for the purpose of these regulations means the events or circumstances or combination of events or circumstances including those stated below **which partly or fully prevents** the generating company or transmission licensee to complete the project within the **time specified in the Investment Approval**, and only if such events or circumstances are not within the control of the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:	3(32). 'Force Majeure' for the purpose of these regulations means the events or circumstances or combination of events or circumstances, including those stated below, **which prevent** the generating company or transmission licensee **from completing or operating the project**, and only if such events or circumstances are not within the control of the generating company or transmission licensee and could not have been avoided, had the generating company or transmission licensee taken reasonable care or complied with prudent utility practices:	• Included operational period as part of force majeure is a welcome step • Considering the significant impact of the COVID19 pandemic on both construction activities and operations, we request the Hon'ble Commission to include 'Nationwide Pandemic' as part of force majeure, as this event was clearly beyond the control of utilities and its impact was unavoidable.

Chapter 3: Procedure for Tariff Determination

Tariff Determination- Interim Tariff

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Determination of tariff	10(3) If the information furnished in the petition is in accordance with these regulations and is adequate for carrying out prudence check of the claims made, the Commission may consider granting interim tariff in case of new projects.	10 (3) If the information furnished in the petition is in accordance with these regulations, the Commission may consider granting interim tariff of up to ninety per cent (90%) of the tariff claimed in case of new generating station or unit thereof or transmission system or element thereof during the first hearing of the application: Provided that in case the final tariff determined by the Commission is lower than the interim tariff by more than 10%, the generating company or transmission licensee shall return the excess amount recovered from the beneficiaries or long term customers, as the case may be with simple interest at 1.20 times of the rate worked out on the basis of 1 year SBI MCLR plus 100 basis points prevailing as on 1st April of the financial year in which such excess recovery was made.	• The provision of allowing recovery of up to 90% interim tariff during the first hearing is a welcome step. However, we are requesting the Commission to include provisions of putting up such petition for hearing within 60 days of filing of petition in order to start provisional recovery of the tariff till the time Commission comes out with a final tariff order. • Although the likelihood of over 10% variance between interim and final tariffs is minimal, however, in cases of significant time or cost overruns, the Commission's perspective on expenses may differ, potentially resulting in a disparity exceeding 10% between final and interim tariffs. • The suggested provisions would burden utilities with disallowances in Annual Fixed Costs and additional carrying costs, impacting project feasibility and profitability. • We suggest the Commission allow refunds of excess recovery to beneficiaries or long-term customers at a simple rate equivalent to 1-year SBI MCLR plus 100 basis points as of April 1st of the respective financial year.

Tariff Determination- Timeline for billing of differential AFC

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Determination of tariff-timeline for billing of differential AFC	10(7) The difference between the tariff determined in accordance with clauses (3) and (5) above and clauses (4) and (5) above, shall be recovered from or refunded to, the beneficiaries or the long term customers, as the case may be, with simple interest at the rate equal to the bank rate prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments.	10(7) Subject to Sub-Clause (8) below, the difference between the tariff determined in accordance with clauses (3) and (5) above and clauses (4) and (5) above, shall be recovered from or refunded to, the beneficiaries or the long term customers, as the case may be, with simple interest at the rate equal to the 1 year SBI MCLR plus 100 basis points prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments. Provided that the bills to recover or refund shall be raised by the generating company or the transmission licensees within 30 days from the issuance of the Order. Provided further that such interest, including that determined as per sub-clause (8) of this regulation shall be payable till the date of issuance of the Order and no interest shall be allowed or levied during the period of six-monthly instalments. Provided further that in case where money is to be refunded and there is a delay in the raising of bills by the generating company or transmission licensees beyond 30 days from the issuance of the Order, it shall attract a late payment surcharge as applicable in accordance with these regulations.	• While receiving truing-up & provisional orders (presently for ten years), we have to calculate 12 monthly bills for each year, say for ten years, i.e. approx. 120 bills for each beneficiary, resulting in a substantial workload, especially for power stations serving numerous beneficiaries. • Interest calculations on these bills further add to the complexity and time required. Additionally, some truing-up orders permit the recovery of various reimbursements, such as additional O&M, capital spares, GST, arbitration interest, etc., within stipulated timelines set by CERC. • Managing multiple orders issued within short durations exacerbates the challenge of meeting CERC's billing deadlines. Therefore, it is proposed to allow a minimum of 60 days from the issuance of the order for generating companies to raise and send bills, along with interest and detailed calculations, to beneficiaries.

Chapter 6: Computation of Capital Cost

Capital Cost: IDC and IEDC

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Prudent Phasing of Funds up to COD	21(1) Interest during construction (IDC) shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds up to SCOD.	21 (1) Interest during construction (IDC) shall be computed considering the actual loan and normative loan after taking into account the prudent phasing of funds up to actual COD: Provided that IDC on normative loan corresponding to excess equity over 30% of funds deployed shall be allowed only in case the actual infusion of equity on a quarterly basis is more than 30% of total funds deployed on a pari-passu basis. Provided further that in case IDC on normative loan is to be allowed prior to infusion of actual loan, rate of interest for computing such IDC shall be equal to 1-year SBI MCLR as prevailing on 1st April of the respective year. Provided further that IDC on normative loan, post infusion of actual loan shall be computed based on WAROI for that respective quarter.	• The proposed provisions would take into consideration the IDC on normative loan portion till the time actual loan is infused and is a welcome step. • The Commission also proposes that the IDC on normative loan, post infusion of actual loan shall be computed based on WAROI for that respective quarter. It is important to note that, sometimes GOI provides loan at a subsidized interest rate (sometimes even at 0%) either to make the projects feasible or on account of National importance of such projects. • It is crucial to note that the same interest rates cannot be used for the calculation of IDC on the Normative Loans because this will reduce the interest on the equity infused through Normative Loans. • It is therefore suggested to exclude the interest rates of subsidized loans for calculation of WAROI while calculating the IDC on normative loan or to continue with the norms of 1-year SBI MCLR as prevailing on 1st April of the respective year
Statutory Clearances	21(5) If the delay in achieving the COD is attributable either in entirety on in part to the generating company or the transmission licensee or its contractor or supplier or agency, in such cases, IDC and IEDC beyond SCOD may be disallowed after prudence check either in entirety or on pro-rata basis corresponding to the period of delay not condoned and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be retained by the generating company or the transmission licensee, as the case may be.	21.(5) If the delay in achieving the COD is attributable either in entirety or in part to the generating company or the transmission licensee or its contractor or supplier or agency, in such cases, IDC and IEDC due to such delay may be disallowed after prudence check either in entirety or on pro-rata basis corresponding to the period of delay not condoned vis-à-vis total implementation period and the liquidated damages, if any, recovered from the contractor or supplier or agency shall be retained by the generating company or the transmission licensee, in the same proportion of delay not condoned vis-à-vis total implementation period. Provided that in case of activities like obtaining forest clearance, NHAI Clearance, approval of Railways, and acquisition of government land, where delay is on account of delay in approval of concerned authority, in such cases maximum condonation shall be allowed up to 90% of the delay associated with obtaining such approvals or clearances.	• The Commission in the concept paper had suggested to include the delay on account of getting the forest clearance as the Uncontrollable parameters. • Such disallowances would stress the profitability of the projects even though such delays are not attributable to the utilities. • Therefore, we request the Commission to consider full delay in obtaining forest clearance, NHAI Clearance, approval of Railways, and acquisition of government land, where delay is on account of delay in approval of concerned authority, as part of IDC and IEDC as such delays are unequivocally beyond the control of the entity responsible for the project execution.

Capital Cost: Controllable and Uncontrollable Factors

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Controllable and Uncontrollable Factors	22. Controllable and Uncontrollable factors: The following shall be considered as controllable and uncontrollable factors for deciding time over-run, cost escalation, IDC and IEDC of the project: (1) The “controllable factors” shall include but shall not be limited to the following: a. Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or change in law or force majeure events; and b. Delay in execution of the project on account of contractor or supplier or agency of the generating company or transmission licensee.	22. Controllable and Uncontrollable factors: The following shall be considered as controllable and uncontrollable factors for deciding time overrun, cost escalation, IDC and IEDC of the new projects: (1) The "controllable factors" shall include but shall not be limited to the following: a. Efficiency in the implementation of the new projects not involving an approved change in scope of such new projects, change in statutory levies or change in law or force majeure events; and b. Delay in execution of the new projects on account of contractor or supplier or agency of the generating company or transmission licensee. (2) The “uncontrollable factors” shall include but shall not be limited to the following: a. Force Majeure events; b. Change in law; and c. Land acquisition except where the delay is attributable to the generating company or the transmission licensee.	• We request the Commission to include delay on account of forest clearance in the list of Uncontrollable factors along with Force Majeure and Change in Law. Since the delays faced by hydro projects in obtaining forest clearance can vary depending on the specific project, location, and regulatory processes involved. • The contractual delays or delays on account of contractor are included in controllable factors, however, we request the Commission that such delays should be dealt on case-to-case basis and contractual delays on account of hydro power developers should be considered under uncontrollable factors. • In the current scenario, any delay on account of contractor is a part of controllable factors and time overrun in such a scenario is not condoned. The contractor pays LD in form of penalty for delay and the utility is also penalized. However, we request the Commission that time overrun in such a situation should be condoned so that the LD paid by the contractor is passed on to the beneficiaries and the point “delay on account of contractor” should be moved to uncontrollable factors. Therefore, contractual delays should be treated on case to case basis.

Chapter 7: Additional Capital Expenditure

Additional Capital Expenditure

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Additional Capital Expenditure	25.(1)(f). Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and	25.(1)(d). Payment made towards liability admitted for works within the original scope executed prior to the cut-off date; 25.(1)(f). Works within original scope executed after the cut-off date and admitted by the Commission, to the extent of actual payments made; and	• The proposed CERC Regulations 2024 shall only approve Additional Capital Expenditure within the original scope of work and incurred after the cut-off date to the extent of actual payments made. However, any additional capital expenditure approved before the cut-off date but discharged after it, in the form of liabilities, has not been considered as part of the Additional Capital Expenditure after the cut-off date. Hence, it is proposed that the liabilities as and when discharged after the cut-off dates should also be included along with the actual payments made after the cut-off date.
Additional Capital Expenditure	**No Provision**	26(3) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalized. Provided that in cases where an asset forming part of a scheme is de-capitalized and wherein the historical value of such asset is not available, the value of de-capitalization shall be computed by de-escalating the value of the new asset by 5% per year until the year of capitalization of the old asset subject to a minimum of 10% of the replacement cost of the asset.	• In case of asset where value of old individual asset is not available, the value of old asset may be decapitalized by de-escalating the gross value of the new asset using the Cost Inflation Index (CII) issued by Income Tax Department, Government of India as submitted by the generating company at the time of filing the tariff petition as the same methodology is followed in preparation of annual accounts as well which shall be provided at the time of filing of petition. This will provide a common link between decapitalization in books of accounts and computation of capital cost for determination of tariff. • **Further, it is suggested that, whenever there is decapitalization of an asset, the remaining depreciation of the asset, excluding its salvage value, should be permitted for recovery. Therefore, this remaining depreciation amount should be included when calculating the overall depreciation. This approach ensures that the depreciation associated with the asset's remaining useful life is accounted for, contributing to a more accurate assessment of total depreciation expenses.**

Chapter 8: Computation of Annual Fixed Cost

Return on Equity

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
RoE	30.(2). 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;	30.(2). Provided that return on equity in respect of additional capitalization beyond the original scope, including additional capitalization on account of the emission control system, Change in Law, and Force Majeure shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India plus 350 basis points as on 1st April of the year, subject to a ceiling of 14%;	Additional capitalization due to unforeseen events or legal changes is essential for project continuity. Additional capital expenditure on account of force majeure is way beyond the control of generating utilities, and allowing lower return on such expenditure will penalize the utilities and will discourage equity investment. Thus, it is proposed that all equity investments, regardless of when they are made, should earn a consistent return rate of 15.5%/16.5%/17%.
RoE for storage hydro generating stations	**No Provision**	30.(3). Return on equity for new project achieving COD on or after 01.04.2024 shall be computed at the base rate of 15.00% for the transmission system, including the communication system, at the base rate of 15.50% for Thermal Generating Station and run-of-river hydro generating station and at the base rate of 17.00% for storage type hydro generating stations;	• RoE to all utilities, including hydro and thermal generators, irrespective of "different gestation/completion time and associated risks" involved in project execution is nearly same. Hydro project face considerable risk on account of remoteness/poor infrastructure facility available, Geological surprises, Social, Political, natural Calamities, law and order problems & other risks. The rate of RoE on hydroelectric projects should necessarily factor all such risks to provide reasonable return to the developers of the projects. The current RoE of 17% will fail to attract private developers to come forward for development of the hydroelectric projects. Thus, there is a need to increase the RoE on hydroelectric projects to attract investment for the development of hydroelectric projects and shall be applicable to existing hydro generating stations as well to generate enough revenue to invest in the sector. • Further, the Commission has allowed RoE to different utilities solely on the basis of gestation period and may not fully cover the operational and construction risk faced by the hydro generating utilities. • **We agree with the Commission's approach of increasing the RoE base rate, however, we request the Commission to increase the RoE to 16.5% for ROR type hydro generating stations and 18.5% for RoR with pondage and storage type hydro generating stations because the IRR computed based on proposed provisions result in similar return for all three utilities.**

We have done a scenario analysis based on Commission's guidelines in the supporting slides

Interest on Loan

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
IoL	32(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.	32(5) For the Existing Project(s), the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio or allocated loan portfolio; …… Provided that the rate of interest on the loan for the installation of the emission control system shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered. (6) In the case of New Project(s), the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio of the generating company or the transmission licensee, as the case may be; Provided further that if the generating station or the transmission system, as the case may be, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on April 1, of the relevant financial year. Provided that the rate of interest on the loan for installation of the emission control system shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered subject to a ceiling of 14%.	The approach proposed in the draft regulations to calculate interest on loan based on weighted average interest rate of the company shall result in passing on the benefit of project specific reliefs provided by the Government to beneficiaries of other projects and may turn those projects unviable. Therefore, consideration of weighted average interest rate of a particular project if project specific loans are available may be continued. Further, the normative loan proposed for new projects if the actual loan is not available is too low as hydropower projects have long gestation period and therefore, loan creditors tends to add premium over and above the base MCLR rate. Therefore, Regulation 32(6) of draft CERC Tariff Regulations, 2024 may be modified as under: *(6)* ***In the case of New Project(s), the rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio of the project or the transmission asset, as the case may be;*** ***Provided further that if the generating station or the transmission system, as the case may be, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on April 01 plus 100 basis points, of the relevant financial year****.*

Interest on Working Capital (Statutory Charges)

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Interest on Working Capital	34. (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 expenses including security expenses; and (iii) Operation and maintenance expenses, including security expenses for one month.	34 (d) 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 expenses including security expenses; and (iii) Operation and maintenance expenses, including security expenses for one month.	It is essential to note that, in order to recover the funding costs paid on the statutory charges, Interest on Working Capital should encompass receivables equivalent to 45 days of statutory charges imposed by both state and central governments, such as electricity duty, water cess/charges, RLDC fees, etc. In view of above it is suggested that new proviso may be inserted after third proviso as in Regulation 34(d) as under: ***"(iv) Receivables equivalent to 45 days of statutory charges imposed by the State and Central Government, such as electricity duty and water cess / charges, RLDC fees etc."***

O&M Expenses

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
O&M Expense	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.**	36.2(b) In the case of the hydro generating stations declared under commercial operation on or after 1.4.2024, operation and maintenance expenses of the first year shall be fixed at 3.5% and 5.0% of the original project cost (excluding the cost of rehabilitation & resettlement works, IDC and IEDC) for stations with installed capacity exceeding 200 MW and for stations with installed capacity less than 200 MW, respectively.	No rate has been defined for projects of capacity equal to 200 MW. Further, the way the rates have been defined results in lower O&M Expenses for plants having capacity between 200 MW and 300 MW than plants having capacity less than 200 MW. This can be illustrated from the following example: Consider a plant of capacity of 190 MW with cost of Rs 9 crore/MW excluding the cost of rehabilitation & resettlement works, IDC and IEDC and a plant of 250 MW with cost of Rs 9 crore/MW excluding the cost of rehabilitation & resettlement works, IDC and IEDC. Then, as per draft Regulations, O&M expenses for 1st year for plant having capacity of 190 MW is Rs 85.5 crores and plant having capacity of 250 MW is Rs 78.75 crore. Thus, O&M expenses of a plant having higher capacity is fixed at lower end than O&M expenses of plant having lower capacity. Therefore, the O&M expenses of plant having capacity beyond 200 MW should have a minimum value which shall be equal to plant having capacity of 200 MW with same cost/MW capital expenditure. In view of above, the proposed modification in Regulation 36.2(b) is as under: ***"36.2(b) In the case of the hydro generating stations declared under commercial operation on or after 1.4.2024, operation and maintenance expenses of the first year shall be fixed at 3.5% and 5.0% of the original project cost (excluding the cost of rehabilitation & resettlement works, IDC and IEDC) for stations with installed capacity exceeding 200 MW and for stations with installed capacity less than or equal to 200 MW, respectively and shall be escalated thereafter @ 5.86% for subsequent year of tariff period.*** ***Provided that the O&M expenses calculated for plants having capacity beyond 200 MW shall not be less than the O&M Expenses of a plant of capacity of 200 MW with same cost per MW."***

O&M Expenses

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
O&M Expense	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.**	36.2(e) Any additional O&M expenses incurred by the generating company due to any change in law or Force Majeure event shall be considered at the time of truing up of tariff. Provided that such impact shall be allowed only in case the overall impact of such change in law event in a year is more than 5% of normative O&M expenses for the year.	Earlier there was no provision for allowing impacts of change in law and force majeure events, as such it is a welcome step and needs to be kept in final regulation. As per proviso to Regulation 36.2(e) impact due to change in law event in a year is allowed only in case overall impact is more than 5% of normative O&M expenses of the year. However, it is submitted that 5% of normative O&M expenses works out between Rs. 2.49 crore (Chutak) to Rs. 10.37 crore (Salal). Further, if there is any change in law event which impacts all the power stations of NHPC, then the 5% impact works out to be Rs. 123.30 crore. Therefore, absorbing 5% impact of change in law event by the generating station will be detrimental. In view of above it is suggested that new proviso may be inserted after first proviso as under: *"**Provided that generating company may make a miscellaneous application for claiming impact of change in law event in case the overall impact is more than Rs. 10 crore for all the generating stations**."*

Chapter 11: Computation of Capacity Charges and Energy Charges

Computation and Payment of Capacity Charge and Energy Charge for Hydro Generating Stations

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Incentives for ROR Hydro Generating Station	**No Provision**	65(10) In addition to the above, an incentive shall be payable to a ROR Hydro generating station @ 50 paise/ kWh corresponding to the saleable scheduled energy during peak hours of the day in excess of average saleable scheduled energy during the day (24 hours).	We agree with the Commission's approach and request the Commission to continue the same for the final regulation. However, Hon'ble Commission is requested to consider similar incentive for all types of hydro generating stations. The recent article 'Understanding the True Value of Electricity – Beyond Megawatts' in ETEnergyworld.com has published on 09.01.2024 concludes as under: "The fundamental argument of this article is that not every 1 MW of generation is equal 1 MW of electricity at the wrong location and at the wrong time of the day is worth less than another 1 MW added to the system. The flexibility of generation adds more layers to the valuation of the 1 MW produced. 1 MW that can be generated or consumed on demand has greater value than the MW which is inflexible and that cannot always reach a consumer. Flexibility can be promoted by pricing flexible products and ancillary services higher than non-flexible base load or inflexible renewable energy production. Effective markets and traffic regulations are crucial to ensure adequate consideration of time-dependent value, location-dependent value, and flexibility. Renewable energy should be incentivized without undermining its time and locational value in electricity generation, Indian regulations should be localized, unique, and contextual, but the fundamental principle of valuation of electricity generation based on time dependency, location dependency, and flexibility should never be forgotten." **Therefore, incentive of 50 paise needs to be increased to 10% of Max MCP which is Rs.1 per unit and needs to be extended to all types of hydro generating stations.**

Chapter 12: Norms of Operation

Norms of Operation for Hydro Generating Station (Draft Regulation 71)

Regarding Proposed NAPAF of Pondage RoR with Pondage Power Stations:

The existing Tariff Regulations, 2019, notified by the Commission, consists of the following provision regarding Operational Norms for Hydro Generating Stations are as under:

(c) Pondage type plants where plant availability is significantly affected by silt: 85%

Further, in the explanatory memorandum issued by Hon'ble Commission on draft Tariff Regulations 2024-29, following has been mentioned:

"21.5.2 As regards the actual availability achieved by the hydro generating stations, it is observed that most of the generating stations achieved much higher PAF as compared to the current normative annual plant availability factor (NAPAF) norms. Based on the review of actual PAF achieved by the generating stations for the period FY 2018-19 to FY 2022-23, the Commission has proposed the NAPAF norms for the tariff period 2024-29 period and is as shown in the table below"

Actual and Proposed NAPAF for Hydro Generating Stations:

Sl. No.	Power Station	2018-19	2019-20	2020-21	2021-22	2022-23	Average	NAPAF 2024-29
1	BAIRASIUL	75.09	89.49	76.89	80.62	88.05	82.03	90.0
2	CHAMERA-II	94.15	54.89	59.11	96.22	97.10	80.30	90.0
3	SEWA-II	103.34	104.04	53.39	6.66	99.84	73.45	89.0
4	KISHANGANGA	44.85	48.92	61.72	86.39	85.86	65.55	Not prescribed

Norms of Operation for Hydro Generating Station (Draft Regulation 71)

As per Tariff Regulations, the NAPAF of power stations for the next tariff period are being fixed based on the actual achievement in previous years. PAF of Hydro Generating Power Stations are also being impacted due to changing hydrology, and imposition of mandatory release of water as e-flow implemented by Hon'ble NGT.

1. Bairasiul Power Plant –

Bairasiul Power Plant has been facing the high silt problem and less inflow and due to this the Power Station has not able to achieve their NAPAF of 90%. Also, please refer the regulation 71 (A)(1)(c), wherein, it is quoted that NAPAF for "Pondage type plants where plant availability is significantly affected by silt: 85%".

In view of the above facts and constraints, the NAPAF of Bairasiul Power Station may be reviewed and be fixed to approx. **80%** so that Bairasiul can recover its capacity charges accordingly.

2. Chamera-II Power Station –

The average PAF of last 5 years in respect of Chamera-II Power Station as calculated is 80.30%, whereas, the NAPAF of this Power Station has been proposed to be 90%. Chamera-II Power Station is also facing the problem of siltation which also impacts the availability of Power Station.

Therefore, it is proposed that the NAPAF of Chamera-II Power Station may also be reviewed and fixed to aprox. **80%** as achieved during last tariff period.

3. Sewa-II Power Station –

The average PAF of last 5 years in respect of Sewa-II Power Station as calculated is 73.45%, whereas the NAPAF of this Power Station has been proposed to be 89%. Sewa-II Power Station is also facing the problem of less inflow.

Therefore, it is proposed that the NAPAF of Sewa-II Power Station may also be reviewed and fixed to be aprox. 73% as achieved during last tariff period.

4. Kishanganga Power Station –

NAPAF of Kishanganga for the tariff period 2024-29 has not been mentioned in the draft tariff regulation. The average PAF of last 5 years works out to approx. 65.55% and further, it has also been experienced that Kishanganga Power Station is also facing the less inflow issue.

Therefore, it is proposed that the NAPAF of Kishanganga power station for the tariff period 2024-29 may be reviewed accordingly to avoid further stressing the plant.

In view of above facts, it is requested that the NAPAF of Baiarasiul, Chamera-II, Sewa-II and Kishanganga Power Stations may be reviewed and fixed close to 5 yrs. averages, so that recovery of capacity charges of these power stations is not affected and power stations are not stressed.

Chapter 15: Miscellaneous Provisions

Miscellaneous Provisions

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Deviation from ceiling tariff	66.(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.	88.(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. ……. Provided that where the trued up tariff is lower than the agreed tariff, the generating company or the transmission licensee shall charge such trued-up tariff only:	• The generating company or the transmission licensee, may opt to charge a lower tariff that is mutually agreed-upon and can be collected over the entire lifespan or the agreed period for a power station, contrary to the current limit of five years. • Tariff Regulations is required to be modified to allow the recovery of agreed tariff between generator and the DISCOM for the entire life / for the agreed period for a power station in contrast to presently five years only. • Therefore, the agreed tariff must be isolated for any changes in future regulatory norms to avoid any dispute between the parties. ***"88.(2) The generating company or the transmission licensee, may opt to charge a lower levellised tariff for a period of the agreement on agreeing to deviation from operational parameters, reduction in operation and maintenance expenses, reduced return on equity and incentive specified in these regulations.*** ***…….*** ***Provided that where the trued up levellised tariff for complete period of agreement is lower than the agreed levellised tariff, the generating company or the transmission licensee shall charge such trued-up tariff only:"***

Other Provisions

Provision	CERC Tariff Regulations, 2019	Draft CERC Tariff Regulations, 2024	Analysis and Comments
Award of Arbitration	**No Provision**	91. In cases where there is a liability with respect to capital works on account of award of arbitration having principal amount along with interest payment, the principal amount actually paid shall be capitalized. Provided that any interest amount associated with the arbitration award and actually paid shall be recovered in instalments along with carrying cost at the rate specified under Regulation 10(7) and 10(8) of these Regulations. Provided further that such number of instalments shall be decided by the Commission on a case-to-case basis depending upon the amount to be reimbursed.	• In the usual course of business, if the amount (currently under arbitration) had not gone under arbitration, the amount would be capitalized under the capital cost. • In this scenario, the Commission would have considered it for computation of IDC and might have allowed this IDC till the time of actual commissioning. • Since this particular amount pertaining to civil works went into arbitration, it led to delay in payment to the contractor along with the interest payment. • Not including the interest component of the payment in capital cost will mean that we forfeit our right to claim IDC as a part of capital cost. In such a scenario, the Commission may allow principal amount as a part of the capital cost and for the interest component, interest accrued till COD may be allowed as a part of capital cost and the interest post COD may be recovered in instalments. • Further, keeping in view various schemes to settle disputes such as Vivad se Vishwas Scheme-II, following proviso may be added after 1st Proviso new proviso may be inserted after first proviso as under: **"Award of Arbitration: In cases where there is a liability with respect to capital works on account of award of arbitration, mutual settlement after approval of Board, compliance of the directions or order of any statutory authority or order or decree of any court of law and settlement under Vivad se Viswas, having principal amount along with interest payment, the principal amount actually paid shall be capitalised and the interest amount shall be reimbursed separately."**

Thank you

Return on Equity

Effective RoE for Hydropower projects in India

Scenario 1: Hydro generating Station IRR Calculation with ROE mentioned in Regulations (15.5%)

Assumptions:

- Project Construction time - 6 years
- Useful life – 40 years
- Equity infusion during construction period as follows:

Year	1	2	3	4	5	6
Initial Equity	0	10	20	35	50	75
Additional equity	10	10	15	15	25	25
Final equity	10	20	35	50	75	100
Average equity	5	15	27.5	42.5	62.5	87.5

Year	1	2	3	4	5	6	7 ……46				
Inflow/Outflow	-10.00%	-10.00%	-15.00%	-15.00%	-25.00%	-25.00 %	15.50 %	15.50%	15.50%	15.50%	15.50%
IRR	**12.122%**										

Effective IRR for Hydro generating Station with 15.5% RoE: **12.122%**

Return on Equity

Effective RoE for Hydropower projects in India

Scenario 2: PSP IRR Calculation with ROE mentioned in Regulations (17%)

Assumptions:

- Project Construction time - 7 years
- Useful life - 40 years
- Equity Infusion during the construction period as follows:

Year	1	2	3	4	5	6	7
Initial Equity	0	10	20	30	45	60	80
Additional equity	10	10	10	15	15	20	20
Final equity	10	20	30	45	60	80	100
Average equity	5	15	25	37.5	52.5	70	90

Year	1	2	3	4	5	6	7	8…….47					
Inflow/Outflow	-10.00%	-10.00%	-10.00%	-15.00%	-15.00%	-20.00%	-20.00%	17.00%	17.00%	17.00%	17.00%	17.00%	17.00%
IRR	**12.331%**												

Effective IRR for PSP Hydro generating Station with 17% RoE: **12.331%**

Return on Equity

Effective RoE for Thermal Generation projects in India

Assumptions:

- Project Construction time - 4 years
- Useful life – 25 years
- Equity infusion during construction period as follows:

Year	1	2	3	4
Initial Equity	0	20	50	80
Additional equity	20	30	30	20
Final equity	20	50	80	100
Average equity	10	35	65	90

Year	1	2	3	4	5……29				
Inflow/Outflow	-20.00%	-30.00%	-30.00%	-20.00%	15.50%	15.50%	15.50%	15.50%	15.50%
IRR	**12.134%**								

Effective return for a thermal generation project : **12.134%**

This return is comparable to the return for hydropower projects, even though the gestation period and risks involved are considerably higher in hydropower projects.

Return on Equity

Effective RoE for Transmission Utilities

Assumptions:

- Project Construction time - 3 years
- Useful life – 35 years
- Equity infusion during construction period as follows:

Year	1	2	3
Initial Equity	0	40	80
Additional equity	40	40	20
Final equity	40	80	100
Average equity	20	60	90

Year	1	2	3	4…….38					
Inflow/Outflow	-40.00%	-40.00%	-20.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
IRR	**12.694%**								

Effective return for a transmission utilities : **12.694%**

This return is higher than the return for hydropower projects, even though the gestation period and risks involved are considerably higher in hydropower projects. Further, the hydro generating projects usually have a longer gestation period on account of resettlement of existing population and long list of statutory approvals, which will again deplete the effective IRR for the projects bringing them down below the levels of transmission and thermal generation utilities.

Return on Equity

Effective RoE to match Hydro generating stations with that of Transmission Utilities

Scenario 5: Hydro generating Station IRR Calculation: ROE back calculated to match IRR with Transmission

Assumptions:

- Project Construction time - 5 years
- Delay – 1 year
- Useful life - 40 years
- Equity Infusion during the construction period as follows:

Year	1	2	3	4	5	6
Initial Equity	0	10	20	35	50	75
Additional equity	10	10	15	15	25	25
Final equity	10	20	35	50	75	100
Average equity	5	15	27.5	42.5	62.5	87.5

Year	1	2	3	4	5	6	7…….46						
Inflow/Outflow	-10.00%	-10.00%	-15.00%	-15.00%	-25.00%	-25.00%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%	16.37%
IRR	**12.683%**												

To match the IRR of hydropower stations with the IRR of transmission utilities, an RoE of 16.37% for Hydropower stations is expected at minimum as depicted in the scenario above as compared to current regulation where RoE given is 15%.

Return on Equity

Effective RoE to match storage type hydro stations with that of Transmission Utilities

Scenario 6: Hydro generating Station IRR Calculation: ROE back calculated to match IRR with Transmission

Assumptions:

- Project Construction time - 7 years
- Delay – 1 year
- Useful life - 40 years
- Equity Infusion during the construction period as follows:

Year	1	2	3	4	5	6	7	8
Initial Equity	0	10	20	30	45	60	75	90
Additional equity	10	10	10	15	15	15	15	10
Final equity	10	20	30	45	60	75	90	100
Average equity	5	15	25	37.5	52.5	67.5	82.5	95

Year	1	2	3	4	5	6	7	8	9……48					
Inflow/Outflow	-10.00%	-10.00%	-10.00%	-15.00%	-15.00%	-15.00%	-15.00%	-10.0%	19.62%	19.62%	19.62%	19.62%	19.62%	19.62%
IRR	**12.680%**													

To match the IRR of hydro generating stations with the IRR of transmission utilities, an RoE of 19.62% for projects with storage is expected at minimum as depicted in the scenario above as compared to current draft regulation where RoE given is 17%.