Comments on Draft CERC (Terms & Conditions of Tariff) Regulations, 2019

NHPC Limited

25.01.2019

Chapter 1: Preliminary

Scope and extent of application

CERC Tariff Regulations, 2014

2(1) These regulations shall apply in all cases where tariff for a generating station or a unit thereof and a transmission system or an element thereof including communication system used for inter-State transmission of electricity is required to be determined by the Commission under section 62 of the Act read with section 79 thereof.

Draft CERC Tariff Regulations, 2019

2(1) These regulations shall apply in all cases where tariff for a generating station or a unit thereof and a transmission system or an element thereof is required to be determined by the Commission under section 62 of the Act read with section 79 thereof:

Provided that any generating station for which agreement(s) have been executed for supply of electricity to the beneficiaries on or before 5.1.2011 and the financial closure for the said generating station has not been achieved by 31.3.2019, such projects shall not be eligible for determination of tariff unless fresh consent of the beneficiaries is obtained and furnished.

Our Comments/Suggestions

Financial closure is not relevant for 'AAA' rated CPSUs as the loans are raised as and when required depending on the cheapest source available at the time of raising of funds.

Definitions

1. Cut-off Date

CERC Tariff Regulations, 2014

***3(13) 'Cut-off Date'** means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cutoff date shall be 31st March of the year closing after three years of the year of commercial operation:*

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cutoff date for reasons beyond the control of the project developer;

Draft CERC Tariff Regulations, 2019

***3(14) 'Cut-off Date'** means the last day of the calendar month after three years from the date of commercial operation of the project;*

Our Comments/Suggestions

In order to avoid repeated audit work in submission of petition, it is suggested to consider cut-off date as the last date of the Quarter after completion of 3 years from COD.

2. Force Majeure

CERC Tariff Regulations, 2014

3(25) 'Force Majeure' *for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below.....*
(a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood.....
(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution.....
(c) Industry wide strikes and labour disturbances having a nationwide impact in India;

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3(26) 'Force Majeure' *for the purpose of these regulations means the event or circumstance or combination*
(a) Act of God including lightning, drought, fire and.....
(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution.....
(c) Industry wide strikes and labour disturbances having a nationwide impact in India;
(d) Delay in obtaining statutory approval for the project except where the delay is attributable to project developer;

Our Comments/Suggestions

1. **In addition to disturbances having nationwide impact, the Force Majeure clause should also cover local/state/region wide disturbances including local agitation/movements, civil unrest, law and order issues etc. within its scope.**
2. **For instance, the execution delay caused in TLDP-III and TLDP-IV were primarily because of the Gorkha Jan Mukti Morcha (GJMM) / Gorkhaland agitation, which is specific to the state/region. Though this disturbance may not have had a more broad based national impact because of the nature of agitation being local, the same was beyond the control of the generating company and could not have been avoided by taking reasonable care or complying with prudent utility practices.**
3. **Therefore, the local/state/region wide disturbances including local agitation/movements, civil unrest, law and order issues etc. should be added to the scope of Force Majeure.**

3. Operations & Maintenance Expenses

CERC Tariff Regulations, 2014

3(42) 'Operation and Maintenance Expenses' or 'O&M expenses' *means the expenditure incurred for operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, repairs, maintenance spares, consumables, insurance and overheads but excludes fuel expenses and water charges;*

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3(48) 'Operation and Maintenance Expenses' or 'O&M expenses' *means the expenditure incurred for operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, maintenance, repairs and maintenance spares , consumables, insurance and overheads and fuel other than used for generation of electricity , water charges and security expenses;*

Our Comments/Suggestions

1. **It can be seen that the definition of O&M expenses includes "fuel other than used for generation of electricity, water charges and security expenses". However, Regulation 35(2)(c) clearly specifies that the security expenses shall be allowed separately while Regulation 54(11) specifies that water charges are allowed as an additional energy charges for the State of J&K.**

2. **Inclusion of security and water expenses within the O&M expenses as per the definition seems to be in contradiction to the specific clauses dealing with these expenses. It is therefore suggested that Hon'ble Commission should suitably modify the clause in line with the provisions of draft regulations 35(2)(c) & 54(11).**

4. Useful Life

CERC Tariff Regulations, 2014

***3(67) 'Useful life'** in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:*

.....

(e) Hydro generating station including pumped Storage hydro generating stations 35 years

Draft CERC Tariff Regulations, 2019

***3(79) 'Useful life'** in relation to a unit of a generating station, integrated mines, transmission system and communication system from the date of commercial operation shall mean the following:*

.....

(f) Hydro generating station including pumped Storage hydro generating stations 40 years

Our Comments/Suggestions

1. **The extension of useful life of hydro power projects from 35 years to 40 years may be considered subject to restoration of Regulation 14(3)(viii) of CERC Tariff Regulations, 2014 which allows additional capitalization beyond original scope and beyond cut-off date for successful & efficient plant operation which reads as under:**

   "In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;"

2. **The restoration of Clause 14(3)(viii) is important because the generating company may have to necessarily replace some of the components of generating power plant for efficient plant operation or upgradation due to obsolesce of technology for extended life of the project.**

Chapter 2: Date of Commercial Operation

Mismatch in COD of generating station & associated transmission system

CERC Tariff Regulations, 2014

4 Date of commercial operation *of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:*

4(3) Date of commercial operation *in relation to a transmission system.....*

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavor to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations

Draft CERC Tariff Regulations, 2019

6. Treatment of mismatch in date of commercial operation *: (1) In case of mismatch of the date of commercial operation of the generating station and the transmission system, the treatment of the transmission charges shall be determined as under:*

(a) Where the generating station has not achieved the commercial operation as on the date of commercial operation of the associated transmission system.....

(b) Where the associated transmission system has not achieved the commercial operation as on the date of commercial operation of the concerned generating station or unit thereof....

Our Comments/Suggestions

1. **The Regulation regarding mismatch of CoD only discusses the mechanism of recovery of transmission charges and even limits the damages recoverable by generating company in terms of transmission charges. It is to be noted that generating company incurs loss of fixed charges for the duration of delay in commissioning of transmission system, if any and the same is not commensurate with the compensation in terms of transmission charges. It is therefore suggested that the generating company must be able to recover its AFC for the duration of this delay.**

2. **Further, it is pertinent to note that prior availability of transmission system (minimum 4 months prior to Commissioning) is a pre-requisite for testing & commissioning of generating units / station. This aspect may be suitably covered in the Regulations.**

Chapter 3: Procedure for Tariff Determination

Tariff Determination

CERC Tariff Regulations, 2014

6(2) For the purpose of determination of tariff, the capital cost of a project may be broken up into stages, blocks, units, transmission lines and sub-stations, forming part of the project, if required:
Provided that where break-up of the capital cost of the project for different stages or units or blocks and for transmission lines or sub-stations is not available and in case of on-going projects, the common facilities shall be apportioned on the basis of the installed capacity of the units, line length and number of bays
Provided further that in relation to multi-purpose hydro schemes, with irrigation, flood control and power components, the capital cost chargeable to the power component of the scheme only shall be considered for determination of tariff.

Draft CERC Tariff Regulations, 2019

Provision Deleted

Our Comments/Suggestions

1. **In case of multi-unit projects, like Parbati-II (4 units) & Subansiri Lower HEP (8 units), the time gap between COD of first unit and last unit may be in the range of months / year (say atleast 12 months). In order to work out the tariff of a Unit of a power station, the capital cost of the project shall need to be broken up into Units.**
2. **Further, where the break-up of the capital cost of the project for different Units is not available in case of hydro generating stations, the common facilities shall be apportioned on the basis of the installed capacity of the units.**
3. **Further, Regulation 8(1) of the 2019 Draft Regulations clearly states that the tariff for a generating system may be determined for the whole of the station or a unit thereof. However, the removal of the above clause presents ambiguity in determination of tariff for a generation plant with multiple units, which may be commissioned in different points in time.**
4. ***It is therefore requested that the above mentioned clause of Tariff Regulations 2014 be retained in the Final Regulations 2019.***

Application for Tariff Determination

CERC Tariff Regulations, 2014

7. Application for determination of tariff:
(1) The generating company may make an application for determination of tariff for new generating station or unit thereof in accordance with the Procedure Regulations, in respect of the generating station or generating units thereof within 180 days of the anticipated date of commercial operation.

(2) The transmission licensee may make an application for determination of tariff for new transmission system including communication system or element thereof as the case may be in accordance with the Procedure Regulations, in respect of the transmission system or elements thereof anticipated to be commissioned within 180 days from the date of filing of the petition.

Draft CERC Tariff Regulations, 2019

*"**8. Tariff determination***
(1) Tariff in respect of a generating station may be determined for the whole of the generating station or unit thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or element thereof or associated communication system:
Provided that:

(i) In case of commercial operation of all the units of a generating station or all elements of a transmission system prior to 1.4.2019, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 1.4.2019 to 31.3.2024;
(ii) In case of commercial operation of units of generating station or elements of the transmission system on or after 1.4.2019, the generating company or the transmission licensee shall file a consolidated petition, in accordance with the provisions of Procedure Regulations, combining all the units of the generating station or all elements of the transmission system which are anticipated to achieve the date of commercial operation during the next two months from the date of application;"

Our Comments/Suggestions

1. **As per proposed Regulation, the generating company shall file petition in CERC for tariff determination two months prior to commissioning of an asset.**
2. **With the proposed change, it is suggested that the Hon'ble Commission may issue the Tariff order within 60 days to ensure that the tariff for the asset is available as on date of commercial operation of the project/unit.**

Variation in Projected Capital Expenditure

CERC Tariff Regulations, 2014

"(iii) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure exceeds the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall refund to the beneficiaries or the long term transmission customers /DICs as the case may be, the excess tariff recovered corresponding to excess capital cost, as approved by the Commission alongwith interest at 1.20 times of the bank rate as prevalent on 1st April of respective year:

(iv) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure falls short of the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall be entitled to recover from the beneficiaries or the long term transmission customers /DICs as the case may be, the shortfall in tariff corresponding to reduction in capital cost, as approved by the Commission alongwith interest at 0.80 times of bank rate as prevalent on 1st April of respective year."

Draft CERC Tariff Regulations, 2019

*"(8) Where the capital cost considered in tariff by the Commission on the basis of projected additional capital expenditure exceeds the actual additional capital expenditure incurred on year to year basis by more than **10%,** the generating company or the transmission licensee shall refund to the beneficiaries or the long term transmission customers as the case may be, the tariff recovered corresponding to the additional capital expenditure not incurred, as approved by the Commission, along with interest at 1.20 times of the bank rate as prevalent on 1st April of the respective year.*

*(9) Where the capital cost considered in tariff by the Commission on the basis of projected additional capital expenditure falls short of the actual additional capital expenditure incurred by more than **10%** on year to year basis, the generating company or the transmission licensee shall recover from the beneficiaries or the long term customers as the case may be, the shortfall in tariff corresponding to difference in additional capital expenditure, as approved by the Commission, along with interest **at the bank rate** as prevalent on 1st April of the respective year."*

Our Comments/Suggestions

1. **The Draft Regulations propose levy of penal interest at the rate of 1.2 times the bank rate for projected additional capital expenditure being higher than the actual capital expenditure by 10%.**

2. **The expenses incurred during completion stages of the project and the additional capital expenditure can vary depending upon number of factors, which may be beyond the control of the developer. Therefore, it is proposed that there should not be any difference in interest rate applicable for additional capitalization being higher or lower than that projected and both should be allowed at bank rate.**

3. **It is therefore requested that the phrase "along with interest at 1.20 times of the bank rate" may be modified as *"along with interest at the bank rate".***

Chapter 5: Capital Structure

Reduction in Equity after Useful Life

CERC Tariff Regulations, 2014

No Provision in CERC (Terms and Conditions of Tariff) Regulations, 2014 for reduction of equity after the completion of useful life. The Company/Licensee is allowed Return on the equity invested throughout the 'working' life of the asset.

Draft CERC Tariff Regulations, 2019

17(6). In case of generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, the accumulated depreciation as on the completion of the useful life less cumulative repayment of loan shall be utilized for reduction of the equity and depreciation admissible after the completion of useful life and the balance depreciation, if any, shall be first adjusted against the repayment of balance outstanding loan and thereafter shall be utilized for reduction of equity till the generating station continues to generate and supply electricity to the beneficiaries.

Our Comments/Suggestions

1. **The provision in the Draft Regulations proposes reduction of equity by difference of accumulated depreciation as on completion of useful life and cumulative loan repayment, resulting in reduction of equity from 30% of the admitted capital cost to mere 10% after useful life (considering salvage value of 10%). Further, the provision also states that the depreciation admissible after useful life shall be utilized for reduction of equity after repayment of loan.**

2. **The capital cost of the project in post R&M period is to be reworked on the basis of expenditure in the R&M and the residual value of the project as per Regulation 26(4) of draft Regulations. Hence, there should be no reduction in RoE in the intervening period i.e. after the useful life and till the completion of R&M works, if the plant is operational during that time.**

3. **The new provisions, if implemented should be restricted to the projects, which are completing its useful life after 01.04.2019 only. *Accordingly, the proposed Regulation, if adopted in the Final Regulations should not be retrospective and the phrase "which has completed its useful life as on or after 1.4.2019" be replaced by "which will complete its useful life on or after 1.4.2019".***

Chapter 6: Computation of Capital Cost

Capital Cost

CERC Tariff Regulations, 2014

"(2) The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;"

Draft CERC Tariff Regulations, 2019

"2) The Capital Cost of a new project shall include the following:

(a) the expenditure incurred up to the date of commercial operation of the project;"

Our Comments/Suggestions

1. **In practice, significant expenditure is capitalized just before the CoD. Hence, exclusion of "projected to be incurred" would result in lowering of interim tariff.**
2. **This exclusion will significantly lower the interim tariff than expected actual tariff, resulting in recovery of carrying cost from the beneficiaries. This is not economically efficient, especially given the relative certainty of expenditure during the interim petition filing and actual CoD.**
3. **It is therefore recommended that existing provision of "or projected to be incurred" should be retained.**

Prudence check of capital expenditure: Designated Independent Agency

CERC Tariff Regulations, 2014

"(2) The Commission may issue new guidelines or revise the existing guidelines for vetting of capital cost of hydro-electric projects by an independent agency or an expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station.

(3) The Commission may issue new guidelines or revise the existing guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects in accordance with the tariff policy issued by the Central Government under section 3 of the Act from time to time which shall be considered for prudence check."

Draft CERC Tariff Regulations, 2019

"(2) The Commission may, for the purpose of vetting of capital cost of hydro-electric projects, appoint an independent agency or an expert body:

Provided that the Designated Independent Agency already appointed under the guidelines issued by the Commission under 2009-14 Regulations shall continue till completion of the assigned project."

Our Comments/Suggestions

1. **NHPC being a CPSU, the capital cost of hydro-electric power projects is vetted by CEA and approved by Cabinet Committee on Economic Affairs (CCEA). As an additional safeguard, the audits are carried out by C&AG, in addition to statutory audits.**
2. **It is therefore recommended that provision for appointment of Designated Independent Agency may be done away with in the Final Tariff Regulations 2019.**

Benchmarking of capital costs – database

CERC Tariff Regulations, 2014

No Provision in CERC (Terms and Conditions of Tariff) Regulations, 2014

Draft CERC Tariff Regulations, 2019

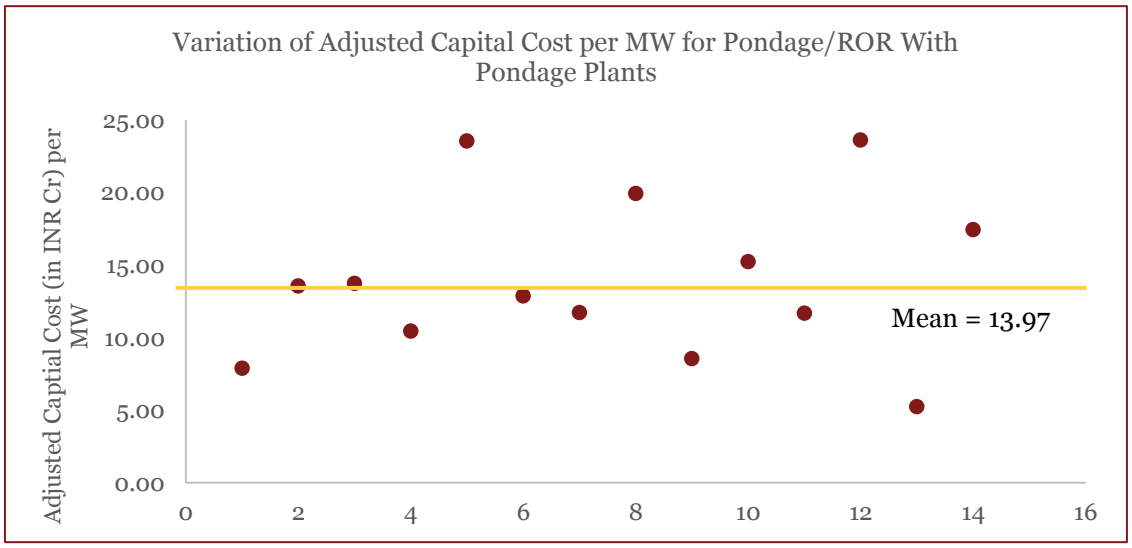
19(3) Prudence Check of Capital Expenditure*: The generating company or the transmission licensee, as the case may be, shall furnish the package wise capital cost for execution of the existing and new projects as per Annexure-I along with tariff petition for the purpose of creating a database of benchmark capital cost of various components.*

Our Comments/Suggestions

1. **It is categorically stated that in case of hydro generation projects, the benchmarking of capital costs is not possible, as capital costs vary from project to project depending upon peculiarities for each project – location remoteness, hydrology, geology, plant layout, socio economic conditions, security and law & order issues. Statutory bodies of the state government such as pollution control board, forest divisions, sometimes levy unwarranted penalties during construction, which though challenged, remain under litigation. These statutory compliances have cost implications which vary from state to state Therefore, benchmarking of capital cost for hydropower projects is not advisable/possible.**
2. **Analysis of adjusted original capital costs of few projects based on their respective capacities is given in Table 1. <u>We can observe that adjusted capital cost (as per the escalation factor computed in Annexure A) per MW varies significantly across plants with a standard deviation of INR 5.35 Cr per MW. Therefore, this demonstrates that no two projects can be compared on a similar scale, unlike thermal plants of similar capacity.</u>**
3. **In view of the above, the Hon'ble Commission may exclude hydro projects from such benchmarking exercise.**

Table 1: Variation of Adjusted Capital Cost per MW for various Plants

Sl. No.	Name of Power Station /Location	Original Capital Cost (INR Cr) (A)	Year of COD of last Unit	Escalation Factor (B)	Adjusted Capital Cost (INR Cr) (C = A*B)	Installed Capacity (MW) (D)	Adjusted Capital Cost (INR Cr) per MW (E = C/D)
1	Baira Siul /HP	143.2	1982	9.9106	1419.20	180	7.88
2	Chamera - I / HP	1969.8	1994	3.7167	7321.16	540	13.56
3	Chamera - II/HP	1956.1	2004	2.1061	4119.74	300	13.73
4	Chamera-III/ HP	1992.5	2012	1.2119	2414.71	231	10.45
5	Dulhasti /J&K	5078.5	2007	1.8091	9187.51	390	23.56
6	Sewa - II /J&K	1079.2	2010	1.4322	1545.63	120	12.88
7	Dhauliganga / Uttarakhand	1631.4	2005	2.0147	3286.78	280	11.74
8	Rangit /Sikkim	475.9	2000	2.5132	1196.03	60	19.93
9	Teesta - V /Sikkim	2619.6	2008	1.6666	4365.83	510	8.56
10	TLDP - III / WB	1790.4	2013	1.1234	2011.34	132	15.24
11	TLDP - IV/ WB	1793.2	2016	1.0434	1871.02	160	11.69
12	Nimmo Bazgo/ J&K	946.0	2013	1.1234	1062.74	45	23.62
13	Parbati - III / HP	2538.6	2014	1.0735	2725.19	520	5.24
14	Kishanganga /J&K	5755.2	2018	1.0000	5755.20	330	17.44



Uncontrollable factors

CERC Tariff Regulations, 2014

8(3) The Commission shall carry out truing up of tariff of transmission licensee based on the performance of following Uncontrollable parameters:
(i) Force Majeure; and
(ii) Change in Law."

Draft CERC Tariff Regulations, 2019

21(2) The "uncontrollable factors" shall include but shall not be limited to the following:
a. Force Majeure events;

b. Change in law; and
c. Time and cost over-runs on account of land acquisition except where the delay is attributable to the generating company or the transmission licensee;"

Our Comments/Suggestions

1. **In case of hydro projects, Rehabilitation and Resettlement (R&R) is one of the major issues causing time overrun. Generating company does not have much control over the situation, as it is implemented by State Agencies on deposit work basis. Despite this, there is a lot of local resistance related to R&R activity, which is beyond the control of the generating company.**
2. **In view of the above, it is suggested that implementation of R&R should also be considered as 'Uncontrollable Factor'.**

Chapter 7: Computation of Capital Cost and Capital Structure

Additional Capitalisation beyond the original scope & beyond cut-off date

CERC Tariff Regulations, 2014

14(3) *The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check…….*

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which ***has become necessary for successful and efficient plant operation****;*

Draft CERC Tariff Regulations, 2019

25(1) *The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check…….*

Provisions of Regulation 14(3)(viii) of Tariff Regulations, 2014 deleted

Our Comments/Suggestions

1. **Over the course of operation and maintenance of a plant, additional capital expenditure is continuously required for successful and efficient plant operation. Additional capital expenditure may be necessary on account of numerous reasons.**
    a. **Replacement of equipment like transformers, dewatering pump, digital governor system, primary and secondary cooling water pumps, switchgear, DG sets, batteries, IT equipment, SCADA etc. whose useful life are not commensurate with the useful life of the plant. Certain examples of such additions are as below:**
        i. **Salal Power Station - Replacement of Digital Hydraulic Governor in add cap of 2012-13 / Replacement of 220V, 1000Ah VRLA, Battery Bank for Power House in add cap of 2013-14 / Replacement of 245 KV SF6 Circuit Breaker at Generating Units, Feeders Bay of Stage-1 and Bus Coupler Bay in add cap of 2013-14 / Complete Replacement of 11KV metering CTs of better accuracy in add cap of 2014-15**
        ii. **Chamera-I Power Station - Replacement of Bottom Ring Handling device in add cap of 2011-12 / Replacement of Excitation System in add cap of 2011-12 / Replacement of Distribution Transformer in add cap of 2011-12 / Replacement of Pole mounted 11 KV VCB in add cap of**

2011-12 / Replacement of DG Set in add cap of 2011-12 / Replacement of Excitation System in add cap of 2012-13 / Power house Ventilation System with Humidity Control in add cap of 2012-13 & 2013-14 / Replacement of Vibration Measurement System in add cap of 2013-14

iii. **<u>Uri-I Power Station</u> - Modification/Upgradation of existing Turbine Governor and Excitation System in add cap of 2014-15 / Upgradation of governing system and excitation system in the add cap in the year 2016-17.**

It may be noted that the Depreciation schedule (Appendix-1) annexed with the Draft Regulation 2019 has prescribed the rate of depreciation. Based on this Schedule, the life of individual assets under hydro mechanical works, generating plant machinery and sub-station transformer etc. for a Hydro Station works out mostly 17 years as worked out in the table below:

Table 2: Life of hydro assets based on depreciation rate

Particular	Description	Dep Rate (%)	Life (years)
Hydro mechanical Works	Hydro mechanical works-Dams And Barrages	5.28	17
	Hydro-mechanical Works-Tunnels And Canals	5.28	17
	Hydro-mechanical Works-Tail Race Including Draft Tube Gates	5.28	17
Generating Plant & Machinery	Main Generating Equipment	5.28	17
	Generator Step Up Transformer	5.28	17
	Other Power Plant Transformer	5.28	17
	Cooling Water Systems	5.28	17
	EHV Switchgear Systems	5.28	17
	DC Systems/Battery Systems	5.28	17
	Power and Control Cables	5.28	17
	Air Conditioning and Ventilation Systems	5.28	17
	Control, Metering and Protection System	5.28	17
	Auxiliary and Ancillary Systems	5.28	17
	Miscellaneous Power Plant Equipment	5.28	17
	Capital Spares-Generating Plant And Machinery	5.28	17
Substation-Transformers	Substation-Transformers	5.28	17
	Underground Cable And Duct System	5.28	17
	Control Metering And Protection System	5.28	17

These individual assets as above are required to be replaced after completion of their useful life, which is a necessity for running any power station. Therefore, the expenditure on replacing of these capital assets is unavoidable and in any case has to be incurred by Power Station.

b. **Due to technological change - for instance, Salal Power Station - automation of Plant for efficient operation and better control with real time monitoring of auxiliary systems (SCADA) in 2017-18;**

2. **These additional capital expenditure are necessary in improving plant availability, technological upgradation etc. However, the proposed regulations have done away with this key clause.**

3. **<u>In view of the above, it is suggested that 14(3)(viii) of Tariff Regulations 2014 may be retained in the final tariff regulations for the period 2019-24.</u>**

Additional Capitalisation on account of Renovation and Modernisation

1. Consent of Beneficiaries

CERC Tariff Regulations, 2014

No requirement of obtaining consent of beneficiaries for undertaking Renovation and Modernization.

Draft CERC Tariff Regulations, 2019

26(1) .....

Provided further that, the generating company or the transmission licensee intending to undertake renovation and modernization (R&M) shall be required to obtain the consent of the beneficiaries or the long-term customers, as the case may be, for such R&M and submit the same along with the petition.

Our Comments/Suggestions

1. **Renovation and Modernization is a long process involving preparation of Detailed Project Report that includes identification of specific parts to be replaced/repaired, assessing cost involved in R&M, cost-benefit analysis, schedule of completion etc. It may be required to involve specialized agencies or obtain inputs from OEM. Further, the developer is required to obtain the approval of the Commission before taking up the work.**
2. **Renovation and Modernisation is carried out for extension of life beyond originally recognized useful life. The developer after useful life has the option to sell the power in open market and not continue to sell the power to beneficiaries, as the legal binding to supply power to beneficiaries under the Power Purchase Agreement is over. In such a case, the consent of beneficiaries may not be required.**
3. **In any case, the beneficiaries are made respondents in the Petition for R&M and get an opportunity to put their views/arguments/objections before the Commission during the proceedings.**
4. **Further, considering the fact that R&M of existing depreciated assets is beneficial to both beneficiaries and consumers due to lower tariffs for extended life and should be carried out as soon as its requirement is assessed by the operating agency, it is not in interest of developer, beneficiaries or consumers to add an extra layer of consent to the process, which would only add time to it.**

Thus, it is requested that the requirement of obtaining consent from the beneficiaries be removed from the final Regulations and the developer be allowed to carry our R&M with approval from the Commission.

2. Capital Cost for determination of tariff post R&M

CERC Tariff Regulations, 2014

15(4) *Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization expenditure and life extension, and after*

*deducting the accumulated depreciation already recovered from the **original project cost**, shall form the basis for determination of tariff.;*

Draft CERC Tariff Regulations, 2019

***26(4)** After completion of the R&M, the generating company or the transmission licensee, as the case may be, shall file a petition for determination of tariff. Expenditure incurred or projected to be incurred and admitted by the Commission after prudence check, and after deducting the accumulated depreciation already recovered from the **original project cost**, shall form the basis for determination of tariff.*

(No change in the provision)

Our Comments/Suggestions

The provision states that the R&M expenditure plus original project cost reduced by accumulated depreciation recovered by the plant shall form the basis of capital cost for the purpose of tariff post R&M. However, it does not take into account the admitted additional capitalization after cut-off date, which also forms a part of capital cost and is a capital expenditure towards the asset only.

The accumulated depreciation in respect of the original project cost will be to the tune of 90% by the end of useful life. However, the same may not be 90% of the admitted capital cost (which also includes additional capitalization post cut-off date) as the assets capitalized during fag end of the useful life of generating station cannot be depreciated fully (90%) as per Tariff Regulations 2014 during the remaining period of useful life of the generating station.

Hence, the term 'original project cost' may be replaced by 'admitted capital cost', which includes the original capital cost plus the admitted additional capitalization beyond cut-off date. The same has already been accepted by the Commission in Tariff Order dated June 3, 2016 in matter of approval of Renovation and Modernization proposal in respect of Bairasiul Power Station. The relevant extract is reproduced below:

"The petitioner has submitted that Regulation 15(4) should be amended to replace the "original project cost" with admitted capital cost (including additional capital expenditure). We find merit in the submission of the petitioner as the intent of the Regulation 15(4) is also the same i.e accumulated depreciation should be reduced from the admitted capital cost (excluding R&M expenditure) till completion of R&M. Therefore, BRPL`s view that balance part of the original capital cost should be considered as a part of capital cost post R&M gets answered suitably in terms of the 2014 Tariff Regulations. We direct the staff to process the case for amendment of the Regulations suitably." (emphasis added)

However, the change has neither been reflected in Tariff Regulations 2014 through an amendment, nor in the Draft Regulations 2019. <u>Accordingly, it is suggested that the term 'original project cost' may be replaced by 'admitted capital cost' in the Regulation 26(4) in the Final Regulations.</u>

Chapter 8: Computation of Annual Fixed Cost

1. Reduced Return on Equity on additional capitalization after cut-off date

CERC Tariff Regulations, 2014

24(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

.....

Draft CERC Tariff Regulations, 2019

30(2)(i) Return on equity in respect of additional capitalization after cut off date within or beyond the original scope shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system

Our Comments/Suggestions

1. **The additional capitalization beyond cut-off date may be carried out to meet the liabilities of award of arbitration, change in law, force majeure or replacement of assets deployed under original scope of work as per the proposed Draft Regulations.**
2. **As it can be noticed, the additional capitalization is carried out either to meet certain obligations / force majeure etc. or for successful and efficient operation of the power plant. In any condition, this expenditure is an investment towards asset creation, which is unavoidable, and such investments should be allowed to earn a fair rate of return. Therefore, the equity investment on account of additional capitalization cannot be treated any differently from equity investment during construction.**
3. **The equity invested is also inherently riskier than debt and there is a natural expectation of higher return on the equity invested in any commercial business. Further, additional capital expenditure is mostly carried out through equity infusion and the current regulatory regime caps the equity investment at 30%, further reducing the return. Therefore, reducing the RoE for additional capitalization would significantly discourage equity investment.**
4. **Moreover, the suggested changes in draft regulations, if implemented, would be a disincentive for efficient borrowers like NHPC since our rate of borrowing is very low on account of high credit rating. The weighted average rate of borrowing from FY 2014-15 to FY 2018-19 for three of our plants is shown below for illustration:**

Table 3: Weighted average rate of borrowing for three NHPC plants (based on respective tariff orders)

Plant	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Average
Chutak	3.56%	3.46%	3.32%	3.19%	3.09%	**3.33%**
Dulhasti	8.03%	8.13%	8.24%	8.12%	7.46%	**8.00%**
Teesta-V	4.85%	4.93%	5.03%	5.25%	5.93%	**5.20%**

5. **Therefore, such reduction of returns on mandatory capital expenditure is unwarranted since the same is towards asset creation as discussed above and not towards any fixed income lending.**

6. **On examination of Form-1(II) – Statement showing Return on Equity, it appears that the Return on additional capitalization already carried out prior to April 1, 2019 and after cut-off date shall also be reduced. It is pertinent to note here that the concept of cut-off date was introduced in Tariff Regulations 2004. Hence, segregation of capitalization after and before cut-off date is not possible in case of plants older than 2004.**

7. **Moreover, it is not prudent to reduce the return on additional capitalization already carried out in case of existing plants, as this amounts to applying the proposed Tariff Regulations retrospectively to old plants, which is not in the spirit of provisions of Electricity Act, 2003 and CERC Tariff Regulations.**

8. **An impact assessment was carried to estimate the impact on NHPC due to allowance of return on additional capitalization after cut-off date based on weighted average interest rate as shown in the table below:**

Table 4: Impact of allowing ROE @ weighted average rate of interest after cut-off date

(INR in Crores)

Power Plant	Add Cap after cut-off date	Equity (30% of add cap)	Post tax ROE	Wt. av. interest rate (actual as on 01.04.18)	Return as in Regulations 2014	Return based on wt. avg. interest rate	Difference
Bairasiul	28.79	8.64	16.50%	6.55%	1.42	0.57	**(0.86)**
Loktak	37.52	11.26	16.50%	6.55%	1.86	0.74	**(1.12)**
Salal	140.31	42.09	15.50%	6.55%	6.52	2.76	**(3.77)**
Tanakpur	31.23	9.37	15.50%	6.55%	1.45	0.61	**(0.84)**
Chamera-I	72.98	21.90	16.50%	6.55%	3.61	1.43	**(2.18)**
Uri-I	19.43	5.83	15.50%	6.55%	0.90	0.38	**(0.52)**
Rangit	8.35	2.50	16.50%	6.55%	0.41	0.16	**(0.25)**
Chamera-II	27.62	8.29	16.50%	6.55%	1.37	0.54	**(0.82)**
Dhauliganga	15.84	4.75	16.50%	3.01%	0.78	0.14	**(0.64)**
Dulhasti	109.68	32.90	16.50%	8.00%	5.43	2.63	**(2.80)**
Teesta-V	89.60	26.88	16.50%	6.11%	4.44	1.64	**(2.79)**
Sewa -II	34.54	10.36	16.50%	7.93%	1.71	0.82	**(0.89)**
Chamera-III	31.16	9.35	16.50%	8.53%	1.54	0.80	**(0.75)**
Chutak	0.00	0.00	15.50%	2.88%	0.00	0.00	**0.00**
TLDP-III	59.17	17.75	16.50%	7.53%	2.93	1.34	**(1.59)**
Nimoo Bazgo	34.10	10.23	16.50%	4.67%	1.69	0.48	**(1.21)**
Uri-II	78.90	23.67	15.50%	7.74%	3.67	1.83	**(1.84)**
Parbati-III	135.77	40.73	16.50%	7.97%	6.72	3.25	**(3.47)**
Total							**(26.34)**

For plants commissioned before 2004, the impact has been computed by considering the additional capitalization after 2003-04, as there was no concept of cut-off date in Tariff Regulations 2001. It can be observed that the

impact in a single year is to the tune of INR 26.34 Cr, translating to INR 131.7 Cr over the entire tariff period. This will adversely impact the ability of the company to generate accruals and invest in future plants.

9. **<u>Thus, it is suggested that the return on the entire equity, invested at any stage of the project should be allowed at the consistent rate of 15.5%/16.5%</u>.**

Incentive for lower borrowing Cost

CERC Tariff Regulations, 2014

26..

(No provision for incentive to company for lower borrowing cost)

Draft CERC Tariff Regulations, 2019

32..

(No provision for incentive to company for lower borrowing cost)

Our Comments/Suggestions

1. **NHPC has been able to raise cheaper loans as compared to other companies, being a 'AAA' rated company. However, there is no incentive for the same.**
2. **In order to incentivize the efficiency in borrowing which is beneficial to consumers at large, it is suggested that a benchmark may be prescribed and the project developer who is able to raise loan below the benchmark rate is allowed an incentive, considering the difference between the benchmark and the actual rate of interest.**

Working Capital

Changes in norms for working capital

CERC Tariff Regulations, 2014

"28. Interest on Working Capital: (1) The working capital shall cover:.....

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:
(i) Receivables equivalent to two months of fixed cost;
(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29;
(iii) Operation and maintenance expenses for one month."

Draft CERC Tariff Regulations, 2019

"34. Interest on Working Capital: (1) The working capital shall cover:.....

(c) Hydro generating station (including pumped storage hydro electric generating station) and transmission system:
(i) Receivables equivalent to 45 days of annual fixed charges;
(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in Regulation 35 of these

regulations; and
(iii) Operation and maintenance expenses for one month."

Our Comments/Suggestions

1. **For NHPC, recovery of statutory charges are of the quantum of approximately INR 1050 Cr per annum, which includes water cess related expenses of INR 750 Cr per annum. Expenses related to water cess are a part of day-to-day operations. However, it is not included in the working capital computation and the payment made against the same remains blocked for 45 days as per the proposed regulations.**
2. **It is suggested to the Hon'ble Commission that either the expenses related to water cess may be included in the computation of working capital or it should be made payable by the beneficiaries within 7 days of the presentation of the bill.**

Operation & Maintenance Expenses

CERC Tariff Regulations, 2014

29(3)(a) Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 01.04.2014….
29(3)(c) In case of the hydro generating stations, which have not been in commercial operation for a period of three years as on 1.4.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) for the first year of commercial operation. Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @6.04% per annum up to the year 2013-14 and then averaged to arrive at the O&M expenses at 2013-14 price level. It shall be thereafter escalated @ 6.64%per annum to arrive at operation and maintenance expenses in respective year of the tariff period.
29(3)(d) In case of the hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years.

Draft CERC Tariff Regulations, 2019

***35(2)(a)** Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 01.04.2019 **subject to maximum of 4% of admitted capital cost as on commercial date of the respective year**;*

***35(2)(b)** In case of the hydro generating stations declared under commercial operation on or after 1.4.2019, operation and maintenance expenses of first year shall be fixed at 2.5% of the original project cost (excluding cost of rehabilitation & resettlement works, IDC and IEDC) and, in case of hydro generating station which have not completed a period of three years as on 1.4.2019 , operation and maintenance expenses of 2019-20 shall be worked out by applying escalation rate of 4.70% on the applicable operation & maintenance expenses as on 31.3.2019. The operation & maintenance expenses for subsequent years of the tariff period shall be worked out by applying escalation rate of 4.70% per annum.*

Our Comments/Suggestions

1. Ceiling on O&M Expenses

The CERC, in its Draft Tariff Regulations for Tariff period FY 2019-20 to FY 2023-24, proposed ceiling on allowed O&M expenses to 4% of admitted capital cost as below:

"35(2)(a) Following operations and maintenance expense norms shall be applicable for hydro generating stations which have been operational for three or more years as on 01.04.2019 subject to maximum of 4% of admitted capital cost as on commercial date of the respective year……"

The ceiling on O&M expenses, despite the proposed norms based on actuals seems to be an error as nothing related to such a ceiling is mentioned in the Explanatory Memorandum. The O&M expenses for hydro power plants depend on various factors like the geography of the region, remoteness of the location, silt levels etc. Further, when the actual expenses are available, there appears to be no need to link the O&M expenses to capital cost.

Moreover, applying the limit of 4% to all the plants irrespective of the age of plants would not be prudent as the old plants have significantly lower capital cost than the new plants, which would severely impact the allowance of O&M expenses for such plants, as necessary maintenance may get compromised due to ceiling on O&M expenses.

Since, the actual O&M Expenses for individual plants are available with utilities, it is suggested that O&M norms be based on actuals as proposed in Table 8.

2. Proposed O&M Expenses

NHPC has submitted the O&M expenses for FY 2013-14 to FY 2017-18 as sought by CERC, based on which CERC has computed the norms for O&M expenses for the Control period FY 2019-20 to FY 2023-24. However, on perusal of the Explanatory Memorandum to the Draft Regulations 2019, it was observed that there was a difference of INR 93.82 Crores between the actual O&M expenses (after reducing expenses like PRP, impact of wage revision, security expenses, GST etc.) and the actual normalized expenses used by CERC for computation of norms. Hence, the proposed O&M expenses have been computed after nullifying the difference of INR 93.82 Crores along with the impact of wage revision and GST and submitted to the Commission for adoption of the same in the Final Tariff Regulations 2019.

Impact of Wage Revision

The Commission in the Explanatory Memorandum to the Draft Regulations 2019 has stated that:

"14.5.22 Further, in FY 2016-17, the employee expenses for the generating Stations were on a higher side especially in case of NHPC, which was due to impact of wage revision in the last quarter of FY 2016-17, whereas in FY 2017-18 NHPC has provided their employee expenses excluding the impact of the same. Thus, the Commission while normalising the actual O&M expenses has not considered the impact of wage revision on FY 2016-17 and FY 2017-18. The same shall be separately dealt with as per the provisions under the Tariff Regulations." (emphasis added)

However, it may be noted that the impact of wage revision was submitted vide E-mail dated November 30, 2018. Accordingly, the same is required to be included in the norms for the Control Period from FY 2019-20 to FY 2023-24. In order to

include the same, the impact of the wage revision has been computed for FY 2017-18 and projected for the FY 2019-20 to FY 2023-24.

Since, the impact of wage revision is a part of employee expenses, which are linked to consumer price inflation, the inflation based on consumer Price Index (CPI) has been used for projecting the same. Accordingly, the CPI inflation for 5 years preceding FY 2018-19 i.e. FY 2013-14 to FY 2017-18 computed to be 5.75% was used for projecting the impact of wage revision for the Tariff period FY 2019-20 to FY 2023-24 as follows:

Table 6: Projections of the Impact of wage revision for the Tariff period FY 2019-20 to FY 2023-24 (INR Crore)

Plant	2017-18 (Estimated)	2018-19 (P)	2019-20 (P)	2020-21 (P)	2021-22 (P)	2022-23 (P)	2023-24 (P)
Salal	31.64	33.46	35.39	37.42	39.57	41.85	44.26
Chamera-I	19.31	20.42	21.59	22.83	24.14	25.53	27.00
Uri-I	16.35	17.29	18.29	19.34	20.45	21.63	22.87
Chamera-II	16.55	17.50	18.51	19.57	20.70	21.89	23.15
Dhauliganga	13.46	14.23	15.05	15.91	16.83	17.80	18.82
Dulhasti	31.93	33.76	35.71	37.76	39.93	42.23	44.65
Loktak	14.17	14.99	15.85	16.76	17.73	18.75	19.82
Teesta-V	17.85	18.88	19.97	21.11	22.33	23.61	24.97
Uri-II	11.92	12.60	13.33	14.09	14.90	15.76	16.67
Bairasuil	12.05	12.74	13.47	14.25	15.06	15.93	16.85
Tanakpur	17.69	18.71	19.78	20.92	22.12	23.39	24.74
Rangit	7.42	7.84	8.29	8.77	9.28	9.81	10.37
Nimmo-bazgo	5.28	5.59	5.91	6.25	6.60	6.98	7.39
Chutak	4.50	4.76	5.03	5.32	5.62	5.95	6.29
Sewa-II	12.10	12.80	13.53	14.31	15.13	16.01	16.93
TLDP-III	11.20	11.85	12.53	13.25	14.01	14.82	15.67
Chamera-III	13.72	14.51	15.35	16.23	17.16	18.15	19.19
Parbati-III	12.12	12.81	13.55	14.33	15.15	16.03	16.95

Impact of GST

Good and Services Tax regime replaced the earlier indirect tax regime on July 1, 2017. Under the new regime, the service tax of 15% was replaced by 18% GST, which affected the overall cost of service contracts. Further, under the GST regime, NHPC is liable to pay GST on security services provided by CISF under the Reverse Charge Mechanism. The impact of the GST implementation has been computed for FY 2017-18 and projected for the Tariff period based on the rates of escalation used by CERC for its computations (5% for FY 2014-15 to FY 2018-19 and 4.70% for FY 2019-20 to FY 2023-24). The computation is shown in the table below:

Table 7: Impact of GST on the O&M Expenses for the Tariff period FY 2019-20 to FY 2023-24 (INR Crore)

Plant	2017-18 (Actual)	2018-19 (P)	2019-20 (P)	2020-21 (P)	2021-22 (P)	2022-23 (P)	2023-24 (P)
Salal	3.17	3.33	3.49	3.65	3.83	4.01	4.19
Chamera-I	0.28	0.29	0.31	0.32	0.33	0.35	0.37
Uri-I	5.10	5.36	5.61	5.87	6.15	6.44	6.74
Chamera-II	0.78	0.82	0.86	0.90	0.94	0.99	1.03
Dhauliganga	0.25	0.26	0.27	0.28	0.30	0.31	0.33
Dulhasti	5.14	5.40	5.65	5.92	6.20	6.49	6.79
Loktak	0.44	0.46	0.48	0.51	0.53	0.56	0.58
Teesta-V	0.35	0.36	0.38	0.40	0.42	0.44	0.46
Uri-II	3.36	3.53	3.70	3.87	4.05	4.24	4.44
Bairasuil	0.71	0.74	0.78	0.81	0.85	0.89	0.93
Tanakpur	0.44	0.46	0.48	0.51	0.53	0.55	0.58
Rangit	0.32	0.33	0.35	0.37	0.38	0.40	0.42
Nimmo-Bazgo	0.90	0.94	0.99	1.03	1.08	1.13	1.19
Chutak	0.73	0.77	0.80	0.84	0.88	0.92	0.97
Sewa-II	1.69	1.78	1.86	1.95	2.04	2.13	2.23
TLDP-III	0.54	0.57	0.59	0.62	0.65	0.68	0.71
Chamera-III	0.13	0.14	0.15	0.15	0.16	0.17	0.18
Parbati-III	0.52	0.54	0.57	0.59	0.62	0.65	0.68

Since the implementation of the GST regime has resulted in significant financial impact on the O&M expenses of NHPC, it is suggested that it be taken into consideration while computing the normative O&M expenses for the coming Tariff period.

Proposed O&M expenses for next Tariff period

In order to calculate the proposed norms for the next tariff period, the actual expenses excluding impact of wage revision, performance related pay, consumption of spares, security expenses etc. have been projected based on methodology adopted by CERC in explanatory memorandum (escalation of average expenses for FY 2013-14 to FY 2017-18 thrice by 5% to estimate the expenses FY 2018-19 and 4.70% for FY 2019-20 to FY 2023-24). The details of computation of the same is shown in Annexure B. The impact of wage revision and GST has been added to projected expenses to calculate the proposed O&M expenses for the tariff period, shown as below.

Table 8: Proposed O&M expenses for Tariff period FY 2019-20 to FY 2023-24 (INR Lakhs)

Plant	2019-20	2020-21	2021-22	2022-23	2023-24
Salal	23340.49	24474.65	25664.25	26912.03	28220.83
Chamera-I	13863.61	14537.87	15245.13	15987.00	16765.19
Uri-I	12575.26	13185.50	13825.53	14496.80	15200.86
Chamera-II	12122.89	12712.10	13330.12	13978.37	14658.34
Dhauliganga	10376.88	10880.40	11408.49	11962.35	12543.27
Dulhasti	24707.97	25906.74	27164.00	28482.64	29865.66

Plant	2019-20	2020-21	2021-22	2022-23	2023-24
Loktak	11384.79	11936.52	12515.14	13121.96	13758.38
Teesta-V	14848.40	15567.24	16321.07	17111.60	17940.64
Uri-II	8688.11	9110.44	9553.43	10018.09	10505.48
Bairasuil	9456.95	9915.57	10396.56	10901.02	11430.09
Tanakpur	12446.51	13052.26	13687.69	14354.24	15053.45
Rangit	6153.08	6450.98	6763.38	7091.00	7434.58
Nimmo-Bazgo	4220.22	4424.77	4639.29	4864.27	5100.23
Chutak	4154.33	4354.87	4565.13	4785.59	5016.76
Sewa-II	8436.45	8847.17	9278.01	9729.97	10204.09
TLDP-III	8857.64	9287.10	9737.51	10209.88	10705.30
Chamera-III	10401.12	10906.09	11435.72	11991.21	12573.86
Parbati-III	7982.60	8372.01	8780.54	9209.14	9658.80

NHPC prays to the Commission to consider the impact of factors stated above and allow the O&M expenses in accordance with the proposed norms.

3. Security and Capital Spares Expenses

CERC Tariff Regulations, 2014

No Provision in CERC Tariff Regulations 2014 for separate allowance of security expenses and Capital Spares.

Draft CERC Tariff Regulations, 2019

35(2)(c) The Security Expenses and Capital Spares for hydro generating stations shall be allowed separately after prudence check:

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses at the time, the details of year wise actual capital spares consumed at the time of truing up with appropriate justification.

Our Comments/Suggestions

1. **The provision allows security expenses and expenses related to capital spares separately after prudence check. However, the provision to the Regulations is ambiguous, as it does not clarify if the estimate of security expenses and capital spares is to be submitted as a part of the Petition to be submitted at the beginning of the tariff period.**
2. **In instance, the recovery of security expenses and expenditure on capital spares is not allowed during the tariff period and is only allowed after true up (at the end of the tariff period), it shall significantly affect the cash flow to the company and be a burden on the beneficiaries.**
3. **The expenses related to security expenses and capital spares have been projected for the Tariff period based on the rates of escalation used by CERC for its computations (5% for FY 2014-15 to FY 2018-19 and 4.70% for FY 2019-20 to FY 2023-24). The details of actual security expenses and consumption of stores and spares for the period 2013-14 to 2017-18 is shown in Annexure-C. based on this expenses the projected expenses for the period 2019-24 is shown in the table below:**

Table 9: Projections of Security Expenses and Capital Spares for FY 2019-20 to FY 2023-23 (INR Crore)

Plant	Expense Head	Average expenses for the period 13-14 to 17-18	2018-19 (Estimated)	2019-20 (P)	2020-21 (P)	2021-22 (P)	2022-23 (P)	2023-24 (P)
Bairasuil	Security	7.98	9.24	9.67	10.13	10.60	11.10	11.62
	Spares	3.39	3.92	4.11	4.30	4.50	4.72	4.94
Loktak	Security	0.79	0.91	0.96	1.00	1.05	1.10	1.15
	Spares	1.33	1.54	1.61	1.69	1.77	1.85	1.94
Salal	Security	14.61	16.91	17.71	18.54	19.41	20.32	21.28
	Spares	2.28	2.64	2.76	2.89	3.03	3.17	3.32
Tanakpur	Security	8.71	10.08	10.56	11.05	11.57	12.12	12.69
	Spares	3.58	4.14	4.34	4.54	4.76	4.98	5.21
Chamera-I	Security	9.34	10.81	11.32	11.85	12.41	12.99	13.60
	Spares	1.01	1.17	1.22	1.28	1.34	1.40	1.47
Uri-I	Security	21.39	24.76	25.93	27.14	28.42	29.76	31.15
	Spares	1.09	1.26	1.32	1.38	1.45	1.52	1.59
Rangit	Security	2.63	3.04	3.19	3.34	3.49	3.66	3.83
	Spares	0.84	0.97	1.02	1.07	1.12	1.17	1.22
Chamera-II	Security	7.66	8.87	9.28	9.72	10.18	10.66	11.16
	Spares	2.21	2.56	2.68	2.80	2.94	3.07	3.22
Dhauliganga	Security	6.87	7.95	8.33	8.72	9.13	9.56	10.01
	Spares	1.71	1.98	2.07	2.17	2.27	2.38	2.49
Dulhasti	Security	28.98	33.55	35.12	36.78	38.50	40.31	42.21
	Spares	4.03	4.67	4.88	5.11	5.35	5.61	5.87
Teesta-V	Security	4.85	5.61	5.88	6.15	6.44	6.75	7.06
	Spares	2.55	2.95	3.09	3.24	3.39	3.55	3.71
Sewa-II	Security	8.60	9.96	10.42	10.91	11.43	11.96	12.53
	Spares	0.68	0.79	0.82	0.86	0.90	0.95	0.99
TLDP-III	Security	6.79	7.86	8.23	8.62	9.02	9.45	9.89
	Spares	1.68	1.94	2.04	2.13	2.23	2.34	2.45
Chamera-III	Security	4.62	5.35	5.60	5.86	6.14	6.43	6.73
	Spares	0.63	0.73	0.76	0.80	0.84	0.88	0.92
Chutak	Security	1.97	2.28	2.39	2.50	2.62	2.74	2.87
	Spares	0.59	0.68	0.72	0.75	0.78	0.82	0.86

Plant	Expense Head	Average expenses for the period 13-14 to 17-18	2018-19 (Estimated)	2019-20 (P)	2020-21 (P)	2021-22 (P)	2022-23 (P)	2023-24 (P)
Nimmo Bazgo	Security	1.38	1.60	1.67	1.75	1.83	1.92	2.01
	Spares	0.53	0.61	0.64	0.67	0.70	0.74	0.77
Uri-II	Security	9.94	11.51	12.05	12.61	13.21	13.83	14.48
	Spares	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parbati-III	Security	5.72	6.62	6.93	7.26	7.60	7.96	8.33
	Spares	0.83	0.96	1.01	1.05	1.10	1.15	1.21

4. It is submitted that the above expenses be included as a part of the Regulations to allow the expenses to NHPC during the tariff period, with provision to true-up the expenses at the end of the control period based on actuals.

4. O&M norms for new plants

CERC Tariff Regulations, 2014

29(4)(d) In case of the hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years.

Draft CERC Tariff Regulations, 2019

35(2)(b) In case of the hydro generating stations declared under commercial operation on or after 1.4.2019, operation and maintenance expenses of first year shall be fixed at 2.5% of the original project cost (excluding cost of rehabilitation & resettlement works, IDC and IEDC) and, in case of hydro generating station which have not completed a period of three years as on 1.4.2019, operation and maintenance expenses of 2019-20 shall be worked out by applying escalation rate of 4.70% on the applicable operation & maintenance expenses as on 31.3.2019. The operation & maintenance expenses for subsequent years of the tariff period shall be worked out by applying escalation rate of 4.70% per annum.

Our Comments/Suggestions

IDC and IEDC need to be included for computation of O&M norms for new plants

As regards the projects getting commissioned during 2019-24, the draft Regulation 35(2)(b) fixes the O&M expenses for the first year at 2.5% of capital cost excluding cost of R&R works, IDC & IEDC. From the analysis of two projects as illustrated below, TLDP-IV and Parbati-III, it can be seen that the IDC & IEDC work out to approx. 40% of the total project cost. Excluding this significant component of capital cost, the O&M expenses as a percentage of capital cost would become only 1.5%, resulting in an implication of INR 150 Cr on Parbati-III and INR 254 Cr on TLDP-IV. *It is therefore requested that CERC should restore the previous clause by including IDC & IEDC in the capital cost for the purpose of O&M determination.*

Illustration:

1. Reduction in O&M norms due to exclusion of IDC and IEDC for projects with Capacity > 200 MW (Eg: Parbati-III)

a. O&M expenses as per Tariff Regulations 2014:

(INR in Crore)

Particular	Value
Capital Cost	2743.47
R&R Cost	7.13
Capital Cost less R&R Considered for calculation of O&M	2736.34
First Year O&M @ **2.5%**	68.41
Annual escalation*	4.70%

* Escalation rate based on Draft Regulations 2019

O&M Expenses as per Tariff Regulations 2014, for tariff period for plant with capacity more than 200 MW

(INR in Crore)

Year 1		Year 2	Year 3	Year 4	Year 5	Total
68.41		71.62	74.99	78.51	82.20	**375.74**

b. O&M expenses as per Draft Tariff Regulations 2019:

(INR in Crore)

Particular	Value
Capital Cost	2743.47
R&R Cost	7.13
EDC (IDC + IEDC)	1092.09
Capital Cost less R&R and EDC considered for calculation of O&M	1644.25
First Year O&M @ 2.5%	41.11
Annual escalation	4.70%

O&M Expenses as per Draft Tariff Regulations 2019, for tariff period for plant with capacity more than 200 MW:

(INR in Crore)

Year 1	Year 2	Year 3	Year 4	Year 5	Total
41.11	43.04	45.06	47.18	49.40	**225.78**

c. Loss to NHPC in O&M expenses as compared to CERC Tariff Regulations, 2014:

(INR in Crore)

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Total
O&M Expenses based on 2014 tariff norms **(a)**	68.41	71.62	74.99	78.51	82.20	**375.74**
O&M Expenses based on 2019 draft tariff norms **(b)**	41.11	43.04	45.06	47.18	49.40	**225.78**
Difference **(b-a)**	(27.30)	(28.59)	(29.93)	(31.34)	(32.81)	**(149.96)**

2. Reduction in O&M norms due to exclusion of IDC and IEDC for Capacity < 200 MW (Eg: TLDP-IV)

a. O&M expenses as per Tariff Regulations 2014:

(INR in Crore)

Particular	Value
Capital Cost	1906.01
R&R Cost	5.22
Capital Cost less R&R Considered for calculation of O&M	1900.79
First Year O&M @ **4%**	76.03
Annual escalation*	4.70%

* Escalation rate based on Draft Regulations 2019

O&M Expenses as per Tariff Regulations 2014, for tariff period for plant with capacity less than 200 MW

(INR in Crore)

Year 1	Year 2	Year 3	Year 4	Year 5	Total
76.03	79.60	83.35	87.26	91.36	**417.61**

b. O&M expenses as per Draft Tariff Regulations 2019:

(INR in Crore)

Particular	Value
Capital Cost	1906.01
R&R Cost	5.22
EDC (IDC + IEDC)	711.15
Capital Cost less R&R and EDC considered for calculation of O&M	1189.63
First Year O&M @ 2.5%	29.74
Annual escalation	4.70%

O&M Expenses as per Draft Tariff Regulations 2019, for tariff period for plant with capacity less than 200 MW:

(INR in Crore)

Year 1	Year 2	Year 3	Year 4	Year 5	Total
29.74	31.14	32.60	34.13	35.74	**163.35**

c. Loss to NHPC in O&M expenses as compared to CERC Tariff Regulations, 2014:

(INR in Crore)

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Total
O&M Expenses based on 2014 tariff norms **(a)**	76.03	79.60	83.35	87.26	91.36	**417.61**
O&M Expenses based on 2019 draft tariff norms **(b)**	29.74	31.14	32.60	34.13	35.74	**163.35**
Difference **(b-a)**	(46.29)	(48.47)	(50.74)	(53.13)	(55.63)	**(254.26)**

Separate norms for O&M expenses for new plants with capacity less than 200 MW needs to be provided

1. **The CERC Tariff Regulations for Tariff period from FY 2014-15 to FY 2018-19 allowed for separate norms for O&M expenses for first year of commercial operations for new plants with capacity less than 200 MW and capacity more than 200 MW. However, the proposed Draft Regulations do not differentiate in O&M norms for new plants based on capacity and allow O&M expenses as 2.5% of original project cost (excluding IDC, IEDC and R&R). The differentiation in CERC Tariff Regulations 2014 (as explained in SOR to the Final Regulations) was based on analysis of actual data as submitted by NHPC for plants of different capacities. It is pertinent to note that the same analysis holds true for the upcoming plants as well.**

   For example, as can be seen from the above analysis, for TLPD-IV (Illustration) the loss owing to non-specification of separate norms for plants with capacity less than 200 MW amounts to INR 254 Cr for tariff period of 5 years. Accordingly, there is need to differentiate between O&M norms for plants with different capacities. It is therefore suggested that the norms for new plants as in the CERC Tariff Regulations for Tariff period from FY 2014-15 to FY 2018-19 be retained in the Final Tariff Regulations 2019.

2. **Further, in case the IDC & IEDC are to be excluded from the computation of Capital cost for the purpose of O&M Expenses, the percentage of first year O&M Expenses should be increased to 3.5% and 5% for plants with capacity above 200MW & upto 200MW respectively.**

Chapter 11: Computation of Capacity Charges and Energy Charges

Non-availability of Differential Rates for Peak and Off-peak Power for Hydropower Sector

CERC Tariff Regulations, 2014

No Provision in CERC (Terms and Conditions of Tariff) Regulations, 2014 for differential tariff for peak and off-peak hours

Draft CERC Tariff Regulations, 2019

51 (7) *The Capacity Charge rate for Peak hours shall be 25% more than that of Off-Peak hours……*

Our Comments/Suggestions

1. **One of the recommendations of the Committee report submitted to MoP on 16.06.2016 was "Effective implementation of differential Tariff for peak and off peak hours". The differential rates for peak and off-peak power has also been envisaged in Tariff Policy 2016, but the same has not been implemented for hydropower sector in the Draft Tariff Regulations 2019. Further, the benefit has been proposed for thermal generating stations in the draft regulations. Accordingly, the same may be implemented (as an incentive over & above the AFC) in order to provide the necessary boost to the hydropower sector.**

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

1. Recovery of Full Energy Charges in case of Shortfall in Generation

CERC Tariff Regulations, 2014

31 ……
(6) In case the actual total energy generated by a hydro generating station during a year is less than the design energy for reasons beyond the control of the generating station, the following treatment shall be applied on a rolling basis on an application filed by the generating company:

(a) In case the energy shortfall occurs within ten years from the date of commercial operation of a generating station, the ECR for the year following the year of energy shortfall shall be computed based on the formula specified in clause (5) with the modification that the DE for the year shall be considered as equal to the actual energy generated during the year of the shortfall, till the energy charge shortfall of the previous year has been made up, after which normal ECR shall be applicable:

Provided that in case actual generation form a hydro generating station is less than the design energy for a continuous period of 4 years on account of hydrology factor, the generating station shall approach CEA with relevant hydrology data for revision of design energy of the station.

(b) In case the energy shortfall occurs after ten years from the date of commercial operation of a generating station, the following shall apply…

Draft CERC Tariff Regulations, 2019

54.....

(6) In case the actual total energy generated by a hydro generating station during a year is less than the design energy for reasons beyond the control of the generating station, the following treatment shall be applied on a rolling basis on an application filed by the generating company:

(7) In case the energy shortfall occurs within ten years from the date of commercial operation of a generating station, the ECR for the year following the year of energy shortfall shall be computed based on the formula specified in clause (5) with the modification that the DE for the year shall be considered as equal to the actual energy generated during the year of the shortfall, till the energy charge shortfall of the previous year has been made up, after which normal ECR shall be applicable:

Provided that in case actual generation form a hydro generating station is less than the design energy for a continuous period of 4 years on account of hydrology factor, the generating station shall approach CEA with relevant hydrology data for revision of design energy of the station.

(8) In case the energy shortfall occurs after ten years from the date of commercial operation of a generating station, the following shall apply.

.....

(No changes proposed in the Draft Regulations)

Our Comments/Suggestions

1. **In case of energy shortfall due to reasons beyond the control of the generating station, the above provision allows recovery of the shortfall amount in the following year by substituting design energy with the actual energy generated during the year of the shortfall in the ECR formula. This is applicable until the shortfall has been made up, after which the ECR formula reverts to usage of design energy.**
2. **The above provision does not ensure complete recovery of shortfall in energy charges in the succeeding year, in case of shortfall in the succeeding year as well. For instance, in the Tariff Order (dated April 17, 2017) for the Chamera-III power station, NHPC could recover only INR 14.90 Cr due to restrictions in the formula, even though CERC had allowed recovery of INR 19.04 Cr to NHPC.**
3. **It is therefore requested that the process of recovering the energy charges in case of shortfall from design energy be simplified. In case of shortfall in generation in a particular year, difference between energy charges considering the design energy and energy charges based on the actual generation may be allowed to be recovered through a supplementary bill in the succeeding financial year.**
4. **Additionally, it is pertinent to note that the Regulations do not provide for any mechanism of recovery of capacity charges in case of forced shutdowns for reasons beyond the control of the generating station. For instance, TLDP-III and TLDP-IV power stations were forced to shut down due to local agitation (Gorkha Jan Mukti Morcha (GJMM) agitation) in FY 2017-18, resulting in a loss of Rs. 17.09 Cr to NHPC. Thus, such instance may be covered under Force Majeure, allowing recovery of full AFC to the company in instances of shut down due to reasons beyond the control of the company.**

2. Rate for Secondary Energy

CERC Tariff Regulations, 2014

31(7) In case the energy charge rate (ECR) for a hydro generating station, computed as per clause (5) of this regulation exceeds ninety paise per kWh, and the actual saleable energy in a year exceeds { DE x (100 – AUX) x (100 – FEHS) / 10000 } MWh, the Energy charge for the energy in excess of the above shall be billed at ninety paise per kWh only:

Draft CERC Tariff Regulations, 2019

54(10) In case the energy charge rate (ECR) for a hydro generating station, computed as per clause (5) of this Regulation exceeds ninety paise per kWh, and the actual saleable energy in a year exceeds { DE x (100 – AUX) x (100 – FEHS) / 10000 } MWh, the Energy charge for the energy in excess of the above shall be billed at ninety paise per kWh only:

(No changes proposed in the Draft Regulations)

Our Comments/Suggestions

1. **The energy charges for secondary energy has been retained at 90 paise in the Draft Regulations, at the same level as the Tariff Regulations, 2014.**
2. **In order to incentivize the hydro power stations, the rate of secondary energy may be linked to the market price corresponding to RTC of Day Ahead Market.**

Chapter 12: Norms of Operation

Normative annual plant availability factor (NAPAF)

CERC Tariff Regulations, 2014

37(4) *Based on the above, the Normative annual plant availability factor (NAPAF) of the hydro generating stations already in operation shall be as follows…….*

Draft CERC Tariff Regulations, 2019

60(4) *Based on the above, the Normative annual plant availability factor (NAPAF) of the hydro generating stations already in operation…..*

Our Comments/Suggestions

1. **The Hon'ble Commission in the draft regulation 2019 has proposed the higher NAPAF norms for NHPC Power Stations based on the actual NAPAF achieved by the Power Stations during the existing tariff period 2014-19. The Commission has proposed the higher NAPAF in respect of old Power Stations viz. Baira Siul-91%, Loktak-88%, Salal-64%, Tanakpur-59%, Chamera-I-93%, Uri-1-74% and Rangit-93% against the existing NAPAF of 90%,85%,60%,55%,90%,70% & 90% respectively. In this connection, it is submitted that these are older Power Stations which have achieved the NAPAF in the current tariff period as per existing norms and they may not necessarily achieve the proposed NAPAF in the subsequent years due to further wear and tear owing to ageing. So increasing the NAPAF for older stations is technically not correct.**

2. **Further, Hon'ble Commission while analyzing the actual O&M expenses at para 14.5.2 of the Explanatory Memorandum to the Draft Tariff Regulations 2019 has stated as under:-**

   "Based on the detailed analysis, the Commission has followed a systematic approach for arriving at the actual normalized O&M expenses to be considered for preparation of norms.

   Some of the employees related expenses namely ex-gratia, incentives, productivity linked incentives and performance related pay are linked to efficient operation of generating station. These types of expenses are contingent upon the actual performance of the individual generating station and are payable only when the generating station achieves targeted operational norms. <u>The Commission has been consistently following the principle that such incentives and performance related pay should be paid by the generating company from the increase in revenue due to reduced down time and efficient operations of the generating stations.</u> Therefore, for computing O&M expenses norms, these types of expenses are excluded from the actual O&M expense…"

   On one hand, the Commission is proposing that incentive and performance related pay should be paid by generating company from the increase in revenue due to reduced downtime and efficient operations. On the other

hand, the Commission is not allowing the generating company to earn any incentive due to efficient operation as it has increased the NAPAF for older power stations. Both the above approaches of the Commission are contradictory to each other.

3. **Additionally, the NAPAF for some of other generating companies does not seem to be based on their past performance and is restricted to 90%, irrespective of better performance than norms.**
4. **Further, in Regulation 60(1) of the 2019 Draft Regulations, the Hon'ble Commission has prescribed a maximum NAPAF of 90%. However, the norms of NAPAF does not seem to be consistent with the same, as the norms for some plants like Chamera-I and Chamera-II are more than 90% (93%). Therefore, based on the above observations, it would be appropriate to incentivize the better efficiency power stations by maintaining the maximum limit of 90% for NAPAF. Additionally, it is not prudent to penalize the generating company for its operational efficiency by enhancing the norms.**
5. **<u>In view of the above submissions, it is therefore suggested that Hon'ble Commission should retain the existing NAPAF norms.</u>**
6. **The Commission is requested to note the below errors in the Table under Regulation 60(4):**
    a. **Capacity of Salal power plants is mentioned as 5x115 MW. However, the same is 6x115 MW. The same may be corrected.**
    b. **Uri II has been mentioned as Pondage power plant, whereas it is purely a Run-of-River power plant. The same may be corrected.**

Chapter 13: Scheduling, Accounting & Billing

Billing and Payment of Charges

CERC Tariff Regulations, 2014

42 Note3: FEHS = Free energy for home State, in percent and shall be taken as 13% or actual whichever is less.

Provided that in cases where the site of a hydro project is awarded to a developer, by the State Government by following a two stage transparent process of bidding, the „free energy" shall be taken as 13%, in addition to energy corresponding to 100 units of electricity to be provided free of cost every month to every project affected family for a period of 10 years from the date of commercial operation of the generating station:

Provided further that the generating company shall submit detailed quantification of energy corresponding to 100 units of electricity to be provided free of cost every month to every month to every project affected family for a period of 10 years from the date of commercial operation.

Draft CERC Tariff Regulations, 2019

65 Note 3: FEHS = Free energy for home State, in percent and shall be taken as 13% or actual whichever is less.

Provided that in cases where the site of a hydro project is awarded to a developer, by the State Government by following a two stage transparent process of bidding, the 'free energy' shall be taken as 13%, in addition to energy corresponding to 100 units of electricity to be provided free of cost every month to every project affected family for a period of 10 years from the date of commercial operation of the generating station:

Provided further that the generating company shall submit detailed quantification of energy corresponding to 100 units of electricity to be provided free of cost every month to every month to every project affected family for a period of 10 years from the date of commercial operation.

(No changes proposed in the Draft Regulations)

Our Comments/Suggestions

1. **The above provision is applicable to hydro projects developed by following a two stage transparent process of bidding. As on date, projects awarded to NHPC are through MoU route and accordingly above provision is not applicable in case of NHPC projects.**
2. **The Hon'ble Commission in its Order dated January 22, 2009 in case of Petition no. 114/2008 has categorically stated that above provision is not applicable in case of CPSU projects. Inspite of all this, some home states are constantly insisting for this benefit.**
3. **Hence, the Hon'ble Commission is requested to suitably clarify this issue in the final regulations.**

Rebate

CERC Tariff Regulations, 2014

44 Rebate: (1) *For payment of bills of the generating company and the transmission licensee through letter of credit on presentation or through NEFT/RTGS within a period of 2 days of presentation of bills .....*

Draft CERC Tariff Regulations, 2019

68 Rebate: *1) For payment of bills of the generating company and the transmission licensee through letter of credit on presentation .....*
Explanation: In case of computation of '30 days', the number of days shall be counted consecutively without considering any holiday. However, in case the last day or 30th day is official holiday, the 30th day for the purpose of Rebate shall be construed as the immediate succeeding working day (as per the official State Government's calendar, where the Office of the Authorised Signatory or Representative of the Beneficiary, for the purpose of receipt or acknowledgement of Bill is situated)

Our Comments/Suggestions

1. **In view of payment cycle for receivables being reduced to 45 days in the draft tariff regulations, it is requested that the rebate of 2% being allowed to beneficiaries for payment within 2 days be proportionately reduced from 2% to 1.5% and for payment beyond 2 days & within 30 days from 1% to 0.5%.**
2. **The consideration of 30 days / 2 days in case of immediate succeeding day being holiday etc. may be clearly defined. The Regulation may also be more specific stating the inclusion/exclusion of date of presentation of bill, payment date, holidays etc.**

Chapter 15: Miscellaneous Provisions

Deviation from Tariff

CERC Tariff Regulations, 2014

48. Deviation from norms:

(1) Tariff for sale of electricity by the generating company or for transmission charges of the transmission licensee, as the case may be, may also be determined in deviation of the norms specified in these regulations subject to the conditions that :

(a) The levelised tariff over the useful life of the project on the basis of the norms in deviation does not exceed the levelised tariff calculated on the basis of the norms specified in these regulations and upon submission of complete workings with assumptions to be provided by the generator or the transmission licensee at the time of filing of the application; and

(b) Any deviation shall come into effect only after approval by the Commission, for which an application shall be made by the generating company or the transmission licensee, as the case may be.

Explanation- For the purpose of calculating the levelised tariff referred to in subclause(a) of clause (1), the discounting factor shall be as notified by the Commission from time to time.

Draft CERC Tariff Regulations, 2019

***76. 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 transmission customer, as the case may be, may mutually agree to charge lower tariff.*

(2) The generating company or the transmission licensee, may opt to charge the lower tariff for period not exceeding one year at a time on account of lower depreciation based on the requirement of repayment;

Provided that 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;

(3) The generating company or the transmission licensee, may opt to charge the lower tariff for a period not exceeding one year at a time on agreeing to deviation from operational parameters, reduction in operation & maintenance expenses due to reduction of dispatch level, willingness to charge reduced return on equity and incentive specified in these regulations;

(4) The deviation from the ceiling tariff specified by the Commission, shall come into effect from the date agreed by the generating company or the transmission licensee and the beneficiaries or the transmission customer, as the case may be, and the approval of the Commission is not required in such case.

(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.

Our Comments/Suggestions

1. **The CERC Tariff Regulations 2014 allowed a generating company to charge a lower tariff, provided that the levelised tariff calculated based on deviation is lower than the levelised tariff based on norms specified in the Regulations. In addition, the company required only a onetime approval for lower tariff from Commission.**

2. **However, the Draft Regulations 2019 propose specific instances for deviation from the ceiling tariff (tariff determined based on norms in Regulations). Further, the clause (4) states that no approval is required from the Commission for deviation from ceiling tariff, while clause (5) requires the company to approach the Commission for charging lower tariff, presenting contradiction to clause (4). In addition, period for any deviation from ceiling tariff is restricted to one year only.**

3. **The provisions proposed in the Draft Regulations are ambiguous and expected to make the process cumbersome as the deviation is to be justified under one of specified instances and can be only be done one year at a time. The company will be required to approach the Commission for approval/intimation of deviation every year, which will be a tedious task for both the company and the Commission.**

4. **In view of the above, it is requested that the provisions of the CERC Tariff Regulations 2014 in respect of 'Deviation from norms' be retained in the Final Tariff Regulations 2019, with addition of below clause:**

   "The generating company or the transmission licensee, as the case may be, will have option to moderate tariff on varying recovery of depreciation & Return on Equity (RoE) on case to case basis, provided the Power Purchase Agreement (PPA) is signed by beneficiaries for entire useful life of the project. In such cases, the rate of depreciation / RoE may be suitably changed from the notified norms of Regulation to ensure its total recovery in present value terms over useful life of the project. Depreciation and loan repayment shall be matched till the repayment of loan."

Annexures:

Annexure A: Escalation Factor

1. The escalation factor in **Table 12** has been created using the CPI and WPI indices, with 70% weightage given to the CPI index and 30% to the WPI index.
2. The change in base years over the period for CPI and WPI indices have been factored in while computing the escalation factor for each year.

Table 10: Calculation of CPI Multiple

Year	Average	Growth	Index (100)	CAGR till 2018	CPI Multiple
1982	475.33		100.00	7.50%	13.4974
1983	531.75	11.87%	111.87	7.37%	12.0653
1984	576.00	8.32%	121.18	7.35%	11.1384
1985	608.00	5.56%	127.91	7.40%	10.5522
1986	661.08	8.73%	139.08	7.36%	9.7049
1987	719.25	8.80%	151.31	7.31%	8.9200
1988	787.52	9.49%	165.68	7.24%	8.1467
1989	812.42	3.16%	170.92	7.39%	7.8970
1990	885.31	8.97%	186.25	7.33%	7.2469
1991	1008.10	13.87%	212.08	7.09%	6.3642
1992	1126.94	11.79%	237.08	6.92%	5.6931
1993	1198.24	6.33%	252.08	6.94%	5.3543
1994	1321.03	10.25%	277.92	6.81%	4.8566
1995	1456.10	10.22%	306.33	6.66%	4.4061
1996	1586.82	8.98%	333.83	6.56%	4.0431
1997	1700.51	7.16%	357.75	6.53%	3.7728
1998	1925.50	13.23%	405.08	6.20%	3.3320
1999	2015.41	4.67%	424.00	6.28%	3.1833
2000	2096.22	4.01%	441.00	6.41%	3.0606
2001	2175.44	3.78%	457.67	6.57%	2.9492
2002	2268.92	4.30%	477.33	6.71%	2.8277
2003	2355.28	3.81%	495.50	6.91%	2.7240
2004	2444.01	3.77%	514.17	7.14%	2.6251
2005	2547.79	4.25%	536.00	7.36%	2.5182
2006	2673.981	4.95%	562.55	7.57%	2.3993
2007	2844.391	6.37%	598.40	7.67%	2.2556
2008	3081.876	8.35%	648.36	7.61%	2.0818
2009	3417.257	10.88%	718.92	7.25%	1.8775
2010	3826.965	11.99%	805.11	6.67%	1.6765
2011	4165.972	8.86%	876.43	6.36%	1.5400
2012	4553.926	9.31%	958.05	5.88%	1.4088
2013	5050.652	10.91%	1062.55	4.90%	1.2703
2014	5371.529	6.35%	1130.06	4.54%	1.1944

Year	Average	Growth	Index (100)	CAGR till 2018	CPI Multiple
2015	5686.969	5.87%	1196.42	4.10%	1.1281
2016	5967.963	4.94%	1255.53	3.68%	1.0750
2017	6116.618	2.49%	1286.81	4.89%	1.0489
2018	6415.742	4.89%	1349.74	0.00%	

Table 11: Calculation of WPI Multiple

Year	Average	Growth	Index(100)	CAGR till 2018	WPI Multiple
1982	103.07		100.00	6.08%	8.3735
1983	110.81	7.51%	107.51	6.04%	7.7888
1984	118.52	6.96%	114.98	6.01%	7.2822
1985	124.03	4.65%	120.33	6.06%	6.9588
1986	130.87	5.52%	126.97	6.07%	6.5950
1987	140.03	7.00%	135.86	6.04%	6.1633
1988	152.23	8.71%	147.70	5.95%	5.6694
1989	162.47	6.72%	157.62	5.93%	5.3123
1990	177.19	9.06%	171.91	5.82%	4.8708
1991	201.43	13.68%	195.42	5.54%	4.2848
1992	224.68	11.54%	217.98	5.31%	3.8414
1993	242.12	7.76%	234.90	5.22%	3.5647
1994	267.36	10.43%	259.39	5.00%	3.2281
1995	292.35	9.35%	283.64	4.82%	2.9522
1996	308.98	5.69%	299.77	4.78%	2.7933
1997	325.55	5.36%	315.85	4.75%	2.6511
1998	348.19	6.95%	337.81	4.64%	2.4787
1999	360.33	3.48%	349.59	4.70%	2.3952
2000	378.76	5.12%	367.48	4.68%	2.2786
2001	398.21	5.14%	386.35	4.66%	2.1673
2002	408.06	2.47%	395.90	4.79%	2.1150
2003	429.79	5.32%	416.98	4.76%	2.0081
2004	458.18	6.61%	444.53	4.63%	1.8837
2005	479.76	4.71%	465.46	4.62%	1.7990
2006	508.65	6.02%	493.49	4.50%	1.6968
2007	533.48	4.88%	517.58	4.47%	1.6178
2008	579.77	8.68%	562.50	4.06%	1.4886
2009	593.43	2.35%	575.74	4.25%	1.4544
2010	650.17	9.56%	630.79	3.60%	1.3275
2011	711.74	9.47%	690.53	2.79%	1.2126
2012	765.47	7.55%	742.65	2.02%	1.1275
2013	813.85	6.32%	789.60	1.18%	1.0605
2014	844.75	3.80%	819.58	0.54%	1.0217
2015	821.63	-2.74%	797.14	1.65%	1.0504
2016	838.06	2.00%	813.09	1.48%	1.0298
2017	826.48	-1.38%	801.85	4.43%	1.0443
2018	863.07	4.43%	837.35	0.00%	

Table 12: Escalation Factor

Year	Escalation Factor
1982	9.9106
1983	9.0718
1984	8.4391
1985	8.0368
1986	7.5280
1987	6.9903
1988	6.4126
1989	6.0877
1990	5.5836
1991	4.9086
1992	4.3969
1993	4.1016
1994	3.7167
1995	3.3884
1996	3.1683
1997	2.9876
1998	2.7347
1999	2.6317
2000	2.5132
2001	2.4019
2002	2.3288
2003	2.2229
2004	2.1061
2005	2.0147
2006	1.9076
2007	1.8091
2008	1.6666
2009	1.5813
2010	1.4322
2011	1.3108
2012	1.2119
2013	1.1234
2014	1.0735
2015	1.0738
2016	1.0434
2017	1.0457
2018	1.0000

Annexure B: Computation of Proposed O&M norms

a) Actual O&M Expenses excluding wage revision, spares, security, PRP etc.

(INR in Crores)

Power Plant	2013-14 (A)	2014-15 (A)	2015-16 (A)	2016-17 (A)	2017-18 (A)[i]
Salal	142.59	170.61	155.52	186.87	146.91
Chamera-I	86.18	85.23	104.85	113.10	92.23
Uri-I	66.52	74.45	83.86	105.75	89.61
Chamera-II	79.09	78.14	75.37	98.39	89.20
Dhauliganga	40.37	58.97	84.34	99.47	81.72
Dulhasti	189.61	156.59	146.27	191.88	164.31
Loktak	65.11	80.85	80.47	98.45	77.39
Teesta-V	91.85	80.94	104.58	126.97	124.27
Uri-II	26.39	57.52	57.91	77.03	69.35
Bairasuil	71.00	69.45	60.36	73.10	57.44
Tanakpur	71.63	78.92	99.20	96.36	83.74
Rangit	36.25	39.15	44.43	51.87	46.47
Nimmo-Bazgo	7.20	28.72	33.69	38.98	37.08
Chutak	23.88	27.42	28.32	34.21	33.48
Sewa-II	51.12	55.10	58.88	62.64	56.79
TLDP-III	58.47	46.52	60.07	76.77	69.44
Chamera-III	71.73	66.33	61.91	90.86	74.33
Parbati-III	-1.35	62.57	64.15	75.12	70.57

b) Projected O&M Expenses excluding wage revision, spares, security, PRP etc. for FY 2019-20 to FY 2023-24 based on CERC's methodology:

(INR in Crores)

Power Plant	2018-19 (E)	2019-20 (P)	2020-21 (P)	2021-22 (P)	2022-23 (P)	2023-24 (P)
Salal	185.79	194.53	203.67	213.24	223.26	233.76
Chamera-I	111.50	116.74	122.23	127.97	133.99	140.28
Uri-I	97.28	101.85	106.64	111.65	116.90	122.40
Chamera-II	97.29	101.86	106.65	111.66	116.91	122.40
Dhauliganga	84.48	88.45	92.61	96.96	101.52	106.29
Dulhasti	196.49	205.72	215.39	225.51	236.11	247.21
Loktak	93.14	97.51	102.10	106.89	111.92	117.18
Teesta-V	122.39	128.14	134.16	140.47	147.07	153.98
Uri-II	66.72	69.86	73.14	76.58	80.18	83.95
Bairasuil	76.72	80.32	84.10	88.05	92.19	96.52
Tanakpur	99.52	104.20	109.10	114.23	119.59	125.21
Rangit	50.51	52.89	55.37	57.97	60.70	63.55
Nimmo-Bazgo	33.72	35.31	36.97	38.71	40.52	42.43
Chutak	34.11	35.71	37.39	39.15	40.99	42.91
Sewa-II	65.88	68.97	72.21	75.61	79.16	82.88
TLDP-III	72.07	75.45	79.00	82.71	86.60	90.67
Chamera-III	84.54	88.52	92.68	97.03	101.60	106.37
Parbati-III	62.76	65.71	68.80	72.03	75.41	78.96

[1] A: Actual; E: Estimated; P: Projected

Annexure C: Details of actual security expenses and consumption of capital spares for the period 2013-14 to 2017-18

(INR in Crores)

Plant	Expense Head	2013-14 (A)	2014-15 (A)	2015-16 (A)	2016-17 (A)	2017-18 (A)	Average expenses for the period 13-14 to 17-18
Bairasuil	Security	6.44	6.77	7.65	9.60	9.42	7.98
	Spares	1.43	2.66	9.04	2.33	1.48	3.39
Loktak	Security	0.62	0.67	0.79	0.87	0.99	0.79
	Spares	1.07	0.67	1.54	1.72	1.63	1.33
Salal	Security	12.24	11.66	13.87	15.32	19.94	14.61
	Spares	2.13	1.03	6.04	0.03	2.19	2.28
Tanakpur	Security	6.02	7.58	8.33	10.45	11.16	8.71
	Spares	1.35	4.98	3.48	5.58	2.52	3.58
Chamera-I	Security	7.32	7.94	9.98	10.53	10.93	9.34
	Spares	1.16	1.25	0.63	0.34	1.70	1.01
Uri-I	Security	16.61	17.49	20.83	24.37	27.66	21.39
	Spares	1.80	1.60	1.17	0.35	0.54	1.09
Rangit	Security	2.23	2.38	2.61	2.93	2.98	2.63
	Spares	1.48	0.52	0.99	0.77	0.45	0.84
Chamera-II	Security	6.09	6.80	7.17	8.78	9.47	7.66
	Spares	3.30	2.65	2.63	1.16	1.30	2.21
Dhauliganga	Security	5.19	5.79	7.15	8.01	8.19	6.87
	Spares	1.50	1.84	1.83	1.93	1.47	1.71
Dulhasti	Security	27.11	29.18	28.12	29.00	31.51	28.98
	Spares	4.95	4.27	4.45	3.41	3.07	4.03
Teesta-V	Security	4.16	4.26	4.69	5.59	5.53	4.85
	Spares	4.73	2.79	2.16	1.93	1.13	2.55
Sewa-II	Security	6.81	7.31	8.03	9.22	11.62	8.60
	Spares	0.71	0.46	0.73	0.74	0.75	0.68
TLDP-III	Security	3.17	6.67	6.62	8.59	8.91	6.79
	Spares	0.58	2.66	2.39	1.94	0.85	1.68
Chamera-III	Security	2.61	3.18	3.99	6.30	7.00	4.62

	Spares	0.21	1.83	0.30	0.02	0.78	0.63
Chutak	Security	1.53	1.56	1.95	2.22	2.59	1.97
	Spares	0.50	1.19	0.40	0.46	0.41	0.59
Nimmo Bazgo	Security	0.16	0.51	1.89	2.32	2.00	1.38
	Spares	0.00	0.01	0.19	1.34	1.12	0.53
Uri-II	Security	3.63	7.26	8.15	12.44	18.20	9.94
	Spares	0.00	0.00	0.00	0.00	0.00	0.00
Parbati-III	Security	0.03	1.90	6.88	9.61	10.16	5.72
	Spares	0.00	0.00	0.00	1.20	2.96	0.83