Welcome

THDC India Limited.

(A Joint Venture of Govt.of India & Govt.of U.P.)

Rishikesh

Submissions
on
CERC's draft Regulations
on
Terms & Conditions of
Tariff for
the period 2014-19.

Regulation 3(40) of draft Regulations (at P-14)

As per draft Regulations :

- (40) '**Plant Availability Factor (PAF)**' in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days of the installed capacity in MW reduced during that period expressed as a percentage by the normative auxiliary energy consumption;

As Proposed :

(40) '**Plant Availability Factor (PAF)**' ***for a day*** in relation to a generating station ~~**for any period**~~ means the ~~**average of the daily**~~ declared **capacity** (DC) for ~~all~~ the day~~s~~ ~~**during that period**~~ expressed as a percentage of the installed capacity in MW reduced by the normative auxiliary energy consumption;

PAF for a period means the average of the daily PAFs during that period.

Plant Availability Factor (PAF)

JUSTIFICATION:

The amendment has been proposed to take care of such a situation when installed capacity of a plant is varying which is the case when various units of plants are installed one after another and the installed capacity is gradually increasing.

Regulation 3(49) of draft Regulations (at P-17)

As per draft Regulations :

- (49) '**scheduled commercial operation date or SCOD**' shall mean the date(s) of commercial operation of a generation or transmission project as indicated in the investment approval or as agreed in power purchase agreement or transmission service agreement as the case may be, whichever is earlier;

As Proposed :

(49) '**scheduled commercial operation date or SCOD**' shall mean the date(s) of commercial operation of a generation or transmission project **or a unit thereof on the completion of 3 months after the scheduled commissioning** as indicated in the investment approval or as agreed in power purchase agreement or transmission service agreement as the case may be, whichever is earlier;

Scheduled commercial operation date or SCOD

JUSTIFICATION:

The Investment approval accorded bears stipulation of commissioning dates, generally. Commercial Operation Date occurs subsequent to commissioning. Three months period has been suggested considering the normal period required for COD after commissioning.

Regulation 4(2) of draft Regulations (at P-23)

As per draft Regulations :

- (2) Date of commercial operation in relation to a generating unit of hydro generating station ---------- of the generating station through a successful trial run:
- Provided that where beneficiaries have been tied up for purchasing power from generating station, scheduling process for a generating unit of the generating station or demonstration of peaking capability corresponding to installed capacity of the generating station through a successful trial run shall commence after seven days notice by the generating company to the beneficiaries and scheduling shall commence from oooo hr after acceptance of test results by the beneficiaries or within 48 hours after the trial run whichever is earlier:

As Proposed :

(2) Date of commercial operation in relation to a generating unit of hydro generating station ---------- of the generating station through a successful trial run:

Provided that where beneficiaries have been tied up for purchasing power from generating station, scheduling process for a generating unit of the generating station ~~or demonstration of peaking capability corresponding to installed capacity of the generating station through a successful trial run shall commence after seven days notice by the generating company to the beneficiaries and scheduling~~ shall commence from 00:00 hr ~~after acceptance of test results by the beneficiaries or within 48 hours after the trial run whichever is earlier~~ **after successful trial run as per Regulation 5**:

Regulation 5 of draft Regulations (at P-26)

As per draft Regulations :

- **5.** Trial Run and Trial Operation.-(1) Trial Run in relation to generating station or unit thereof shall mean the successful running of the generating station or unit thereof at maximum continuous rating or installed capacity for continuous period of 72 hours.

As Proposed :

5. Trial Run and Trial Operation.-(1) Trial Run in relation to generating station or unit thereof **excluding Pumped Storage Plant** shall mean the successful running of the generating station or unit thereof at maximum continuous rating or installed capacity **(corresponding to available head for hydro generating station)** for continuous period of 72 hours **(except tripping due to fault on account of transmission system which is beyond the control of generating station) for which the generating company shall give notice for clear three days to the beneficiaries.**

Trial run in relation to Pumped Storage Plant or unit thereof shall mean the successful running of the generating station or unit thereof in pumping and turbine modes as per the manufacturer's specifications and availability of pumping energy and water.

Trial run in relation to Pumped Storage Plant or unit

JUSTIFICATION:

Trial run and trial operation specific to Pumped Storage Plant has been proposed to be added.

Regulation 6(2)of draft Regulations (at P-29)

As per draft Regulations :

- --------- Provided that where the cost incurred on common facilities have not been proportionately apportioned between the units or elements of the project, the cost in respect of such common facilities shall be apportioned on the basis of the installed capacity of the units or line length and number of bays, as the case may be;.

As Proposed :

--------- Provided that where the cost incurred on common facilities have not been proportionately apportioned between the units or elements of the project, the cost in respect of such common facilities shall be apportioned on the basis of the installed capacity of the units or line length and number of bays, as the case may be;

Interest During Construction (IDC) for the apportioned amount of the common facilities' cost for subsequent units needs to be allowed on normative basis. However, in exceptional cases, considering the technical necessity of the power generating station, the common facilities' cost may be allowed alongwith the first unit of the project.

Interest During Construction (IDC) for the apportioned amount of the common facilities'

JUSTIFICATION:

As per Accounting Standard & generally accepted Accounting Policies, the asset is capitalized as and when they are put to use. Interest after capitalisation is charged to revenue. But as per Regulations, asset for common facilities is to be apportioned even though it is capitalized in totality in books at the time it is put to use. Therefore, interest due to deferment of capitalization for CERC purpose should be allowed on normative basis.

Regulation 10(2)of draft Regulations (at P-44)

As per draft Regulations :

- (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.

As Proposed :

(2) The Commission may issue new guidelines or revise the existing guidelines for vetting of capital cost of **those** hydro-electric projects **of which capital cost is not approved by the Government** 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.

Guidelines for vetting of capital cost

JUSTIFICATION:

Generally, the completion cost of a hydroelectric project of a State controlled or owned company is approved by the Govt. of India on the basis of report/ recommendations of CEA & Standing Committee on Time & Cost Over-run. Therefore, it is not required to get the capital cost vetted by an independent agency as it will lead to duplication of work.

Regulation 10(2)of draft Regulations (at P-44)

As per draft Regulations :

- (1) The "controllable factors" shall include but shall not be limited to the following:
- i. Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;
- ii. Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and
- iii. Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.
- (2) The "uncontrollable factors" shall include but not limited to the following:
- i. Force Majeure events, such as acts of war, fire, natural calamities, etc.; and
- ii. Change in law.

As Proposed :

(1) The "controllable factors" shall include but shall not be limited to the following:

~~i. Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;~~

i. Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and

ii. Delay in execution of the project on account of contractor, supplier or agency of the generating company or transmission licensee.

(2) The "uncontrollable factors" shall include but not limited to the following:

i. Force Majeure events, such as acts of war, fire, natural calamities, etc.; and

ii. Change in law.

iii. Local agitation, geological surprises etc.

iv.Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;

v. Judicial and quasi-judicial pronouncement arising out of disputes, litigation, arbitration etc.

Regulation 24(2)of draft Regulations (at P-65)

As per draft Regulations :

- (2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage:
- Provided that in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50** % shall be allowed if such projects are completed within the timeline specified in **Appendix-I**:
- Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

As Proposed :

(2) Return on equity shall be computed at the base rate of 15.50 % for thermal generating stations, transmission system including communication system ~~and run of the river hydro generating station,~~ and at the base rate of ~~16.50%~~ **17.50%** for **all the hydro generating stations** ~~the storage type generating stations~~ including pumped storage hydro generating stations : ~~and run of river generating station with pondage~~

Provided that in case of projects commissioned on or after 1st April, 2014, an additional return of **0.50 %** shall be allowed if such projects are completed within the timeline specified in **Appendix-I**:

Provided further that the additional return of 0.5% shall ~~not~~ be admissible if the project is not completed within the timeline specified above for ~~reasons whatsoever:~~ **the reasons not attributable to the generating company.**

JUSTIFICATION:

In the present scenario, lot of hydro power is yet to be harnessed vis-a-vis the hydro potential available in the country. Hydro projects have much longer gestation period, during which developer does not earn any Return on Equity. Therefore, to attract more investment in hydro sector, better return on investment is required to be provided to incentivise the developer irrespective of the type of hydro generating station. Further, for sustainable development of hydro power, it is proposed that 2% additional RoE vis-a-vis thermal projects may be allowed to harness hydel energy Therefore, it is proposed that Return on Equity should be computed at the base rate of 17.5% for all types of hydro generating stations including pumped storage schemes. Further, this will add in contribution of State Controlled Generating Company to the Govt exchequer which, in turn, helps to fund State utilities through various developmental programs such as, APDRP,RGGVY for village electrification etc.

Regulation 25 of draft Regulations (at P-66)

As per draft Regulations :

- **Tax on Return on Equity:**
- (1) Tax on the income corresponding to Return ----------

- (4) The tax computation on ROE as approved by the Commission may be made based ----------
  ---------- arising after 1.4.2009 shall be made from the beneficiaries.

As Proposed :

Tax on Return on Equity:

The mechanism of computing rate of Return on Equity by grossing up the base rate with the tax rate as per Regulation 15 of the prevailing CERC Tariff Regulations 2009 may be retained.

JUSTIFICATION:

Income tax is determined under Income Tax Act. The determination of actual tax is possible after disposal of assessment of Ist Appeal, IInd Appeal, Tribunal etc. It is a long time consuming process involving around 2 to 10 years. Hence, to avoid the uncertainties, the provision of the prevailing CERC Tariff Regulations 2009 i.e grossing up of RoE may be retained for the period 2014-19.

Regulation 29(2)(a) of draft Regulations (at P-81)

As per draft Regulations :

- 2) Hydro Generating Station
- (a)Following operations and maintenance norms shall be applicable for hydro generating stations which have been operational for three or more years as on March 31, 2013:

Sl. No.	Station	FY 14-15	FY 15-16
B	THDC	21.12	22.46

FY 16-17	FY 17-18	FY 18-19
23.88	25.40	27.01

As Proposed :

(2) Hydro Generating Station
(a)Following operations and maintenance norms shall be applicable for hydro generating stations which have been operational for three or more years as on March 31, 2013:

Sl. No.	Station	FY 14-15	FY 15-16
B	THDCIL Tehri HPP	26.83	29.07

FY 16-17	FY 17-18	FY 18-19
31.50	34.13	36.98

JUSTIFICATION:

The O&M expenses for Tehri HPP for the years 2008-09 to 2012-13, as submitted to Hon'ble CERC by THDCIL vide letter ref. no. THDC/RKSH/COMML/C-01/51/2994 dtd. 17.08.2013 , was based on the actual expenses which are bare minimum to run a plant efficiently. Therefore, the same should be considered for calculating the O&M expenses for the period 2014-19.Further, inflation rate @ 8.35% considering the WPI & CPI may be considered for escalation purpose. Accordingly, the O&M expenses for 2014-19 have been reworked based on the same methodology as adopted by Hon'ble CERC and considering the escalation factor as 8.35% and are submitted for kind consideration of the Hon'ble Commission please.

Further, it is to bring to the kind notice of Hon'ble Commission that in case of Tehri HPP, the O&M expenses as submitted for 2013-14(based on the Hon'ble CERC's Tariff Order dtd. 16.4.13 for the period 2006-09) is Rs. 232.70 Cr. As per the draft Regulations the O&M expense for FY 2014-15 is proposed by Hon'ble Commission as Rs. 211.20 Cr. which is lower than the O&M expense for 2013-14 which is not logical.

In view of above and to remove the anomaly, the modified figures of O&M Expense for Tehri HPP taking into account the escalation factor of 8.35% have been proposed for kind consideration of Hon'ble CERC.

Regulation 29(2)(c) of draft Regulations (at P-81)

As per draft Regulations :

- (c) 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 2% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation and shall be subject to annual escalation of 6.35% per annum.

As Proposed :

c) 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 ~~2%~~ **3.5%** of the original project cost ~~(excluding cost of rehabilitation & resettlement works)~~ for first year of commercial operation and shall be subject to annual escalation of ~~6.35%~~ **8.35%** per annum.

JUSTIFICATION:

As per the proposed draft Regulations, the O&M expenses are to be worked out at 2% of the original project cost (excluding cost of rehabilitation and resettlement works). However, the O&M expenses admissible @ 2% of the original project cost excluding R&R as per the prevailing Regulations 2009-14 are even not sufficient to meet the actual expenses in light of the escalated O&M expenses. In such a situation, further reducing the O&M expenses by excluding the cost of rehabilitation & re-settlement works does not seem to be justified.

In case of Koteshwar HEP the actual O&M expenses for first year of commercial operation of plants was more than 3.5% of original project cost.

Therefore, O&M expenses should be allowed minimum at the rate of 3.5% of the original project cost upto cut off date.

Regulation 31(3) of draft Regulations (at P-95)

As per draft Regulations :

- DCi = Declared capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least three (3) hours, as certified by the nodal load dispatch centre after the day is over.

As Proposed :

DCi = Declared capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least three (3) hours, as certified by the nodal load dispatch centre after the day is over.

For this purpose, the hydro generating stations need not declare schedule for the entire 24 hours in a day as these stations are generally peaking stations.

Regulation 32(1) of draft Regulations (at P-99)

As per draft Regulations :

- **Pumped Storage Hydro Generating Stations:**
- (1) The fixed cost of a pumped storage hydro generating station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis as capacity charge. The capacity charge shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the home State:

As Proposed :

Pumped Storage Hydro Generating Stations:

(1) The fixed cost of a pumped storage hydro generating station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis as capacity charge and **energy charge**. The capacity charge **(inclusive of incentive)** and **energy charge** shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the home State:

JUSTIFICATION:

The methodology proposed by Hon'ble CERC for recovery of AFC shall pose practical problems for recovery of AFC when Tehri PSP will become operational. Hence,the proposed amendments.

Regulation 32(2) of draft Regulations (at P-99)

As per draft Regulations :

- (2) The capacity charge payable to a pumped storage hydro generating station for a calendar month shall be:
- (AFC x NDM / NDY) (in Rupees), if actual Generation during the month is >= 75 % of the Pumping Energy consumed by the station during the month and
- {(AFC x NDM / NDY) x (Actual Generation during the month during peak hours/ 75% of the Pumping Energy consumed by the station during the month) (in Rupees)}, if actual Generation during the month is < 75 % of the Pumping Energy consumed by the station during the month.
- Where,
- AFC = Annual fixed cost specified for the year, in Rupees
- NDM = Number of days in the month
- NDY = Number of days in the year

As Proposed :

(2) The capacity charge *(inclusive of incentive)* payable to a pumped storage hydro generating station for a calendar month shall be computed on daily basis beneficiary-wise as under :

(a) For the days when pumping & generation take place :

Capacity Charge (Rs.) (inclusive of incentive) = (AFC X percentage allocation of the beneficiary in the capacity of the station X Scheduled Energy supplied to the beneficiary during the day during peak hours) / (NDY X 100 X 75% of the scheduled energy supplied by beneficiary during the day)

Regulation 32(2) of draft Regulations (at P-99)

As per draft Regulations :

As Proposed :

(b) For the days when pumping & generation do not take place (due to hydrological reasons beyond the control of the generating station / design of the generating station as such / beneficiary does not provide the pumping energy / any reason beyond the control of the generating station)

Capacity Charge (Rs.) = (AFC X percentage allocation of the beneficiary in the capacity of the station) / (NDY X 100)

The total capacity charge for the month shall be the sum of daily capacity charges calculated as per (a) & (b) above.

The total Capacity Charge for the year shall be the sum total of the monthly Capacity Charges calculated as above for the individual months.

Where,
AFC = Annual Fixed Cost specified for the year, in Rupees.
NDY = Number of days in the year

The utilisation of the plant in terms of quantum of pumping energy and corresponding peak generation shall be subject to limitation as per DPR of the project / approval of the Authority.

Regulation 32(3) of draft Regulations (at P-100)

As per draft Regulations :

- (3) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary in excess of the design energy plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir, at a flat rate equal to the average energy charge rate of 20 paise per kWh, excluding free energy, if any, during the calendar month, on ex power plant basis.
- (4) Energy charge payable to the generating company for a month shall be:
- = 0.20 x {Scheduled energy (ex-bus) for the month in kWh – (Design Energy for the month + 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month) } x (100 – FEHS) / 100.

As Proposed :

(3) The energy charge shall be payable by every beneficiary for the ~~total energy scheduled to be supplied to the beneficiary in excess of the~~ design energy (DEn) ~~plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir~~, at a flat rate equal to the average energy charge rate of 20 paise per kWh, excluding free energy, if any, during the calendar month, on ex power plant basis.

~~(4) Energy charge payable to the generating company for a month shall be:~~

~~= 0.20 x {Scheduled energy (ex-bus) for the month in kWh – (Design Energy for the month + 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month) } x (100 – FEHS) / 100.~~

Regulation 32(3) of draft Regulations (at P-100)

As per draft Regulations :

- Where,
- DEm = Design energy for the month specified for the hydro generating station, in MWh, subject to the provision in clause (6) below.
- FEHS = Free energy for home State, in per cent, as defined in regulation 42, if
- any.
- Provided further that in case the Scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month, then the energy charges payable by the beneficiaries shall be zero.

As Proposed :

~~Where,~~

~~DEm = Design energy for the month specified for the hydro generating station, in MWh, subject to the provision in clause (6) below.~~

~~FEHS = Free energy for home State, in per cent, as defined in regulation 42, if~~

~~any.~~

Energy charge payable to the generating company for a month shall be:

= 0.20 x (Design Energy for the month x percentage allocation of the beneficiary) x (100 – FEHS) / 100.

Where,

DEn = Energy (kWh) for the month specified for pumped storage hydro generating station to be produced using natural flow of water only (i.e without using recycled water) duly approved by Authority.

FEHS = Free energy for home state, in percent, as defined in Regulation 42, if any, out of the energy generated due to natural flow of water only (i.e without using recycled water).

~~Provided further that in case the Scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month, then the energy charges payable by the beneficiaries shall be zero.~~

Regulation 32(5) of draft Regulations (at P-101)

As per draft Regulations :

- (5) The generating company shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the ……
For this purpose, outages of the unit(s)/station including planned outages and the forced outages up to the 15% in a year shall …… of total machine outages in a year exceeds 15%:
- (ACC)adj = (ACC) R x (100- ATO)/85
- Where,
- (ACC)adj – Adjusted Annual capacity Charges
- (ACC) R – Annual capacity Charges recovered
- ATO - Total Outages in percentage for the year including forced and planned outages

As Proposed :

(5) The generating company shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the ……Fo r this purpose, outages of the unit(s)/station including planned outages and the forced outages up to the 20% in a year shall …… of total machine outages in a year exceeds 20%:

(ACC)adj = (ACC) R x (100- ATO)/80

Where,

(ACC)adj – Adjusted Annual capacity Charges

(ACC) R – Annual capacity Charges recovered

ATO - Total Outages in percentage for the year including forced and planned outages

JUSTIFICATION:

As Tehri Pumped Storage Plant will be the first of its kind in the Central sector and is expected to go on stream by the end of 2016,it may take some time for it to stablise. Therefore, the outages @20% may be considered. Hence, annual availability of 80% has been proposed.

Regulation 37(6) of draft Regulations (at P-118)

As per draft Regulations :

- **(6) Auxiliary Energy Consumption (AUX):**
- (a) Surface hydro generating stations
- (i) with rotating exciters mounted on the generator shaft : 0.7%
-
- (ii) with static excitation system : 0.5%
-
- (b) Underground hydro generating stations
- (i) with rotating exciters mounted on the generator shaft : 0.9%
-
- (ii) with static excitation system : 1.0%

As Proposed :

(6) Auxiliary Energy Consumption (AUX):

(a) Surface hydro generating stations

(i) with rotating exciters mounted on the generator shaft : 0.7%

(ii) with static excitation system : **1.0%**

(b) Underground hydro generating stations

(i) with rotating exciters mounted on the generator shaft : 0.9%

(ii) with static excitation system : **1.2%**

JUSTIFICATION:

Hydro power plants are peaking plants. During non-peaking hours or shut down of hosting units (unit which supplied energy to common auxiliaries of station or connected to Station Service Transformer), plants take energy from external resources (11 KV supply of SEB or DG sets) for the operation of the auxiliary system of plant such as illumination (including Dam), drainage and dewatering, ventilation systems etc. Energy taken from external resources has not been taken into account as per the details as provided in Explanatory Memorandum of Hon'ble CERC. If the same is taken into account, the net Auxilary Consumption shall be in the vicinity of around 1.2% for Tehri HPP (Underground Power House) and 1% for Koteshwar HEP (Surface Power House). Therefore, it is proposed that auxiliary consumption may be retained as the per the Regulations 2009-14 i.e 1.0% for 'surface' type and 1.2% for 'underground' power station.

Regulation 37(6) of draft Regulations (at P-118)

As per draft Regulations :

- **(6) Auxiliary Energy Consumption (AUXLate payment surcharge:**
- In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary beyond a period of 60 days from the date of billing a late payment surcharge at the rate of 1.50% per month shall be levied by the generating company or the transmission licensee, as the case may be.

As Proposed :

Late payment surcharge: In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary beyond a period of 60 days from the date of billing a late payment surcharge at the rate of ~~1.50%~~ **2.0%** per month shall be levied by the generating company or the transmission licensee, as the case may be.

JUSTIFICATION:

Rebate of 2% on presentation of bill for prompt payment and rate of late payment surcharge should be at par. Hence, the proposed modification.

Thank you