Order

On

Approval of Business Plan and Multi Year Tariff Petition

For

M/s Greenko Budhil Hydro Power Pvt. Ltd.

For

Third Control Period

(FY 2019-20 to FY 2021-22)

February 27, 2019

Uttarakhand Electricity Regulatory Commission

Vidyut Niyamak Bhawan, Near I.S.B.T., P.O. Majra

Dehradun – 248171

Table of Contents

1. Background and Procedural History 5

2. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Business Plan for the third Control Period 7

2.1 Statutory Requirement 7
2.2 Multi-year Framework 7
2.3 Business Plan for the third Control Period 8
2.3.1 Proposed Additional Capitalisation 9
2.3.2 Financing Plan 14
2.3.3 Major shutdown plan for the plant 14
2.3.4 Trajectory of Performance Parameters 14

3. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2017-18 16

3.1 Impact of Sharing of Gains and Losses on account of Controllable Factors for FY 2017-18 17
3.1.1 Physical Parameters 17
3.1.2 Financial Parameters 19

4. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2018-19 37

4.1 Annual Performance Review 37

5. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on MYT for the third Control Period 42

5.1 Physical Parameters 43
5.1.1 NAPAF 43
5.1.2 Design Energy, Auxiliary Energy Consumption and Saleable Primary Energy 43
5.2 Financial Parameters 43
5.2.1 Opening GFA and Additional Capitalisation for the third Control Period 43
5.2.2 Capital Structure 44

5.2.3 Depreciation 44

5.2.4 Return on Equity 45

5.2.5 Interest on Loans 45

5.2.6 Operation and Maintenance expenses 47

5.2.7 Interest on Working Capital 51

5.2.8 Non-Tariff Income 53

5.2.9 Annual Fixed Charges, Capacity Charge and Energy Charge Rate (ECR) for FY 2019-20, FY 2020-21 and FY 2021-22 54

List of Tables

TABLE 2.1: PROPOSED ADDITIONAL CAPITALISATION FOR FY 2019-20 (RS. CRORE) 12
TABLE 2.2 PROPOSED ADDITIONAL CAPITALISATION FOR FY 2020-21 (RS. CRORE) 12
TABLE 2.3: PROPOSED ADDITIONAL CAPITALISATION FOR FY 2021-22 (RS. CRORE) 13
TABLE 2.4: DETAILS OF MAJOR SHUTDOWN OF THE PLANT FOR THE THIRD CONTROL PERIOD 14
TABLE 3.1: ADDITIONAL CAPITALISATION CLAIMED FOR FY 2017-18 (RS. CRORE) 22
TABLE 3.2: APPROVED GROSS FIXED ASSETS FOR FY 2017-18 (RS. CRORE) 23
TABLE 3.3: FINANCING FOR CAPITALISATION FOR FY 2017-18 24
TABLE 3.4: DEPRECIATION APPROVED FOR FY 2017-18 (RS. CRORE) 25
TABLE 3.5 : RETURN ON EQUITY APPROVED FOR FY 2017-18 (RS. CRORE) 26
TABLE 3.6: INTEREST ON NORMATIVE LOAN FOR FY 2017-18 (RS. CRORE) 28
TABLE 3.7: ACTUAL O&M EXPENSES FOR FY 2017-18 (RS. CRORE) 29
TABLE 3.8: O&M EXPENSES APPROVED FOR FY 2017-18 (RS. CRORE) 30
TABLE 3.9: O&M EXPENSES APPROVED AFTER SHARING OF GAINS AND LOSSES FOR FY 2017-18 (RS. CRORE) 30
TABLE 3.10: INTEREST ON WORKING CAPITAL APPROVED BY THE COMMISSION FOR FY 2017-18 (RS. CRORE) 32
TABLE 3.11: INTEREST ON WORKING CAPITAL FOR FY 2017-18 AFTER SHARING OF GAINS (RS. CRORE) 32
TABLE 3.12: ANNUAL FIXED CHARGES FOR FY 2017-18 APPROVED BY THE COMMISSION (RS. CRORE) 33
TABLE 3.13: DETAILS OF AFC RECOVERED AND AFC BASED ON PAFM (RS. CRORE) 35
TABLE 3.14: SUMMARY OF NET TRUING-UP FOR FY 2017-18 (RS. CRORE) 36
TABLE 3.15: SUMMARY OF NET AMOUNT AS TRUED UP BY THE COMMISSION FOR FY 2017-18 (RS. CRORE) ... 36
TABLE 4.1: PROPOSED ADDITIONAL CAPITALISATION FOR FY 2018-19 (RS. CRORE) 38
TABLE 5.1: DEPRECIATION APPROVED BY THE COMMISSION FOR THE THIRD CONTROL PERIOD FROM FY 2019-20 TO FY 2021-22 (RS. CRORE) 45
TABLE 5.2: RETURN ON EQUITY APPROVED BY THE COMMISSION FOR FY 2019-20 TO FY 2021-22 (RS. CRORE) 45
TABLE 5.3: INTEREST ON LOAN APPROVED BY THE COMMISSION FOR THE THIRD CONTROL PERIOD FROM FY 2019-20 TO FY 2021-22 (RS. CRORE) 47
TABLE 5.4: O&M EXPENSES APPROVED BY THE COMMISSION FOR FY 2019-20 TO FY 2021-22 (RS. CRORE) ... 50
TABLE 5.5: INTEREST ON WORKING CAPITAL CLAIMED AND APPROVED BY THE COMMISSION FOR THE THIRD CONTROL PERIOD (RS. CRORE) 53

TABLE 5.6: ANNUAL FIXED CHARGES APPROVED BY THE COMMISSION FOR FY 2019-20 TO FY 2021-22 (RS. CRORE) 55

TABLE 5.7: CAPACITY CHARGE AND ENERGY CHARGE RATE APPROVED BY THE COMMISSION FOR THE THIRD CONTROL PERIOD.......... 56

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No.: 02 of 2019
And
Petition No.: 03 of 2019

In the Matter of:

Petition filed by M/s Greenko Budhil Hydro Power Pvt. Ltd. for true-up of AFC for FY 2017-18, Annual Performance Review for FY 2018-19 and Annual Fixed Charges for FY 2019-20 for Budhil Hydro Station of Greenko Budhil Hydro Power Pvt. Ltd. under Section 62 and Section 86 of the Electricity Act, 2003 read with the relevant Regulations and guidelines of the Uttarakhand Electricity Regulatory Commission.

AND

In the Matter of:

Petition filed by M/s Greenko Budhil Hydro Power Pvt. Ltd. seeking approval of the Business Plan, under Section 62 and Section 86(1)(a) of the Electricity Act, 2003, read with the Regulation 8 of UERC (Terms & Conditions for Determination of Multi Year Tariff) Regulations, 2018 and Regulation 40 of UERC (Conduct of Business) Regulations, 2014, for its 70 MW Budhil hydro-electric power project.

In the Matter of:

M/s Greenko Budhil Hydro Power Pvt. Ltd.
Plot No. #1366, Road No. 45,
Jubilee Hills, Hyderabad-500033 ...Petitioner

AND

In the Matter of:

Uttarakhand Power Corporation Ltd.
Urja Bhawan, Kanwali Road, Dehradun ...Respondent

Coram

Shri Subhash Kumar Chairman

Date of Order: February 27, 2019

Section 64(1) read with Section 61 and 62 of the Electricity Act, 2003 (hereinafter referred to as "the Act") requires the Generating Companies and the Licensees to file an application for determination of tariff before the Appropriate Commission in such manner and along with such fee as may be specified by the Appropriate Commission through Regulations.

In accordance with the relevant provisions of the Act, the Commission had notified Uttarakhand Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2015 (hereinafter referred to as "UERC Tariff Regulations, 2015") for the second Control Period from FY 2016-17 to FY 2018-19 and Uttarakhand Electricity Regulatory Commission (Terms and Conditions for Determination of Multi Year Tariff) Regulations, 2018 (hereinafter referred to as "UERC Tariff Regulations, 2018") for the third Control Period from FY 2019-20 to FY 2021-22 specifying therein terms, conditions and norms of operation for licensees, generating companies and SLDC. The Commission had issued the Order on approval of Business Plan and Multi Year Tariff dated 30.11.2016 for the Petitioner from 01.12.2015 to 31.03.2016 and for the second Control Period from FY 2016-17 to FY 2018-19. Subsequently, the Commission had issued the Order on ARR Petition for FY 2018-19 on 21.03.2018. In compliance with the provisions of the Act and Regulations 8(1) and Regulation 10(1) of UERC Tariff Regulations, 2018, M/s Greenko Budhil Hydro Power Pvt. Ltd. (hereinafter referred to as "M/s GBHPL" or "the Petitioner" or "the Generator") filed separate Petitions for approval of its Business Plan for the third Control Period from FY 2019-20 to FY 2021-22 (Petition No. 02 of 2019 hereinafter referred to as the "Business Plan Petition") and Multi Year Tariff Petition (Petition No. 03 of 2019 hereinafter referred to as the "MYT Petition") on 14.12.2018. The Petitioner, in its Business Plan Petition, has submitted the Capital Investment Plan, Financing Plan and trajectory of performance parameters for the third Control Period. Further, through the MYT Petition, the Petitioner has submitted the detailed calculations of its projected Aggregate Revenue Requirement for the third Control Period from FY 2019-20 to FY 2021-22 as per the UERC Tariff Regulations, 2018. Through the MYT Petition, the Petitioner has also requested for true up of FY 2017-18 based on the audited accounts in accordance with UERC Tariff Regulations, 2015.

The Business Plan Petition filed by the Petitioner had certain infirmities/deficiencies which were informed to the Petitioner vide Commission's letter no. UERC/6/TF-515/2018-19/1301 dated 18.12.2018 and the Petitioner was directed to rectify the said infirmities in the Petition and submit certain additional information necessary for admission of the Business Plan Petition. The Petitioner vide its letter dated 29.12.2018 submitted the information sought by the Commission. Based on the submission dated 29.12.2018 made by the Petitioner, the Commission provisionally admitted the Business Plan Petition for further processing subject to the condition that the Petitioner shall furnish any further information/clarifications as deemed necessary by the Commission during the processing of the Petition, as may be stipulated by the Commission, failing which the Commission may proceed to dispose of the matter as it deems fit based on the information available with it.

The MYT Petition filed by the Petitioner had certain infirmities/deficiencies. The Commission, accordingly, vide its letter no. UERC/6/TF-516/18-19/2018-19/2018/1300 dated 18.12.2018 directed the Petitioner to rectify the said infirmities in the Petition and submit certain additional information necessary for admission of the Petition. The Petitioner vide its letter dated 29.12.2018 removed the critical deficiencies. Based on the submission made by M/s GBHPL, the Commission provisionally admitted the MYT Petition for further processing subject to the condition that M/s GBHPL shall furnish any further information/clarifications as deemed necessary by the Commission during the processing of the Petitions, as may be stipulated by the Commission, failing which the Commission may proceed to dispose of the matter as it deems fit based on the information available with it.

This Order, accordingly, relates to the Business Plan Petition and the MYT Petition filed by M/s GBHPL for approval of the Business Plan and determination of Aggregate Revenue Requirement (ARR) and MYT for the third Control Period from FY 2019-20 to FY 2021-22 and Annual Performance Review for FY 2018-19 alongwith Truing up for FY 2017-18 and is based on the original as well as subsequent submission made by M/s GBHPL during the course of the proceedings and the relevant findings contained in the Tariff Order dated 30.11.2016 and 21.03.2018 issued by the Commission.

Tariff determination being the most vital function of the Commission, it has been the practice of the Commission to elaborate in detail the procedure and to explain the underlying principles in determination of tariffs. Accordingly, in the present Order also, in line with past practices, the Commission has tried to elaborate the procedure and principles followed by it in determining the ARR of the generator. The Aggregate Revenue Requirement of M/s GBHPL is recoverable from the beneficiary. It is the endeavour of the Commission, to issue Tariff Orders for M/s GBHPL concurrently with the issue of Order on retail tariffs for UPCL, so that UPCL is able to honour the payment liability towards generation charges of M/s GBHPL. For the sake of convenience and clarity, this Order has further been divided into following Chapters:

Chapter 1 - Background and Procedural History.

Chapter 2 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Business Plan for the third Control Period.

Chapter 3 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2017-18.

Chapter 4 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2018-19.

Chapter 5 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on MYT for the third Control Period.

1. Background and Procedural History

M/s GBHPL is a company incorporated under the Companies Act, 1956. M/s GBHPL is a generating company falling within the definition under sub-section 28 of Section 2 of the Act and has developed a 70 MW (2x35 MW) Hydro Electric power project (hereinafter referred to as the "Project"). The Petitioner had executed a PPA for supply of electricity from its 70 MW capacity hydro plant to the distribution licensee, i.e. UPCL and had initiated scheduling of power w.e.f. 01.12.2015. The Petitioner had filed a Petition for determination of tariff for supply of power from its project to UPCL from 01.12.2015 to 31.03.2016 and for the second Control Period from FY 2016-17 to FY 2018-19.

Subsequently, the Commission vide its Tariff Order dated 30.11.2016 had approved the Business Plan and Multi Year Tariff for M/s GBHPL for contracted capacity from 01.12.2015 to 31.03.2016 and for the second Control Period from FY 2016-17 to FY 2018-19. The Commission, on the approval of the Business Plan, approved the Capital Expenditure Plan, Capitalisation Plan, Human Resource Plan and Trajectory of the performance parameters and, in the approval of MYT, approved the Aggregate Revenue Requirement for each year of the second Control Period from FY 2016-17 to FY 2018-19. Subsequently, the Commission had carried out the true up of FY 2015-16 and FY 2016-17 and approved the Aggregate Revenue Requirement for FY 2018-19 vide Tariff Order dated 21.03.2018.

In accordance with the provisions of the Act and Regulations 8(1) and Regulation 10(1) of UERC Tariff Regulations, 2018, the Generating Companies are required to submit a Business Plan Petition and MYT Petition for determination of Aggregate Revenue Requirement latest by November 30 for the ensuing year before the Commission. M/s GBHPL vide letter dated 30.11.2018 requested the Commission to grant time extension of two weeks for filing of the True up Petition in compliance with the prevailing UERC Tariff Regulations. The Commission vide letter no. UERC/6/TF-507/18-19/1205 dated 04.12.2018 accepted the request of the Petitioner partly and granted the time extension of 10 days for filing of the Petitions.

In compliance with the Regulations, M/s GBHPL filed the Business Plan Petition and MYT Petition for determination of ARR/transmission tariff for the third Control Period from FY 2019-20 to FY 2021-22 alongwith the true up of expenses for FY 2017-18 based on the audited books of accounts on 14.12.2018. The Commission sought certain information from the Petitioner for the purpose of admittance of the Petition. M/s GBHPL submitted the required information vide its submissions dated 29.12.2018. Based on the submission made by M/s GBHPL, the Commission provisionally admitted the Business Plan Petition and MYT Petition. Further, in order to provide transparency to the process of tariff determination and give UPCL an opportunity to submit their objections/suggestions/comments on the proposals of M/s GBHPL, the Commission sent the copy of the tariff proposals to UPCL, however, the Commission has not received any objections/ suggestions/comments from UPCL in this regard till the date of the Order. Meanwhile, based on the scrutiny of the Petition submitted by M/s GBHPL, the Commission had pointed out certain data gaps in the Business Plan Petition & MYT Petition and sought following additional information/ clarifications from the Petitioner:

- Month wise major shut down details for the third Control Period;
- Updated status of proposed works for FY 2018-19;
- Trial Balance for FY 2017-18 and upto September, 2018;
- Reports of Independent Agency with regard to additional capitalisation incurred for FY 2017-18;
- Detailed break-up of Repair and Maintenance;
- Justification for lesser generation than design energy during FY 2016-17.

The submissions made by M/s GBHPL in the Petition as well as additional submissions have been discussed by the Commission at appropriate places in the Order along with the Commission’s views on the same.

2. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Business Plan for the third Control Period

2.1 Statutory Requirement

The Commission had notified UERC Tariff Regulations, 2015 on 10.09.2015 in accordance with the provisions of the Act. The above Regulations were applicable for determination of Tariff for the second Control Period from FY 2016-17 to FY 2018-19. Further, the Commission notified the UERC Tariff Regulations, 2018 on 14.09.2018 applicable for the third Control Period from FY 2019-20 to FY 2021-22.

2.2 Multi-year Framework

As regards the Multi Year Tariff Framework, Regulation 4 of UERC Tariff Regulations, 2018 specifies as follows:

"4. Multi Year Framework

The Multiyear tariff framework shall be based on the following:-

a) Business plan submitted by the applicant for the entire control period for the approval of the Commission prior to the beginning of the control period;

b) Applicant's forecast of expected ARR for each year of the control period, based on reasonable assumptions and financial & operational principles/parameters laid down under these Regulations submitted alongwith the MYT petition for determination of Aggregate Revenue Requirement and Tariffs for first year of the control period;

c) Review of control period ending on 31.03.2019 shall also be taken up alongwith the ARR/Tariff petition for the first year of ensuing control period;

d) Trajectory for specific parameters as may be stipulated by the Commission based on submissions made by the Licensee, actual performance data of the Applicants and performance achieved by similarly placed utilities;

e) Annual review of performance shall be conducted vis-à-vis the approved forecast and categorization of variations in performance into controllable factors and uncontrollable factors;

f) Sharing of excess profit or loss due to controllable and uncontrollable factors as per provisions of these Regulations."

2.3 Business Plan for the third Control Period

Regarding Business Plan, Regulation 8 of UERC Tariff Regulations, 2018 specifies as follows:

"**8. Business Plan**

(1) An Applicant shall submit, under affidavit and as per the UERC Conduct of Business Regulations as amended from time to time, a Business Plan by November 30th, 2018, for the Control Period of three (3) financial years from April 1, 2019 to March 31, 2022;

a) The Business Plan for the Generating Company shall be for the entire control period and shall, interalia, contain:

(i) Capital investment plan, which shall include details of the investments planned by the Generating Company for existing stations alongwith its cost-benefit analysis, yearly phasing of capital expenditure alongwith the source of funding, financing plan and corresponding capitalisation schedule. This plan shall be commensurate with R&M schemes and proposed efficiency improvements for various plants of the company;

(ii) The capital investment plan shall show separately, on-going projects that will spill over into the years under review, and new projects (along with justification) that will commence in the years under review but may be completed within or beyond the tariff period;

(iii) The Generating Company shall submit plant-wise details of the capital structure and cost of financing (interest on debt and return on equity), after considering the existing market conditions, terms of the existing loan agreements, risks associated in generation business and creditworthiness;

(iv) Details related to major shut down of machines, if any;

(v) Trajectory of performance parameters

...

(2) The Applicant shall also submit the details in respect of its manpower planning for the Control Period as part of Business Plan.

(3) The Commission shall scrutinize and approve the business plan after following the due consultation process."

In accordance with Regulation 8 of the UERC Tariff Regulations, 2018, M/s GBHPL submitted the Business Plan for the third Control Period from FY 2019-20 to FY 2021-22. M/s GBHPL in its Business Plan Petition and subsequent submissions has submitted the trajectory of Performance parameters, Capitalization Plan and Financing Plan for the third Control Period from FY 2019-20 to FY 2021-22. The Petitioner's submissions and the Commission's analysis on approval of Business Plan submitted by M/s GBHPL for the third Control Period are detailed below:

2.3.1 Proposed Additional Capitalisation

With regard to additional capitalisation, Regulation 22 of UERC Tariff Regulations, 2018 specifies as follows:

"22. Additional Capitalisation and De-capitalisation

1) *The following capital expenditure within the original scope of work actually incurred or projected to be incurred after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

    a) *Undischarged liabilities;*

    b) *Works deferred for execution;*

    c) *Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 21(11);*

    d) *Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*

    e) *On account of change in law.*

    Provided that the details included in the original scope of work along with estimates of expenditure, deferred liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

2) *The capital expenditure of the following nature actually incurred after the cut-off date may be admitted by the Commission, subject to prudence check:*

    a) *Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*

    b) *Change in law;*

    c) *Works deferred for execution within the original scope of work;*

    d) *Any liability for works admitted by the Commission after the cut-off date to the extent of* *discharge of such liabilities by actual payments;*

e) *Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*

f) *In case of hydro generating stations, any additional 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), including due to geological surprises, after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*

g) *Provided that additional capitalisation on this account would only be allowed if appropriate and adequate insurance cover was available at the time of occurrence of natural calamities referred to above;*

h) *In case of transmission and distribution system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard, equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission or distribution system:*

i) *In case of replacement of any asset/equipment (e.g. transformer, circuit breaker, C.T.,P.T. etc.) on account of non-performance/failure of the same, the following approach shall be adopted:*

   (i) *In case of non-performance/failure of assets/equipment, it shall be sent to Store for assessment to check whether it is repairable or not at zero cost;*

   (ii) *In case the asset is repairable, then such asset/equipment shall not be retired from Books of Assets.*

Provided, proper tracking should be available for the material like location, asset number etc.

(iii) *In case the asset is not repairable, then following process shall be carried out:*

- *The asset is retired from the Books of Assets, at depreciated value.*
- *Transfer the failed assets/equipments from failed to scrap material.*
- *Dismantle it into of scrap inventory like iron, brass etc.*
- *Build up scrap inventory.*

Provided, exercise of dismantling of scrap inventory and build-up of scrap inventory shall be done simultaneously. Dismantled scrap value would be decided on the basis of last scrap sale value. Control Account (Dismantling) will be expense account. Difference of Control account, i.e. either profit or loss shall be booked accordingly.

(iv) *In case a new asset/equipment is issued, then it will be issued at weighted average cost and capitalized respectively, and accordingly, new asset would be created and corresponding entries shall be done in the Books of Accounts.*

3) *In case of de-capitalisation of assets of a generating company or the distribution licensee or the transmission licensee or SLDC, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."*

The Petitioner has proposed the following additional capitalisation for the third Control Period from FY 2019-20 to FY 2021-22:

Table 2.1: Proposed Additional Capitalisation for FY 2019-20 (Rs. Crore)

S.No.	Particulars	Total Amount
	E&M	
1	Thrust collar for Unit #1	3.00
2	Supply, erection testing & commissioning of Battery charger, battery bank & DCDB in PH and GIS	0.40
3	400 sqmm cable for Unit#1	0.20
4	Supply, erection testing & commissioning of Excitation panel with recommended spares	0.60
	Sub-Total	**4.20**
	Civil	
5	Construction of Hazard waste store at PH	0.03
6	Slope stablilisation & protection work behind staff colony & near Power house.	0.60
7	Construction of single room workers accommodation at PH	0.50
8	Construction of permanent security check post at Dam & PH	0.05
9	Construction of canopy in front of Main Access Tunnel & Ventilation Tunnel	0.08
10	Cladding work with pre-painted CGI sheets in PH	0.06
11	Providing Permanent kota stone flooring at MIV floor	0.10
12	Establishment of site store inside PH	0.10
	Sub-Total	**1.52**
	Transmission Line	
13	Protection work at Dharwala near Tower-58	0.25
14	Shifting of conductor to increase ground clearance	0.04
	Sub-Total	**0.29**
	Total for FY 2019-20	**6.01**

Table 2.2 Proposed Additional Capitalisation for FY 2020-21 (Rs. Crore)

S.No.	Particulars	Total Amount
	E&M	
1	Supply, erection testing & commissioning of Generator protection panel (unit 2)	0.25
2	Supply, erection, testing & commissioning of Line Protection panel	0.15
3	Supply, erection testing & commissioning of Bus bar protection panel	0.15
4	Manufacturing of new spare one runner	1.20
5	Manufacturing of top & bottom cover	0.25
6	Air conduct for cable tunnel	0.08
7	Installation of floating boom mechanism for the trash big logs and others floating debris	0.05
8	Replacement of existing drainage pipe from drainage to service way	0.05
	Sub-Total	**2.18**
	Civil	
9	Providing side cladding with CGI sheet both side of MAT	0.15
10	Protection work & site development back side GIS Building & Transformers yard	0.25
11	Protection work near of Power House left bank of Ravi river	0.70
12	Access road to Dam Site soling and concreting from security check post to dam top	0.25
13	Construction of permanent panel room in Gantry Operated Cavern at PH & Dam	0.12
14	Construction staff quarters (Executives residence) at PH	2.00
15	Construction of DG room at Dam site	0.10
16	Construction of Store room at Dam site	0.08
17	Construction of sound proof cabin inside PH	0.15
18	Construction of fire wall inside ventilation Tunnel for fire control	0.03
	Sub-Total	**3.83**
	Total for FY 2020-21	**6.01**

Table 2.3: Proposed Additional Capitalisation for FY 2021-22 (Rs. Crore)

S.No.	Particulars	Total Amount
	E&M	
1	Supply erection & testing of separate water operated OPU for MIV seals	0.20
2	Establishment of dam SCADA system & interfacing with Budhil PH with main SCADA	1.30
3	New turbine governor for unit-I & II	1.00
4	400 sqmm cable for Unit#2	0.20
5	LGB cooler	0.12
6	5T fork Lifter/Mini loader	0.10
	Sub-Total	**2.92**
	Civil	
7	Dam down-stream scouring	2.00
8	Providing side cladding with CGI sheet at Turbine & Generator floor	0.10
9	Permanent staff accommodation at dam site	0.40
10	Black toping/concrete work dam approach road zero RD to security check post L-300 mts	0.30
	Sub-Total	**2.80**
	Total for FY 2021-22	**5.72**

With regard to additional capitalisation claimed for Thrust Collar for unit#1 of the plant during FY 2019-20, the Petitioner has submitted that Unit#1 is running at high vibration, which causes shooting up of bearing temperatures, during any tripping. Hence, the activity is required for smooth functioning of the Plant. In the matter, the Commission asked the Petitioner to submit the updated status of work and mode of execution of work. In reply, the Petitioner submitted that the work will start by November, 2019 and will be completed by December, 2019. Further, with regard to proposed additional capitalisation pertaining to 'Supply, erection testing & commissioning of Battery charge, Battery & DCDB in PH and GIS', the Petitioner submitted that the said work is required due to verbal communication made by Department of Energy, Govt. of H.P.

The Commission has examined all the submissions made by the Petitioner pertaining to proposed additional capitalisation for the third Control Period and observed that the works are in initial stage or PO/WO are yet to be awarded for the execution of proposed works. Moreover, the Petitioner has not justified the proposed additional capitalisation in accordance with Regulation 22(2)(e) of UERC Tariff Regulations, 2018 duly substantiated with the technical justification and supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level. Accordingly, at present the Commission is not considering the capitalisation proposed for the third Control Period, however, the same shall be considered at the time of truing up of the respective years based on the actual expenditure as per the audited accounts and in accordance with the provisions of MYT Regulations after prudence check.

2.3.2 Financing Plan

The Petitioner submitted that the capital expenditure proposed to be incurred in FY 2019-20, FY 2020-21 and FY 2021-22 are to be financed by way of equity/internal resources. As mentioned above, the Commission has not considered the additional capitalisation for the third Control Period. However, based on the actual admissible additional capitalization and actual financing, truing up will be done for the purpose of determination of Tariff in accordance with the UERC Tariff Regulations, 2018.

2.3.3 Major shutdown plan for the plant

2.3.3.1 Maintenance Plan

The availability of a generating unit is dependent on the outages considered for the unit, both forced and planned. The well thought and planned maintenance program will result in the maximum equipment availability and optimization of maintenance costs. The forced outages are minimized by having a robust maintenance plan, the planned outages are necessary for the smooth functioning of the unit with improved reliability and availability. The Petitioner has submitted the proposed shutdown plan for the project during the Control Period as given in the Table below:

Table 2.4: Details of major shutdown of the Plant for the third Control Period

S. No.	Year	Particular	Start	End	Calendar Days
1	FY 2019-20	Replacement of Thrust collar and capital maintenance of Unit #1 and silt removal	16.11.2019	30.12.2019	45
2		Annual maintenance of Unit #2 and silt removal	02.01.2020	31.01.2020	30
3	FY 2020-21	Capital maintenance of Unit #2 and silt removal	15.11.2020	29.12.2020	45
4		Annual maintenance of Unit #1 and silt removal	02.01.2021	31.01.2021	30
5	FY 2021-22	Annual maintenance of Unit #1 and silt removal	10.12.2021	30.12.2021	21
6		Capital maintenance of Unit #2 and silt removal	02.01.2022	22.01.2022	21

2.3.4 Trajectory of Performance Parameters

2.3.4.1 Design Energy, Auxiliary Energy Consumption and Saleable Primary Energy

The Petitioner in its Petition has projected energy generation from its project for the third Control Period same as that approved for the second Control Period from FY 2016-17 to FY 2018-19.

Accordingly, the Commission approves saleable primary energy after deducting the normative auxiliary consumption of 1.2% and adjusting home State share as 246.52 MU for the third Control Period.

2.3.4.2 Normative Annual Plant Availability Factor (NAPAF)

Regulation 47 of UERC Tariff Regulations, 2018 specifies as follows:

"(b) For existing hydro generating stations:

The trajectory for NAPAF fixed by the Commission in case of existing hydro generating stations, in the preceding Control Period would continue to be applicable. However, the NAPAF of the stations undergone RMU would be adjusted accordingly, considering the impact of RMU."

Further, the Petitioner has submitted that proposed additional capitalisation for the third Control Period shall enable it to maintain NAPAF as per UERC Tariff Regulations, 2018, i.e. 85%. Accordingly, the Commission is of the view that the NAPAF of 85% approved in the Tariff Order dated 30.10.2016 for the second Control Period shall continue to be applicable for the third Control Period as well without any change, in accordance with the Regulations.

3. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2017-18

Regulation 12 of the UERC Tariff Regulations, 2015 specifies as follows:

"12. Annual Performance Review

(1) Under the multi-year tariff framework, the performance of the Generating Company or Transmission and Distribution Licensees or SLDC, shall be subject to an Annual Performance Review.

(2) The Applicant shall under affidavit and as per the UERC (conduct of Business) Regulations 2004 make an application for Annual Performance Review by November 30th of every year;

…

(3) The scope of the Annual Performance Review shall be a comparison of the performance of the Applicant with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise of following:

a) A comparison of the audited performance of the applicant for the previous financial year with the approved forecast for such previous financial year and truing up of expenses and revenue subject to prudence check including pass through of impact of uncontrollable factors;

b) Categorisation of variations in performance with reference to approved forecast into factors within the control of the applicant (controllable factors) and those caused by factors beyond the control of the applicant (un-controllable factors).

c) Revision of estimates for the ensuing financial year, if required, based on audited financial results for the previous financial year;

d) Computation of the sharing of gains and losses on account of controllable factors for the previous year"

In its present filing, the Petitioner has submitted the data related to its expenses and revenues for FY 2017-18 for the contracted capacity of the generating station based on the audited accounts and has, accordingly, requested the Commission to carry out the truing up for FY 2017-18 as per UERC Tariff Regulations, 2015 alongwith the sharing of gains and losses.

3.1 Impact of Sharing of Gains and Losses on account of Controllable Factors for FY 2017-18

Regulation 14 of the UERC Tariff Regulations, 2015 specifies as follows:

"14. Sharing of Gains and Losses on account of Controllable factors:

The approved aggregate gain and loss to the Applicant on account of controllable factors shall be dealt with in the following manner:

(a) 1/3rd of such gain or loss shall be passed on as a rebate or allowed to be recovered in tariffs over such period as may be specified in the Order of the Commission;

(b) The balance amount of such gain or loss may be utilized or absorbed by the Applicant."

The above referred Regulations requires a comparison of the audited performance of the applicant for the previous financial year with the approved forecast for such previous financial year and truing up of expenses and revenues subject to prudence check including pass through of impact of uncontrollable factors.

O&M expenses comprises of the major portion of AFC of M/s GBHPL and are within the control of the Petitioner and, moreover, in accordance with UERC Tariff Regulations, 2015 these are controllable expenses. Similarly, in accordance with applicable Tariff Regulations, the variation in working capital requirement is also a controllable factor. Hence, the sharing of gains and losses has been carried out for these expenses. While the capital related expenses like interest on loans, depreciation etc. have been treated as uncontrollable and, hence, no sharing of losses or gains for the same has been carried out.

3.1.1 Physical Parameters

3.1.1.1 NAPAF

The Commission vide its Order dated 26.12.2016 on approval of PPA for the Petitioner's plant approved the NAPAF, in accordance with Regulation 3(54) of the UERC Tariff Regulations, 2015, as follows:

""Normative Availability" or "Target Availability" Or Normative Annual Plant Availability Factor (NAPAF) shall mean Eighty Five (85%) Availability of aggregate Contracted Capacity at the Delivery Point on Contract Year Basis. However UPCL may vary the Availability Factor on monthly basis as required by

UPCL but maintaining the NAPAF at 85% yearly basis."

As per the prevailing UERC Tariff Regulations, NAPAF is 85% for the hydro plant of the Petitioner. However, the Commission vide its Tariff Order dated 30.11.2016 had relaxed the relevant Regulations and allowed the recovery of AFC for FY 2015-16 through a single-part tariff and also fixed the NAPAF of 85% for the second Control Period from FY 2016-17 to FY 2018-19 in accordance with the Regulations. Relevant extract of the said Order is as follows:

"From the above and similar provisions specified in MYT Regulations, 2015 it is apparent that the 50% of AFC is allowed to be recovered from energy charges and remaining 50% of AFC is to be recovered through 50% capacity charges. The Petitioner initiated supply of power w.e.f. December, 2015, i.e. during lean period of FY 2015-16, hence, it would not be appropriate to apply regulations for the recovery of AFC by way of energy charge and capacity charge since it would be difficult in achieving PAF equivalent to NAPAF while considering supply from Hydro Project during the lean period only. Accordingly, the Commission while relaxing the relevant regulations, allows recovery of AFC for FY 2015-16 through a single-part tariff, i.e. based on total AFC and saleable energy only. However, for the ensuing control period FY 2016-17 to FY 2018-19, recovery of AFC shall be carried out in accordance with the regulations based on the stipulated NAPAF of 85%."

Subsequently, a meeting was conducted on 07.07.2017 in the Commission's office on the request of the Petitioner to clarify the process of adjustment of tariff for the project for FY 2016-17 in accordance with UERC Tariff Regulations, 2015 and difficulties faced by SLDC in verification of declared capacity. It was agreed during the meeting that recovery of AFC may be done by the Generator through a single-part tariff till 30.11.2016 due to inability of SLDC to validate the Declared Capacity because of non-availability of declared capacity prior to 30.11.2016 and through two-part tariff thereafter. The relevant extract of the minutes of meeting is as follows:

"With regard to UPCL's comment on Point 7 that deals with two part tariff, UPCL submitted that the total design energy considered for recovery of AFC, as per Tariff Order, is 246.52 MU but the generator has delivered 235.01 MU in FY 2016-17. The issue relevant in the matter was that prior to November, 2016 the generator was not declaring their capacity to UPCL. Infact SLDC also expressed its inability to validate the declared capacity prior to November, 2016. Hence, it was agreed during the meeting held on 07.07.2017 that recovery of fixed charges may be done by the generator by way of single part till 30.11.2016 due to inability of SLDC to validate the Declared Capacity because of non availability of declared capacity prior to 30.11.2016 and subsequently by two part tariff in accordance

with the Regulations. Accordingly, as far as comments of UPCL, in the aforesaid matter, are concerned the Commission is of the view that the Regulations provides for recovery of tariff in two parts, i.e. through energy charges which are directly linked to the generation and capacity charges, which are linked with the plant availability. UPCL has referred that since the generator has delivered only 235 MU against the design energy of 246 MU, hence, the amount corresponding only to the same may be allowed to the generator. The same is against the Regulations and cannot be considered."

Accordingly, the Commission had relaxed the relevant regulations for recovery of AFC through a single-part tariff till 30.11.2016. Subsequent to 30.11.2016, recovery of AFC was carried out in accordance with the Regulations based on the stipulated NAPAF of 85% for FY 2016-17.

Accordingly, the Commission is of the view that the NAPAF of 85% approved in the Tariff Order dated 30.11.2016 for FY 2016-17 (from 01.12.2016 onwards), shall continue to be applicable without any change for FY 2017-18.

3.1.1.2 Design Energy and Saleable Primary Energy

The Commission in its Tariff Order dated 30.11.2016 on approval of Business Plan and Multi Year Tariff for the second Control Period from FY 2016-17 to FY 2018-19 had approved the Design Energy of 283.54 MUs in accordance with the Regulations, 2015 after making necessary adjustment for mandatory discharge of water. Further, the Commission, in accordance with the implementation agreement signed by the Petitioner with GoHP and normative auxiliary consumption @ 1.2% for the under-ground stations had approved the saleable energy for the project as 246.52 MUs for the first 12 years from CoD and 229.71 MUs for the balance life of the project. The Commission decides to maintain the design energy and saleable primary energy as considered in the Tariff Order dated 30.11.2016 for the project.

3.1.2 Financial Parameters

3.1.2.1 Capital Cost

Regulation 21 (2) of UERC Tariff Regulations, 2015 specifies as under:

"The Capital cost of an existing project shall include the following:

a) The capital cost admitted by the Commission prior to 01.04.2016 duly trued up as on 01.04.2016;

b) Additional capitalisation and de-capitalisation for the respective year of tariff as determined in *accordance with Regulation 22; and*

c) *Expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulations 23."*

The Petitioner has claimed Opening GFA amounting to Rs. 518.77 Crore as on 01.04.2017. The Commission, vide its Tariff Order dated 21.03.2018, had approved the Opening GFA and net additional capitalisation amounting to Rs. 505.50 Crore and Rs. 13.27 Crore respectively for FY 2016-17 for the Petitioner's plant. Accordingly, the Commission has considered the approved closing capital cost, i.e. Rs. 518.77 Crore (Rs. 505.50 Crore *plus* Rs. 13.27 Crore) for FY 2016-17 as opening capital cost for the purpose of truing up for FY 2017-18.

3.1.2.2 Additional Capitalisation

Regulation 22 of UERC Tariff Regulations, 2015 specifies as under:

"(1) The following capital expenditure within the original scope of work actually incurred or projected to be incurred after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

a. Undischarged liabilities;

b. Works deferred for execution;

c. Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 21(11);

d. Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

e. On account of change in law.

Provided that the details included in the original scope of work along with estimates of expenditure, deferred liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

(2) The capital expenditure of the following nature actually incurred after the cut-off date may be admitted by the Commission, subject to prudence check:

a. Liabilities to meet award of arbitration or for compliance of the order or decree of a court;

b. Change in law;

c. Works deferred for execution within the original scope of work;

d. Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

e. Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

f. In case of hydro generating stations, any additional 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), including due to geological surprises, after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

Provided that additional capitalisation on this account would only be allowed if appropriate and adequate insurance cover was available at the time of occurrence of natural calamities referred to above;

g. xxx

*h. **xxx***

(3) ..."

The Commission vide its Tariff Order dated 21.03.2018 had approved the additional capitalisation of Rs. 8.13 Crore for FY 2017-18. In the present Petition, the Petitioner has claimed additional capitalisation of Rs. 7.04 Crore during FY 2017-18 which reconciles with the audited annual accounts for FY 2017-18. Details of the same are given in the Table below:

Table 3.1: Additional Capitalisation claimed for FY 2017-18 (Rs. Crore)

S. No.	Description	Amount	Justification
1	Construction & Commissioning of Fire fighting tank & Fire Hydrant	0.52	The exiting CGI sheet fire tank had water leakages and was under the rock falling area. Accordingly, construction of the new Fire fighting tank at a safer, water source location and re-commissioning the Fire Hydrant for the safety of plant has been carried out.
2	Refurbishment of Plant SCADA and Automation	4.94	The Plant was under operation without vibration monitoring system. The vibration monitoring is very essential for the real time health monitoring system of the TG Unit. So as to prevent any potential problems occurring in later stage, the existing SCADA was not properly integrated. The works have been taken up with plant automation with continuous health monitoring system for smooth and efficient operation.
3	River Training and Flood Protection works	1.50	Dam downstream river protection works to prevent scouring.
4	Vehicles	0.08	The existing vehicle has been in operation for more than 10 years running in hilly area and thus, had not been reliable for operating in hills. Hence, new vehicle was required for working at the hydro plant.
5	Computer Peripherals	0.01	Computer peripherals in existence have been quite outdated.
	Total	**7.04**	

With regard to the additional capitalisation incurred for FY 2017-18, the Petitioner submitted that it has claimed additional capitalisation under Regulation 22(2) of UERC Tariff Regulations, 2015. The Petitioner also submitted that the project has been in operation for about 7 year and requires strengthening of its civil structure and electrical equipments. The plant de-silting chamber and Head Race tunnel being exposed to geological stresses are required to be strengthened at regular intervals. The Petitioner also submitted that in order to ensure the efficiency, safety and continuous operation of the plant, the additional capitalisation was required to be incurred.

It is pertinent to mention that the Commission vide its Tariff Order dated 21.03.2018 had provisionally approved the projected additional capitalisation of Rs. 8.13 Crore for FY 2017-18 and directed the Petitioner to provide proper justification for the additional capitalisation in accordance with Regulation 22(2) of the UERC Tariff Regulations, 2015 duly substantiated with the technical justification and supported by the documentary evidence carried out by an independent agency at the time of truing up for FY 2017-18. The relevant extract of the Tariff Order dated 21.03.2018 is as follows:

"The Commission in the current proceedings is provisionally considering the additional capitalisation proposed by the Petitioner for FY 2017-18. However, during the truing up proceedings

for FY 2017-18, the Petitioner will be required to justify the additional capitalisation in accordance with Regulation 22(2) of the UERC Tariff Regulations, 2015 duly substantiated with the technical justification and supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level alongwith the purchase orders, bills/vouchers for the said work."

The Petitioner submitted the PO/WO, invoices raised by the vendor alongwith the report/ MoM of the independent agency in support of the additional capitalisation incurred for FY 2017-18. The Commission has examined the findings and suggestions of the report/MoM submitted by the independent agency for 'River Training and Flood Protection works' & 'Refurbishment of Plant SCADA and Automation' and observed that the works were essential for the smooth functioning and operation of the Petitioner's hydro plant.

The Commission has gone through all the submissions made by Petitioner w.r.t. additional capitalisation for FY 2017-18 and finds it in accordance with Regulation 22(2) of UERC Tariff Regulations, 2015. The Commission approves the additional capitalisation of Rs. 7.04 Crore as claimed by the Petitioner for the purpose of truing up of FY 2017-18 after prudence check.

Accordingly, based on the above discussions, the details of the trued up capital cost for FY 2017-18 is as follows:

Table 3.2: Approved Gross Fixed Assets for FY 2017-18 (Rs. Crore)

S. No.	Particular	Opening GFA	Addition	Closing GFA
1.	Freehold Land	0.87	0.00	0.87
2.	Leasehold Land	7.18	0.00	7.18
3.	Buildings	60.52	0.00	60.52
4.	Other Civil Works	224.60	1.50	226.10
5.	Hydraulic Mechanical Works	31.72	0.00	31.72
6.	Plant & Machinery	192.75	5.45	198.20
7.	Vehicles	0.23	0.08	0.32
8.	Furniture and Fixtures	0.24	0.00	0.24
9.	Office Equipment	0.61	0.00	0.61
10.	Computers	0.02	0.01	0.03
11.	Computer Software	0.01	0.00	0.01
	Total	**518.77**	**7.04**	**525.81**

3.1.2.3 Capital Structure

Regulation 24 of UERC Tariff Regulations, 2015 specifies as under:

*"**24. Debt-Equity Ratio***

(1) For a project declared under commercial operation on or after 1.4.2016, debt-equity ratio shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as normative loan. Where actual equity employed is less than 30%, the actual equity would be used for determination of Return on Equity in tariff computations.

...

...

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall service in the matter specified in Regulation 22 and 23 of these Regulations.

(6) In case of Generating Company, Transmission Licensee, Distribution Licensee, or SLDC where investments have been made prior to 1.4.2016, Debt: Equity Ratio shall be as approved by the Commission in the previous Orders."

The Commission vide its Tariff Order dated 21.03.2018 had approved Debt-Equity Ratio of 70:30 as on 31.03.2017 which has been considered in the present Petition also. Further, as per the submissions of the Petitioner, entire capitalisation for FY 2017-18 has been done through equity/internal accruals only. In accordance with the aforesaid Regulations, the amount of equity for the purpose of tariff determination has been limited to 30% and equity in excess of 30% has been considered as normative loan for the purpose of determination of tariff.

Accordingly, based on the above discussion, capital structure as on 01.04.2017 and additional capitalisation for FY 2017-18, is as follows:

Table 3.3: Financing for capitalisation for FY 2017-18

Particular	Opening Capital structure as on 01.04.2017		Approved addition during the year		Closing capital structure as on 31.03.2018	
	(Rs. Crore)	%	(Rs. Crore)	%	(Rs. Crore)	%
Debt	363.13	70.00	4.93	70.00	368.06	70.00
Equity	155.64	30.00	2.11	30.00	157.75	30.00
Total	**518.77**	**100.00**	**7.04**	**100.00**	**525.81**	**100.00**

3.1.2.4 Depreciation

Regulation 28 of the UERC Tariff Regulations, 2015 specifies as follows:

*"28. **Depreciation***

(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer Contribution and Capital Subsidies/Grants.

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

...

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix - II to these Regulations.

..."

The Petitioner submitted that the depreciation has been charged at the rates specified by the Commission in UERC Tariff Regulations, 2015 for FY 2017-18. The Petitioner has claimed depreciation of Rs. 25.97 Crore for FY 2017-18.

It is pertinent to mention that the Commission vide its Tariff Order dated 30.11.2016 had considered additional capitalisation pertaining to Foundation work, grouting, works for De-silting chamber, Head Race Tunnel, Road to dam etc. under the head of 'Other civil works' and had worked out depreciation accordingly. In the present Petition, following the same methodology, the additional capitalisation pertaining to 'River Training and Flood Protection works' has been considered under the head 'other civil works'. Accordingly, allowable depreciation works out to Rs. 26.24 Crore for FY 2017-18 whereas the Petitioner has erroneously considered the said additional capitalisation under the head 'Building' and claimed depreciation of Rs. 25.97 Crore for FY 2017-18 based on the UERC Tariff Regulations, 2015.

Details of the depreciation as approved in the Tariff Order, claimed by the Petitioner and trued up for FY 2017-18 is as follows:

Table 3.4: Depreciation approved for FY 2017-18 (Rs. Crore)

Particular	Approved in Tariff Order dated 30.11.2016	Claimed	Approved
Depreciation	25.39	25.97	26.24

3.1.2.5 *Return on Equity (RoE)*

Regulation 26 of the UERC Tariff Regulations, 2015 specifies as follows:

"26. Return on Equity

(1) Return on equity shall be computed on the equity base determined in accordance with Regulation 24.

Provided that, Return on Equity shall be allowed on account of allowed equity capital for the assets put to use at the commencement of each financial year.

(2) Return on equity shall be computed on at the base rate of 15.50% for thermal generating stations, transmission licensee, SLDC and run of the river hydro generating station and at the base rate of 16.50% for the storage type hydro generating stations and run of river generating station with pondage and distribution licensee on a post-tax basis."

The Petitioner has claimed Return on Equity amounting to Rs. 25.68 Crore for FY 2017-18. As per the aforesaid Regulations, the Commission has allowed Return on Equity at the rate of 16.50% on the opening admissible normative equity of Rs. 155.64 Crore which works out to Rs. 25.68 Crore for FY 2017-18 in accordance with Regulation 26 of UERC Tariff Regulations, 2015. Detail of the Return on Equity claimed and trued up for FY 2017-18 is as follows:

Table 3.5 : Return on Equity approved for FY 2017-18 (Rs. Crore)

Particular	Approved in Tariff Order dated 30.11.2016	Claimed	Approved
Return on Equity	25.04	25.68	25.68

3.1.2.6 *Interest on Loans*

Regulation 27 of the UERC Tariff Regulations, 2015 specifies as follows:

"27. Interest and finance charges on loan capital and on Security Deposit

(1) The loans arrived at in the manner indicated in Regulation 24 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2016 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2016 from the gross normative loan.

(3) The repayment for each year of the Control Period shall be deemed to be equal to the depreciation allowed for that year

…

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

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

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

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

…"

The Petitioner submitted that for the purpose of the calculation of interest on loan, normative debt has been considered as 70% of additional capitalisation and, accordingly, it has claimed interest on normative loan of Rs. 26.20 Crore for FY 2017-18 for the purpose of truing up based on the weighted average rate of interest of 11% p.a., i.e. interest rate of Non-Convertible debentures.

The Commission had approved the normative net closing loan of Rs. 248.58 Crore for FY 2016-17 in its Tariff Order dated 21.03.2018. The same has been considered as normative net opening loan for FY 2017-18. Further, 70% of the additional capitalisation approved for FY 2017-18 has been considered as addition to normative loan which works out to Rs. 4.93 Crore and repayment has been considered equivalent to admissible depreciation, i.e. Rs. 26.24 Crore. Hence, interest on normative loan works out to Rs. 26.17 Crore considering the interest rate @ 11% p.a.

Further, as far as Bank Charges are concerned, the Commission is of the view that such expenses are part of finance charges. Furthermore, it has been observed from the submission of the Petitioner that the Petitioner has considered Rs. 0.55 Crore pertaining to 'Bank & Other charges' as a part of A&G expenses as per audited annual accounts for FY 2017-18. The Commission observed that the 'Bank & Other Charges' are inclusive of 'Rebate on sale of Power' of Rs. 0.36 Crore. With regard to such rebate, the Commission is of the view that timely payment rebate is a commercial arrangement between two parties to save on working capital requirement and, therefore, the expenses arising out of the same cannot be passed on to the consumers and, accordingly, the same has not been considered as a part of A&G expenses for the purpose of sharing of gains or losses. Accordingly, the amount of Rs. 0.19 Crore pertaining to Bank Charges for FY 2017-18, actually incurred by the Petitioner as per the audited accounts, has been allowed by the Commission as a part of the finance cost of FY 2017-18 on actual basis.

Based on the above, details of the interest claimed and allowed during the truing up for FY 2017-18 is given in the Table below:

Table 3.6: Interest on Normative Loan for FY 2017-18 (Rs. Crore)

Particular	Approved in Tariff Order	Claimed by Petitioner	Approved
Interest on Normative Loan	25.02	26.20	26.36*

**inclusive of bank charges actually incurred as per audited accounts.*

3.1.2.7 Operation & Maintenance (O&M) Expenses

3.1.2.7.1 Truing up of O&M Expenses for FY 2017-18

Regulation 48 of UERC Tariff Regulations, 2015 specifies as follows:

"48. Operation and Maintenance Expenses

…

(2) For Hydro Generating Stations

(a) For Generating Stations in operation for more than five years preceding the Base Year

…

(b) For Generating Stations in operation for less than 5 years preceding the base year:

In case of the hydro-electric generating stations, which have not been in existence for a period of five years preceding the base year, i.e. FY 2014-15, the operation and maintenance expenses for the base year of FY 2014-15 shall be fixed at 2.0% of the capital cost as admitted by the Commission for the first year of operation and shall be escalated from the subsequent year in accordance with the escalation principles specified in clause (e) below.

(c) For Generating Stations declared under commercial operation on or after 1.4.2016

…

(d) …

(e) O&M expenses determined in sub-Regulation 2(b) & 2(c) above, shall be escalated for subsequent years to arrive at the O&M expenses for the control period by applying the Escalation factor (EFk) for a particular year (Kth year) which shall be calculated using the following formula:

EFk = 0.55xWPIInflation + 0.45xCPIInflation

(f) …"

The Petitioner has claimed O&M expenses amounting to Rs. 11.72 Crore for FY 2017-18 which was subsequently revised by the Petitioner to Rs. 11.78 Crore. As per audited annual accounts for FY 2017-18, O&M expenses incurred are Rs. 19.90 Crore inclusive of "Line Maintenance Charges" amounting to Rs. 8.12 Crore which are paid to PGCIL/CTU for transmission of electricity of the project from PGCIL injection sub-station to Uttarakhand periphery and the same are reimbursed by UPCL after 60 days. Accordingly, the Petitioner has not considered the same for the purpose of claiming O&M expenses for FY 2017-18. The Commission has also not taken into account such expenses for the purpose of truing up of O&M expenses.

The Commission carried out the prudence check of the actual O&M expenses incurred by the Petitioner for FY 2017-18. The actual details of O&M expenses for FY 2017-18 are given in the Table below:

Table 3.7: Actual O&M expenses for FY 2017-18 (Rs. Crore)

S. No.	Particulars	Amount
1.	Repairs & Maintenance Expenses	3.64
2.	Employee Expenses	3.54
3.	Administrative & General Expenses	4.60
	Total	**11.78**

The MTB's of FY 2017-18 was also examined to verify the claims of the Petitioner. In this regard, the Petitioner has claimed an expense of Rs. 0.55 Crore under O&M expenses related to 'Bank & Other Charges' which has already been dealt under the head of 'Interest on Loans'. Further, the Petitioner has made a donation amounting to Rs. 0.001 Crore during FY 2017-18. However, the same cannot be allowed to be passed on to the consumers. Any such activity by the Petitioner has to be carried out by its own resources as it would be claiming tax deductions on the same. Hence, the same is again disallowed. Accordingly, the actual expenses of the Petitioner for FY 2017-18 after carrying out the prudence check by the Commission are Rs. 11.23 Crore.

For the purpose of truing up of O&M expenses, the Commission has adopted the same methodology in the present Petition as adopted in Tariff Order dated 30.11.2016 and Tariff Order dated 21.03.2018, accordingly, the escalation rates have been computed on the basis of actual CPI Inflation and WPI Inflation for FY 2017-18 years which works out to 2.30%. The Commission has escalated the O&M expenses approved for FY 2016-17, i.e. Rs. 13.30 Crore, on the basis of the escalation factor to compute normative O&M expenses for FY 2017-18 which works out to Rs. 13.61 Crore. The detail of O&M expenses claimed and approved by the Commission is as follows:

Table 3.8: O&M expenses approved for FY 2017-18 (Rs. Crore)

Particular	Approved in Tariff Order	Actual after prudence check	Normative O&M expenses worked out
Normative O&M expenses	14.54	11.23	13.61

O&M expenses have been considered as controllable factor and are subject to sharing of gains and losses. Further, as the Commission has applied UERC Tariff Regulations, 2015 for the purpose of computation of normative O&M expenses, sharing of gain/loss on account of controllable factors needs to be done as per UERC Tariff Regulations, 2015. Accordingly, O&M expenses will have to be shared in the manner given in the Table below:

Table 3.9: O&M Expenses Approved After Sharing of Gains and Losses for FY 2017-18 (Rs. Crore)

Particulars	Actual after prudence check	Normative as per Regulations	Efficiency gain	Generator Share	Rebate in Tariff	O&M approved after sharing
	A	B	C=B-A	D=2/3xC	(E)=1/3xC	F= A+D
O&M Expenses	11.23	13.61	2.38	1.59	0.79	12.82

3.1.2.8 Interest on Working Capital

The Petitioner has submitted that it has availed interest free loans from Group Company to meet out the requirement of working capital and no actual expenditure has been incurred towards interest on working capital. With respect to working capital and interest thereon, Regulation 33 of the UERC Tariff Regulations, 2015 specifies as under:

"33. Interest on Working Capital

Rate of interest on working capital shall be on normative basis and shall be equal to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff is made.

(1) Generation:

...

b) In case of hydro power generating stations, working capital shall cover:

(i) Operation and maintenance expenses for one month;

(ii) Maintenance spares @ 15% of operation and maintenance expenses; and

(iii) Receivables equivalent to two months of annual fixed charges.

..."

3.1.2.8.1 One Month O&M Expenses

The Commission has trued up the annual O&M expense for FY 2017-18. Based on the approved O&M expenses, one month's trued up O&M expenses have been worked out for determining the working capital requirement.

3.1.2.8.2 Maintenance Spares

The Commission has considered the maintenance spares in accordance with the prevailing UERC Tariff Regulations for FY 2017-18. The Commission has determined the plant wise maintenance spares requirement @ 15% of the trued up O&M Expenses for FY 2017-18.

3.1.2.8.3 Receivables

UERC Tariff Regulations, 2015 envisage receivables equivalent to two months of annual fixed charges as an allowable component of working capital. Aggregate Revenue Requirement (AFC) includes O&M expenses, depreciation, interest on loan, return on equity and interest on working capital. The Commission has considered the receivables for two months based on the trued up AFC for FY 2017-18.

As regards the interest on working capital, Regulation 33 of UERC Tariff Regulations, 2015 specifies rate of interest on working capital to be taken equal to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff is made. As the Tariff Petition for true-up was filed on 14.12.2018, the Commission has considered the prevailing State Bank Advance Rate (SBAR) of State Bank of India, i.e. 13.75% for computing the Interest on Working Capital.

Accordingly, the normative Interest on working Capital for FY 2017-18 as approved by the Commission is as shown in the Table below:

Table 3.10: Interest on working capital approved by the Commission for FY 2017-18 (Rs. Crore)

Particular	Approved in Tariff Order	Claimed	Approved
O&M Expenses	1.21	0.98	1.07
Maintenance spare	2.18	1.76	1.92
Receivables	15.44	15.79	15.16
Margin Money	0.00	3.69	0.00
Total	**18.33**	**18.53**	**18.15**
IWC	**2.65**	**2.55**	**2.50**

Further, the UERC Tariff Regulations, 2015 specify for sharing of gains/losses due to controllable factors and as per Tariff Regulations, variation in working capital requirements is a controllable factor. Further, as mentioned above, as the Petitioner has availed interest free loan for working capital, actual interest on working capital has been considered nil. Accordingly, entire interest on working capital worked out as per Regulations is a gain and the Commission has shared the gain in accordance with the provisions of UERC Tariff Regulations, 2015.

The interest on working capital after sharing the gains is as given in Table below:

Table 3.11: Interest on Working Capital for FY 2017-18 after Sharing of Gains (Rs. Crore)

Particulars	Actual	Normative as Trued up	Efficiency gain/loss	Generator Share	Rebate in Tariff	IWC approved after sharing
	A	**B**	**C=B-A**	**D=2/3xC**	**E=1/3xC**	**F=A+D**
IWC	0.00	2.50	2.50	1.66	0.83	1.66

3.1.2.9 Non Tariff Income

Regulation 46 of UERC Tariff Regulations, 2015 specifies as follows:

"46. Non Tariff Income

The amount of non-tariff income relating to the Generation Business as approved by the Commission shall be deducted from the Annual Fixed Charges in determining the Net Annual Fixed Charges of the Generating Company.

Provided that the Generating Company shall submit full details of its forecast of non tariff income to the Commission in such form as may be stipulated by the Commission from time to time.

The indicative list of various heads to be considered for non tariff income shall be as under:

a) Income from rent of land or buildings;

b) Income from sale of scrap;

c) Income from statutory investments;

d) Interest on delayed or deferred payment on bills;

e) Interest on advances to suppliers/contractors;

f) Rental from staff quarters;

g) Rental from contractors;

h) Income from hire charges from contactors and others;

i) Income from advertisements, etc.;

j) Any other non- tariff income.

Provided that the interest earned from investments made out of Return on Equity corresponding to the regulated business of the Generating Company shall not be included in Non-Tariff Income."

The Petitioner has submitted that the actual Non-Tariff Income is Rs. 1.62 Crore for FY 2017-18. The Commission observed that there is a variation between the claim of the Petitioner and amount appearing under the head of 'Other Incomes' of audited annual accounts for FY 2017-18. In this regard, on examination of the claim of the Petitioner and audited annual accounts, the Commission observed that the Petitioner has not considered 'Insurance claim received' during FY 2017-18 as a part of 'Non-Tariff Income'. Here, it is pertinent to mention that the insurance premium amount is an allowable expense under O&M expenses to the Petitioner, therefore, any amount received from the insurance company is also required to be adjusted for the purpose of determination of tariff. Since the Petitioner did not furnish any reason as to why the same should not be adjusted, hence, the Commission has considered Non-Tariff Income of Rs. 1.80 Crore inclusive of insurance claims received during the year for FY 2017-18.

3.1.2.10 Aggregate Revenue Requirement for FY 2017-18

Based on the above analysis, the Commission has worked out the trued up AFC for FY 2017-18. The summary of the same is as follows:

Table 3.12: Annual Fixed Charges for FY 2017-18 approved by the Commission (Rs. Crore)

Particulars	Tariff Order dated 30.11.2016	Claimed	Allowable
Depreciation	25.39	25.97	26.24
Interest on Loan & Financial Cost	25.02	26.20	26.36
Return on Equity	25.04	25.68	25.68
O&M Expenses	14.54	11.72	12.82
Interest on Working Capital	2.65	2.55	1.66
Less: Non-Tariff Income	0.00	1.62	1.80
Total	**92.64**	**90.50**	**90.97**

Accordingly, trued-up AFC for FY 2017-18 works out to Rs. 90.97 Crore after sharing of gain/ loss on account of controllable factors. For FY 2017-18, recovery of AFC has been envisaged through two-part tariff, i.e. through Capacity Charge linked with NAPAF & PAFM and Energy Charges linked with generation.

With regard to Energy Charges for FY 2017-18, the Petitioner submitted that the actual gross energy generated by the plant during FY 2016-17 was 249.74 MUs which was lower than the Design Energy of 283.54 MUs. Thus, there was a shortfall in the energy generated by the plant compared to the Design Energy within first ten years of commercial operation of the Budhil Hydro Power Plan as the plants commercial operation started in FY 2012-13. Thus, as per Regulation 50(6)(a) of UERC Tariff Regulations, 2015, the energy charge rate for the year following the year of energy shortfall, i.e. FY 2017-18 shall be computed with the modification that Design Energy for the year shall be considered as equal to the actual energy generated during the year of shortfall, till the Energy Charge shortfall of the previous year has been made up, after which normal Energy Charge Rate shall be applicable. Therefore, the Petitioner requested the Commission to provide for Energy Charge shortfall of previous year, i.e. FY 2016-17 in the true up for FY 2017-18 till the Energy Charges shortfall of the previous year has been made up.

With regard to reasons for lesser generation than specified Design Energy for FY 2016-17, the Petitioner submitted that the lower generation was on account of deficit rainfall received in the Himachal region during the monsoon season (June-September) of 2016. The Petitioner in support of its claim submitted the report of India Meteorological Department on '2016 Southwest Monsoon End of Season'. The Commission has examined the said report and observed that there was a deficiency of rainfall of 24% in Himachal Region during June to September, 2016. In this regard, it is pertinent to mention that the tariff for FY 2016-17 was allowed to be recovered from UPCL as single part Tariff upto November, 2016 and subsequently, two part tariff for the balance useful life. Accordingly, the Commission vide Tariff Order dated 21.03.2018 had carried out the true up for FY 2016-17 (upto 30.11.2016) as single part tariff and had approved the trued up tariff per unit of Rs. 3.70/kWh against the per unit rate of Rs. 3.83/kWh approved in the Tariff Order dated 30.11.2016. The Petitioner had supplied 220.87 MUs from 01.04.2016 to 30.11.2016. Accordingly, the surplus revenue realised thereon worked out to Rs. 2.87 Crore which had been refunded to UPCL with carrying cost. In the present case, issue of under recovery of energy charges during FY 2016-17 due to lesser generation than the Design Energy does not arise as the Commission had approved the true up for

FY 2016-17 (upto 30.11.2016) as single part tariff and the deficiency in rainfall in the region of Himachal Pradesh happened in the period of June to September, 2016, i.e. during the period of single part tariff.

Moreover, the Commission vide its Tariff Order dated 21.03.2018 had approved the trued up AFC of Rs. 91.13 Crore. Further, considering the single part tariff till 30.11.2016 and two part tariff based on NAPAF & PAFM for the balance months of FY 2016-17, the Commission had worked out the AFC of Rs. 96.24 Crore based on PAFM for the FY 2016-17. However, as the average PAFM from 01.12.2016 to 31.03.2017 was 57.40% lesser than the NAPAF of 85%, therefore, the Petitioner was not eligible to recover more than the AFC for FY 2016-17, which in the Tariff Order dated 21.03.2018 had been trued up and worked out to Rs. 91.13 Crore. The relevant extract of the Tariff Order dated 21.03.2018 is as follows:

"Accordingly, AFC recovered as per Tariff Order dated 30.11.2016 and AFC based on PAFM works out to as follows for FY 2016-17:

Table 3.13: Details of AFC recovered and AFC based on PAFM (Rs. Crore)

Particular	***AFC recovered (RS. in Crore)***	***AFC based on PAFM (Rs. in Crore)***
April, 2016 to Nov, 2016 (Single Part Tariff)	*81.72**	*81.72*
Dec, 2016 to March, 2017 (Two Part Tariff)		
Energy Charge	*13.51*	*2.62*
Capacity Charge		*11.90*
Total	***95.23***	***96.24***

**net of excess recovery of Rs. 2.87 Crore*

It is to be noted that the average PAFM works out to Rs. 57.40% which is less than the NAPAF of 85%. Therefore, the Petitioner shall not be eligible to recover more than the AFC for FY 2016-17, which in this Order has been trued up and works out to Rs. 91.13 Crore. Accordingly surplus realised by the Petitioner during Dec, 2016 to March, 2017 works out to Rs. 4.10 Crore due to two part tariff.

Further, since the actual energy of sold of 235.02 MU is less than the saleable primary energy of 246.52 no truing up of secondary energy has been carried out for FY 2016-17."

Accordingly, based on the above discussion, the Commission is of the view that the Petitioner has already recovered trued up AFC by way of Capacity Charges and Energy charges, for FY 2016-17 from the beneficiaries, hence, no adjustment regarding energy shortfall in the previous year, i.e. FY 2016-17, is required to be carried out in the true up of FY 2017-18.

However, the Petitioner is advised to raise energy bills for the energy shortfall of the previous year directly to UPCL for ensuing years in accordance with Regulation 50(6) of UERC Tariff Regulations, 2018 as is being done by UJVN Ltd., NHPC & SJVNL.

As discussed earlier, trued-up AFC for FY 2017-18 works out to Rs. 90.97 Crore after sharing of gain/loss on account of controllable factors against the actual recovered amount of Rs. 94.72 Crore by the Petitioner from UPCL under two part tariff. The Petitioner has supplied 264.27 MUs during FY 2017-18 which is more than the saleable energy of 246.52 MUs. Accordingly, there is a secondary energy of 17.75 MUs supplied during FY 2017-18. Accordingly, based on the above discussions, the summary of truing up for FY 2017-18 for UPCL after considering the actual performance achieved in FY 2017-18 is shown in the Table Below:

Table 3.14: Summary of Net Truing-up for FY 2017-18 (Rs. Crore)

AFC to be recovered from UPCL (Rs. in Crore)	Capacity Charges (Rs. in Crore)	NAPAF (%)	Actual PAFY (%)	Capacity Charges allowable (Rs. in Crore)	Capacity Charges after sharing	Saleable Energy (MU)	Actual Energy Considered (MU)	Per unit rate approved (Rs./kWh)	Allowable Energy Charge (Rs. in Crore)	Secondary Energy (MU)	Sec. Energy Rate (Rs./kWh)	Total Sec Energy charges (Rs. in Crore)	Total allowable (EC+CC) (Rs. in Crore)	Total Recovered from UPCL (Rs. in Crore)	Turing-up impact
90.97	45.48	85%	85.54%	45.77	45.68	246.52	264.27	1.845	45.48	17.75	0.90	1.60	92.76	94.72	(1.96)

Thus, the Commission has computed the net surplus of Rs. 1.96 Crore for FY 2017-18 on account of sharing of gains and losses and considering the actual performance parameters, the same is to be refunded to UPCL. Based on the above, the total amount refundable to UPCL by the Petitioner alongwith the carrying cost is as summarised in the Table given below:

Table 3.15: Summary of net amount as Trued up by the Commission for FY 2017-18 (Rs. Crore)

Particulars	FY 2017-18	FY 2018-19
Opening (Surplus)/Gap	-	(2.10)
True Up Amount	(1.96)	-
Carrying Cost	(0.13)	(0.29)
Closing (Surplus)/Gap	(2.10)	(2.39)
Interest Rate	13.75%	13.75%

The Commission directs the Petitioner to refund the excess amount recovered including carrying cost, i.e. Rs. 2.39 Crore, on account of Truing up for FY 2017-18 to UPCL in 12 equal monthly instalments by way of adjustments in the monthly bills commencing from April 2019 to March 2020.

4. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2018-19

4.1 Annual Performance Review

The Commission, vide its Tariff Order dated 30.11.2016, approved the Multi Year Tariff for the Petitioner for the second Control Period from FY 2016-17 to FY 2018-19. Regulation 12(3) of the UERC Tariff Regulations, 2015 stipulates that under the MYT framework, the performance of the generating company shall be subject to Annual Performance Review.

Regulation 12(3) of the UERC Tariff Regulations, 2015 specifies as under:

"The scope of Annual Performance Review shall be a comparison of the performance of the Applicant with the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges and shall comprise the following:-

a) A comparison of the audited performance of the applicant for the previous financial year with the approved forecast for such previous financial year and truing up of expenses and revenue subject to prudence check including pass through of impact of uncontrollable factors;

b) Categorisation of variations in performance with reference to approved forecast into factors within the control of the applicant (controllable factor) and those caused by factors beyond the control of the applicant (un-controllable factors);

c) Revision of estimates for the ensuing financial year, if required, based on audited financial results for the previous financial year;

d) Computation of sharing of gains and losses on account of controllable factors for the previous year."

The Commission, vide its Tariff Order dated 30.11.2016, on approval of the Business Plan Petition and MYT Petition for the second Control Period from FY 2016-17 to FY 2018-19, had approved the AFC for the second Control Period based on the approved capital cost till CoD. The Petitioner, in its present Petition, has proposed revision of estimates for FY 2018-19 based on the audited accounts for FY 2017-18.

The Commission, in this Order, has carried out the Truing up for FY 2017-18 in accordance with the UERC Tariff Regulations, 2015. In accordance with Regulation 12(3) of the UERC Tariff

Regulations, 2015, the scope of annual performance review is limited to the revision of estimates for the ensuing year, if required, based on the audited financial results for the previous year and does not provide for the revision of estimates for the current year and gives effect on this account in the estimates of the ensuing year. The Commission shall carry out the truing up of FY 2018-19 based on the audited accounts for that year and give effect on this account in the AFC of FY 2020-21.

Further, the Petitioner has proposed an additional capitalisation of Rs. 6.08 Crore for FY 2018-19. The details of the same is as follows:

Table 4.1: Proposed additional capitalisation for FY 2018-19 (Rs. Crore)

S. No.	Description	Amount (Rs.)	Remarks
1	Civil Foundation for workshop	0.45	The Power Plant is located in remote and tribal area of Himachal Pradesh and there is no well equipped workshop near the power plant. For every small machining works, modification and repairs needs to go to Pathankot, Jalandhar which takes long time and the plant remains under shutdown. To cut-down the back down time and make plant available for generation mechanical workshops is required at plant.
2	Establishment of steel structure shed for workshop	1.20	
3	Purchase of workshop machinery	0.80	
4	Road work- Power house approach road Zero point to security post	0.05	There is no alternative road and this single road gets damaged during rains. For permanent solution protection work is required.
5	Protection works at Dam Downstream	1.77	1. There were massive rains in Chamba dist. and particularly in Budhil river catchment area which caused flash floods on 23rd & 24th Sep 2018. 2. When the flood waters were released through the Dam, the condition on the downstream of the Dam appeared precarious, It was noticed that the energy dissipation structure on the downstream of the Budhil dam ends abruptly, without matching with the river bed. 3. It was apprehended that the ferocity of the flood water released through the Dam could have caused scouring and undermining on the downstream toe of the dam and can also severely damage slopes on both banks abutting the downstream toe of the dam, as those rocks are fractured and fissured, endangering the Safety/stability of the Dam in the long run. 4. In view the above apprehended threats of the safety stability of the dam it is felt very much essential to execute appropriate protection works at the d/s Toe of the dam viz. Protection apron in the river bed, concrete cladding on the slopes of the banks, rock bolting, special grouting for the consolidation of the strata on the river bed and slops.

6	C/o of Office Building at PH	1.65	The existing office building was made considering only construction purpose and was of temporary nature. Every year repair works are done but existing structure has got damaged beyond repairs. In view of this and permanent long time requirement of office, proposal for new office building was prepared.
7	Flooring of GIS	0.07	The Existing flooring is not dust proof as per the requirement Lots of dust is entering in main Machines and GIS equipments and control Panel. To make the dust free environment in GIS and Power Plant permanent flooring is required.
8	Flooring of Service Bay	0.05	
9	Construction of office room, pantry and toilet on 1st floor of control room at dam	0.04	The Existing office accommodation with toilet and pantry that was made during construction is at 500 Meter distance from main dam structure and control room and is not in good condition. New accommodation is required near to the Dam control room to facilitate the O&M staff by senior officers sitting in office.
	Total	**6.08**	

It is to be noted that the actual capitalisation for FY 2017-18 amounted to Rs. 7.04 Crore against the approved amount of Rs. 0.48 Crore in the Business Plan Petition for the second Control Period. Further, the Petitioner has proposed the additional capitalisation of Rs. 6.08 Crore for FY 2018-19 and as per submissions of the Petitioner, Rs. 0.09 Crore has been capitalised in the books of accounts till September, 2018. Furthermore, the Petitioner has submitted Independent Agency report w.r.t 'Provisions of Spider Excavator at site', 'Provision of Workshop' and 'Site office building' in accordance with Regulation 22(2)(e) of UERC Tariff Regulations, 2018. However, the Petitioner has not submitted technical justification alongwith test results carried out by the independent agency for the work of 'Protection works at Dam downstream'. Moreover, the Petitioner has not submitted the DPR, purchase/work orders, bills/vouchers for the said works. Accordingly, the Commission in the current proceedings is provisionally considering the additional capitalisation as given in the provisional annual accounts for FY 2018-19 (upto 30.09.2018). However, during the truing up proceedings for FY 2018-19, same shall be reviewed by the Commission based on the submissions of the Petitioner justifying the additional capitalisation in accordance with Regulation 22(2) of the UERC Tariff Regulations, 2015 duly substantiated with the technical justification and supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level alongwith the purchase orders, bills/vouchers for the said works.

The Petitioner has submitted that the proposed additional capitalisation for FY 2018-19 shall be financed by way of equity/internal resources. Accordingly, the Commission in accordance with Regulation 24 of UERC Tariff Regulations, 2015, has considered the funding in the Debt-Equity Ratio of 70:30 and the same will be reviewed at the time of truing up based on the actual financing of the additional capitalisation.

With regard to O&M expenses for FY 2018-19 and onwards, the Petitioner submitted that the actual O&M expenses for FY 2017-18 have been incurred while postponing the major essential expenses specially relevant man-power allocation working for the power plant to the future year. The Petitioner also submitted that as per evacuation scheme finalised by CEA, Budhil Hydro Power Plant has been allocated 1 no. of 220 kV GIS bay at NHPC's Chamera Hydro Power Plant. NHPC incurs the O&M expenses for the operation and maintenance of the bay allowed under CERC Regulations and raises the same to Budhil Plant. The Petitioner also submitted that NHPC has raised the pending demand for O&M expenses of the said bay on account of consideration of other associated works pertaining to the Bay for its necessary execution. NHPC has raised revised demand for the difference on account of O&M expenses of Rs. 0.75 Crore. The Petitioner submitted that such demand will be paid off in FY 2019-20. Further, streamlining of man power allocation and more routine O&M measures are planned for the year FY 2018-19 and FY 2019-20. In view of impending O&M works for the plant and clarity pertaining to allowable expenses, the O&M expenses for future years are expected to increase w.r.t. FY 2017-18.

In this regard, the Commission is of the view that the Petitioner should strive to incur expenditure prudently and should not attempt to incur wasteful expenditure. Further, the Commission directs the Petitioner to plan and execute its expenses relating to operation and maintenance of plant in an optimum manner and provide a detailed methodology alongwith proper justification for allocation/apportionment of manpower related expenses in the next tariff proceedings alongwith supporting documents. The Petitioner should apportion the manpower cost to this project judiciously, i.e. pro-rata costs of those personnel should be booked who are working elsewhere also. Further, computation of normative O&M expenses and sharing of the same based on the actual O&M expenses incurred shall be done in accordance with the prevailing UERC Tariff Regulations at the time of truing up for the respective financial year.

Furthermore, the Petitioner has submitted that the Commission vide Order dated 21.03.2018 had computed the surplus amount of truing up for FY 2015-16 and FY 2016-17 amounting to Rs. 7.13 Crore and considered the interest of working capital cost @ 13.70% to compute the excess amount to Rs. 8.63 Crore. Thus, it requested to the Commission to consider the implication of the above-said computed carrying cost at the rate of interest on working capital of Rs. 1.56 Crore as "Interest on working Capital" on the Petitioner while truing up of AFC for FY 2017-18 of the plant. In the matter, it is to be noted that there is no such provision under UERC Tariff Regulations, 2018 to consider carrying cost as a part of Working Capital and allow interest thereon. Therefore, the request of the Petitioner is not tenable. Further, interest on working capital shall be determined in accordance with the provisions of prevailing UERC Tariff Regulations.

5. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on MYT for the third Control Period

With regard to Multi Year Tariff, Regulation 10 of UERC Tariff Regulations, 2018 specifies as follows:

"10. MYT Petition for the Control Period

(1) xxx

(2) xxx

(3) xxx

(4) After examining the application, the Commission shall either-

a) Pass an order approving the forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges for the Control Period, subject to such modifications and conditions as it may specify in the said Order; or

b) Reject the application for reasons to be recorded in writing.

Provided that the applicant shall be given a reasonable opportunity of being heard before rejecting his application.

(5) In its MYT Order, the Commission shall specify the variables included in the Aggregate Revenue Requirement and expected revenue from tariff and charges of the applicant that shall be reviewed by the Commission as part of the Annual Performance Review;

Provided that such variables shall be limited to the major items of cost and revenue forecast of the applicant that in the Commission's opinion could have a material impact on the cost of supply of electricity to consumers in the State over the Control Period:

Provided further that the variables, as may be stipulated by the Commission under Regulations below, shall form part of the Annual Performance Review, unless exempted by the Commission from such review in its Order."

Accordingly, in accordance with the aforesaid regulations, the Commission, based on the financial and physical parameters, has approved the Annual Fixed Charges for each year of the third Control Period from FY 2019-20 to FY 2021-22 based on the approved capital cost for the respective year.

5.1 Physical Parameters

5.1.1 *NAPAF*

Regulation 47(1)(b) of UERC Tariff Regulations, 2018 specifies as under:

"(b) For existing hydro generating stations:

The trajectory for NAPAF fixed by the Commission in case of existing hydro generating stations, in the preceding Control Period would continue to be applicable. However, the NAPAF of the stations undergone RMU would be adjusted accordingly, considering the impact of RMU."

Accordingly, the Commission is of the view that the NAPAF of 85% approved for the second Control Period in the Tariff Order dated 30.11.2016 shall continue to be applicable for the third Control Period without any change.

5.1.2 *Design Energy, Auxiliary Energy Consumption and Saleable Primary Energy*

The Petitioner in its Petition has projected energy generation from its 70 MW (2x35 MW) Hydro Electric power project in line with the energy generation approved by the Commission in its Tariff Order dated 30.11.2016 for the second Control Period.

Accordingly, the Commission approves saleable primary energy of 246.52 MUs after deducting the normative auxiliary consumption of 1.20% and adjusting home State share for the third Control Period.

5.2 Financial Parameters

5.2.1 *Opening GFA and Additional Capitalisation for the third Control Period*

As discussed under the Chapter of Business Plan for the third Control Period, the Commission has decided to consider the additional capitalisation at the time of truing up of the respective years based on the audited accounts and as per prevailing Regulations as amended from time to time. Accordingly, proposed additional capitalisation for the third Control Period has been considered as nil, however, the same shall be reviewed at the time of truing up of the respective year.

In the present Petition, the Commission has provisionally approved the additional capitalisation of Rs. 0.09 Crore for FY 2018-19. Accordingly, considering the closing GFA of Rs. 525.81 Crore for FY 2017-18 and additional capitalisation of Rs. 0.09 Crore for FY 2018-19, the

Commission has worked out the opening GFA of Rs. 525.90 for FY 2019-20. Further, the same shall be reviewed at the time of truing up of the respective financial year of the third Control Period based on the audited annual accounts.

5.2.2 *Capital Structure*

The Petitioner submitted that the capital expenditure to be incurred in FY 2019-20, FY 2020-21 and FY 2021-22 are to be financed by way of equity/internal resources. As mentioned above, the Commission has not considered the additional capitalisation for the third Control Period. However, based on the actual admissible additional capitalization and actual financing, truing up will be done for the purpose of determination of Tariff.

5.2.3 *Depreciation*

Regulation 28 of the UERC Tariff Regulations, 2018 specifies as follows:

*"**28. Depreciation***

(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

Provided that depreciation shall not be allowed on assets funded through Consumer Contribution and Capital Subsidies/Grants.

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

...

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix - II to these Regulations.

..."

The Petitioner has claimed depreciation from FY 2019-20 to FY 2021-22 based on the opening GFA and proposed additional capitalisation for the respective financial year of the third Control Period. As mentioned earlier, the Commission has not considered the proposed additional capitalisation for the third Control Period and the same, if any, shall be approved at the time of truing up of the respective financial year after prudence check. Accordingly, the Commission has determined the depreciation based on the admissible GFA for the third Control Period. Details of the depreciation claimed and approved for the third Control Period is as follows:

Table 5.1: Depreciation approved by the Commission for the third control period from FY 2019-20 to FY 2021-22 (Rs. Crore)

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Depreciation	26.56	26.44	26.77	26.44	28.06	26.44

5.2.4 Return on Equity

Regulation 26 of the UERC Tariff Regulations, 2018 specifies as follows:

*"**26. Return on Equity***

(1) Return on equity shall be computed on the equity base determined in accordance with Regulation 24.

Provided that, Return on Equity shall be allowed on account of allowed equity capital for the assets put to use at the commencement of each financial year.

(2) Return on equity shall be computed on at the base rate of 15.50% for thermal generating stations, transmission licensee, SLDC and run of the river hydro generating station and at the base rate of 16.50% for the storage type hydro generating stations and run of river generating station with pondage and distribution licensee on a post-tax basis."

The Petitioner has claimed return on equity of Rs. 26.33 Crore, Rs. 26.63 Crore and Rs. 26.93 Crore for FY 2019-20, FY 2020-21 and FY 2021-22 respectively considering the proposed additional capitalisation for the third Control Period. As discussed earlier, the additional capitalisation will be approved by the Commission based on the actual expenditures at the time of truing up of the respective year. Accordingly, the Commission has worked out the Return on Equity based on the opening equity of the respective financial year of the third Control Period. Details of the Return on Equity claimed and approved is as follows:

Table 5.2: Return on Equity approved by the Commission for FY 2019-20 to FY 2021-22 (Rs. Crore)

Particular	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Return on Equity	26.33	26.03	26.63	26.03	26.93	26.03

5.2.5 *Interest on Loans*

Regulation 27 of the UERC Tariff Regulations, 2018 specifies as follows:

*"**27. Interest and finance charges on loan capital and on Security Deposit***

(1) The loans arrived at in the manner indicated in Regulation 24 shall be considered as gross

normative loan for calculation of interest on loan.

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

(3) The repayment for each year of the Control Period shall be deemed to be equal to the depreciation allowed for that year

...

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

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

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

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

…"

The Petitioner has claimed interest on normative loan of Rs. 21.40 Crore, Rs. 18.93 Crore and Rs. 16.37 Crore for FY 2019-20, FY 2020-21 and FY 2021-22 respectively considering the normative debt equivalent to 70% of the proposed additional capitalisation for the respective year of the third Control Period. Further, repayment has been considered equivalent to depreciation claimed by the Petitioner. Furthermore, the Petitioner has considered the interest rate of 11% p.a. of the non-convertible debentures.

The Commission has considered the closing net normative loan of Rs. 227.27 Crore for FY 2017-18 as opening normative loan for FY 2018-19 and depreciation of Rs. 26.43 Crore approved for FY 2018-19 as repayment of normative loan as per applicable UERC Tariff Regulations, 2015. Further, addition to Loan has been considered as 70% of the approved additional capitalisation of Rs. 0.09 Crore for FY 2018-19 to work out the closing net normative loan for FY 2018-19. The same has been considered as opening net normative loan for FY 2019-20. Repayment of loan has been considered equivalent to the depreciation of the respective years of the third Control Period. Further, rate of interest of Nov-Convertible Debentures, i.e. 11% p.a. has been considered for each year of the third Control Period for the purpose of computation of interest on normative loan. Accordingly, the Commission approves interest on loan of Rs. 20.65 Crore, Rs. 17.74 Crore and Rs. 14.83 Crore for FY 2019-20, FY 2020-21 and FY 2021-22 respectively. Details of the interest claimed and allowed for the second Control Period is given in the Table below:

Table 5.3: Interest on Loan approved by the Commission for the third Control Period from FY 2019-20 to FY 2021-22 (Rs. Crore)

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Allowable	Claimed	Allowable	Claimed	Allowable
Gross Opening Normative Loan	372.38	368.12	376.59	368.12	380.79	368.12
Cumulative Repayment	166.65	167.22	193.21	193.65	219.98	220.09
Net Opening Normative Loan	205.73	200.90	183.38	174.46	160.82	148.03
Additional Capitalisation	4.21	0.00	4.21	0.00	4.00	0.00
Normative Repayment of loan	26.56	26.44	26.77	26.44	28.06	26.44
Net Closing Normative Loan	183.38	174.46	160.82	148.03	136.76	121.59
Average Normative Loan	194.55	187.68	172.10	161.24	148.79	134.81
Rate of Interest	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
Normative Interest	**21.40**	**20.65**	**18.93**	**17.74**	**16.37**	**14.83**

5.2.6 *Operation and Maintenance expenses*

With regard to Operation and Maintenance expenses, Regulation 48(2) of the UERC Tariff Regulations, 2018 specifies as follows:

"48 Operation and Maintenance Expenses

...

(2) For Hydro Generating Stations

(a) ***For Generating Stations in operation for more than five years preceding the Base Year***

The operation and maintenance expenses for the first year of the control period will be approved by the Commission taking in to account the actual O&M expenses for last five years till base year, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, subject to prudence check and any other factors considered appropriate by the Commission.

(b) ***For Generating Stations in operation for less than 5 years preceding the base year:***

In case of the hydro electric generating stations, which have not been in existence for a period of five years preceding the base year, i.e. FY 2017-18, the operation and maintenance expenses for the base year of FY 2017-18 shall be fixed at 4% and 2.5% of the actual capital cost (excluding cost of rehabilitation & resettlement works) as admitted by the Commission, for stations less than 200 MW projects and for stations more than 200 MW respectively, for the first year of operation and shall be escalated from the subsequent year in accordance with the escalation principles specified in clause (e) below.

(c) ***For Generating Stations declared under commercial operation on or after 1.4.2019.***

In case of new hydro electric generating stations, i.e. the hydro electric generating stations declared under commercial operation on or after 1.4.2019, the base operation and maintenance expenses for the year of commissioning shall be fixed at 4% and 2.5% of the actual capital cost (excluding cost of rehabilitation & resettlement works) as admitted by the Commission, for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be escalated from the subsequent year in accordance with the escalation principles specified in clause (e) below.

(d) Post determination of base O&M Expenses for the base year, i.e. FY 2017-18, the O&M expenses for the nth year and also for the year immediately preceding the Control Period, i.e. 2018-19 shall be approved based on the formula given below:-

O&Mn = R&Mn + EMPn + A&Gn

Where –

- *O&Mn – Operation and Maintenance expenses for the nth year;*
- *EMPn – Employee Costs for the nth year;*
- *R&Mn – Repair and Maintenance Costs for the nth year;*
- *A&Gn – Administrative and General Costs for the nth year;*

The above components shall be computed in the manner specified below:

EMPn = (EMPn-1) x (1+Gn) x (1+CPIinflation)

R&Mn = K x (GFA n-1) x (1+WPIinflation) and

A&Gn = (A&Gn-1) x (1+WPIinflation)+ Provision

Where -

- *EMPn-1 – Employee Costs for the (n-1)th year;*
- *A&G n-1 – Administrative and General Costs for the (n-1)th year;*
- *Provision: Cost for initiatives or other one-time expenses as proposed by the Generating Company and approved by the Commission after prudence check.*
- *'K' is a constant to be specified by the Commission %. Value of K for each year of the control period shall be determined by the Commission in the MYT Tariff order based on Generating Company's filing, benchmarking of repair and maintenance expenses, approved repair and maintenance expenses vis-à-vis GFA approved by the Commission in past and any other factor considered appropriate by the Commission;*

  Provided that for the projects whose Renovation and Modernisation has been carried out, the R&M expenses for the nth year shall not exceed 4% of the capital cost admitted by the Commission.
- *CPIinflation – is the average increase in the Consumer Price Index (CPI) for immediately preceding three years;*
- *WPIinflation – is the average increase in the Wholesale Price Index (CPI) for immediately preceding three years;*
- *GFAn-1 – Gross Fixed Asset of the Generating Company for the n-1th year;*
- *Gn is a growth factor for the nth year and it can be greater than or less than zero based on the actual performance. Value of Gn shall be determined by the Commission in the MYT tariff order for meeting the additional manpower requirement based on Generating Company's filings, benchmarking and any other factor that the Commission feels appropriate*

  Provided that repair and maintenance expenses determined shall be utilised towards repair and maintenance works only.

  Provided that repair and maintenance expenses determined shall be utilised towards repair and maintenance works only.

(e) O&M expenses determined in sub-Regulation 2(b) & 2(c) above, shall be escalated for subsequent years to arrive at the O&M expenses for the control period by applying the Escalation factor (EFk) for a particular year (Kth year) which shall be calculated using the

following formula:

$$EF_k = 0.55xWPI_{Inflation} + 0.45xCPI_{Inflation}$$

(f) In case of multi-purpose hydroelectric stations, with irrigation, flood control and power components, the O&M expenses chargeable to power component of the station only shall be considered for determination of tariff."

As per Regulation 48(2)(a) of UERC Tariff Regulations, 2018, if the hydro generating power plan is in operation atleast for five years preceding the base year, i.e. FY 2017-18, normative O&M expenses for the first year of the control period will be approved by the Commission taking into account the actual O&M expenses for last five years till base year. Further, in case the hydro generating plant is in existence for a period of less than five years preceding the base year, i.e. FY 2017-18, the O&M expenses for the base year shall be fixed at 4% of actual capital cost excluding cost of rehabilitation & resettlement works for the stations having capacity less than 200 MW projects as per Regulations 48(2)(b) of UERC Tariff Regulations, 2018. In the present case, the Budhil hydro power plant was put under commercial operation in May, 2012, however, Budhil Hydro Power Plant came under the jurisdiction of this Commission only from 01.12.2015. Accordingly, in the absence of sufficient regulated information for five years, Regulation 48(2)(a) of UERC Tariff Regulations, 2018 cannot be applied. Further, it can also not be denied that the said plant was put under commercial operation in May, 2012 and has successfully completed its 5 years of operation by FY 2016-17. Therefore, Regulation 48(2)(b) also cannot be applied to determine the normative O&M expenses for the third Control Period.

Accordingly, in the absence of any specific provision in UERC Tariff Regulations, 2018 to deal with the aforesaid scenario, the Commission is of the view to escalate the approved normative O&M expenses for FY 2017-18 in accordance with Regulation 48(2)(e) of UERC Tariff Regulations to calculate the normative O&M expenses for the respective year of the third Control Period. Accordingly, as discussed in Para 3.1.2.7 of this Order, the normative O&M expenses for FY 2017-18 has been escalated with escalation factor of 2.14% to work out the normative O&M for FY 2018-19 which has been considered for computing the O&M expenses for each year of the third Control Period as shown in the Table below:

Table 5.4: O&M expenses approved by the Commission for FY 2019-20 to FY 2021-22 (Rs. Crore)

Particular	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
O&M expense	17.69	14.20	17.71	14.50	18.19	14.81

As discussed in Chapter 2 of this Order, with Regard to O&M expenses for FY 2018-19 and onwards, the Petitioner submitted that the actual O&M expenses for FY 2017-18 have been incurred while postponing the major expenses required especially relevant man-power allocation working in the power plant to the future year. The Petitioner also submitted that NHPC has raised the pending demand for O&M expenses of the bay on account of consideration of other associated works pertaining to the Bay for its necessary execution which will be paid off in FY 2019-20. Further, streamlining man power allocation and more routine O&M measures are planned for the year FY 2018-19 and FY 2019-20. In view of impending O&M works for the plant and clarity pertaining to allowable expenses, the O&M expenses for future years are expected to increase w.r.t. FY 2017-18. In this regard, the Commission would like to advise the Petitioner to exercise proper caution and prudence while incurring the O&M expenses as the same are controllable in nature w.r.t. the expenses demanded by NHPC for O&M of the bay, the Petitioner is directed to ensure that no excess amount is demanded by NHPC & also to account for such expenses separately. The Petitioner should ensure to restrict the actual O&M expenses within the norms allowed by the Commission.

5.2.7 Interest on Working Capital

The Petitioner has submitted that the interest on working capital for the third Control Period has been proposed in accordance with Regulation 33 of UERC Tariff Regulations, 2018.

Regulation 33 of UERC Tariff Regulations, 2018 specifies as follows:

"Rate of interest on working capital shall be on normative basis and shall be equal to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff is made.

...

In case of hydro power generating stations and transmission system and SLDC, the working capital shall cover:

(i) Operation and maintenance expenses for one month

(ii) Maintenance spares @ 15% of operation and maintenance expenses

(iii) Receivables equivalent to two months of the Aggregate Revenue Requirement"

The Petitioner has further submitted that it has considered the rate of interest on working capital equal to SBI PLR of 13.75% in accordance with the Regulations. Further, the Petitioner has considered margin money for the purpose of calculation of interest on working capital. The Commission has determined the interest on working capital for the third Control Period from FY 2019-20 to FY 2021-22 in accordance with the aforesaid Regulations and is as discussed below:

5.2.7.1 *One Month O&M Expenses*

The Commission has approved the annual O&M expense for the each year of the third Control Period. Based on the approved O&M expenses, one month's O&M expenses have been worked out for determining the working capital requirement.

5.2.7.2 *Maintenance Spares*

The Commission has considered the maintenance spares in accordance with the UERC Tariff Regulations, 2018 for the third Control Period. The Commission has determined the plant wise maintenance spares requirement @ 15% of normative O&M Expenses worked out for respective years of the third Control Period.

5.2.7.3 *Receivables*

UERC Tariff Regulations, 2018 envisage receivables equivalent to two months of annual fixed charges as an allowable component of working capital. Aggregate Revenue Requirement (AFC) includes O&M expenses, depreciation, interest on loan, return on equity and interest on working capital. The Commission has considered the receivables for two months based on the AFC for the respective year of the third Control Period.

Based on the above, the total working capital requirement of the Petitioner for FY 2019-20, FY 2020-21 and FY 2021-22 works out to Rs. 18.28 Crore, Rs. 17.91 Crore and Rs. 17.54 Crore respectively. The Commission has considered the rate of interest on working capital as 13.75% equal to State Bank Advance Rate (SBAR) as on the date of filing of the present Petition and, accordingly, the interest on working capital works out to Rs. 2.51 Crore, Rs. 2.46 Crore and Rs. 2.41 Crore for FY 2019-20, FY 2020-21 and FY 2021-22 respectively. The interest on working capital approved by the Commission for FY 2018-19 is as shown in the Table below:

Table 5.5: Interest on working capital claimed and approved by the Commission for the third Control Period (Rs. Crore)

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Allowable	Claimed	Allowable	Claimed	Allowable
O&M Expenses	1.47	1.18	1.48	1.21	1.52	1.23
Maintenance spare	2.65	2.13	2.66	2.17	2.73	2.22
Receivables	15.37	14.97	15.37	14.53	15.37	14.09
Margin money	3.69	0.00	3.69	0.00	3.69	0.00
Total	**19.49**	**18.28**	**19.50**	**17.91**	**19.61**	**17.54**
Rate of Interest	13.75%	13.75%	13.75%	13.75%	13.75%	13.75%
IWC	**2.68**	**2.51**	**2.68**	**2.46**	**2.70**	**2.41**

5.2.8 Non-Tariff Income

Regulation 46 of UERC Tariff Regulations, 2018 specifies as follows:

"46. Non Tariff Income

The amount of non-tariff income relating to the Generation Business as approved by the Commission shall be deducted from the Annual Fixed Charges in determining the Net Annual Fixed Charges of the Generating Company.

Provided that the Generating Company shall submit full details of its forecast of non tariff income to the Commission in such form as may be stipulated by the Commission from time to time.

The indicative list of various heads to be considered for non tariff income shall be as under:

a) Income from rent of land or buildings;

b) Income from sale of scrap;

c) Income from statutory investments;

d) Interest on delayed or deferred payment on bills;

e) Interest on advances to suppliers/contractors;

f) Rental from staff quarters;

g) Rental from contractors;

h) Income from hire charges from contactors and others;

i) Income from advertisements, etc.;

j) Any other non- tariff income.

Provided that the interest earned from investments made out of Return on Equity corresponding to *the regulated business of the Generating Company shall not be included in Non-Tariff Income."*

The Petitioner has not projected any non-tariff income for the third Control Period. Accordingly, the Commission has also not considered any non-tariff income. However, the same is subject to correction during the truing up proceedings.

5.2.9 Annual Fixed Charges, Capacity Charge and Energy Charge Rate (ECR) for FY 2019-20, FY 2020-21 and FY 2021-22

Based on the above analysis for all the heads of expenses of AFC, the Commission has approved the Annual Fixed Charges (AFC) of the Petitioner for the third Control Period attributable to its beneficiary.

Regulation 50 of UERC Tariff Regulations, 2018 specifies as follows:

"50. Computation and Payment of Capacity Charges and Energy Charges for Hydro Generating Stations

(1) The Annual Fixed Charges of Hydro Generating Station shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis under capacity charge (inclusive of incentive) and Energy Charge, which shall be payable by the beneficiaries in proportion to their respective percentage share/allocation in the saleable capacity of the generating station, i.e. in the capacity excluding the free power to the home State.

(2) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be:

AFC x 0.5 x NDM / NDY x (PAFM / NAPAF) (in Rupees)

Where,

AFC = Annual fixed cost specified for the year, in Rupees.

NAPAF = Normative plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in Percentage

(3) The PAFM shall be computed in accordance with the following formula:

$PAFM = 10000 \, x \sum_{i=1}^{N} DCi / \{N \, x \, IC \, x \, (100 - Aux)\}\%$

Where,

AUX = Normative auxiliary energy consumption in percentage

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 Uttarakhand State Load Despatch Centre after the day is over.

IC = Installed capacity (in MW) of the complete generating station

N = Number of days in the month

(4) The Energy Charge shall be payable by every beneficiary for the total energy supplied to the beneficiary, during the calendar month, on ex-power plant basis, at the computed Energy Charge rate. Total Energy Charge payable to the Generating Company for a month shall be:

(Energy Charge Rate in Rs./kWh) x {Energy supplied (ex-bus)} for the month in kWh} x (100-FEHS)/100

(5) Energy Charge Rate (ECR) in Rupees per kWh on ex-power plant basis, for a Hydro Generating Station, shall be determined up to three decimal places based on the following formula, subject to the provisions of sub-Regulation (7):

ECR = AFC x 0.5 x 10 / {DE x (100 – AUX) x (100 –FEHS)}

Where,

DE = Annual Design Energy specified for the hydro generating station, in MWh,.

FEHS = Free Energy for home State, in percent, as applicable"

In accordance with the above Regulations, the Annual Fixed Charge (AFC) for the third Control Period as claimed and approved by the Commission is shown in the Table below:

Table 5.6: Annual Fixed Charges approved by the Commission for FY 2019-20 to FY 2021-22 (Rs. Crore)

Annual Fixed Charges	FY 2019-20		FY 2020-21		FY 2021-22	
	Claimed	Approved	Claimed	Approved	Claimed	Approved
Depreciation	26.56	26.44	26.77	26.44	28.06	26.44
Interest on Loan	21.40	20.65	18.93	17.74	16.37	14.83
Return on Equity	26.33	26.03	26.33	26.03	26.33	26.03
O&M Expenses	17.69	14.20	17.71	14.50	18.19	14.81
Interest on Working Capital	2.68	2.51	2.68	2.46	2.70	2.41
Less: Non-Tariff Income	0.00	0.00	0.00	0.00	0.00	0.00
Net Annual Fixed Charges	**94.66**	**89.83**	**92.72**	**87.17**	**82.37**	**84.52**

The summary of Capacity Charge and Energy Charge Rate (ECR) for the Petitioner's project for the third Control Period from FY 2019-20 to FY 2021-22 is as given in the Table below:

Table 5.7: Capacity Charge and Energy Charge Rate approved by the Commission for the third Control Period

Particular	FY 2019-20	FY 2020-21	FY 2021-22
Net AFC (Rs. Crore)	89.83	87.17	84.52
Saleable Energy (MU)	246.52	246.52	246.52
Capacity Charges (Rs. Crore) (50% of AFC)	44.91	43.59	42.26
Energy Charges (Rs./kWh) (50% of AFC)	1.822	1.768	1.714

In accordance with the provisions of the Regulations, the secondary energy rate shall be equal to the rate derived based on the saleable energy subject to a cap of 90 paise per unit and shall be applicable when actual saleable energy exceeds the Saleable Energy (DE-(100-Auxiliary Consumption)-FS).

(Subhash Kumar)
Chairman