Order

On

True up for FY 2021-22,
Annual Performance Review
for FY 2022-23
&
ARR for FY 2023-24
For
M/s Greenko Budhil Hydro Power
Pvt. Ltd.

March 30, 2023

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** **4**

2. **UPCL's Objections/Suggestions, Petitioner's Responses and Commission's Views.** **7**

2.1 Recovery of AFC on actual PAFM. **7**

2.1.1 UPCL's Comment 7

2.1.2 Petitioner's reply 7

2.1.3 Commission's view 7

2.2 Additional Capitalistion **8**

2.2.1 UPCL's Comment 8

2.2.2 Petitioner's reply 8

2.2.3 Commission's view 8

2.3 Operation &Maintenance Expenses **8**

2.3.1 UPCL's Comment 8

2.3.2 Petitioner's reply 9

2.3.3 Commission's view 9

3. **Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2021-22** **10**

3.1 Statutory Requirement **10**

3.2 Impact of Sharing of Gains and Losses on account of Controllable Factors for FY 2021-22 .... **11**

3.2.1 Physical Parameters 11

3.2.2 Financial Parameters 13

4. **Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2022-23** **33**

4.1 Annual Performance Review **33**

5. **Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on ARR for FY 2023-24** **42**

5.1 Physical Parameters **42**

5.1.1 NAPAF 42

5.1.2 Design Energy, Auxiliary Energy Consumption and Saleable Primary Energy 42

5.2 Financial Parameters **42**

5.2.1 Opening GFA and Additional Capitalisation for FY 2023-24 42
5.2.2 Capital Structure 47
5.2.3 Depreciation 47
5.2.4 Return on Equity 48
5.2.5 Interest on Loans 49
5.2.6 Operation and Maintenance expenses 50
5.2.7 Interest on Working Capital 56
5.2.8 Non-Tariff Income 58
5.2.9 Annual Fixed Charges, Capacity Charge and Energy Charge Rate (ECR) for FY 2023-24 59

List of Tables

Table 3.1 Additional Capitalisation claimed for FY 2021-22 (Rs. in Crore) 15

Table 3.2: Approved Gross Fixed Assets (Rs. on Crore) 17

Table 3.3: Financing for capitalisation 18

Table 3.4: Depreciation approved for FY 2021-22 (Rs. in Crore) 19

Table 3.5: Return on Equity claimed by the Petitioner and approved by the Commission for FY 2021-22 (Rs. in Crore) 20

Table 3.6: Interest on Normative Loan for FY 2021-22 (Rs. in Crore) 21

Table 3.7: Actual O&M expenses for FY 2021-22........ 24

Table 3.8: O&M expenses for FY 2021-22 (Rs. Crore) 26

Table 3.9: O&M Expenses Approved After Sharing of Gains and Losses for FY 2021-22 (Rs. Crore) 26

Table 3.10: Interest on working capital approved by the Commission for FY 2021-22 (Rs. in Crore) 27

Table 3.11: Interest on Working Capital for FY 2021-22 after Sharing of Gains (Rs. Crore)........ 28

Table 3.12: Annual Fixed Charges for FY 2021-22 approved by the Commission (Rs. in Crore) 30

Table 3.13: Summary of net truing-up for FY 2021-22 (Rs. Crore) 32

Table 4.1: Proposed Additional Capitalisation for FY 2022-23........ 34

Table 5.1: Proposed Additional Capitalisation for FY 2023-24........ 43

Table 5.2: Depreciation for FY 2023-24 (Rs. Crore) 48

Table 5.3: RoE for FY 2023-24 (Rs. Crore)........ 49

Table 5.4: Interest on Normative Loan for FY 2023-24 (Rs. Crore) 50

Table 5.5: Employee expenses approved by the Commission for FY 2023-24 (Rs. Crore)........ 54

Table 5.6: R&M expenses approved by the Commission for FY 2023-24 (Rs. Crore)........ 55

Table 5.7: A&G expenses approved by the Commission for FY 2023-24 (Rs. Crore) 56

Table 5.8: O&M expenses approved by the Commission for FY 2023-24 (Rs. Crore) 56

Table 5.9: Interest on working capital claimed and approved by the Commission for FY 2023-24 (Rs. Crore)........ 58

Table 5.10: Annual Fixed Charges approved by the Commission for FY 2023-24 (Rs. in Crore) 61

Table 5.11: Capacity Charge and Energy Charge Rate approved by the Commission for FY 2023-24........ 61

Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No.: 53 of 2022

In the Matter of:

Petition filed by M/s Greenko Budhil Hydro Power Pvt. Ltd. for true-up of AFC for FY 2021-22, Annual Performance Review for FY 2022-23 and ARR for FY 2023-24 for Budhil Hydro Station of Greenko Budhil Hydro Power Pvt. Ltd. under Section 62 and 84 of the Electricity Act, 2003 read with the relevant Regulations and guidelines of the Commission.

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 D.P. Gairola	**Member (Law)/ Chairman (I/c)**
Shri M.K. Jain	**Member (Technical)**

Date of Order: March 30, 2023

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 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 and Uttarakhand Electricity Regulatory

Commission (Terms and Conditions for Determination of Tariff) Regulations, 2021 (hereinafter referred to as "UERC Tariff Regulations, 2021") for the fourth Control Period from FY 2022-23 to FY 2024-25 specifying therein terms, conditions and norms of operation for licensees, generating companies and SLDC.

The Commission had issued the Order dated 27.02.2019 on approval of Business Plan and Multi Year Tariff for the third Control Period from FY 2019-20 to FY 2021-22. Subsequently, the Commission had carried out the Annual Performance Review (APR) for FY 2019-20, FY 2020-21 and FY 2021-22 vide its Order dated 18.04.2020, Order dated 26.04.2021 and Order dated 31.03.2022.

In compliance with the provisions of the Act and Regulation 8(1) and Regulation 10(1) of UERC Tariff Regulations, 2018 and UERC Tariff Regulations, 2021, M/s Greenko Budhil Hydro Power Pvt. Ltd. (hereinafter referred to as "M/s GBHPPL" or "the Petitioner" or "the Generator") filed the Petition (Petition No. 53 of 2022 and hereinafter referred to as "Petition"), giving details of its revised projections of Aggregate Revenue Requirement (ARR) for FY 2023-24 and Annual Performance Review for FY 2022-23 on 21.12.2022. Through the Petition, the Petitioner has also requested for true up of FY 2021-22 based on the audited accounts in accordance with UERC Tariff Regulations, 2018.

The Petition filed by the Petitioner had certain infirmities/deficiencies. The Commission, accordingly, vide its letter no. UERC/6/TF-668/2022-23/2022/1183 dated 28.12.2022 informed the Petitioner that the Commission has provisionally admitted the Petition for further processing subject to the condition that M/s GBHPPL 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. Through the same letter, the Petitioner was also directed to rectify the said infirmities in the Petition and submit certain additional information necessary for ARR determination. M/s GBHPPL vide its letter dated 11.01.2023 removed the critical deficiencies.

This Order, accordingly, relates to the Tariff Petition filed by M/s GBHPPL for true up for FY 2021-22, APR for FY 2022-23 and revised ARR for FY 2023-24 and is based on the Petition as well as all the subsequent submissions made by M/s GBHPPL during the course of the proceedings and the relevant findings contained in the Tariff Order dated 26.04.2021 and MYT Tariff Order dated 31.03.2022.

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 GBHPPL is recoverable from the beneficiary. It is the endeavour of the Commission, to issue Tariff Orders for M/s GBHPPL concurrently with the issue of Order on retail tariffs for Uttarakhand Power Corporation Limited (UPCL), so that UPCL is able to honour the payment liability towards the Annual Fixed Charges of M/s GBHPPL. For the sake of convenience and clarity, this Order has further been divided into following Chapters:

Chapter 1- Background and Procedural History.

Chapter 2 - UPCL's Objections/Suggestions, Petitioner's Responses and Commission's Views.

Chapter 3 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2021-22.

Chapter 4 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2022-23.

Chapter 5 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on ARR for FY 2023-24.

1. Background and Procedural History

M/s GBHPPL is a company incorporated under the Companies Act, 1956. M/s GBHPPL 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 or Plant"). The Petitioner had executed a PPA for 70 MW capacity with 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 GBHPPL for the 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 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 & FY 2016-17 and approved the Aggregate Revenue Requirement for FY 2018-19 vide Tariff Order dated 21.03.2018. Further, the Commission had carried out the true up of FY 2017-18 and approved the ARR for each year of the third Control Period from FY 2019-20 to FY 2021-22 vide Tariff Order dated 27.02.2019. Subsequently, the Commission vide Tariff Order dated 18.04.2020 had carried out the true-up of FY 2018-19 and approved the ARR for FY 2020-21. Thereafter, the Commission vide Tariff Order dated 26.04.2021 had carried out the true-up of FY 2019-20 alongwith with APR for FY 2020-21 and ARR for FY 2021-22. Subsequently, the Commission vide Tariff Order dated 31.03.2022 had approved the Business Plan and MYT for the fourth Control Period from FY 2022-23 to FY 2024-25 alongwith True up for FY 2020-21 and APR for FY 2021-22.

In accordance with Regulation 12 of the UERC Tariff Regulations, 2021, the Generating Company is required to file a Petition for Annual Performance Review by November 30 of every year. In compliance with the Regulations, M/s GBHPPL, vide letter dated 30.11.2022 requested the Commission to grant time extension of three weeks for filing of the True up Petition in compliance with the prevailing UERC Tariff Regulations. The Commission vide letter no. UERC/6/TF-668/2022-23/2022/1083 dated 02.12.2022 accepted the request of the Petitioner and granted the time extension of one week for filing of the Petition. Subsequently, the Petitioner once again requested the Commission vide email dated 08.12.2022 to allow additional time till 19.12.2022 for filing the true-up Petition for FY 2021-22 along with the APR for FY 2022-23 and ARR for FY 2023-24.

Subsequently, M/s GBHPPL filed Tariff Petition on APR for FY 2022-23 on 19.12.2022. Through the above Petition, M/s GBHPPL sought true up for FY 2021-22, APR for FY 2022-23 and ARR for FY 2023-24 based on the audited accounts for FY 2021-22 and revised projections for additional capitalisations for FY 2022-23 and FY 2023-24. The Commission vide its letter no. UERC/6/TF-668/2022-23/2022/1183 dated 28.12.2022 informed the Petitioner that the Petition had certain deficiencies/data gaps and directed the Petitioner to rectify the said deficiencies in the Petition and it was required to submit certain additional information necessary for admission of the Petition. Further, through the same letter, the Commission provisionally admitted the Petition. This Order, accordingly, relates to the Petition filed by M/s GBHPPL for true up for FY 2021-22, APR for FY 2022-23 and revised ARR for FY 2023-24 and is based on the Petition as well as all the subsequent submissions made by M/s GBHPPL during the course of the proceedings and the relevant findings contained in the Tariff Order dated 26.04.2021 and Tariff Order dated 31.03.2022.

M/s GBHPPL submitted the required information vide its submissions dated 11.01.2023. In order to provide transparency to the process of tariff determination and give UPCL an opportunity to submit its objections/suggestions/comments on the proposals of M/s GBHPPL, the Commission sent the copy of the tariff proposals to UPCL vide letter no. UERC/6/TF-630/2022-23/2022/1186 dated 28.12.2022.

UPCL vide its letter no. 460/UPCL/Com/GG-3/CE dated 03.01.2023 submitted its comments on the Tariff Petition filed by the Petitioner, which was forwarded to the Petitioner for counter reply, if any. The Petitioner vide its letter no. GBHPPL/UERC/TRUE-UP/05/2023 dated 20.02.2023 submitted its rejoinder. The Commission has dealt with the reply of the Respondent and rejoinder of the Petitioner in Chapter-2 of this Order.

The submissions made by M/s GBHPPL in the Petition as well as additional submissions have been discussed by the Commission at appropriate places in the Order alongwith the Commission's views on the same.

Meanwhile, based on the scrutiny of the Petition and subsequent submission of M/s GBHPPL, the Commission had pointed out certain data gaps in the Tariff Petition and sought following additional information/clarifications from the Petitioner:

- Trail Balance alongwith Financial Statements for FY 2021-22.
- Independent Agency's reports in support of additional capitalisation.
- Detailed breakup of Repair and Maintenance.
- Justification for lower generation than saleable energy.

The submissions made by M/s GBHPPL 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. UPCL's Objections/Suggestions, Petitioner's Responses and Commission's Views.

The Commission has received suggestions/objections/comments from UPCL on M/s GBHPPL's Petition for approval of true up for FY 2021-22, Annual Performance Review for FY 2022-23 and Aggregate Revenue Requirement for FY 2023-24. The Commission has further obtained replies from the Petitioner on the suggestions/objections/comments received from UPCL. For the sake of clarity, the objections raised by UPCL and responses of the Petitioner have been summarized issue wise. In the subsequent Chapters of this Order, the Commission has kept in view the suggestions/objections/comments of UPCL and replies of the Petitioner while deciding the ARR for M/s GBHPPL.

2.1 Recovery of AFC on actual PAFM.

2.1.1 *UPCL's Comment*

UPCL submitted that the Petitioner requested for recovery of AFC on actual PAFM due to non-operation of plant because of submergence of the entire plant. Hefty amount of O&M expenses and additional capitalisation are being incurred by the Petitioner still such incident happened. Therefore, the Petitioner's request in this regard should be rejected.

2.1.2 *Petitioner's reply*

The Petitioner submitted that it has been taking all measures for maintaining highest level of reliability through prudent operation and maintenance practices. However, the submergence of the plant was due to factors beyond the control of the Petitioner.

2.1.3 *Commission's view*

The Commission has gone through the available information to determine the actual PAFM. Further, submissions of the Respondent and the Petitioner has been dealt in subsequent paragraphs of this Order.

2.2 Additional Capitalistion

2.2.1 *UPCL's Comment*

With regard to additional capitalisation, UPCL submitted that the Petitioner has not given any substantial evidence to show that the cost incurred on the same will attribute to any performance enhancement in the generation of the plant, therefore, it cannot be allowed. The Petitioner is also required to demonstrate and justify the use of such additional capitalisation incurred on the plant.

2.2.2 *Petitioner's reply*

The Petitioner submitted that it has been taking all due care and following prudent utility practices. The capitalization works have been taken up after recommendations from expert teams such DoE, GoHP and external independent experts. In addition to the independent consultant, expert service providers various authorities like Directorate of Energy Govt. of H.P. (Safety Teams) inspections, Chief Electrical inspectorate observations, change in regulation and compliances changes in existing system are done in past and proposed for future.

2.2.3 *Commission's view*

The Commission while carrying out the truing up for FY 2021-22, as discussed in subsequent Chapters of this Order, has carried out detailed analysis and prudence of additional capitalisation claimed and allowed only those capital expenses which are necessary for smooth running of the plant.

2.3 Operation &Maintenance Expenses

2.3.1 *UPCL's Comment*

UPCL submitted that the Petitioner while seeking True-up for FY 2021-22 has requested to consider a cost of Rs. 18.12 crore on account of O&M head against the approved cost of Rs. 15.58 crore. However, no concrete justification has been provided therein, rather merely a comparison of similar size of Hydro plant has been portrayed for justification which seems illogical, irrational and only on assumption basis and, therefore, the expense as claimed should not be allowed.

2.3.2 ***Petitioner's reply***

The Petitioner submitted that the difference in cost capitalised and proposed while preparing the budget estimate is mainly due to the time gap. The additional reason for cost comparison for same installed capacity Power Plant is that Budhil Hydro Power Plant is located in remote area of Himachal Pradesh and the cost of resources is 25 % higher as compared to other location of Himachal and other hilly States. All required spares and consumables are arranged from quite far away market. Even service providers, vendors are charging higher due to difficult approach, hilly terrain unpredictable climate conditions etc

2.3.3 ***Commission's view***

Sharing of gain/loss on account of O&M expenses have been done in accordance with the provisions of UERC Tariff Regulations, 2018 after prudence analysis of actual O&M expenses incurred. Further, projected O&M expenses for FY 2023-24 have been approved in accordance with the provisions of UERC Tariff Regulations, 2021 subject to the condition that the same will be trued up while carrying out the truing up exercise for FY 2023-24 based on the actual O&M expenses incurred after prudence check.

3. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2021-22

3.1 Statutory Requirement

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

Regulation 12 of the UERC Tariff Regulations, 2018 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 as amended from time to time, 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 relating to its expenses and revenues for FY 2021-22 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 2021-22 alongwith the sharing of gains and losses.

3.2 Impact of Sharing of Gains and Losses on account of Controllable Factors for FY 2021-22

Regulation 14 of the UERC Tariff Regulations, 2018 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 require 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 the impact of uncontrollable factors.

O&M expenses comprises of the major portion of AFC of M/s GBHPPL and are within the control of the Petitioner and, moreover, in accordance with UERC Tariff Regulations, 2018 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. However, 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.

3.2.1 *Physical Parameters*

3.2.1.1 NAPAF

The Commission vide its Order dated 28.12.2016 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. Further, the Commission vide its MYT Order dated 27.02.2019 had also fixed the NAPAF of 85% for the third Control Period from FY 2019-20 to FY 2021-22 in accordance with the Regulations. Relevant extract of the said Order is as follows:

> *"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 second Control Period shall continue to be applicable for the third Control Period without any change in accordance with the Regulations."*

Hence, the Commission is of the view that the NAPAF of 85% approved for the third Control Period in Tariff Order dated 27.02.2019 shall continue to be applicable for FY 2021-22 without any change.

3.2.1.2 *Design Energy and Saleable Primary Energy*

The Commission in its Tariff Order dated 27.02.2019 on approval of Business Plan and Multi Year Tariff for the third Control Period from FY 2019-20 to FY 2021-22 had approved the Design Energy of 283.54 MUs in accordance with the UERC Tariff Regulations, 2018 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 @ 1.20% for the under-ground stations had approved the saleable energy for the project as 246.52 MUs for the first 12 years from CoD. The Commission decides to consider the design energy and saleable primary energy for FY 2021-22 as considered in the Tariff Order dated 27.02.2019.

3.2.2 Financial Parameters

3.2.2.1 Capital Cost

Regulation 21 (2) of UERC Tariff Regulations, 2018 specifies as under:

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

a) The capital cost admitted by the Commission prior to 01.04.2019 duly trued up as on 01.04.2019;

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. 533.15 Crore as on 01.04.2021. The Commission, vide its Tariff Order dated 31.03.2022, had approved the opening GFA and net additional capitalisation amounting to Rs. 528.71 Crore and Rs. 4.44 Crore respectively for FY 2020-21 for the Petitioner's plant. Accordingly, the Commission has considered the approved closing capital cost, i.e. Rs. 533.15 Crore for FY 2020-21 as opening GFA for the purpose of truing up for FY 2021-22.

3.2.2.2 *Additional Capitalisation*

Regulation 22 of UERC Tariff Regulations, 2018 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) ..."

In the present Petition, the Petitioner has claimed additional capitalisation of Rs. 4.22 Crore for FY 2021-22 which reconciles with the audited annual accounts for FY 2021-22. Details of the same are given in the Table below:

Table 3.1 Additional Capitalisation claimed for FY 2021-22

S. No.	Description	Rs. (in Crore)	Justification
1	Construction of security guard accommodation at powerhouse Budhil:	0.05	The existing security check post at required locations is of temporary type needs to be constructed for permanent and safe structure.
2	Safety of T/Yard work shop and main:	0.36	
3	Concreting work for MAT Tunnel:	0.63	The Main Access Tunnel (MAT) to the Underground Powerhouse of the project was constructed 15 years back and the plant is under operation for last 10 years. Due to aging and water ingress in the strata, rockfalls are occurring from the crown of the MAT at places, endangering the safety of the O&M staff commuting through MAT. This aspect was highlighted by our EHS wing and further by the team of the DoE, Govt. of H.P. for necessary remedial measures were required. Our Design & Engg. wing have studied and suggested concreting of the crown area at the vulnerable places to avoid any safety hazard
4	Construction of DG Set Room at Powerhouse and civil work for dam shed at dam site:	0.06	Presently DG sets are either kept in open or in temporary CGI sheets sheds. Permanent DG room to keep DG set and operating panel/distribution panel is required.
5	Construction of Permanent Panel Room of TRT Gate Power House:	0.02	Existing panels are kept either in temporary CGI sheets sheds/in open. Due to underground structure, excess humidity lot of moisture is in surrounding area. To maintain healthy environment and protection of electrical and hydraulic operated panels and equipment's permanent room is required.
6	Construction of Slope Protection work between Powerhouse and Switch Yard:	0.36	Up hill side, near powerhouse MAT & VT which is access path was loose and sliding zone. There are chances of sliding the hill mass. The loose portion threatens the safety of employees and transformer equipment. To prevent damages of transformer yard and equipment and keeping in view the safety of employees, it is required to make slope stabilisation. So as to avoid any accidents.
7	Supply of PGI Airduct and Axial flow fan:	0.02	Cables are heating up when machines are overloaded. The length of cable tunnel is more than 100m & heat dissipated have no proper ventilation system & fresh air suction & hot air exhaust provision. To maintain the cables operating temperature proper ventilation is required. Hence, the proposed works were carried out.
8	Erection of AIR DUCT in CABLE TUNNEL, Erection of Exhaust Fans for Main Cable Access:	0.005	Cables are heating up when machines are overloaded. The length of cable tunnel is more than 100 m & heat dissipated have no proper ventilation system & fresh air suction & hot air exhaust provision. To maintain the cables operating temperature proper ventilation is required.
9	Work Order for Supply, Fabrication and Erection of sound proof Office Cabin for Power House:	0.02	There is no office inside power house to keep the drawing and documents. During O&M activities discussion and meetings are required to be done at site. The sound proof cabin inside power house is required.
10	Supply of MS Rectangular, PPGI Sheet, Fabrication &	0.13	It was proposed to provide Cladding with CGI Sheets on both side of MAT, Turbine floor & Generator Floor to give a

	Installation of PPGI (Pre-painted galvanized sheet)		healthy and safe working environment by restricting the entry of dust & moisture. Further, there is enough space from column to column at Turbine and Generator floor which can be used for storage of small spares & consumables by providing cladding between the columns.
11	Design, Fabrication, Supply and Erection of G+4 Pre-fab structure:	1.68	1. The existing office building was made considering only construction purpose and temporary nature. Every year repair works are done but existing structure has now got damaged beyond repairs. In view of this and permanent long-time requirement of office, proposal for new office building was prepared. 2. Proposed new office building is in safer zone (On hard rock and above the highest flood level of river Ravi) near GIS building. Before taking quote from vendor on our request he visited site and found the site suitable for proposed structure. The same vendor constructed adjoining GMR, Hydro Project Township and office building.
12	Supply of GE make relays	0.57	Unit # 2 is running with single protection and there is no redundancy. In case of any failure in main protection system, stand by protection panel is required to avoid generation loss. 2. Presently the Line is with single protection and there is no redundancy. In case of any failure in main protection system, stand by protection panel is required to avoid generation loss. 3. Presently the busbar is with single protection and there is no redundancy. In case of any failure in main protection system, stand by protection panel is required to avoid generation loss.
13	Supply of cable copper	0.31	Now 7 runs per phase of 11 kV XLPE cables (300 meters per run per phase) are laid. Due to overheating of cable or any damages, spare cable is required to avoid the generation loss. The existing security check post at required locations is of temporary type needs to be constructed permanent and safe structure.
Total		**4.22**	

With regards to the additional capitalisation incurred for FY 2021-22, the Petitioner submitted that it has claimed additional capitalisation under Regulation 22(2) of UERC Tariff Regulations, 2018. The Petitioner also submitted that the project has been in operation for about 11 year and requires strengthening of its civil structure and electrical equipment. The plant is being exposed to geological stresses and, accordingly, needs 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 31.03.2022 had not approved any projected additional capitalisation for FY 2021-22, directing the Petitioner to provide proper justification for the additional capitalisation in accordance with Regulation 22(2) of the UERC Tariff Regulations, 2018 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 2021-22.

The Petitioner submitted Purchase Orders/Work Orders alongwith the report of the independent agency in support of the additional capitalisation incurred for FY 2021-22. The Commission has gone through all the submissions made by the Petitioner w.r.t. additional capitalisation for FY 2021-22. The Commission also examined the findings and suggestions of the report submitted by the independent agency for the purpose of allowance of additional capitalisation and finds it in accordance with Regulation 22(2) of UERC Tariff Regulations, 2018. The Commission approves the additional capitalisation of Rs. 4.22 Crore as claimed by the Petitioner for the purpose of truing up of FY 2021-22 after prudence check.

Accordingly, based on the above discussions, the details of the trued-up capital cost for FY 2021-22 is as follows:

Table 3.2: Approved Gross Fixed Assets (Rs. on Crore)

S. No.	Particular	Opening GFA as on 01.04.2021	Addition	Closing GFA as on 31.03.2022
1	Freehold Land	0.87	0.00	0.87
2	Leasehold Land	7.18	0.00	7.18
3	Buildings	62.87	3.34	66.21
4	Other Civil Works	226.10	0.00	226.10
5	Hydraulic Mechanical Works	31.72	0.00	31.72
6	Plant & Machinery	203.13	0.87	204.00
7	Vehicles	0.32	0.00	0.32
8	Furniture and Fixtures	0.26	0.01	0.27
9	Office Equipment	0.62	0.00	0.62
10	Computers	0.06	0.00	0.06
11	Computer Software	0.01	0.00	0.01
Total		**533.15**	**4.22**	**537.37**

3.2.2.3 *Capital Structure*

Regulation 24 of UERC Tariff Regulations, 2018 specifies as under:

"24. Debt-Equity Ratio

(1) For a project declared under commercial operation on or after 1.4.2019, 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 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall 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 1.4.2019, Debt: Equity Ratio shall be as approved by the Commission in the previous Orders."

The Commission vide its Tariff Order dated 31.03.2022 had approved the Debt-Equity Ratio of 70:30 as on 31.03.2021 which has been considered in the present Petition also. Further, as per the submissions of the Petitioner, entire capitalisation for FY 2021-22 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 additional capitalisation.

Accordingly, based on the above discussion, capital structure and additional capitalisation for FY 2021-22, is as follows:

Table 3.3: Financing for capitalisation

Particular	Opening Capital structure as on 01.04.2021		During FY 2021-22 Approved		Closing capital structure as on 31.03.2022	
	(Rs. in Crore)	%	(Rs. in Crore)	%	(Rs. in Crore)	%
Debt	373.19	70.00	2.96	70.00	376.15	70.00
Equity	159.96	30.00	1.27	30.00	161.22	30.00
Total	**533.15**	**100.00**	**4.22**	**100.00**	**537.37**	**100.00**

3.2.2.4 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 submitted that the depreciation has been charged at the rates specified by the Commission in UERC Tariff Regulations, 2018 for FY 2021-22. The Petitioner has claimed depreciation of Rs. 26.57 Crore for FY 2021-22.

As mentioned in the Tariff Order dated 30.11.2016, the Commission 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, the Commission has followed the same methodology. Accordingly, allowable depreciation works out to Rs. 26.85 Crore for FY 2021-22 based on the prevailing UERC Tariff Regulations.

Details of the depreciation as approved in Tariff Order, claimed by the Petitioner and trued up for FY 2021-22 is as follows:

Table 3.4: Depreciation approved for FY 2021-22 (Rs. in Crore)

Particular	Approved in Tariff Order dated 26.04.2021	Claimed	Approved
Depreciation	26.68	26.57	26.85

3.2.2.5 *Return on Equity (RoE)*

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 amounting to Rs. 26.39 Crore for FY 2021-22. As per the aforesaid regulation, the Commission has allowed Return on Equity at the rate of 16.50% on the opening admissible normative equity of Rs. 159.96 Crore which works out to Rs. 26.39 Crore for FY 2021-22 in accordance with Regulation 26 of UERC Tariff Regulations, 2018. Details of the Return on Equity claimed and trued up for FY 2021-22 is as follows:

Table 3.5 : Return on Equity claimed by the Petitioner and approved by the Commission for FY 2021-22 (Rs. in Crore)

Particular	Approved in Tariff Order dated 26.04.2021	Claimed	Approved
Return on Equity	26.17	26.39	26.39

3.2.2.6 *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 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 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. 13.10 Crore for FY 2021-22 for the purpose of truing up based on the weighted average rate of interest of 9.30% p.a., w.r.t. interest rate of Non-Convertible debentures which was 11.00% p.a. prior to 01.04.2021.

The Commission had approved the normative net closing loan of Rs. 152.65 Crore for FY 2020-21 in its Tariff Order dated 31.03.2022. The same has been considered as normative net opening loan for FY 2021-22. Further, 70% of the additional capitalisation approved for FY 2021-22 has been considered as addition to normative loan which works out to Rs. 2.96 Crore and repayment has been considered equivalent to admissible depreciation, i.e. Rs. 26.85 Crore. Hence, interest on normative loan works out to Rs. 13.08 Crore on average normative loan amounting to Rs. 140.70 Crore considering the interest rate @ 9.30% p.a.

Further, it has been observed from the submission of the Petitioner that the Petitioner has considered Rs. 0.12 Crore pertaining to 'Bank & Other charges' under the head of Corporate expenses in A&G expenses. The Commission is of the view that such expenses are part of finance charges on loan capital. Accordingly, the amount of Rs. 0.12 Crore pertaining to Bank Charges for FY 2021-22, 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 2021-22 on actual basis.

Based on the above, details of the interest claimed and allowed during the truing up for FY 2021-22 is given in the Table below:

Table 3.6: Interest on Normative Loan for FY 2021-22 (Rs. in Crore)

Particular	Approved in Tariff Order dated 26.04.2021	Claimed by Petitioner	Approved
Interest on Normative Loan	15.00	13.10	13.20*

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

3.2.2.7 *Operation & Maintenance (O&M) Expenses*

Truing up of O&M Expenses for FY 2021-22

Regulations 48 of 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:-

$$O\&M_n = R\&M_n + EMP_n + A\&G_n$$

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 ,m 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."*

The Petitioner has claimed actual O&M expenses amounting to Rs. 18.12 Crore for truing up for FY 2021-22. In the matter, it is pertinent to mention that FY 2021-22 falls under third Control Period and, therefore, O&M expenses for the third Control Period shall be worked out in accordance with the provision of UERC Tariff Regulations, 2018.

The Commission carried out the prudence check of the actual O&M expenses incurred by the Petitioner for FY 2021-22 in accordance with the UERC Tariff Regulations, 2018. The actual details of O&M expenses for FY 2021-22 are given in the Table below:

Table 3.7: Actual O&M expenses for FY 2021-22

S. No.	Particulars	Rs. in Crore
1.	Repairs & Maintenance Expenses	5.475
2.	Employee Expenses	7.999
3.	Administrative & General Expenses (inclusive of proportionate administrative expenses of headquarter amounting to Rs. 0.44 Crore)	4.644
	Total	**18.117**

With regard to admissible O&M expenses for FY 2021-22, the Commission analysed audited annual accounts alongwith the Trial Balance for FY 2021-22. The Commission observed that the O&M claimed by the Petitioner are inclusive of Rs. 0.10 Lakh and Rs. 0.174 Crore pertaining to Donation and CSR respectively under the head of A&G expenses as per audited annual accounts for FY 2021-22. With regard to Donation and CSR expenses, the Commission is of the view that such expenses are not necessary to be incurred for the successful running of the plant but are incurred to meet the statutory requirement under the Companies Act, 2013 out of the profits. Accordingly, such expenses are to be met out of profit and if such expenses are allowed in the ARR, it would indirectly mean that such expenses are being loaded on to the consumers and are not borne by the Petitioner. Hence, the same is disallowed.

Further, with regards to employee expenses, the Commission has followed the same methodology as followed by the Commission in Tariff Order dated 26.04.2021. The relevant extract of the said Order is as follows:

"The Commission does not find any reason to allocate entire employee cost of aforesaid six employees working at the headquarter of the Petitioner when they are involved in other business operations of the group company as was evident from their offer letters. In the matter, the Commission is of the view that it would be appropriate to apportion the indirect manpower cost deployed at headquarter level on the basis of operating capacity handled by Greenko group. Accordingly, the Commission directed the Petitioner to submit the manpower cost of the employees deployed at the headquarter level. The Petitioner vide email dated 12.04.2021 submitted the requisite details. In the Present Petition, the Commission has reworked the employee expenses allowed for FY 2018-19 and allowed the incremental cost on account of apportionment of indirect manpower cost deployed at headquarter level alongwith the O&M cost worked out for FY 2019-20. The actual O&M expenses of the Petitioner after carrying out the prudence check by the Commission works out to Rs. 17.03 Crore."

Accordingly, actual employee expenses of Rs. 5.57 Crore for FY 2021-22 has been considered after considering proportionate manpower expenses at headquarter level on the basis of operating capacity handled by Greenko group and adjusting salaries of six number of employees allocated to Budhil HEP by the Petitioner. Further, the Petitioner submitted administrative expenses of Rs. 0.77 Crore pertaining to headquarter level. The Commission has considered the proportionate administrative expenses.

For the purpose of truing up of O&M expenses, the Commission has adopted the same methodology in the present Petition as adopted in the previous Tariff Orders dated 18.04.2020, Order dated 26.04.2021 and Order dated 31.03.2022 for determination of normative O&M expenses. Accordingly, the escalation rates have been computed on the basis of actual CPI Inflation and WPI Inflation for FY 2021-22 which works out to 4.03% in accordance with Regulation 48(2)(e) of UERC Tariff Regulations, 2018. The Commission has escalated the O&M expenses approved for FY 2020-21, i.e. Rs. 14.97 Crore by the escalation factor to compute normative O&M expenses for FY 2021-22 which works out to Rs. 15.58 Crore. The detail of O&M expenses claimed and approved by the Commission is as follows:

Table 3.8: O&M expenses for FY 2021-22 (Rs. Crore)

Particular	Claimed	Actual after prudence check	Normative O&M expenses worked out
Normative O&M expenses	18.12	15.41	15.58

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, 2018 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, 2018. 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 2021-22 (Rs. Crore)

Particulars	Actual after prudence check	Normative as per Regulations	Efficiency (loss)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	15.41	15.58	0.17	0.11	0.06	15.52

3.2.2.8 *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, 2018 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.

..."

3.2.2.8.1 One Month O&M Expenses

The Commission has trued up the annual O&M expense for FY 2021-22. 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.

3.2.2.8.2 Maintenance Spares

The Commission has considered the maintenance spares in accordance with the prevailing UERC Tariff Regulations for FY 2021-22. The Commission has determined the plant wise maintenance spares requirement @ 15% of the trued-up O&M Expenses for FY 2021-22.

3.2.2.8.3 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 trued up AFC for FY 2021-22.

As regards the interest on working capital, Regulation 33 of UERC Tariff Regulations, 2018 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. The Commission has considered the prevailing State Bank Advance Rate (SBAR) of State Bank of India, i.e. 12.15% for computing the Interest on Working Capital.

Accordingly, the normative Interest on working Capital for FY 2021-22 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 2021-22 (Rs. in Crore)

Particular	Approved in Tariff Order dated 26.04.2022	Claimed	Approved
O&M Expenses	1.30	1.51	1.30
Maintenance spare	2.34	2.72	2.34
Receivables	14.25	14.46	14.00
Total	**17.88**	**18.68**	**17.63**
IWC	**2.15**	**2.57**	**2.14**

Further, the UERC Tariff Regulations, 2018 specify for sharing of gains/losses due to the 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, 2018.

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

Table 3.11: Interest on Working Capital for FY 2021-22 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	2.14	2.14	1.43	0.71	1.43

3.2.2.9 *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 claimed any Non-Tariff Income for FY 2021-22. However, the Commission observed that there is a Non-Tariff Income of Rs. 1.51 Crore as per the audited accounts for FY 2021-22 which is inclusive of Rs. 0.93 Crore pertaining to Interest on fixed deposits and Rs. 0.58 Crore related to amount received from HPPTCL for utilising dedicated transmission line of the Petitioner for evacuation of power.

The Petitioner submitted that interest earning investments as reflected in the financial statements of the Petitioner for FY 2021-22 have been made out of the retained earnings of the entity. The Petitioner further submitted that it did not distribute any dividend to its shareholders. Hence, the non-tariff income on account of investments made from the retained earnings may be allowed to be retained by the Petitioner. Further, with regard to amount received from HPPTCL, the Petitioner submitted that UPCL is deducting the above amount from the Energy Invoices raised by the Petitioner. Hence, the Petitioner has not considered the above amount under Non-Tariff Income in the tariff forms for FY 2021-22.

As mentioned above, other income of Rs. 1.51 Crore is inclusive of interest on deposits amounting to Rs. 0.93 Crore as per audited books of accounts for FY 2021-22. The Commission analysed the investment details submitted by the Petitioner and RoE approved by the Commission for respective years. The Commission observed that the Petitioner had claimed that post CoD the capitalization have been funded entirely through internal resources and also that it is investing its funds on rolling basis based on surplus funds available with it. Accordingly, the Commission worked out the average investment which is less than the average RoE available with the Petitioner for FY 2021-22 after adjusting expenditure incurred for procurement of assets and payments towards CSR. Accordingly, the Commission allows the interest on fixed deposits made out of RoE amounting to Rs. 0.93 Crore to be retained by the Petitioner.

Further, revenue w.r.t utilisation of dedicated transmission line by HPPTCL for evacuation of power from Bajoli Holi HEP and SHPs located in Himachal Pradesh, the Petitioner has stated that the revenue from HPPTCL has been adjusted by UPCL against the bills raised by it in the last quarter of FY 2021-22.

In the matter, for the purpose of representation in the Tariff Order, the Commission has considered the above-mentioned revenue for the purpose of truing up for FY 2021-22. Adjustment of this revenue by UPCL has been dealt in the revenue recovered from UPCL in sharing of gains/losses from NAPAF. Accordingly, for the purpose of true up for FY 2021-22, the Commission considers the Non-Tariff Income of Rs. 0.58 Crore excluding actual interest earned from fixed deposits made out of RoE.

3.2.2.10 *Aggregate Revenue Requirement for FY 2021-22*

Based on the above analysis, the Commission has worked out the trued-up AFC for FY 2021-22. The summary of the same is as follows:

Table 3.12: Annual Fixed Charges for FY 2021-22 approved by the Commission (Rs. in Crore)

Particulars	Tariff Order dated 26.04.2021	Claimed	Approved
Depreciation	26.59	26.57	26.85
Interest on Loan & Financial Cost	15.00	13.10	13.20
Return on Equity	26.17	26.39	26.39
O&M Expenses	15.58	18.12	15.52
Interest on Working Capital	2.15	2.57	1.43
Less: Non-Tariff Income	0.00	0.00	0.58
Total	**85.49**	**86.74**	**83.98**

Accordingly, trued-up AFC for FY 2021-22 works out to Rs. 83.98 Crore after sharing of gain/loss on account of controllable factors. Recovery of AFC for FY 2021-22 has been envisaged through two-part tariff, i.e. through Capacity Charges linked with NAPAF & PAFM and Energy Charges linked with generation.

With regard to the recovery of Capacity Charges for FY 2021-22, the Petitioner submitted that actual Plant Availability Factor during FY 2021-22 was 66.09% which is lower than the NAPAF of 85% due to the submergence of the entire plant with water. The Air release valve of unit II was damaged due to the submergence. Rectification works were taken up and one of the units was restored in January 2022. As a result of this submergence, there was no generation during the entire months of November 2021 and December 2021. The Petitioner submitted that on 26.10.2021 both Units of Budhil HEP were in stand still position as per schedule. Suddenly an incident happened while operating Unit#2 as per Schedule at 17:30 hrs., heavy leakage was noticed which increased unexpectedly. Due to heavy leakage, flooding started in the power-house and water level reached above the MIV floor resulting in failure of dewatering pumps and submergence of control panels of dewatering, MIV OPU and control cabinet. Subsequently, it was decided to shut all operations under force majeure condition. Since this incident happened, the Schedule has been kept Zero and, accordingly, best efforts were being made to restore the project. The incident was notified as Force Majeure to State Load Dispatch Centre (SLDC) promptly.

It is pertinent to mention that any variation in performance parameters shall be a controllable factor. Further, norms specified by the Commission vide its Regulations are an outcome of detailed deliberation with the stakeholders and is determined after following a due procedure. Therefore, reviewing the norms dilutes the very sanctity of the Regulations and due procedures followed for determination of the same. Further, one of the most important goals of MYT framework is to provide regulatory certainty and, therefore, dilution of norms is not prudent.

Further, it is to be noted that even during the truing up proceeding for FY 2020-21, the Petitioner had mentioned that because of leakage from both MIV units during FY 2020-21 the Petitioner could not achieve NAPAF. Furthermore, during FY 2021-22 the Petitioner once again faced the same issue. The Petitioner is advised to take necessary measurements to ensure that such incidences do not repeat in future. As far as leakage in both MIV is concerned, the Commission is of the view that such leakage is within control of the Petitioner and should have been properly taken care of during annual maintenance and also when such incident occurred during FY 2020-21. Hence, the Commission does not consider the same to be a force majeure condition. Based on the above discussion, the Commission has considered the actual PAFY for FY 2021-22 for recovery of Capacity Charges.

As discussed earlier, trued-up AFC for FY 2021-22 works out to Rs. 83.98 Crore after sharing of gain/loss on account of controllable factors against the actual gross recovered amount of Rs. 70.88 Crore by the Petitioner from UPCL under the two-part tariff. The Petitioner has supplied 216.89 MUs during FY 2021-22 which is less than the saleable energy of 246.52 MUs. Accordingly, based on the above discussions, the summary of truing up for FY 2021-22 after considering the actual performance achieved in FY 2021-22 is shown in the Table below:

Table 3.13: Summary of net truing-up for FY 2021-22 (Rs. Crore)

AFC to be recovered from UPCL (Rs. in Crore)	Capacity Charges (Rs. in Crore)	NAPAF (%)	Actual PAFY (%)	Capacity Charges allowableh (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
83.98	41.99	85%	66.09%	32.65	35.76	246.52	216.89	1.703	36.94	0.00	0.00	0.00	72.70	70.88	1.819

Total Billed amount to UPCL

Thus, the Commission has computed the net deficit/shortfall in ARR of Rs. 1.819 Crore for FY 2021-22 on the account of sharing of gains and losses and considering the actual performance parameters. Further, revenue w.r.t utilisation of dedicated transmission line by HPPTCL for evacuation of power from Bajoli Holi HEP and SHPs located in Himachal Pradesh, the Petitioner has stated that the revenue from HPPTCL has been adjusted by UPCL against the bills raised by it in the last quarter of FY 2021-22. Based on the above, the total amount to be recovered from UPCL by the Petitioner alongwith the carrying cost works out to Rs. 2.37 Crore. **The Commission directs the Petitioner to recover the deficit amount on account of truing up for FY 2021-22 in 12 equal monthly instalments commencing from April 2023 to March 2024.**

4. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2022-23

4.1 Annual Performance Review

The Commission, vide its MYT Order dated 31.03.2022, approved the Tariff for the fourth Control Period, i.e. FY 2022-23 to FY 2024-25 for the Petitioner's plant. Subsequently, the present Petition has been filed for approval of APR for FY 2022-23. Regulation 12(3) of the UERC Tariff Regulations, 2021 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, 2021 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 31.03.2022, had approved the AFC for FY 2022-23 based on the approved capital cost as on 31.03.2021. The Petitioner, in its present Petition, has proposed revision of estimates for FY 2022-23 based on the audited accounts for FY 2021-22 and revised estimates for FY 2022-23.

The Petitioner has proposed the following additional capitalisation for FY 2022-23:

Table 4.1: Proposed Additional Capitalisation for FY 2022-23

S. No.	Particular	Rs. (in Crore)	Remark
1.	Battery Bank 220V, 800Ah:	0.25	The existing battery bank was procured and commissioned in 2010. The condition of the battery bank is very bad. M/s HBL Service engineer during his inspection visit has found there is leakage in the Batteries. The DC control supply is essential requirement of entire control and protection system of Power Plant. So he has recommended to replace the battery bank as it may fail any time.
2.	DG, Standby, 600 KVA, Make Sudhir Genset:	0.50	The Old DG set is in operation since 2010. It is the emergency source of the supply during the 220 kV Line Breakdown. Budhil is an underground powerhouse and continuous dewatering is required for drainage of seepage and leakage water of the powerhouse. In case of failure of main DG set no standby DG set is available
3.	Hydraulic Oil Filtration Machine Make Alpha Lavel:	0.20	At Budhil Dam 3 OPUs of Radial gate and 2 OPUs of Silt Flushing Gates are there. Due to high moisture at Dam area frequent dehydration and filtration of Hydraulic oil is required. Road distance between Dam and Powerhouse is 25 KMs and transportation of Hydraulic oil filtration machine is difficult. So it is necessary to keep one filtration machine at DAM and can be used as and when required
4.	Local Public Address (PA) System:	0.10	As per the Central Electricity Authority (CEA), the installation of Local Public Address (PA) System is compulsory for Hydro Power stations and 220 KV switchyards. To fulfil the compliance the PA system installation is required.
5.	Balancing Machine:	0.20	The power plant is located in remote and tribal area of Himachal Pradesh and there is no well-equipped workshop near to power plant with balancing machine. For balancing of runner we have to go to Pathankot, Jalandhar and Ludhiana which takes long time. To cut-down transit /minimize the time balancing machine is required at plant.

Table 4.1: Proposed Additional Capitalisation for FY 2022-23

S. No.	Particular	Rs. (in Crore)	Remark
6.	Concrete road from Security check post to Steel Bridge at Power House:	0.40	This is the main road for powerhouse approach. The present road is metal road and it has deteriorated during the years. Due to vehicle movement lot of dust enters in GIS, Transformer yard, Workshop and Store. This results in damages to Control Panels, equipment, Workshop machinery and store material inside Power Plant area. There is no alternative road. For permanent solution concreting is required and the life of the equipment shall increase.
7.	Furniture for New Office Building:	0.20	The New Office building construction is in Progress at Budhil Power House. The present furniture available and in use is old and procured by Lanco during construction stage. The condition of the Furniture is bad and hence it is proposed for replacement with new furniture
8.	Emergency vehicle for DAM-Bolero Camper:	0.10	Company owned Vehicle engine has ceased functioning and it is in breakdown condition since 05-11-2020. This vehicle is 2009 model and due to continuous use of vehicle in hilly village path, wear and tear, it is not safe. Hence, it is proposed for one emergency vehicle.
9.	Supply, erection, testing & commissioning of Excitation panel with recommended spares for Unit 2:	0.55	Existing excitation panel was supplied by DEC China., This AVR excitation panel is outdated and spares & support from OEM / market is not possible. Due to non-availability of spares & services, the generation will be hampered on occurrence of any operational challenges. Hence, proposed for additional capitalization.
10.	Retrofitting of Generator Transformer Protection Panel Main and Standby of Unit 1:	0.25	Old panel is of NARI China Make and relays used presently are outdated. Availability of spares is a challenge and there is minimal support from OEM during malfunctioning. To keep the Generator Transformer protection system of Unit 1 in healthy condition it is required to replace the Chinese make relays with GE relays.

Table 4.1: Proposed Additional Capitalisation for FY 2022-23

S. No.	Particular	Rs. (in Crore)	Remark
11.	Manufacturing of new spare one runner:	1.15	There is only one spare runner supplied by OEM with original scope of supply. Since the project is commissioned for about ten years back & wear out runner required replacement. If the runner required are to be replaced in same year annual maintenance period, then after replacement, dismantled runner need to be repaired this will require minimum three months of machine downtime. By purchasing the new spare runner, the shut-down downtime period for annual maintenance will be reduced and thus avoiding generation loss.
12.	Construction of permanent security check post at Dam & PH:	0.15	The existing security check post at required locations is of temporary type needs to be constructed permanent and safe structure.
13.	Access road to Dam Site soling and concreting from security check post to dam top:	0.36	There is no alternative road and this single road gets damaged/blocked in rains. Material transportation and manpower movement during rainy and winter seasons gets hampered which hampers the annual maintenance activities during lean season and O&M activities during peak season. As a permanent solution, protection work and black toping with proper soiling and bearing/PCC road is required.
14.	Construction of Store room at Dam site:	0.08	There is no store for key equipments at the Dam site. The material is kept in the GOC which is not safe. To ensure the security and availability of critical tools and spares during maintenance, store is a necessity.
15.	5T Fork lifter/Mini loader:	0.40	Required for shifting the heavy mechanical spare parts from GOC to service bay.
16.	Providing side cladding with CGI sheet both side of MAT:	0.15	It will make healthy environment as dust will not enter the power house main cavern. Also, the aesthetic look of power plant cavern will improve

Table 4.1: Proposed Additional Capitalisation for FY 2022-23

S. No.	Particular	Rs. (in Crore)	Remark
17.	Protection work near Power House left bank of Ravi river:	0.70	Due to flash floods, left bank area of Ravi river along residential accommodation and approach road got eroded and will be unusable and unsafe in near future. Protection work is necessary to avoid further damages and interruption in power generation due to damage to approach road or non-availability of accommodation at site. Moreover, staff quarters are located at the left side of Ravi river. So, further slidings and damages will endanger the residential building and staff in future.
18.	Permanent staff accommodation at dam site:	0.40	Dam is located in remote location and tribal area of HP. Due to rains and snow, roads often get closed and movement is very difficult. The staff associated with dam O&M activities required to be retained and available near to dam to avoid the incidents.
19.	Black toping/ concrete work dam approach road zero RD to security check post L-300mts:	0.40	There is no alternative road and this single road gets damaged/blocked in rains. Material transportation and manpower movement during rainy and winter seasons gets hampered and this adversely impacts the annual maintenance activities during lean season and O&M activities during peak season. As a permanent solution, protection work and black toping with proper soiling and bearing/PCC road are required.
20.	New turbine governor for unit-I	1.00	The present governors are Chinese make we are experiencing operational challenges. Power generation is adversely impacted due to outages. As turbine is of older make, no spare is available in market and getting prompt service from OEM is also a challenge. For long life of governing system and smooth operation it is recommended to replace with new updated Indian make.
Total		**7.55**	

In accordance with Regulation 12(3) of the UERC Tariff Regulations, 2021 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 give effect on this account in the estimates of the ensuing year.

The Commission observed that additional capitalisation amounting to Rs. 0.01 Crore has been done against the projected additional capitalisation of Rs. 7.55 Crore. Major expenditure against the proposed additional capitalisation claimed for FY 2022-23 is yet to be incurred. Accordingly, the Commission is of the view that the additional capitalisation shall be allowed at the time of truing-up of FY 2022-23 based on the actual expenditure and after carrying out prudence check of the same and give effect on this account in the AFC of FY 2024-25. Further, the Petitioner is directed to submitted independent agency report for the capitalisation describing the necessity of the work. The Petitioner is cautioned to keep the additional capitalisation within the ambit of Project Scope and any capitalisation which is not within the original project scope of work will be disallowed by the Commission.

Further, the Commission directs the Petitioner to give prior information to the licensee before incurring any major capital expenditure or any major repair & maintenance in its plant and the licensee will be at liberty to physically verify the claims of the Petitioner so as to avoid any dispute in future regarding the claims of the Petitioner. The Petitioner is also directed to maintain documentary evidence in the form of photographs of the site (prior execution of work and post execution of work) etc. in support of works to be executed and submit the same to the Commission at the time of truing up of respective years.

The Petitioner has submitted that the proposed additional capitalisation for FY 2022-23 shall be financed by way of equity/internal resources. However, as discussed in the above paragraphs of this Order, the Commission has not considered any additional capitalisation for FY 2022-23.

With regard to O&M expenses for FY 2022-23, Regulation 48(2) of the UERC Tariff Regulations, 2021 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 2020-21, the operation and maintenance expenses for the base year of FY 2020-21 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 1.4.2022.

…

(d) *Post determination of base O&M Expenses for the base year, i.e. FY 2020-21, the O&M expenses for the nth year and also for the year immediately preceding the Control Period, i.e. 2021-22 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) *…*

(f) *…"*

As per Regulation 48(2)(a) read with Regulation 48(2)(d) of UERC Tariff Regulations, 2021, if the hydro generating power plant is in operation for more than five years preceding the base year, i.e. FY 2020-21, 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 based on the formula specified for determination of normative O&M expenses for the fourth Control Period. In the present case, the Budhil hydro power plant came under the jurisdiction of this Commission from 01.12.2015 and the plant has completed its five years of operation in the regulatory regime. Therefore, normative O&M for the said Plant shall be determined in accordance with the provisions of Regulation 48(2)(d) of UREC Tariff Regulations, 2021 for FY 2022-23.

5. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on ARR for FY 2023-24

5.1 Physical Parameters

5.1.1 *NAPAF*

Regulation 47(1)(b) of UERC Tariff Regulations, 2021 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 fourth Control Period in the Tariff Order dated 31.03.2022 shall continue to be applicable for FY 2023-24 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 31.03.2022 for FY 2023-24. 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, i.e. 12% for FY 2023-24. The same shall be reviewed by the Commission at the time of truing up of FY 2023-24.

5.2 Financial Parameters

5.2.1 *Opening GFA and Additional Capitalisation for FY 2023-24*

The Petitioner has claimed the additional capitalization amounting to Rs. 12.72 Crore for FY 2023-24. Detail of the same is as follows:

Table 5.1: Proposed Additional Capitalisation for FY 2023-24

S. No.	Particular	Rs. (in Crore)	Remark
1.	New turbine governor for one unit:	1.50	The present governors are Chinese make and experiencing operational challenges and this is adversely impacting the generation due to outages. As this is older version, availability of spares is a challenge and getting timely services from OEM is a difficulty. For long life of governing system and smooth operation it is recommended to replace with new updated Indian version
2.	Providing side cladding (Concrete Wall) downstream side in MIV Floor at PH:	0.25	There is lot of seepage of water on downstream side in MIV Floor. Concreting was already done in side walls and upstream side wall during construction. Carrying out similar works on downstream side portion will decrease the seepage water and the aesthetic look of MIV floor in power plant will improve.
3.	Providing canopy on Draft Tube Gate operating Hoist structures inside PH GOC:	0.05	Old canopy provided over the Draft Tube Gate Operating Hoist was with old CGI sheet and scrape material. Due to high moisture in the PH GOC the rusting to the structure is very frequent. So, it is proposed to provide the canopy with pre-painted sheets.
4.	Providing canopy on Surge Shaft and Surge shaft Gate operating Hoist structures:	0.30	Budhil power plant was commissioned in May 2012. The canopy over the surge shaft was not provided for since commissioning. Temporary mesh is kept over the surge shaft with wide opening. However, there are many instances where stones have fallen from hill top due to rains/ snowfall, grazing by animals. There are chances that such stones may get stuck in the runner of the turbine. Also, the old canopy provided over the gate operating hoist was with old CGI sheet and scrap material. Due to rain and snow fall the rusting of this structure is very frequent. So, it is proposed to provide the Canopy with pre-painted sheets.
5.	Providing canopy on Desilting Tank Gate operating Hoist structures inside at GOC of Desilting Chamber Gates and Silt Flushing gates at Dam:	0.05	Old canopy provided over the Desilting Tank Gate Operating Hoist was with old CGI sheet and scrap material. Due to high moisture in the DAM GOC the rusting to the structure is very frequent. So, it is proposed to provide the Canopy with pre-painted sheets.

Table 5.1: Proposed Additional Capitalisation for FY 2023-24

S. No.	Particular	Rs. (in Crore)	Remark
6.	Invert and Side lining concrete of TRT:	0.50	The invert and side lining in the TRT has been done during construction. There every chance of loose rock falling from crown and side walls leading to blockage of TRT. Also, for installation of Discharge measuring instrument, lining is required. This will enable us in measuring the flow discharge and efficiency of the turbine.
7.	Construction of Permanent panel room for Panel of Surge shaft gate at PH:	0.05	Existing panels are kept either in temporary CGI sheets sheds/in open. Due to underground structure and excess humidity, there is lot of moisture ingress. To maintain healthy environment and protection of electrical and hydraulic operated panels and equipment's permanent switchgear room is required and the same is proposed to be constructed.
8.	Construction of canopy over power Transformer at PH:	0.40	The Transformer yard of Budhil Power Station is Outside. During winter season there is snowfall in the region. As per the OEM Recommendation Outdoor units need to be in a warm area, if possible, protected from the prevailing weather. Moisture, dirt, excessive heat/cold, etc., are the main causes of INSULATION deterioration. So, it is recommended to provide the canopy over transformer yard
9.	Bedding for Worker & Security Staff Accommodation:	0.20	The new worker and security staff accommodation construction is in Progress at Budhil Power House. The condition of present bedding available is old as it was procured during construction stage. The condition of the furniture is bad. Hence, the proposed works are for providing basic amenities for the staff.
10.	Bedding for New Executive Accommodation:	0.20	The present furniture available and in use is old and procured during construction stage. The condition of the furniture is bad. Hence, the proposed works are for providing basic amenities

Table 5.1: Proposed Additional Capitalisation for FY 2023-24

S. No.	Particular	Rs. (in Crore)	Remark
11.	Isolated bus bar duct from Generator to Generator breaker of both the units:	2.50	The existing system is laying 07 runs of XLPE cables per phase and due to space constraint, the cables are getting heated up and failing during peak generation season. For replacement and repair it is becoming difficult to carry out the repair or replace with new one. Moreover, cable losses are more as compare to solid isolated bus duct. The bus duct is maintenance free and gives better safety. Hence it is proposed for replacement of XLPE cables with isolated bus bar duct.
12.	Manufacturing of top & bottom cover:	0.57	The top & bottom ring of both the generation units are required to be replaced in same year annual maintenance period. After replacement of top & bottom ring need to be refurbished and it requires minimum 1 to 1.5 months. This leads to increased downtime of machines. By purchasing the top & bottom covers, the shut-down downtime period for annual maintenance will be reduced.
13.	Construction of single room workers and supervisors accommodation at PH:	1.50	Powerhouse is in remote location and tribal area of HP. During rains and snowy seasons, roads often get closed and movement is very difficult. The staff associated with power house O&M activities required to be retained and available near to power house to avoid the incidents.
14.	Construction of staff quarters (Executives residence) at PH:	0.50	Power house is located in remote location and tribal area of HP. In rains and snow seasons roads often get closed and movement is very difficult. The staff associated with power house O&M activities required to be retained and available near to power house to avoid the incidents. Hence, above capex is proposed
15.	Dam down stream scouring:	2.00	There are massive rains in Budhil river catchment area which caused flash floods. When the flood water released through the Dam can cause scouring and undermining on the downstream toe of the Dam and can also severely damage slopes on both banks abutting the d/s toe of the Dam, as those rocks are fractured and fissured, endangering the Safety/ stability of the Dam in the long run. Hence, the works are proposed to be carried out.

Table 5.1: Proposed Additional Capitalisation for FY 2023-24

S. No.	Particular	Rs. (in Crore)	Remark
16.	Establishment of dam SCADA system & interfacing with Budhil PH with main SCADA:	1.30	The operation of Dam gate is done manually & its status is not visible in Dam & Power House control room. Moreover, in case of emergency the operator has to operate gates in local manual mode. Hence to give greater visibility and control on operations, it is proposed to establish dam SCADA system and
17.	Construction of main Store near workshop at PH:	0.30	The Main store Outside Power house near workshop is temporary structure made by angle and CGI sheet. This Store was constructed during construction stage for storing construction material. After commissioning same store was used for storing the spare parts of the Power House. Presently the side sheet was damaged at many places. The E&M spares are costly so the new store is required to give a safe storage space for the spares.
18.	Shot creating in GOC of Desilting Chamber Gates and Silt Flushing gates:	0.35	The Gate Operating Cavern (GOC) has no protection provided for preventing the stones from falling from the crown of the Tunnel. The GOC is used for operation and maintenance of the Desilting Chamber Gates and Silt Flushing gates. Since construction of the Wire mesh was not provided and also no shot creating has been done, there is chance of accident to staff by stones falling from the crown of the tunnel. So, it is proposed to install wire mesh and shot creating in the GOC
19.	Supply erection & testing of separate water operated OPU for MIV seals:	0.20	There is common OPU for maintenance and work seal, bypass & MIV operation. Seals are pressurised oil operated seals & water is mixing with oil resulting in contamination of the main surge tank oil. The contaminated oil is troubling bypass & MIV operation and leading to increase in Auxiliary power consumption. Also, the quality of oil & life of dehydration/ filtration machine gets deteriorated due to this. Hence, it is proposed to provide either separate OPU for existing oil operated MIV seals or necessary modification for water operated seals with new OPU.
Total		**12.72**	

In the matter, as discussed above in this Order the Commission has decided to consider the additional capitalisation at the time of truing up of FY 2023-24 based on the audited accounts and as per prevailing Regulations as amended from time to time. Accordingly, proposed additional capitalisation for FY 2023-24 has been considered as nil.

However, as discussed earlier in this Order, the Commission shall approve the additional capitalisation on actual basis at the time of truing up. Therefore, GFA approved as on 31.03.2022 has been considered as opening GFA for FY 2023-24. Further, the same shall be reviewed at the time of truing up based on the audited annual accounts.

5.2.2 *Capital Structure*

The Petitioner submitted that the capital expenditure to be incurred in FY 2023-24 is to be financed by equity/internal sources. As mentioned above, the Commission has not considered the additional capitalisation for FY 2023-24. 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, 2021 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 for FY 2023-24 based on the opening GFA and projected additional capitalisation. As mentioned earlier, the Commission has not considered the proposed additional capitalisation for FY 2023-24 and the same, if any, shall be approved at the time of truing up after prudence check. Accordingly, the Commission has determined the depreciation based on the admissible GFA for FY 2023-24. Details of the depreciation claimed and approved for FY 2023-24 is as under:

Table 5.2: Depreciation for FY 2023-24 (Rs. Crore)

Particular	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
Depreciation	26.77	27.79	26.93

5.2.4 *Return on Equity*

Regulation 26 of the UERC Tariff Regulations, 2021 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.

Provided further that, if the generating stations/licensees are able to demonstrate the actual date of asset being put to use and capitalized in its accounts of each asset for the purposes of business carried on by it through documentary evidence, including but not limited to 'asset put to use certificate', 'audited accounts' etc., then in such cases, after due satisfaction of the Commission, the RoE shall be allowed on pro-rata basis after considering additional capitalization done during the year out of the equity capital.

(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. 27.29 Crore for FY 2023-24 considering the proposed additional capitalisation. As discussed earlier, the additional capitalisation will be approved based on the actual expenditure at the time of truing up of FY 2023-24. Accordingly, the Commission has worked out the Return on Equity based on the opening equity of FY 2023-24.

Further, as the proviso to the Regulations provides that if the generating station is able to demonstrate the actual date of asset being put to use and capitalised in its accounts of each asset for the purpose of business carried on by it through documentary evidence, then RoE shall be allowed in pro-data basis considering additional capitalization done during the year. Details of the Return on Equity claimed and approved is as follows:

Table 5.3: RoE for FY 2023-24 (Rs. Crore)

Particular	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
Return on Equity	26.39	27.29	26.60

5.2.5 *Interest on Loans*

Regulation 27 of the UERC Tariff Regulations, 2021 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 1.4.2022 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2022 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. 9.17 for FY 2023-24 considering the normative debt equivalent to 70% of the proposed additional capitalisation for the year. Further, repayment has been considered equivalent to the depreciation claimed by the Petitioner. Furthermore, the Petitioner has considered the interest rate of 9.30% p.a. of the non-convertible debentures.

The Commission has considered the closing net normative loan of Rs. 128.75 Crore for FY 2021-22 as opening normative loan for FY 2022-23 and depreciation of Rs. 26.93 Crore approved for FY 2022-23 as repayment of normative loan as per applicable UERC Tariff Regulations, 2021. Repayment of loan has been considered equivalent to the depreciation of FY 2023-24 in accordance with the provisions of UERC Tariff Regulations, 2021. Further, rate of interest of Nov-Convertible Debentures, i.e. 9.30% p.a. for FY 2023-24 as claimed by the Petitioner has been considered for the purpose of computation of interest on normative loan. Accordingly, the Commission approves interest on loan of Rs. 8.22 Crore for FY 2023-24 which shall be reviewed at the time of truing up of FY 2023-24. Details of the interest claimed and allowed for FY 2023-24 is given in the Table below:

Table 5.4: Interest on Normative Loan for FY 2023-24 (Rs. Crore)

Particular	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
Normative Interest	9.43	9.17	8.22

5.2.6 *Operation and Maintenance expenses*

With regard to Operation and Maintenance expenses, Regulation 48(2) of the UERC Tariff Regulations, 2021 specifies as follows:

"48 Operation and Maintenance Expenses

...

(2) For Hydro Generating Stations

(g) 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.*

(h) 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 2020-21, the operation and maintenance expenses for the base year of FY 2020-21 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.

(i) For Generating Stations declared under commercial operation on or after 1.4.2022.

…

(j) *Post determination of base O&M Expenses for the base year, i.e. FY 2020-21, the O&M expenses for the nth year and also for the year immediately preceding the Control Period, i.e. 2021-22 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.

(k) *…*

(l) *…"*

As per Regulation 48(2)(a) read with Regulation 48(2)(d) of UERC Tariff Regulations, 2021, if the hydro generating power plant is in operation for more than five years preceding the base year, i.e. FY 2020-21, 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 based on the formula specified for determination of normative O&M expenses for the fourth Control Period. In the present case, the Budhil hydro power plant came under the jurisdiction of this Commission from 01.12.2015 and the plant has completed its five years of operation in the regulatory regime. Therefore, normative O&M for the said Plant shall be determined in accordance with the provisions of Regulation 48(2)(d) of UREC Tariff Regulations, 2021 for FY 2023-24.

The O&M expenses includes Employee expenses, R&M expenses and A&G expenses. In accordance with Regulation 48(2)(d) of the UERC Tariff Regulations, 2021, the O&M expenses for the first year of the Control Period shall be determined by the Commission taking into account actual O&M expenses of the previous years and any other factors considered appropriate by the Commission. The submissions of the Petitioner and the Commission's analysis on the O&M expenses for FY 2023-24 is detailed below.

5.2.6.1 Employee expenses

The Petitioner submitted that the proposed employee expenses for FY 2023-24 are Rs. 9.16 Crore vide its submission dated 11.01.2023. The Petitioner submitted that the employee expenses for FY 2023-24 has been calculated by escalating actual employee expenses for FY 2021-22 with Growth factor (Gn) and CPI indexation of respective year. Further, the Petitioner submitted that it has considered Gn equal to 1.90% for FY 2022-23 to work out the normative Employee Expenses for FY 2023-24. Accordingly, the Petitioner has proposed the employee expenses amounting to Rs. 9.16 Crore for FY 2023-24.

The Commission has followed the same methodology as specified in UERC Tariff Regulations, 2021 and MYT Order Dated 31.03.2022 for the fourth control period. The Petitioner has considered Gn of 1.90% for FY 2022-23 as considered by the Commission for FY 2022-23 in MYT Order dated 31.03.2023. The Commission during the proceeding of the Petition, directed the Petitioner to submit actual/proposed number of employees. In reply, the Petitioner vide submission dated 11.01.2023 submitted that the closing number of employees during FY 2020-21, FY 2021-22 and FY 2022-23 are 96, 93 and 92 respectively. The Commission observed that during the proceeding for truing up of FY 2020-21, the Petitioner had submitted the closing number of employees 105 for FY 2020-21. The Commission directed the Petitioner to submit justification for variation. In reply, the Petitioner vide reply dated 24.02.2023 submitted that at the time of filing of true-up petition there were 105 employees. However, subsequently there was attrition of employees and number of employees as on 31.03.2021 was 96. In the matter, it is pertinent to mention that the true-up Petition for FY 2020-21 was filed on 22.12.2022, i.e. post finalisation of accounts and other matters which includes closing number of employees. The Petitioner is cautioned to submit its reply before the Commission discreetly.

The Commission has considered the details of employees submitted by the Petitioner vide submission dated 11.01.2023. There is no growth in the number of employees as per the data submitted by the Petitioner. Accordingly, the Commission has considered Gn as nil. The opening gross employee expenses for FY 2021-22 have been adjusted for the Gn factor approved for FY 2021-22, i.e. nil and escalated with CPI Inflation of 6.00% for FY 2021-22. The gross employee expenses so arrived have been considered as the gross employee expenses (EMP_{n-1}) for FY 2022-23. From FY 2022-23 onwards, the Commission has computed the normative employee expenses in accordance with the Regulation 62(3) considering the Gn factor approved for the corresponding year and the CPI inflation of 5.89% for FY 2022-23 and FY 2023-24.

The Commission shall consider the actual Gn and capitalisation rate for FY 2022-23 and FY 2023-24 at the time of truing up of respective year. Further, indirect manpower cost deployed at headquarter will be allowed on actual basis considering the operating capacity handled by Greenko group for the respective year. The normative employee expenses approved for FY 2023-24 is as shown in the Table below:

Table 5.5: Employee expenses approved by the Commission for FY 2023-24 (Rs. Crore)

Particulars	Approved in Tariff Order dated 31.03.2023	Claimed	Approved
EMPn-1	6.60	8.64	7.36
Gn	0.00%	0.00%	0.00%
CPI inflation	6.00%	6.00%	5.89%
EMPn=(EMPn-1) x (1+Gn)x(1+CPIinflation)	**7.00**	**9.16**	**7.80**
Capitalisation rate	0.00%	0.00%	0.00%
Less: Employee expenses capitalised	0.00	0.00	0.00
Net Employee expenses	**7.00**	**9.16**	**7.80**

5.2.6.2 *R&M expenses*

The Petitioner submitted that the R&M expenses for FY 2023-24 has been proposed as per the UERC Tariff Regulations, 2021. The Petitioner has considered the k factor of 0.98% for FY 2023-24 as approved by the Commission vide Tariff Order dated 31.03.2022 for the fourth Control Period.

Further, the Petitioner has considered the WPI inflation of 8.10% considering the average increase in the Wholesale Price Index (WPI) for FY 2019-20 to FY 2022-23. Accordingly, the Petitioner has proposed the R&M expenses of Rs. 5.77 Crore for FY 2023-24 after considering proposed additional capitalisation.

The Commission has determined the R&M expenses for FY 2023-24 in accordance with UERC Tariff Regulations, 2021. As per provisions of Regulation 48(2)(d) of UERC Tariff Regulations, 2021 'k' is a constant to be specified in percentage. Accordingly, the Commission has considered the 'k' factor, i.e. 0.98% as approved by the Commission vide Tariff Order dated 31.03.2022 for the fourth Control Period. The Commission has considered the opening GFA for FY 2023-24. The Commission has considered the WPI inflation of 5.32% which is the average increase in the Wholesale Price Index (WPI) for FY 2022-23. The R&M expenses for FY 2023-24 shall be trued up based on the actual approved opening GFA for FY 2023-24.

The R&M expenses approved by the Commission for FY 2023-24 is as shown in the Table below:

Table 5.6: R&M expenses approved by the Commission for FY 2023-24 (Rs. Crore)

Particulars	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
K	0.98%	0.98%	0.98%
GFAn-1	533.15	544.92	537.37
WPI inflation	2.42%	8.10%	5.32%
R&Mn = K x (GFAn-1) x (1+WPI inflation)	**5.37**	**5.77**	**5.57**

5.2.6.3 *A&G expenses*

The Petitioner submitted that the A&G expenses for FY 2023-24 has been determined by applying WPI inflation rate for FY 2022-23 on the normative A&G expenses for FY 2022-23. The Petitioner submitted that normative A&G expenses works out to Rs. 5.48 Crore for FY 2023-24.

The Commission has followed the same methodology as specified in UERC Tariff Regulations, 2021 and Tariff Order dated 31.03.2022 for the fourth Control Period from FY 2022-23 to FY 2024-25.

A&Gn for FY 2022-23 has been computed considering WPI inflation indexation of 5.32.%. Further, the Petitioner submitted that no A&G expenses have been capitalised. Accordingly, the

A&Gn for FY 2022-23 has been further escalated with WPI inflation indexation of 5.32% to work out allowable normative A&G expenses for FY 2023-24.

The normative A&G expenses approved by the Commission for FY 2023-24 is as shown in the Table below:

Table 5.7: A&G expenses approved by the Commission for FY 2023-24 (Rs. Crore)

Particulars	Approved in Tariff Order 31.03.2022	Claimed	Approved
A&Gn-1	4.58	5.02	4.71
WPI inflation	2.42%	8.10%	5.32%
A&Gn=A&Gn-1 x (1+WPI inflation)	**4.69**	**5.43**	**4.96**
Capitalisation rate	-	-	-
Capitalised A&G expenses	-	-	-
Net A&G expenses	**4.69**	**5.43**	**4.96**
License Fee	0.05	0.05	0.05
Total A&G expenses	**4.74**	**5.48**	**5.01**

5.2.6.4 *O&M expenses*

The O&M expenses approved by the Commission for FY 2023-24 is as shown in the Table below:

Table 5.8: O&M expenses approved by the Commission for FY 2023-24 (Rs. Crore)

Particulars	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
Employee expenses	7.00	9.16	7.80
R&M expenses	5.37	5.77	5.57
A&G expenses	4.74	5.48	5.01
Total O&M expenses	**17.11**	**20.41**	**18.37**

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. 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 FY 2023-24 has been proposed in accordance with Regulation 33 of UERC Tariff Regulations, 2021.

Regulation 33 of UERC Tariff Regulations, 2021 specifies as follows:

"Rate of interest on working capital shall be on normative basis and shall be equal to the weighted average of 'one year Marginal Cost of Funds based Lending Rate (MCLR)' as declared by the State Bank of India from time to time for the financial year in which the application for determination of tariff is made plus 350 basis points

...

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 considered interest on working capital @ 13.80%. The aforesaid Regulations specifies that rate of interest on working capital shall be normative and equal to the weighted average of one year MCLR as declared by SBI for the year in which application for determination of tariff is made plus 350 points. Accordingly, the weighted average rate of MCLR works out to 7.79% and adding 350 points, rate of interest on working capital works out to 11.29% p.a. Accordingly, the Commission has considered interest rate of 11.29% p.a. for working out the IWC. However, the same shall be reviewed at the time of truing up of FY 2023-24. The Commission has determined the interest on working capital for FY 2023-24 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 FY 2023-24. 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 UERC Tariff Regulations, 2021. The Commission has determined the plant wise maintenance spares requirement @ 15% of normative O&M Expenses worked out for FY 2023-24.

5.2.7.3 *Receivables*

UERC Tariff Regulations, 2021 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 FY 2023-24.

Based on the above, the total working capital requirement of the Petitioner for FY 2023-24 works out to Rs. 17.96 Crore. The Commission has considered the rate of interest on working capital as 11.30% as claimed by the Petitioner in accordance with the UERC Tariff Regulations, 2021. The same shall be considered in accordance with the prevailing regulations at the time of truing up of FY 2023-24.

Based on the above discussion, the interest on working capital works out to Rs. 2.03 Crore for FY 2023-24. The interest on working capital claimed by the Petitioner and approved by the Commission is as shown in the Table below:

Table 5.9: Interest on working capital claimed and approved by the Commission for FY 2023-24 (Rs. Crore)

Particulars	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
O&M Expenses	1.43	1.71	1.53
Maintenance spare	2.57	3.08	2.76
Receivables	13.59	14.07	13.69
Total	**17.58**	**18.86**	**17.98**
Rate of Interest	10.50%	13.80%	11.29%
IWC	**1.85**	**2.60**	**2.03**

5.2.8 *Non-Tariff Income*

Regulation 46 of UERC Tariff Regulations, 2021 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 FY 2023-24. 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 2023-24*

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 FY 2023-24 attributable to its beneficiary.

Regulation 50 of UERC Tariff Regulations, 2021 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 FY 2023-24 as claimed and approved by the Commission is shown in the Table below:

Table 5.10: Annual Fixed Charges approved by the Commission for FY 2023-24 (Rs. in Crore)

Annual Fixed Charges	Approved in Tariff Order dated 31.03.2022	Claimed	Approved
Depreciation	26.77	27.39	26.93
Interest on Loan	9.43	9.17	8.22
Return on Equity	26.39	27.29	26.60
O&M Expenses	17.11	20.41*	18.37
Interest on Working Capital	1.85	2.54	2.03
Less: Non-Tariff Income	0.00	0.00	0.00
Net Annual Fixed Charges	**81.55**	**86.81**	**82.16**

**as per submission dated 11.01.2023*

The summary of Capacity Charge and Energy Charge Rate (ECR) for the Petitioner's project for FY 2023-24 is as given in the Table below:

Table 5.11: Capacity Charge and Energy Charge Rate approved by the Commission for FY 2023-24

Particular	Rs. in Crore
Net AFC (Rs. Crore)	82.16
Saleable Energy (MU)	246.52
Capacity Charges (Rs. Crore) (50% of AFC)	41.08
Energy Charges (Rs./kWh) (50% of AFC)	1.666

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).

(M.K. Jain)
Member (Technical)

(D.P. Gairola)
Member (Law)/ Chairman (I/c)