Order

on

True up for FY 2015-16 & FY 2016-17, Annual Performance Review for FY 2017-18

&

ARR for FY 2018-19

For

M/s Greenko Budhil Hydro Power Pvt. Ltd.

March 21, 2018

Uttarakhand Electricity Regulatory Commission

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

Dehradun – 248171

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Before

UTTARAKHAND ELECTRICITY REGULATORY COMMISSION

Petition No.: 02 of 2018

In the Matter of:

Petition filed by M/s Greenko Budhil Hydro Power Pvt. Ltd. for true-up of AFC for FY 2015-16 & FY 2016-17, Annual Performance Review for FY 2017-18 and Annual Fixed Charges for FY 2018-19 for Budhil Hydro Station.

In the Matter of:

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

AND

In the Matter of:

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

Coram

Shri Subhash Kumar Chairman

Date of Order: March 21, 2018

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

In accordance with the relevant provisions of the Act, the Commission had notified Uttarakhand Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2011 (hereinafter referred to as "UERC Tariff Regulations, 2011") for the first Control Period from FY 2013-14 to FY 2015-16 and Uttarakhand Electricity Regulatory Commission (Terms and Conditions for Determination of Multi Year Tariff) Regulations, 2015 (hereinafter referred to as

"UERC Tariff Regulations, 2015") for the second Control Period from FY 2016-17 to FY 2018-19 specifying therein terms, conditions and norms of operation for licensees, generating companies and SLDC. The Commission had issued the Order on approval of Business Plan and Multi Year Tariff dated 30.11.2016 for the Petitioner from 01.12.2015 to 31.03.2016 and for the second Control Period from FY 2016-17 to FY 2018-19. As per the provisions of Regulation 12 of the UERC Tariff Regulations, 2015, M/s Greenko Budhil Hydro Power Pvt. Ltd. (hereinafter referred to as "M/s GBHPL" or "the Petitioner" or "the Generator") filed the Petition (Petition No. 02 of 2018), giving details of its revised projections of Aggregate Revenue Requirement (ARR) for FY 2018-19, based on the true up for FY 2016-17 and Annual Performance Review for FY 2017-18 on 28.12.2017.

It was observed from the Petition filed by M/s GBHPL that it had not submitted the information for the true-up for FY 2015-16 whereas the Commission vide its Tariff Order dated 30.11.2016 had determined the Annual Fixed Charges for FY 2015-16 and for the second Control Period from FY 2016-17 to FY 2018-19. Accordingly, this deficiency along with other certain infirmities/deficiencies were informed to the Petitioner vide Commission's letter no. UERC/6/TF-434/17-18/2018/1548 dated 03.01.2018 and the Petitioner was directed to rectify the said infirmities in the Petition and submit certain additional information necessary for admission of the Petition. M/s GBHPL vide its letter received on 23.01.2018 removed the critical deficiencies. Based on the submission dated 23.01.2018 made by M/s GBHPL, the Commission provisionally admitted the Petition for further processing subject to the condition that M/s GBHPL shall furnish any further information/clarifications as deemed necessary by the Commission during the processing of the Petitions, as may be stipulated by the Commission, failing which the Commission may proceed to dispose of the matter as it deems fit based on the information available with it.

This Order, accordingly, relates to the Petition filed by M/s GBHPL for true up for FY 2015-16 & FY 2016-17, APR for FY 2017-18 and revised ARR for FY 2018-19 and is based on the original as well as all the subsequent submissions made by M/s GBHPL during the course of the proceedings and the relevant findings contained in the Tariff Order dated 30.11.2016.

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

Chapter 1 - Background and Procedural History.

Chapter 2 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2015-16 and FY 2016-17.

Chapter 3 - Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2017-18, revised AFC & Tariff for FY 2018-19.

1. Background and Procedural History

M/s GBHPL is a company incorporated under the Companies Act, 1956. M/s GBHPL is a generating company falling within the definition under Sub-section 28 of Section 2 of the Act and has developed a 70 MW (2x35 MW) Hydro Electric power project (hereinafter referred to as the "Project"). The Petitioner had executed a PPA for 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 second Control Period from FY 2016-17 to FY 2018-19. The Commission based on the information submitted by the Petitioner had approved a provisional tariff of Rs. 4.00 per unit to be recovered by the Petitioner from UPCL till determination of final tariff by the Commission.

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

In accordance with Regulation 12 of the UERC Tariff Regulations, 2015, the Generating Company is required to file a Petition for Annual Performance Review by November 30 of every year. M/s GBHPL, vide letter dated 23.11.2017 requested the Commission to grant time extension of 1 month for filing of the True up Petition in compliance with the Regulation 12 of UERC Tariff Regulations, 2015. The Commission vide letter no, UERC/6/TF-434/17-18/1366 dated 27.11.2017 accepted the request of the Petitioner partly and granted the time extension of 15 days for filing of the Petition.

In compliance with the Regulations, M/s GBHPL filed its Petition for Annual Performance Review for FY 2017-18 on 26.12.2017. Through the above Petition, M/s GBHPL sought true up for FY 2016-17, APR for FY 2017-18 and ARR for FY 2018-19 based on the audited accounts for FY 2016-17. The Commission vide its letter no. UERC/6/TF/435/17-18/2017/1548 dated 03.01.2018 informed the Petitioner that it has not submitted relevant information in accordance with the Tariff

Regulations, 2015 for the true-up of FY 2015-16. M/s GBHPL was directed to rectify the said infirmity alongwith the other deficiencies in the Petition and was directed to submit certain additional information necessary for admission of the Petition. M/s GBHPL submitted its reply on 23.1.2018. Based on the submission made by M/s GBHPL, the Commission vide letter UERC/6/TF-434/17-18/2018/1688 dated 31.01.2018 provisionally admitted the Petition. Further, in order to provide transparency to the process of tariff determination and give UPCL an opportunity to submit their objections/suggestions/comments on the proposals of M/s GBHPL, the Commission sent the copy of the tariff proposals to UPCL, however, the Commission has not received any objections/suggestions/comments from UPCL in this regard till the date of the Order. Meanwhile, based on the scrutiny of the Petition submitted by M/s GBHPL, the Commission vide its letter no. UERC/6/TF-435/17-18/2018/1758 dated 08.02.2018, pointed out certain data gaps in the Petition and sought following additional information/clarifications from the Petitioner:

- PAFM from December, 2016 to March, 2017.
- Trial Balances upto November, 2015 & March, 2016 and for FY 2016-17.
- Details of O&M expenses claimed under the head of 'Other Expenses'.
- Invoices raised to UPCL for supply of Power.
- Details of Spares included in additional capitalisation.

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

2. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on Truing up for FY 2015-16 and FY 2016-17

Regulation 13 of the UERC Tariff Regulations, 2011 specifies as follows:

"13. Annual Performance Review

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

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

…

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

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

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

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

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

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

"12. Annual Performance Review

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

Review.

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

…

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

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

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

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

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

In its present filing, the Petitioner has submitted the data relating to its expenses and revenues for FY 2015-16 and for FY 2016-17 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 2015-16 as per UERC Tariff Regulations, 2011 and for FY 2016-17 as per UERC Tariff Regulations, 2015 alongwith the sharing of gains and losses.

2.1 Impact of Sharing of Gains and Losses on account of Controllable Factors for FY 2015-16 and FY 2016-17

Regulation 15 of UERC Tariff Regulations, 2011 specifies as follows:

"15. Sharing of Gains and Losses on account of Controllable factors

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

(a) 20% of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission;

(b) The balance amount of gain may be utilized at the discretion of the Applicant.

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

(a) 25% of the amount of such loss shall be allowed by the Commission to be recovered through tariffs over such period as may be specified in the Order of the Commission under;

(b) The balance amount of loss shall be absorbed by the Applicant."

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

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

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

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

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

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

O&M expenses comprises of the major portion of AFC of M/s GBHPL and are within the control of the Petitioner and, moreover, in accordance with UERC Tariff Regulations, 2011 and UERC Tariff Regulations, 2015 these are controllable expenses. Similarly, in accordance with applicable Tariff Regulations, the variation in working capital requirements is also a controllable factor. Hence, the sharing of gains and losses has been carried out for these expenses. While, the capital related expenses like interest on loans, depreciation etc. have been treated as uncontrollable and hence, no sharing of losses or gains for the same has been carried out.

2.1.1. *Physical Parameters*

2.1.1.1. *NAPAF*

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

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

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

> *"With regard to UPCL's comment on Point 7 that deals with two part tariff, UPCL submitted that the total design energy considered for recovery of AFC, as per Tariff Order, is 246.52 MU but the generator has delivered 235.01 MU in FY 2016-17. The issue relevant in the matter was that prior to November, 2016 the generator was not declaring their capacity to UPCL. Infact SLDC*

also expressed its inability to validate the declared capacity prior to November, 2016. Hence, it was agreed during the meeting held on 07.07.2017 that recovery of fixed charges may be done by the generator by way of single part till 30.11.2016 due to inability of SLDC to validate the Declared Capacity because of non availability of declared capacity prior to 30.11.2016 and subsequently by two part tariff in accordance with the Regulations. Accordingly, as far as comments of UPCL, in the aforesaid matter, are concerned the Commission is of the view that the Regulations provides for recovery of tariff in two parts, i.e. through energy charges which are directly linked to the generation and capacity charges, which are linked with the plant availability. UPCL has referred that since the generator has delivered only 235 MU against the design energy of 246 MU, hence, the amount corresponding only to the same may be allowed to the generator. The same is against the Regulations and cannot be considered."

Accordingly, the Commission is of the view that such relaxation to the relevant regulations shall continue till 30.11.2016 and allows the recovery of AFC through a single-part tariff. Subsequent to 30.11.2016, recovery of AFC shall be carried out in accordance with the Regulations based on the stipulated NAPAF of 85%.

2.1.1.2. Design Energy and Saleable Primary Energy

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

2.1.2. Financial Parameters

2.1.2.1. Capital Cost

The Commission vide Tariff Order dated 30.11.2016 had approved the capital cost of Rs. 505.25 Crore as opening capital cost for FY 2015-16 whereas the Petitioner has considered capital cost of Rs. 505.22 Crore as approved by the Commission as on COD, i.e. 30.05.2012 in the present Petition. In the said Tariff Order, the Commission had worked out the capital cost for FY 2015-16 after considering the Additional capitalisation and de-capitalisation from actual COD to 31.03.2015. Accordingly, the Commission has considered Rs. 505.25 Crore as opening capital cost for FY 2015-16 as approved in Tariff Order dated 30.11.2016.

2.1.2.2. Additional Capitalisation

With regard to additional capitalisation during FY 2015-16, Regulation 24 of UERC Tariff Regulations, 2011 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 23(6);

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, in its discretion, 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. Deferred work related to ash pond or ash handling system within the original scope of work.

d. 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; and*

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

Provided that in respect to sub-clause d) & e) above, any additional expenditure on acquiring minor items/assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets, etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2013."

Further, with regard to Additional Capitalisation for FY 2016-17, Regulation 22 of UERC Tariff Regulations, 2015 specifies as under:

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

a. *Undischarged liabilities;*

b. *Works deferred for execution;*

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

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

e. *On account of change in law.*

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

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

a. *Liabilities to meet award of arbitration or for compliance of the order or decree of a court;*
b. *Change in law;*
c. *Works deferred for execution within the original scope of work;*
d. *Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*
e. *Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;*
f. *In case of hydro generating stations, any additional expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company), including due to geological surprises, after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;*

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

g. *xxx*
h. ***xxx***

(3) ..."

The Commission vide its Tariff Order dated 30.11.2016 had approved the additional capitalisation of Rs. 0.12 Crore and Rs. 0.58 Crore for FY 2015-16 and FY 2016-17 respectively. As per audited accounts for FY 2015-16 and FY 2016-17, there is additional capitalisation of Rs. 0.25 Crore and Rs. 13.38 Crore during FY 2015-16 and FY 2016-17 respectively.

With regard to the capitalisation claimed, the Petitioner submitted that it has claimed additional capitalisation under Regulation 24(2) of UERC Tariff Regulations, 2011 for FY 2015-16 and under Regulation 22(2) of UERC Tariff Regulations, 2015 for FY 2016-17. The Petitioner also submitted that the project is more than 5 years in operation and is in need of strengthening of its civil structure and electrical equipments. The plant de-silting chamber and Head Race tunnel being exposed to geological stresses are required to be strengthened at regular intervals. The Petitioner also submitted that in order to ensure the efficiency, safety and continuous operation of the plant, the additional capitalisation was required to be incurred.

The Commission directed the Petitioner to clarify whether the work executed was within the original scope of work. In reply, the Petitioner submitted that the capital works are essential for successful and efficient operation of the plant and such additional capital expenditure shall aid in efficient operation of the generating station. It has been observed that the major capitalisation has been done for procurement of transformer and Foundation Protection & grouting works in FY 2015-16 and in FY 2016-17, major capitalisation has been done for strengthening inside the De-silting chamber & head race tunnel and construction of protection work to stabilize the structure & access road to Dam. The Commission while truing up for FY 2015-16 and FY 2016-17 has considered the actual additional capitalisation based on the audited accounts for respective years in accordance with the applicable Tariff Regulations.

It is to be noted that the Petitioner has considered the additional capitalisation works pertaining to Foundation protection works, grouting, strengthening works for De-silting chamber, Head Race Tunnel, Road to dam etc. under the head of 'Building' whereas the Commission had considered such capital expenditures under the head of 'other civil works' in Tariff Order dated 30.11.2016, accordingly, the additional capitalisation pertaining to De-silting chamber, HRT etc. has been considered under the head of 'other civil works' in the present Petition. Further, it has been observed from the audited accounts for FY 2016-17 that there is a de-capitalisation amounting to Rs. 0.11 Crore under the head of Plant & Machinery. The same has also been considered by the Commission while determining the admissible additional capitalisation for FY 2016-17.

Accordingly, based on the above discussion, details of the additional capitalization claimed and approved for FY 2015-16 and FY 2016-17 are as follows:

Table 2.1: Detail of capitalisation for FY 2015-16 and FY 2016-17 (Rs. Crore)

Particulars	Opening Capital cost as on 01.04.2015 as approved in Tariff Order dated 30.11.2016	Additional Capitalisation during FY 2015-16	Opening Capital cost as on 01.04.2016	Additional Capitalisation during FY 2016-17	Closing Capital Cost as on 31.03.2017
	(A)	(B)	(C)=(A)+(B)	(D)	(E)=(C)+(D)
Freehold Land	0.87	0.00	0.87	0.00	0.87
Leasehold Land	7.18	0.00	7.18	0.00	7.18
Buildings	60.52	0.00	60.52	0.00	60.52
Other Civil Works	211.13	0.11	211.24	13.36	224.60
Hydraulic Mech. Works	31.72	0.00	31.72	0.00	31.72
Plant & Machinery	192.75	0.11	192.86	(0.11)	192.75
Lines & Cable Network	0.00	0.00	0.00	0.00	0.00
Vehicles	0.23	0.00	0.23	0.00	0.23
Furniture and Fixtures	0.23	0.01	0.24	0.00	0.24
Office Equipment	0.60	0.01	0.61	0.00	0.61
Computers	0.01	0.00	0.01	0.01	0.02
Computer Software	0.01	0.00	0.01	0.00	0.01
Total	**505.25**	**0.25**	**505.50**	**13.27**	**518.77**

2.1.2.3. *Capital Structure*

Regulation 22 of UERC Tariff Regulations, 2011 specifies as under:

*"**22. Debt-equity ratio***

1. *For a project declared under commercial operation on or after 1.4.2013, 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.*
2. *In case of Generating Company, Transmission Licensee, Distribution Licensee, or SLDC where investments have been made prior to 1.4.2013, Debt: Equity Ratio shall be as approved by the Commission in the previous Orders."*

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

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

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

…"

The Commission vide its Tariff Order dated 30.11.2016 had approved Debt-Equity Ratio of 70:30 as on 01.04.2015 which has been considered in the present Petition also. Further, as per the submissions of the Petitioner entire capitalisation for FY 2015-16 and FY 2016-17 has been done through equity only. In accordance with the aforesaid Regulations, debt-equity ratio has been considered as 70:30. 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 as on 01.04.2015 and additional capitalisation for FY 2015-16 and FY 2016-17 are as follows:

Table 2.2: Financing for capitalisation for FY 2016-17

Particular	Approved as on 01.04.2015		FY 2015-16 Claimed & Approved		FY 2016-17 Claimed & Approved		Approved as on 31.03.2017	
	(Rs. in Crore)	%	(Rs. in Crore)	%	(Rs. in Crore)	%	(Rs. in Crore)	%
Debt	353.68	70.00	0.17	70.00	9.28	70.00	363.13	70.00
Equity	151.57	30.00	0.07	30.00	3.99	30.00	155.64	30.00
Total	**505.25**	**100.00**	**0.25**	**100.00**	**13.27**	**100.00**	**518.77**	**100.00**

2.1.2.4. Depreciation

Regulation 29 of UERC Tariff Regulations, 2011 specifies as follows:

"(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.

(3) Provided that in case of generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of site;

Provided further that the capital cost of the assets of the generating station for the purpose of computation of depreciable value for the purpose of determination of tariff under these regulations shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

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

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2013 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2013 from the gross depreciable value of the assets. The difference between the cumulative depreciation recovered and the depreciation so arrived at by applying the depreciation rates as specified in these Regulations corresponding to 12 years shall be spread over the remaining period upto 12 years. The remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance life.

(7) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."

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

"28. Depreciation

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

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

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

...

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

..."

The Petitioner submitted that the depreciation has been charged at the rates specified by the Commission in UERC Tariff Regulations, 2011 and UERC Tariff Regulations, 2015 for FY 2015-16 and FY 2016-17 respectively. The Petitioner claimed depreciation of Rs. 25.35 Crore and Rs. 25.57 Crore for FY 2015-16 and FY 2016-17 respectively.

As discussed under Para 2.1.2.2 above, the Commission in its Tariff Order dated 30.11.2016 had considered additional capitalisation pertaining to Foundation work, grouting, works for De-silting chamber, Head Rate Tunnel, Road to dam etc. under the head of 'Other civil works' and had worked out depreciation accordingly. In the present Petition, considering the additional capitalisation pertaining to foundation works, De-silting tank, HRT etc under the head of 'other civil works', depreciation works out to Rs. 25.35 Crore and Rs. 25.70 Crore for FY 2015-16 and FY 2016-17 respectively based on the prevailing UERC Tariff Regulations.

Detail of the depreciation as approved in Tariff Order, claimed by the Petitioner and trued up for FY 2015-16 and FY 2016-17 is as follows:

Table 2.3: Depreciation approved for FY 2015-16 and FY 2016-17 (Rs. in Crore)

Particular	FY 2015-16			FY 2016-17		
	Approved in Tariff Order	Claimed	Approved	Approved in Tariff Order	Claimed	Approved
Depreciation	25.34	25.35	25.35	25.36	25.57	25.70

2.1.2.5. *Return on Equity (RoE)*

Regulation 27 of the UERC Tariff Regulations, 2011 specifies as follows:

"27. Return on Equity

(1) Return on equity shall be computed on the equity base determined in accordance with Regulation 22.

Provided that, Return on Equity shall be allowed on amount 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 rate of 15.5% for Generating Stations, Transmission Licensee and SLDC and at the rate of 16% for Distribution Licensee ***on a post-tax basis.***

..."

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

"26. Return on Equity

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

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

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

The Petitioner has claimed Return on Equity amounting to Rs. 23.49 Crore for FY 2015-16 and Rs. 25.02 Crore for FY 2016-17 considering 30% of the claimed additional capitalisation as normative equity. As per the aforesaid Regulations, the Commission has allowed Return on Equity at the rate of 15.50% on the opening admissible normative equity of Rs. 151.57 Crore which works out to Rs. 23.49 Crore for FY 2015-16 in accordance with Regulation 27 of UERC Tariff Regulations, 2011 and at the rate of 16.50% on the opening admissible normative equity of Rs. 151.65 Crore which works out to Rs. 25.02 Crore for FY 2016-17 in accordance with Regulations 26 of UERC Tariff Regulations, 2015. Detail of the Return on Equity claimed and trued up for FY 2015-16 and FY 2016-17 is as follows:

Table 2.4 : Return on Equity approved for FY 2015-16 and FY 2016-17 (Rs. in Crore)

Particular	FY 2015-16			FY 2016-17		
	Approved in Tariff Order	Claimed	Approved	Approved in Tariff Order	Claimed	Approved
Return on Equity	23.49	23.49	23.49	25.02	25.02	25.02

2.1.2.6. *Interest on Loans*

The Petitioner submitted that in accordance with the Tariff Order dated 30.11.2016, normative debt has been considered as 70% on additional capitalisation and rate of interest for normative loan has been considered same as provided in the Tariff Order for the purpose of calculation of interest on loan. The Petitioner has claimed interest on Loan of Rs. 30.54 Crore for FY 2015-16 and Rs. 28.36 Crore for FY 2016-17 based on the applicable UERC Tariff Regulations.

With regard to interest on loan for FY 2015-16, Regulation 28 of the Tariff Regulation, 2011 specifies as follows:

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

(1)The loans arrived at in the manner indicated in Regulation 22 shall be considered as gross normative loan for calculation of interest on loan.

(2)The normative loan outstanding as on 1.4.2013 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2013 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.

(4) Notwithstanding any moratorium period availed by the Generating Company or the Transmission Licensee or the Distribution Licensee or the SLDC, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5)The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

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, 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 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.

(7) The Generating Company or the Transmission Licensee or the Distribution Licensee, or the SLDC as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings on interest shall be shared between the beneficiaries and the Generating Company or the Transmission Licensee or the Distribution Licensee or the SLDC, as the case may be, in the ratio of 50:50.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) Interest shall be allowed on the amount held as security deposit by the Distribution Licensee from consumers, at the rate as may be decided by the Commission from time to time. "

Further, with regard to interest on loan claimed for FY 2016-17, Regulation 27 of the UERC Tariff Regulations, 2015 specifies as follows:

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

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

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

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

...

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

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

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

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

…"

The Petitioner submitted that for the purpose of the calculation of interest on loan normative debt has been considered as 70% of additional capitalisation and, accordingly, it has claimed interest on normative loan of Rs. 30.54 Crore and Rs. 28.26 Crore for FY 2015-16 and FY 2016-17 respectively for the purpose of truing up based on the weighted average rate of interest of 11% p.a., i.e. interest rate of Non-Convertible debentures.

As approved in Tariff Order dated 30.11.2016, the Commission has considered Gross Normative Opening Loan of Rs. 353.68 Crore as on 01.04.2015 and cumulative repayment equivalent to cumulative depreciation of Rs. 63.49 Crore has been considered to compute the Net opening normative loan for FY 2015-16. Further, 70% of the additional capitalisation approved for FY 2015-16 has been considered as addition to normative loan and repayment has been considered equivalent to admissible depreciation, i.e. Rs. 25.34 Crore. Hence, interest on normative loan worked out to Rs. 30.54 Crore considering the interest rate @ 11% p.a. as claimed by the Petitioner.

Subsequently, Closing Normative Loan for FY 2015-16 has been considered as opening normative loan for FY 2016-17, repayment has been considered equal to admissible depreciation, i.e. Rs. 25.70 Crore for FY 2016-17 and as discussed under "Capital Structure", debt of Rs. 9.28 Crore has been considered as addition to normative loan. Accordingly, by applying the weighted average rate of interest 11% p.a. interest on normative loan works out to Rs. 28.26 Crore.

Further, it has been observed from the submission of the Petitioner that the Petitioner has considered actual Bank Charges and Loan Processing fees as a part of 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. 0.03 Crore and Rs. 0.01 Crore pertaining to Bank Charges and loan

Processing Fees for FY 2015-16 and Rs. 0.02 Crore pertaining to Bank Charges for FY 2016-17, actually incurred by the Petitioner as per the audited accounts for the respective year, has been allowed by the Commission as a part of the finance cost of FY 2015-16 and FY 2016-17 respectively on actual basis.

Based on the above, details of the interest claimed and allowed for the truing up years is given in the Table below:

Table 2.5: Interest on Normative Loan for FY 2015-16 and FY 2016-17 (Rs. in Crore)

Particular	FY 2015-16			FY 2016-17		
	Approved in Tariff Order	Claimed by Petitioner	Approved	Approved in Tariff Order	Claimed by Petitioner	Approved
Interest on Normative Loan	30.53	30.54	30.58*	27.77	28.26	28.27*

**inclusive of bank charges and loan processing fee actually incurred as per audited accounts of respective year.*

2.1.2.7. *Operation & Maintenance (O&M) Expenses*

Truing up of O&M Expenses for FY 2015-16 & FY 2016-17

As discussed in Tariff Order dated 30.11.2016, the Commission has applied Regulation 48 of UERC Tariff Regulations, 2015 for determination of normative O&M expenses for FY 2015-16 and for the second Control Period. Regulations 48 of UERC Tariff Regulations, 2015 specifies as follows:

"48. Operation and Maintenance Expenses

…

(2) For Hydro Generating Stations

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

…

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

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

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

…

(d) …

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

EFk = 0.55xWPIInflation + 0.45xCPIInflation

(f) …"

The Petitioner has claimed O&M expenses amounting to Rs. 8.95 Crore and Rs. 11.05 Crore for FY 2015-16 and FY 2016-17 respectively. The Commission observed from the audited accounts that there was variation in the O&M expense as claimed by the Petitioner and charged to P&L account for FY 2015-16 & FY 2016-17. In this regard, the Commission directed the Petitioner to submit the justification for the same. In reply, the Petitioner submitted that O&M expenses are inclusive of "Line Maintenance Charges" which are paid to PGCIL/CTU for transmission of electricity of the project from PGCIL injection Sub-station to Uttarakhand periphery and the same are reimbursed by UPCL after 60 days. Accordingly, the Commission has not taken into account such expenses for the purpose of truing up of O&M expenses.

The Commission carried out the prudence check of the actual O&M expenses incurred by the Petitioner for FY 2015-16 and FY 2016-17. The actual details of O&M expenses for FY 2015-16 and FY 2016-17 are given in the Table below:

Table 2.6: Actual O&M expenses for FY 2015-16 and FY 2016-17

S. No.	Particulars	FY 2015-16	FY 2016-17
1.	Repairs & Maintenance Expenses	2.60	3.01
2.	Employee Expenses	3.15	3.41
3.	Administrative & General Expenses	3.23	4.64
	Total	**8.98**	**11.05**

However, the MTB's of FY 2015-16 and FY 2016-17 were also examined to verify the claims of the Petitioner. In this regard, the O&M expenses for the two years were verified as per the MTBs. For FY 2015-16, the Petitioner has claimed an expense of Rs. 0.01 Crore under O&M expenses related to Loan Processing Fee. However, the same cannot be allowed under O&M expense and should have been claimed under Interest and Financing Charges. Similarly, expenses towards tax audit fee of Rs. 0.01 Crore have been claimed twice in FY 2015-16 and necessary correction to this effect has been made in this regard. Further, the Petitioner has made donations amounting to 0.02 Crore and Rs. 0.06 Crore in FY 2015-16 and FY 2016-17 respectively. However, the same cannot be allowed to be passed on to the consumers. Any such activity by the Petitioner has to be carried out by its own resources as it would be claiming tax deductions on the same. Hence, the same is again disallowed. Accordingly, the actual expenses of the Petitioner for FY 2015-16 and FY 2016-17 after carrying out the prudence check by the Commission are Rs. 8.93 Crore and Rs. 10.99 Crore respectively. Moreover, it can be seen that the expenses of the Petitioner Company are increasing, specially the A&G expenses. The Petitioner is advised that the A&G expenses are controllable and proper prudence and control should be exercised on them.

For the purpose of truing up of O&M expenses, the Commission has adopted the same methodology in the present Petition as adopted in Tariff Order dated 30.11.2016, accordingly, the escalation rates have been computed on the basis of actual CPI Inflation and WPI Inflation for respective years which works out to 6.77% for FY 2015-16 and 4.27% for FY 2016-17. The Commission has escalated the O&M expenses worked out for the base year, i.e. FY 2014-15 on the basis of these escalation factors to compute normative O&M expenses for FY 2015-16 and FY 2016-17. The detail of O&M expenses claimed and approved by the Commission is as follows:

Table 2.7: O&M expenses approved for FY 2015-16 and FY 2016-17 (Rs. in Crore)

Particular	FY 2015-16			FY 2016-17		
	Approved in Tariff Order	Actual Claimed after prudence check	Normative O&M expenses worked out	Approved in Tariff Order	Actual Claimed after prudence check	Normative O&M expenses worked out
Normative O&M expenses	12.76	8.93	12.76	13.62	10.99	13.30

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

Table 2.8: O&M Expenses Approved After Sharing of Gains and Losses for FY2015-16 and FY 2016-17 (Rs. Crore)

Particulars	Actual Claimed after prudence check	Normative as per Regulations	Efficiency gain	Generator Share	Rebate in Tariff	O&M approved after sharing
O&M Expenses	**A**	**B**	**C=B-A**	**D=2/3xC**	**(E)=1/3xC**	**F= A+D**
FY 2015-16	8.93	12.76	3.83	2.56	1.28	11.48
FY 2016-17	10.99	13.30	2.32	1.54	0.77	12.53

2.1.2.8. *Interest on Working Capital*

The Petitioner has submitted that it has availed interest free loans from Group Company to meet out the requirement of working capital and no actual expenditure has been incurred towards interest on working capital. With respect to working capital and interest thereon for FY 2015-16, Regulation 34 of the UERC Tariff Regulations, 2011 specifies as under:

"34. 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:

...

c) 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 for sale of electricity equivalent to two months of the Aggregate Revenue Requirement calculated on normative capacity index.

..."

With respect to working capital and interest thereon for FY 2016-17, Regulation 33 of the UERC Tariff Regulations, 2015 specifies as under:

"33. Interest on Working Capital

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

(1) Generation:

…

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

(i) Operation and maintenance expenses for one month;

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

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

…"

2.1.2.9. One Month O&M Expenses

The Commission has trued up the annual O&M expense for FY 2015-16 and FY 2016-17. Based on the approved O&M expenses, one month's O&M expenses have been worked out for determining the working capital requirement.

2.1.2.10. Maintenance Spares

The Commission has considered the maintenance spares in accordance with the prevailing UERC Tariff Regulations for FY 2015-16 and FY 2016-17. The Commission has determined the plant wise maintenance spares requirement @ 15% of the trued up O&M Expenses for FY 2015-16 and FY 2016-17.

2.1.2.11. Receivables

UERC Tariff Regulations, 2011 and 2015 envisage receivables equivalent to two months of annual fixed charges as an allowable component of working capital. Aggregate Revenue Requirement (AFC) includes O&M expenses, depreciation, interest on loan, return on equity and interest on working capital. The Commission has considered the receivables for two months based on the trued up AFC for FY 2015-16 and FY 2016-17.

As regards the interest on working capital, Regulation 34 of the UERC Tariff Regulations, 2011 and Regulation 33 of UERC Tariff Regulations, 2015 specifies rate of interest on working capital to be taken equal to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff is made. As the Tariff Petition for true-up was filed on 26.12.2016, the Commission has considered the prevailing State Bank Advance Rate (SBAR) of State Bank of India, i.e. 13.70% for computing the Interest on Working Capital.

Accordingly, the normative Interest on working Capital for FY 2015-16 and FY 2016-17 as approved by the Commission is as shown in the Table below:

Table 2.9: Interest on working capital approved by the Commission (Rs. in Crore)

Particular	FY 2015-16			FY 2016-17		
	Approved in Tariff Order	Claimed	Approved	Approved in Tariff Order	Claimed	Approved
O&M Expenses	1.06	0.75	0.96	1.14	0.92	1.04
Maintenance spare	1.91	1.34	1.72	2.04	1.66	1.88
Receivables	15.79	3.50	15.28	15.74	16.31	15.19
Total	**18.77**	**5.59**	**17.95**	**18.92**	**18.88**	**18.11**
IWC	**2.64**	**0.00**	**2.46**	**2.66**	**0.00**	**2.48**

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

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

Table 2.10: Interest on Working Capital FY 2015-16 & FY 2016-17 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
FY 2015-16	0.00	2.46	2.46	1.64	0.82	1.64
FY 2016-17	0.00	2.48	2.48	1.65	0.83	1.65

2.1.2.12. *Non Tariff Income*

With regard to FY 2015-16, Regulation 47 of the UERC Tariff Regulations, 2011 specifies as follows:

"47. Non Tariff Income

The amount of non-tariff income relating to the Generation Business as approved by the Commission shall be deducted from the Aggregate Revenue Requirement in determining the Net

Aggregate Revenue Requirement of the Generation Company.

Provided that the Generation 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) Income from sale of Ash/rejected coal;

e) Interest on delayed or deferred payment on bills;

f) Interest on advances to suppliers/contractors;

g) Rental from staff quarters;

h) Rental from contractors;

i) Income from hire charges from contactors and others;

j) Income from advertisements, etc.;

k) Any other non- tariff income."

With regard to FY 2016-17, Regulation 46 of UERC Tariff Regulations, 2015 specifies as follows:

"46. Non Tariff Income

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

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

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

a) Income from rent of land or buildings;

b) Income from sale of scrap;

c) Income from statutory investments;

d) Interest on delayed or deferred payment on bills;

e) Interest on advances to suppliers/contractors;

f) Rental from staff quarters;

g) Rental from contractors;

h) Income from hire charges from contactors and others;

i) Income from advertisements, etc.;

j) Any other non- tariff income.

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

The Petitioner has submitted the details of actual Non-Tariff Income of Rs. 0.87 Crore and Rs. 2.05 Crore for FY 2015-16 and FY 2016-17 respectively in accordance with the audited accounts. The Commission has considered the non-tariff income for truing up purposes as proposed by the Petitioner.

2.2 Aggregate Revenue Requirement for FY 2015-16 and FY 2016-17

Based on the above analysis, the Commission has worked out the trued up AFC for FY 2015-16 and for FY 2016-17. The summary of the same is as follows:

Table 2.11: Annual Fixed Charges for FY 2015-16 and FY 2016-17 approved by the Commission (Rs. in Crore)

Particulars	FY 2015-16			FY 2016-17		
	Tariff Order	Claimed	Allowable	Tariff Order	Claimed	Allowable
Depreciation	25.34	25.35	25.35	25.36	25.57	25.70
Interest on Loan & Financial Cost	30.53	30.54	30.58	27.77	28.26	28.27
Return on Equity	23.49	23.49	23.49	25.02	25.02	25.02
O&M Expenses	12.76	8.95	11.48	13.62	11.05	12.53
Interest on Working Capital	2.64	0.00	1.64	2.66	0.00	1.65
Less: Non-Tariff Income	0.76	0.87	0.87	0.00	2.05	2.05
Total	**94.00**	**87.46**	**91.67**	**94.44**	**87.85**	**91.13**

Accordingly, trued-up AFC for FY 2015-16 works out to Rs. 91.67 Crore after sharing of gain/ loss on account of controllable factors. Further, as discussed under Para 2.1.1.1, the Commission vide its Tariff Order dated 30.11.2016 has allowed tariff to be recovered for FY 2015-16 as Single Part Tariff at the rate of Rs. 3.81/kWh and subsequently, vide minutes of meeting held with the

Petitioner, SLDC and UPCL on 07.07.2017, it was decided to allow the generator the recovery of the AFC through a single-part tariff till 30.11.2016 based on the units sold due to inability of SLDC to validate the Declared Capacity prior to 30.11.2016, i.e. date of first Tariff Order and through two part tariff thereafter.

The energy charge rate for FY 2015-16 works out to Rs. 3.72/kWh against Rs. 3.81/kWh approved in the Tariff Order dated 30.11.2016. The Petitioner has supplied total 17.52 MUs in FY 2015-16 (01.12.2015 to 31.03.2016), accordingly, surplus revenue realised by it from UPCL works out to Rs. 0.17 Crore.

Further, with regard to recovery of AFC for FY 2016-17, as discussed above, AFC works out to Rs. 91.13 Crore after sharing gain/loss on account of controllable factor. Further, as discussed above, recovery of AFC till 30.11.2016 was to be allowed through single part tariff based on the units sold. Accordingly, the AFC for FY 2016-17 has been apportioned to be recovered as single part tariff for the period 01.04.2016 to 30.11.2016 and through two part tariffs from 01.12.2016 to 31.03.2017.

Accordingly, as single part tariff was applicable till 30.11.2016, trued up tariff per unit works out to Rs. 3.70/kWh against the per unit rate of Rs. 3.83/kWh approved in the Tariff Order dated 30.11.2016. The Petitioner has supplied 220.87 MUs from 01.04.2016 to 30.11.2016. Accordingly, the surplus revenue realised thereon works out to Rs. 2.87 Crore which has to be refunded to UPCL.

For the period from 01.12.2016 to 31.03.2017, recovery of AFC has been envisaged through two-part tariff, i.e. through Capacity Charge linked with NAPAF & PAFM and Energy Charges linked with generation. The Petitioner has recovered Rs. 13.51 Crore from UPCL under two part tariff. The Petitioner has supplied 14.15 MUs from 01.12.2016 to 31.03.2017 and allowable energy charges works out to Rs. 2.62 Crore based on the approved ECR of Rs. 1.85/kWh for FY 2016-17.

With regard to PAFM, the Petitioner has submitted that during the month of February, 2017, Project's 220 kV transmission line from plant sub-station upto the inter connection point at PGCIL Chamera sub-station suffered damages due to collapse of one intervening transmission tower. The Commission has also observed from the certificate issued by SLDC for verification of Declared Capacity that no schedule of power was given by the Petitioner from 04.02.2017 to 08.03.2017 and the reason forwarded by the Petitioner is due to force majeure event on account of natural calamity. In this regard, it would be relevant to mention that the UERC Tariff Regulations, 2015 specify the uncontrollable factors which include "Force Majeure" event also. Nothing has been placed on record by the Petitioner to substantiate that the damages to the tower was beyond its control. Although, the Petitioner has submitted photographs of the damaged transmission line tower but it cannot be substantiated from the documents that whether such incident occurred due to negligence of the Petitioner or otherwise. Further, in this regard the Respondent has not been heard. Accordingly, the Commission in this proceeding is not allowing the force majeure claim of the Petitioner. However, the Petitioner is at liberty to approach the Commission separately for the same.

The Regulations clearly stipulates that the tariff for sale of electricity from a Hydro Generating Station shall comprise of two parts, namely, the recovery of Annual Capacity Charge and Energy Charge. It is to be noted that under the UERC Tariff Regulations, 2015, Capacity Charges are linked with NAPAF and PAFM, accordingly, considering the PAFM of 57.40% submitted and considered by UPCL for the period December, 2016 to March, 2017, the allowable capacity charges for the period December, 2016 to March, 2017 works out to Rs. 11.90 Crore as detailed in the Table below:

Table 2.12: Net Impact on Account of PAFM of FY 2016-17 (Rs. Crore)

AFC to be recovered from UPCL (Rs. Crore)	Capacity Charges (Rs. Crore)	NAPAF (%)	Actual PAFY* (%)	Capacity charges allowable (Rs. Crore)	Capacity charges after sharing
30.38	15.19	85	57.40	10.26	11.90

**average of PAFM from 01.12.2016 to 31.03.2017*

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

Table 2.13: Details of AFC recovered and AFC based on PAFM (Rs. Crore)

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

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

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

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

The net impact, i.e. Surplus of truing up for FY 2015-16 and 2016-17 works out to Rs. 7.13 Crore which along with the carrying cost works out to Rs. 8.69 Crore and is summarized in the Table below:

Table 2.14: Summary of net amount Trued up by the Commission for FY 2015-16 and FY 2016-17 (Rs. Crore)

Particulars	2015-16	2016-17	2017-18
Opening (Surplus)/Gap	-	0.18	7.65
True Up Amount	0.17	6.97	-
Carrying Cost	0.01	0.50	1.05
Closing (Surplus)/Gap	0.18	7.65	8.69
Interest Rate	13.70%	13.70%	13.70%

The Commission directs the Petitioner to refund the excess amount recovered i.e. Rs. 8.69 Crore on account of Truing up for FY 2015-16 and FY 2016-17 to UPCL in 12 equal monthly instalments commencing from April 2018 to March 2019.

3. Petitioner's Submissions, Commission's Analysis, Scrutiny and Conclusion on APR for FY 2017-18 and Revised AFC & Tariff for FY 2018-19

3.1 Annual Performance Review

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

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

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

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

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

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

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

The Commission, vide its Tariff Order dated 30.11.2016, on approval of Business Plan and MYT Petition for the second Control Period from FY 2016-17 to FY 2018-19, had approved the AFC for the Control Period based on approved capital cost till 31.03.2015. The Petitioner, in present Petition, proposed revision of estimates for FY 2018-19 based on the audited accounts for FY 2015-16 and FY 2016-17 and revised estimates for FY 2017-18.

The Commission, in this Order, has carried out the Truing up for FY 2015-16 and FY 2016-17 in accordance with the UERC Tariff Regulations, 2011 and UERC Tariff Regulations, 2015. In accordance with Regulation 12(3) of the UERC Tariff Regulations, 2015 the scope of annual performance review is limited to the revision of estimates for the ensuing year, if required, based on the audited financial results for the previous year and does not provide for the revision of estimates for the current year and gives effect on this account in the estimates of the ensuing year. The Commission shall carry out the truing up of FY 2017-18 based on the audited accounts for that year. The Commission, as discussed earlier, while carrying out the truing up has revised additional capitalisation for FY 2015-16 and FY 2016-17 based on the audited accounts of the respective years. Hence, the Commission, under the provisions of Regulation 12(3) of the UERC Tariff Regulations, 2015, has revised the AFC for FY 2018-19 based on the revised additional capitalization for FY 2015-16 and FY 2016-17. The approach adopted by the Commission in the approval of each element of ARR for FY 2018-19 is elaborated in the subsequent paragraphs.

3.2 Physical Parameters

3.2.1 *NAPAF*

Regulation 47(1)(b) of UERC Tariff Regulations, 2015 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 FY 2018-19 in the Tariff Order dated 30.10.2016 for second Control Period shall continue to be applicable without any change.

3.2.2 *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 as approved for FY 2018-19 in the Tariff Order dated 30.11.2016 for second Control Period.

Accordingly, the Commission approves saleable primary energy after deducting the normative auxiliary consumption of 1.5% and adjusting home State share as 246.52 MU.

3.3 Financial Parameters

3.3.1 *Additional Capitalisation for FY 2017-18 and FY 2018-19*

The Commission vide its Tariff Order dated 30.11.2016 on approval of the Business Plan and Tariff Petition of the Petitioner for the second Control Period from FY 2016-17 to FY 2018-19, had approved the projected additional capitalisation amounting to Rs. 0.577 Crore and Rs. 0.45 Crore for FY 2016-17 and FY 2017-18 based on the necessity of the equipments for smooth functioning of the hydro plant. In the present Petition, the Petitioner has claimed additional capitalisation of Rs. 8.13 Crore and Rs. 6.08 Crore for FY 2017-18 and FY 2018-19 respectively. The Petitioner has submitted the summary of the projected additional capitalisation for FY 2017-18 and FY 2018-19 which is as follows:

Table 3.1: Details of Proposed Additional Capitalisation for FY 2017-18 and FY 2018-19 (Rs. in Crore)

Financial Year 17-18			
S.No.	**Description**	**Amount**	**Remarks**
1	Construction & Commissioning of Fire fighting tank & Fire Hydrant	0.68	The existing CGI sheet fire tank has water leakages and is under the rock falling area. Accordingly, construction of the new Fire fighting tank at a safer, water source location and re-commissioning the Fire Hydrant for the safety of plant has been proposed.
2	Refurbishment of Plant SCADA and Automation	6.00	Plant is under operation without vibration monitoring system. The vibration monitoring is very essential for the real time health monitoring system of the TG Unit. So as to prevent any potential problems occurring in later stage. The existing SCADA is not properly integrated. Now the works are taken up with plant automation with continuous health monitoring system for smooth and efficient operation.
3	VS Enterprises	0.45	Dam down-stream river protection works to prevent scouring.
4	CWIP Works	1.00	Dam down stream river protection works to prevent scouring
		8.13	
Financial Year 2018-19			
S.No.	**Description**	**Amount**	**Remarks**
1	Replacement of single core 400sq.mm, 11kV XLPE cable with solid bus bar from	2.00	The existing 07 run per phase of XLPE cables due space problem getting heated up and failing during peak generation season. For replacement

	Generator to LV breaker of both units		and repair it is becoming difficult to carry out the repair or replace with new one. More over cable losses are more as compared to solid isolated bus duct hence proposed replacement of XLPE Cables with isolated bus bar duct.
2	Establishment of Mechanical work shop	1.05	The Power Plant is located in remote and tribal area of Himachal and there is no well equipped workshop near to Power Plant. For very small machining works, modification and repairs we have to go to Pathankot, Jallandhar and Ludhina which takes long time and plant for very small works remain under shutdown. To cut down/minimize the back down time and make plant available for generation Mechanical Workshop required at Plant.
3	Provision of standby 220V DC, 850Ah lead acid battery bank for Power House and GIS.	0.30	DoE Govt. of Himachal raised observation for Stand by Battery Bank. The DC control supply is essential requirement of entire control and protection system of Power Plant. Since commissioning there is only one DC Supply source with single battery bank. To keep stand by DC Supply source and attend the DoE observation additional battery bank is proposed.
4	To control the trash, big logs and other floating debris providing of floating booms so that only clean water reach upto the inlet gate.	0.05	During rains big logs from the catchment area are coming with water and stucking infornt of inlet gates, intrupting water inlet to main water conductor system. The floating beam are proposed for controling the floating wooden logs and trash before the inlet gates/trash racks.
5	Road work- Zero point to Security post	0.04	There is no alternative road and this single road with rains getting damaged/blocked. For permanent solution protection work is required.
6	Access road to Power House soling and concreting L-50 mtr	0.30	There is no alternative road and this single road with rains getting damaged/blocked. For permanent solution protection work is required. Moreover lot of dust is entering in GIS and Control Panels inside Power Plant and Dam area.
7	Access road to Dam Site soling and concreting L-50 mtr	0.30	
8	C/o of Office building at PH	1.40	The existing office accommodation was made during construction of Project 11 years back and with passage of time got deteriorated beyond repairs. New permanent office accommodation is required as there is no other alternate for office accommodation on even rent basis.
9	Flooring of GIS	0.60	The existing flooring is not dust proof as per the requirements. Lot of dust is entering in main Machines and GIS equipments and control Panels. To make the dust free environment in GIS and Power Plant permanent flooring is required.
10	Flooring of Service bay	0.40	
11	Construction of office room,	0.03	The existing office accommodation with toilet and

	pantry and toilet on 1st floor of control room at dam		pantry that was made during construction is at 500 meters distance from main Dam structure and control room and is not in good condition. New accommodation is required near to the Dam control room to facilitate the O&M staff by senior officers / staff sitting in office.
12	Construction of RCC canopy with column beam and RR wall on the front of MAT	0.04	The Power Plant is underground Powerhouse type and MAT portal is under hill cliff. Due to Grazing animals and rains stones are felling and are dangerous to staff movement. As safety measure RCC canopy is required infront of MAT. In addition to above rain water is also entering inside Powerhouse cavern and may flood inside.
13	Extended of HVAC Duct in Cable Tunnel	0.08	The cable tunnel length is more than 100 meters and about 50 (Fifty) number Power Cables and additional control cables more than 30 are coming from Power Plant control room to Transformer Yard and GIS. There is no ventilation system inside cable tunnel and due to over-heating cable are damaged. For maintaining the temperature and protect cables over-heating, extension of Main Power Plant Ventilation Duct or establishment of new ventilation system is required.
14	Taxes as per GST	0.93	Additional Tax
	Total	**6.08**	

It is to be noted that the actual capitalisation for FY 2016-17 amounted to Rs. 13.38 Crore against the approved amount of Rs. 0.577 Crore in the Business Plan Petition. Further, the Petitioner has proposed the additional capitalisation of Rs. 8.13 Crore for FY 2017-18 and as per submissions of the Petitioner the CWIP and capital advances till February, 2018 works out to Rs. 5.80 Crore. For the proposed capitalisation pertaining to 'Fire Fighting tank & Fire Hydrant', entire work has been completed and in respect of SCADA most of the work has been completed and installation work of the same is under process which is estimated to be completed by March 31, 2018. The Commission in the current proceedings is provisionally considering the additional capitalisation proposed by the Petitioner for FY 2017-18. However, during the truing up proceedings for FY 2017-18, the Petitioner will be required to justify the additional capitalisation in accordance with Regulation 22(2) of the UERC Tariff Regulations, 2015 duly substantiated with the technical justification and supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level alongwith the purchase orders, bills/vouchers for the said work.

With regard to the additional capitalisation claimed by the Petitioner for FY 2018-19, the Commission has observed that the works are in initial stage and PO/WO are yet to be awarded for the execution of proposed works. It appears that such work may either be capitalised by the end of the financial year or may spill over to FY 2019-20 as execution of such works are in inception stage. Accordingly, at present the Commission is not considering the capitalisation proposed for FY 2018-19, however, the same shall be reviewed at the time of Annual Performance Review for FY 2018-19.

Hence, for the time being, the Commission is provisionally allowing the additional capitalisation claimed by the Petitioner for FY 2017-18 which shall be subject to truing up in accordance with the Regulations.

3.3.2 *Capital Structure*

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

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

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

..."

The Petitioner submitted that the capital expenditure to be incurred in FY 2017-18 and FY 2018-19 are to be financed by a mix of debt and equity in the ratio of 70:30. As mentioned above, the Commission has provisionally considered the additional capitalisation as proposed by the Petitioner for FY 2017-18 and has not considered the additional capitalisation proposed by the Petitioner for FY 2018-19 and, accordingly, financing of the same has been worked out on the normative debt-equity ratio as submitted by the Petitioner. However, based on the actual admissible additional capitalization and actual financing, truing up will be done for the purpose of determination of Tariff.

3.4 Revised ARR for FY 2018-19

3.4.1 *Depreciation*

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

*"**28. Depreciation***

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

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

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

...

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

..."

The Petitioner has claimed depreciation for FY 2018-19 of Rs. 26.39 Crore. The Commission has worked out the depreciation of Rs. 26.46 Crore against the admissible opening GFA of Rs. 526.90 Crore for FY 2018-19. The detail of the depreciation claimed and approved for the second Control Period is as follows:

Table 3.2: Claimed and Approved Depreciation for FY 2018-19 (Rs. in Crore)

Particular	Approved in Tariff Order	Claimed	Approved
Depreciation	25.34	26.39	26.46

The reason for approval of higher depreciation than the depreciation claimed by the Petitioner has already been discussed under the head of Depreciation in Truing up chapter for FY 2015-16 and FY 2016-17.

3.4.2 *Return on Equity*

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

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

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

Regulation 24.

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

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

The Petitioner has claimed return on equity of Rs. 26.08 corresponding to the equity of Rs. 158.13 Crore based on projected capital cost as on 01.04.2018 whereas the Commission has worked out the return on equity amounting to Rs. 26.08 Crore based on opening equity of Rs. 158.07 Crore for FY 2018-19. Details of the Return on Equity claimed and approved for FY 2018-19 is as follows:

Table 3.3: Claimed and Approved RoE for FY 2018-19
(Rs. in Crore)

Particulars	Approved in Tariff Order	Claimed	Approved
Return on Equity	25.07	26.08	26.08

3.4.3 *Interest on Loans*

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

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

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

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

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

...

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

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

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

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

…"

The Petitioner has claimed interest on normative loan of Rs. 23.91 Crore considered the interest rate of 11% p.a. of the non-convertible debentures for FY 2018-19. The Commission has considered the closing net normative loan of Rs. 228.03 Crore for FY 2017-18 as opening normative loan for FY 2018-19 and depreciation of Rs. 26.46 Crore approved for FY 2018-19 as repayment of normative loan as per applicable UERC Tariff Regulations, 2015. Further, rate of interest of Nov-Convertible Debentures, i.e. 11% p.a. has been considered for FY 2018-19. Accordingly, the Commission approves interest on loan of Rs. 23.63 Crore for FY 2018-19. Details of the interest claimed and allowed for the second Control Period is given in the Table below:

Table 3.4: Interest on Loan approved by the Commission for FY 2018-19 (Rs. in Crore)

Interest on Normative Loan	Claimed	Approved
Gross Opening Normative Loan	368.88	368.83
Cumulative Repayment	140.43	140.80
Net Opening Normative Loan	228.46	228.03
Additional Capitalisation	4.26	0.00
Normative Repayment of loan	26.39	26.46
Net Closing Normative Loan	206.32	201.57
Average Normative Loan	217.39	214.80
Rate of Interest	11.00%	11.00%
Normative Interest	**23.91**	**23.63**

3.4.4 *Operation and Maintenance expenses*

With regard to Operation and Maintenance expenses, Regulation 48(2) of the UERC Tariff Regulations, 2015 specifies as follows:

"48 Operation and Maintenance Expenses

...

(2) For Hydro Generating Stations

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

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 2014-15, the operation and maintenance expenses for the base year of FY 2014-15 shall be fixed at 2.0% of the capital cost as admitted by the Commission for the first year of operation and shall be escalated from the subsequent year in accordance with the escalation principles specified in clause (e) below.

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

In case of new hydro electric generating stations, i.e. the hydro electric generating stations declared under commercial operation on or after 1.4.2016, 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.

(d) Post determination of base O&M Expenses for the base year, i.e. FY 2014-15, the O&M expenses for the nth year and also for the year immediately preceding the Control Period, i.e. 2015-16 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 2% 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. 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 in case of a existing generating station governed by Government pay structure, the Commission may consider allowing a separate provision in Employee expenses towards the impact of VIIth Pay Commission.

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:*

$$EF_k = 0.55 x WPI_{Inflation} + 0.45 x CPI_{Inflation}$$

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

As discussed in Para 2.1.2.7 of this Order, the O&M expenses for FY 2015-16 has been computed by escalating the O&M expenses of base year, i.e. FY 2014-15 with escalation factor of 6.77% and the O&M expenses worked out for FY 2015-16 has been further escalated with 4.27% based on the aforementioned Regulation. Further, the Commission has worked out the escalation rate, i.e. 3.02% for FY 2017-18 based on the CPI and WPI inflation rates which has been considered for computing the O&M expenses for FY 2018-19 as shown in the Table below:

Table 3.5: O&M expenses for FY 2018-19 approved by the Commission (Rs. Crore)

Particular	Approved in Tariff Order	Claimed	Approved
O&M expense	15.53	14.79	14.12

The Petitioner in its Petition has submitted that the actual O&M expenses for FY 2016-17 have been incurred while postponing the major required expenses to future years. This has been done since at the time of budgeting the O&M expense for FY 2016-17, there was no clarity on the O&M expenses to be allowable by the Commission. The tariff order of the Commission came in Nov-end, 2016 and by that time significant O&M expenses that were planned were awarded to the various vendors for execution. In view of this, the O&M for FY 2016-17 was planned and organised in a constrained way, by postponing/ deferring of various measures & refurbishments required to streamline the plant O&M for more smooth, reliable and efficient manner to subsequent years. Such works and more routine O&M measures are planned for the years FY 2017-18 and FY 2018-19 and onwards. In view of impending O&M works for the plant and clarity pertaining to allowable O&M expense, the O&M expense for future years is expected to increase w.r.t FY 2016-17. In this regard, the Commission would like to advise the Petitioner to exercise proper caution and prudence while incurring the O&M expenses as the same are controllable in nature. The Petitioner should ensure to restrict the actual O&M expenses within the norms allowed by the Commission.

3.4.5 ***Interest on Working Capital***

The Petitioner has submitted that the interest on working capital for FY 2018-19 has been proposed in accordance with Regulation 33 of UERC Tariff Regulations, 2015.

Regulation 33 of UERC Tariff Regulations, 2015 specifies as follows:

> *"Rate of interest on working capital shall be on normative basis and shall be equal to the State Bank Advance Rate (SBAR) of State Bank of India as on the date on which the application for determination of tariff is made.*
>
> *...*
>
> *In case of hydro power generating stations and transmission system and SLDC, the working capital shall cover:*
>
> *(i) Operation and maintenance expenses for one month*
>
> *(ii) Maintenance spares @ 15% of operation and maintenance expenses*
>
> *(iii) Receivables equivalent to two months of the Aggregate Revenue Requirement"*

The Petitioner has further submitted that it has considered the rate of interest on working capital equal to SBI PLR of 14.05% in accordance with the Regulations. In this regard, it is to be noted that as per aforesaid Regulation, SBAR as on date of filing of the tariff Petition is to be considered for computation of interest on working capital. The present Petition has been submitted on 28.12.2017 for the true up of FY 2015-16 & FY 2016-17 and revised ARR for FY 2018-19. Accordingly, the applicable Rate, i.e. 13.70% has been considered for the purpose of computation of interest on working capital. The Commission has determined the interest on working capital for FY 2017-18 in accordance with the aforesaid Regulations and is as discussed below.

3.4.5.1 *One Month O&M Expenses*

The Commission has approved the annual O&M expense for FY 2018-19. Based on the approved O&M expenses, one month's O&M expenses have been worked out for determining the working capital requirement.

3.4.5.2 *Maintenance Spares*

The Commission has considered the maintenance spares in accordance with the prevailing UERC Tariff Regulations for FY 2018-19. The Commission has determined the plant wise maintenance spares requirement @ 15% of normative O&M Expenses worked out for FY 2018-19.

3.4.5.3 *Receivables*

UERC Tariff Regulations, 2015 envisage receivables equivalent to two months of annual fixed charges as an allowable component of working capital. Aggregate Revenue Requirement (AFC) includes O&M expenses, depreciation, interest on loan, return on equity and interest on working capital. The Commission has considered the receivables for two months based on the AFC for FY 2018-19.

Based on the above, the total working capital requirement of the Petitioner for FY 2018-19 works out to Rs. 18.77 Crore. As discussed above, the Commission has considered the rate of interest on working capital as 13.70% equal to State Bank Advance Rate (SBAR) as on the date of filing of the present Petition and, accordingly, the interest on working capital works out to Rs. 2.57 Crore for FY 2018-19. The interest on working capital approved by the Commission for FY 2018-19 is as shown in the Table below:

Table 3.6: Interest on working capital for FY 2018-19 approved by the Commission (Rs. in Crore)

Particular	Approved in Tariff Order	Claimed	Approved
O&M Expenses	1.29	1.23	1.18
Maintenance spare	2.33	2.22	2.12
Receivables	15.14	16.05	15.48
Total	**15.14**	**19.50**	**18.77**
IWC	**2.64**	**2.74**	**2.57**

3.4.6 *Non-Tariff Income*

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

"46. Non Tariff Income

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

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

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

a) Income from rent of land or buildings;

b) Income from sale of scrap;

c) Income from statutory investments;

d) Interest on delayed or deferred payment on bills;

e) Interest on advances to suppliers/contractors;

f) Rental from staff quarters;

g) Rental from contractors;

h) Income from hire charges from contactors and others;

i) Income from advertisements, etc.;

j) Any other non- tariff income.

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

The Petitioner, vide Table 12 of its Petition has projected non-tariff income amounting to Rs. 0.77 Crore for FY 2018-19, however, the same has not been adjusted by it in the AFC for FY 2018-19. The Commission has adjusted it from the approved AFC for FY 2018-19, as of now. However, the same is subject to correction during the truing up proceedings.

3.4.7 ***Annual Fixed Charges, Capacity Charge and Energy Charge Rate (ECR) for FY 2018-19***

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 2018-19. Regulation 50 of UERC Tariff Regulations, 2015 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 2018-19 as claimed and approved by the Commission is shown in the Table below:

Table 3.7: Annual Fixed Charges approved by the Commission for FY 2018-19 (Rs. in Crore)

Annual Fixed Charges	Approved in Tariff Order	Claimed	Approved
Depreciation	25.34	26.39	26.46
Interest on Loan	22.24	24.05	23.63
Return on Equity	25.07	26.08	26.08
O&M Expenses	15.53	14.79	14.12
Interest on Working Capital	2.64	2.74	2.57
Total	**90.82**	**94.05**	**92.86**
Less: Non Tariff Income	0.00	-	0.77
Net AFC	**90.82**	**93.28**	**92.09**

The summary of Capacity Charge and Energy Charge Rate (ECR) for the Petitioner's project for FY 2018-19 is as given in the Table below:

Table 3.8: Capacity Charge and Energy Charge Rate approved by the Commission for FY 2018-19

Particular	Amount
Net AFC (Rs. Crore)	92.09
Saleable Energy (MU)	246.52
Capacity Charges (Rs. Crore) (50% of AFC)	46.05
Energy Charges (Rs./kWh) (50% of AFC)	1.87

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-Auxiliory Consumption)-FS).

(Subhash Kumar)
Chairman