Jharkhand State Electricity Regulatory Commission

Order on

True-up Petition for FY 2016-17 to FY 2020-21, Business Plan

&

MYT Tariff Petition for FY 2021-22 to FY 2025-26

for

Jharkhand Urja Utpadan Nigam Limited(JUUNL)

Dhurwa, HEC, Ranchi

Ranchi

February 26th ,2024

Contents

List of Abbreviations

Abbreviation	Description
AAD	Advance Against Depreciation
A&G	Administrative and General
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal for Electricity
BOQ	Bill of Quantity
COD	Date of Commercial Operation
CEA	Central Electricity Authority
COD	Date of Commercial operation
DPR	Detailed Project Report
EA'03	Electricity Act 2003
ECR	Energy Charge Rate
FY	Financial Year
GFA	Gross Fixed Assets
GOI	Government of India
GoJ	Government of Jharkhand
JSEB	Jharkhand State Electricity Board
JSERC	Jharkhand State Electricity Regulatory Commission
IDC	Interest During Construction
kWh	Killowatt-Hour
MAT	Minimum Alternative Tax
MU	Million Units
MW	Megawatt
MYT	Multi Year Tariff
NAPAF	Normative Annual Plant Availability Factor
O&M	Operation and Maintenance
PAF	Plant Availability Factor
PLF	Plant Load Factor
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RoE	Return on Equity
Rs	Rupees
SBI	State Bank of India
SERC	State Electricity Regulatory Commission
SLDC	State Load Dispatch Centre
SLM	Straight Line Method
SRHP	Swarn Rekha Hydel Power Project
JUUNL	Jharkhand Urja Utpadan Nigam Limited

List of Tables

BEFORE

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 06 of 2023

In the matter of:

Petition for

True-up of FY 2016-17 to FY 2020-21
&
Business Plan & MYT for FY 2021-22 to FY 2025-26

In the matter:

JUUNL, Dhurwa,HEC,Ranchi...........**Petitioner**

PRESENT

Justice Amitav Kumar Gupta	Chairperson
Shri. Mahendra Prasad	Member (Legal)
Shri. Atul Kumar	Member Technical)

Order dated
February 26th, 2024

Jharkhand Urja Utpadan Nigam Limited(hereinafter referred to as 'JUUNL' or 'the Petitioner') has filed the Petition dated September 12, 2023 for approval of Truing-up for FY 2016-17 to FY 2020-21,Business Plan & MYT for FY 2021-22 to FY 2025-26.

Chapter 1: INTRODUCTION

Jharkhand State Electricity Regulatory Commission

1.1 The Jharkhand State Electricity Regulatory Commission (hereinafter referred to as the 'JSERC' or 'the Commission') was established by the Government of Jharkhand under Section 17 of the Electricity Regulatory Commission Act, 1998 on August 22, 2002. The Commission became operational with effect from April 24, 2003.

1.2 The Government of Jharkhand vide its notification dated August 22, 2002 had defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely:

a) to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be, in the manner provided in section 29;
b) to determine the tariff payable for the use of the transmission facilities in the manner provided in section 29;
c) to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
d) to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.

1.3 After the Electricity Act, 2003 (hereinafter referred to as the 'Act') came into force, the earlier Electricity Regulatory Commissions Act, 1998 stands repealed and the functions of SERCs are now defined under Section 86 of the Act.

1.4 In accordance with Section 86 (1) of the Act, the JSERC discharges the following functions:

a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:

b) Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;

c) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

d) facilitate intra-State transmission and wheeling of electricity;

e) issue licenses to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

f) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;

g) adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;

h) levy fee for the purposes of this Act;

i) specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79;

j) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;

k) fix the trading margin in the intra-state trading of electricity, if considered, necessary;

l) discharge such other functions as may be assigned to it under this Act.

1.5 The Commission has to also advise the State Government as per sub section 2 of Section 86 of the Act, on all or any of the following matters, namely:

a) promotion of competition, efficiency and economy in activities of the electricity industry;

b) promotion of investment in electricity industry;

c) reorganization and restructuring of electricity industry in the State;

d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.

1.6 The State Commission ensures transparency while exercising its powers and discharging its functions.

1.7 In discharge of its functions, the State Commission is also guided by the Tariff Policy notified by the Government of India under Section 3 of the Act. The objectives of the Tariff Policy are to:

a) ensure availability of electricity to consumers at reasonable and competitive rates;

b) ensure financial viability of the sector and attract investments;

c) promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimize perceptions of regulatory risks;

d) promote competition, efficiency in operations and improvement in quality of supply.

Jharkhand Urja Utpadan Nigam Limited

1.8 The erstwhile Jharkhand State Electricity Board (“Board” or “JSEB”) is a statutory body constituted under Section 5 of the Electricity (Supply) Act, 1948 and was engaged in electricity generation, transmission, distribution and related activities in the State of Jharkhand.

1.9 Jharkhand Urja Vikas Nigam Ltd. (herein after to be referred to as

"JUVNL" or "the Holding company") has been incorporated under Indian Companies Act, 1956 pursuant to decision of Government of Jharkhand to reorganize erstwhile Jharkhand State Electricity Board (herein after referred to as "JSEB"). The Petitioner submits that the said reorganization of the JSEB has been done by Government of Jharkhand pursuant to "Part XIII – Reorganization of Board" read with section 131 of the Electricity Act 2003. The holding company has been incorporated on 16th September 2013 with the Registrar of Companies, Jharkhand, Ranchi and has obtained Certificate of Commencement of Business on 12th November 2013.

1.10 Jharkhand Urja Utpadan Nigam Ltd. (herein after to be referred to as "JUUNL" or "the Petitioner" or erstwhile "JSEB-Generation function" has been incorporated on 23rd October 2013 with the Registrar of Companies, Jharkhand, Ranchi and has obtained Certificate of Commencement of Business on 28th November 2013. The Petitioner is a Company constituted under the provisions of Government of Jharkhand, General Resolution as notified by transfer scheme vide notification no. 8, dated 6th January 2014. The Generation Company - Jharkhand Urja Utpadan Nigam Ltd. is duly registered with the Registrar of Companies, Ranchi on 23rd October 2013.

1.11 Pursuant to the enactment of the Electricity Act, 2003, every utility is required to submit its Aggregate Revenue Requirement (ARR) for control period and Tariff Petitions as per procedures outlined in section 61, 62 and 64, of Electricity Act 2003, and the governing regulations thereof.

1.12 The present petition is being filed by JUUNL before the Hon'ble Commission for approval of the True-Up of FY 2016-17 to FY 2021-22 & projected ARR and Tariff determination for FY 2021-22 to FY 2025-26 of the Control period as per the Electricity Act, 2003 and as per the provisions of the regulations issued by the Hon'ble Jharkhand State

Electricity Regulatory Commission (JSERC) (Terms and Conditions For Determination of Generation Tariff) Regulations, 2015 & 2020 and its amendments.

Petitioners Prayer

1.13 The Petitioner in the Filing of Petition for True up of FY 2016-17 to FY 2020-21, Business Plan & MYT for FY 2021-22 to FY 2025-26 has prayed before the Commission:

a) To admit the True Up Petition for the period from FY 2016-17 to FY 2020-21, Business Plan and ARR petition for 3rd MYT control period (FY 2021-22 to FY 2025-26) filed by JUUNL, in accordance with provisions of the Jharkhand State Electricity Regulatory Commission JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 and JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

b) To approve the True Up of components of ARR and proposed revenue gap along with the carrying cost.

c) To allow the actual expenses incurred and its impact on the True Up.

d) To approve the operating parameters such as Plant Availability Factor of the hydro plant taking cognizance of the ground reality in the subsequent Tariff Order.

e) To approve the design energy in million units as per the operating manual of the manufacturer.

f) To approve the proposed Business plan for the future years of 3rd MYT control period from FY 2021-22 to FY 2025-26, in the subsequent Tariff Order to be issued by the Hon'ble Commission.

g) To approve the projections of the ARR components for the 3rd MYT control period from FY 2021-22 to FY 2025-26, in the subsequent

Tariff Order to be issued by the Hon'ble Commission in line with the Generation Tariff Regulations 2020.

h) To direct Jharkhand Bijli Vitran Nigam Limited (JBVNL) to practice timely payment of bills raised by JUUNL.

i) To allow JUUNL to impose Late payment surcharge on JBVNL as per clause 22.3 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 on delay in payment of bills raised by JUUNL.

j) To condone any error/omission and to give opportunity to rectify the same.

k) To permit JUUNL to make further submissions, addition, and alteration to this Business Plan or ARR Tariff petition as may be necessary from time to time.

Chapter 2: PROCEDURAL HISTORY

Background

2.1 The Commission had passed Tariff Order of True Up for period 6th Jan 2014 – 31st Mar 2014, FY 2014-15 and FY 2015-16, Business plan and determination of ARR for the control period FY 2016-17 to FY 2020-21 on 25th September 2018.

2.2 In the instant petition, the Petitioner has sought Truing-up for FY 2016-17 to FY 2020-21 based on audit accounts as submitted by the Petitioner.

2.3 The Petitioner has also filed petition for determination of ARR, Business plan and MYT petition for FY 2021-22 to FY 2025-26.

Information Gaps in the Petition

2.4 In exercise of Tariff determination process, several deficiencies/information gaps were found in the Petition submitted by the Petitioner and the same was communicated to the Petitioner vide letter no. JSERC/Case (Tariff) no:06 of 2023/336 dated 26.09.2023.

2.5 In response the Petitioner furnished additional data/information to the Commission vide letter no: Ref 70/23-24 dated 19/10/2023.

2.6 The Commission has scrutinized the Petition and the additional data/information furnished by the Petitioner with respect to its discrepancies identified and has considered the same while passing this Order.

2.7 In order to provide adequate opportunities to all stakeholders and general public, as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulations framed by the Commission and in order to ensure transparency in the process of tariff determination, the Commission decided to hold Public Hearing on 30th of January 2024.

Inviting Public Comments/Suggestions

2.8 On scrutiny of the Petition, the Commission directed the Petitioner to publish a Public Notice inviting comments/suggestions from public and to make available copies of the Petition to the members of general public on request.

2.9 Accordingly, Public Notice was published by the Petitioner in the newspapers and a period of twenty-one (21) days was given for submitting the comments/suggestions by the general public:

Table 1: List of newspapers and dates of publication of public notice by the Petitioner

Newspaper	Language	Date of Publication
Dainik Bhaskar	Hindi	15.11.2023 & 17.11.2023
Dainik Jagran	Hindi	15.11.2023 & 17.11.2023
Hindustan Times	English	15.11.2023 & 17.11.2023
Prabhat Khabar	Hindi	15.11.2023 & 17.11.2023
Times of India	English	15.11.2023 & 17.11.2023

2.10 The Commission has also published a Public Notice on its website www.jserc.org and various newspapers confirming the date of conducting public hearing on the Petition giving time to various Stakeholders to submit their comments/suggestions. Accordingly, the Commission had also organized a Public Hearing on September 30th January,2024 where an additional opportunity was provided to all the Stakeholders to submit their comments/suggestions on the above Petition. The details of newspapers wherein the Notice was published by the Commission are as under:

Table 2: List of newspapers and dates of publication of Public Notice by the Commission

Newspaper	Language	Date of Publication
Prabhat Khabar	Hindi	21.01.2024 & 29.01.2024
Hindustan Dainik	Hindi	21.01.2024
Times of India	English	21.01.2024 &29.01.2024
The Hindustan Times	English	21.01.2024 &29.01.2024
Dainik Jagran	Hindi	29.01.2024

Submission of Comments/Suggestions during Public Hearing

2.11 Comments/Suggestions on the Petition were received from various Stakeholders. The Comments/Suggestions of the Public, Petitioner's Responses and Commission's views thereon are detailed in **Chapter 4** of this Order.

Chapter 3: BRIEF FACTS OF THE PETITION

3.1 The following chapter summarizes the Petition for truing-up of FY 2016-17 to FY 2021-26, Business Plan & MYT for FY 2021-22 to FY 2025-26 as filed by the Petitioner for the Commission's approval of the two units of Sikidiri Power Plant 130 MW(2x65MW).

True-up for FY 2016-17 to FY 2020-21:

3.2 The summary of operational performance parameters for FY 2016-17 to FY 2020-21 as submitted by the Petitioner is given in the table below:

Table 3 Operational Performance Parameters as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17		FY 2017-18		FY 2018-19		FY 2019-20		FY 2020-21	
	MYT	Petition	MYT	Petition	MYT	Petition	MYT	Petition	MYT	Petition
Availability (%)	50%	18%	50%	80%	50%	83%	50%	47%	50%	49%
Gross Generation (MU)	159.43	30.12	159.43	190.28	159.43	102.49	159.43	36.12	159.43	49.98
Auxiliary Consumption (%)	0.7%	0.15%	0.7%	0.15%	0.7%	0.13%	0.7%	0.18%	0.7%	0.09%
Auxiliary Consumption (MU)	1.12	0.24	1.12	0.24	1.12	0.21	1.12	0.15	1.12	0.15
Net Generation (MU)	158.32	29.88	158.32	190.04	158.32	102.28	158.32	35.96	158.32	49.84

3.3 The summary of Annual fixed charge for FY 2016-17 to FY 2020-21, as submitted by the Petitioner is given in the table below:

Table 4 Summary of Annual Fixed charge as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	UoM	FY 2016-17		FY 2017-18		FY 2018-19		FY 2019-20		FY 2020-21	
		MYT	Petition	MYT	Petition	MYT	Petition	MYT	Petition	MYT	Petition
O&M expenses	Rs.Cr	17.38	14.75	18.49	27.32	19.78	28.59	21.17	23.62	22.67	27.09
Depreciation	Rs.Cr	1.62	1.63	1.68	1.44	1.81	1.07	1.99	0.85	2.23	0.06
Interest on Loan	Rs.Cr	2.89	3.78	2.78	3.57	2.76	3.39	2.80	3.25	2.88	3.19
Return on Equity	Rs.Cr	2.00	2.13	2.05	2.14	2.15	2.14	2.30	2.15	2.49	2.15

Interest on working capital	Rs.Cr	1.04	0.89	1.11	1.42	1.18	1.45	1.26	1.21	1.35	1.30
Less: Non-Tariff Income	Rs.Cr	0.04	1.98	0.04	6.57	0.04	5.13	0.04	6.14	0.04	4.86
Annual fixed charge	Rs.Cr	24.89	21.21	26.11	29.32	27.68	31.51	29.52	24.93	31.62	28.93

3.4 The Summary of Revenue Gap/(Surplus) as submitted by the Petitioner for FY 2016-17 to FY 2020-21 is given in the table below:

Table 5 Table 6 Revenue Gap/(Surplus) (in Rs.Cr) as submitted by the Petitioner for the control period FY 2016-17 to FY 2020-21

Particulars	UoM	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Revenue Requirement(ARR)	Rs.Cr	43.59	40.76	52.21	14.64	22.39
Total amount billed by JUUNL	Rs.Cr	12.44	29.74	24.30	17.44	19.45
Opening Gap/(Surplus)	Rs.Cr	0.00	33.14	49.03	84.62	92.26
Gap/(Surplus) for the year	Rs.Cr	31.15	11.02	27.90	(2.80)	2.94
Rate of Interest	%	12.80%	12.60%	12.20%	12.55%	11.65%
Carrying Cost	Rs.Cr	1.99	4.87	7.68	10.44	10.92
Closing Gap/(Surplus) including carrying cost	**Rs.Cr**	**33.14**	**49.03**	**84.62**	**92.26**	**106.12**

Multi Year Tariff Petition for FY 2021-22 to FY 2025-26

3.5 The summary of operational performance parameters for FY 2021-22 to FY 2025-26 as projected by the Petitioner is given in the table below:

Table 7 Operational Performance parameters as projected by the Petitioner for third control period i.e. FY 2021-22 to FY 2025-26

Particulars	UOM	FY 22	FY 23	FY24	FY25	FY26
Plant Availability	%	50%	50%	50%	50%	50%
Auxiliary Consumption	%	0.70%	0.70%	0.70%	0.70%	0.70%
Gross Generation	MU	159.43	159.43	159.43	159.43	159.43
Auxiliary Consumption	MU	1.12	1.12	1.12	1.12	1.12
Net Generation	MU	158.32	158.32	158.32	158.32	158.32

3.6 The summary of Annual fixed charge for FY 2021-22 to FY 2025-25 as projected by the Petitioner is given in the table below:

Table 8 Summary of Annual Fixed Charge (Rs.Cr) as projected by the Petitioner for third control period i.e. FY 2021-22 to FY 2025-26

Particulars	UOM	FY 22	FY 23	FY 24	FY 25	FY 26
O&M expenses	Rs.Cr	29.20	31.41	33.84	36.51	39.44
Depreciation	Rs.Cr	0.14	0.14	0.14	0.14	0.14
Interest on Loan	Rs.Cr	2.05	2.04	2.03	2.01	2.00
Return on Equity	Rs.Cr	1.95	1.95	1.95	1.95	1.95
Interest on working capital	Rs.Cr	1.42	1.53	1.65	1.78	1.92
Less: Non-Tariff Income	Rs.Cr	5.38	5.38	5.38	5.38	5.38
Annual fixed charge	**Rs.Cr**	**29.39**	**31.70**	**34.23**	**37.02**	**40.08**

Chapter 4: PUBLIC CONSULTATION PROCESS

4.1 A Public Hearing was held by the Commission on January 30th, 2024 for giving additional opportunity to all the stakeholders for ensuring maximum public participation and transparency for providing opportunity to the stakeholders and several stakeholders submitted their comments and suggestions. The list of the attendees is mentioned in Chapter-10 of this Order.

4.2 The comments and suggestions of the public along with the response of the Petitioner and the views of the Commission are summarized in this Chapter. The issues raised by the stakeholders, which do not have any bearing to the petition have not been discussed.

Annual Fixed Charge

Public Comments/Suggestions

4.3 Employee expenses and A&G expenses have increased and Non-tariff income has increased manifold over the years. The increase in expenses is not in conformity to the expenses approved by the Commisison.While employee expenses has increased over 40% for FY 2018-19 and FY 2019-20, A&G expense has increased over 700% for FY 2017-18 and FY2018-19. This needs to be properly validated for passing on to the overall cost for approval.

Petitioner's Response

4.4 The petitioner would like to highlight that it has claimed operation and maintenance expense & Non-Tariff Income as per the actuals in the audited annual accounts which has already been enclosed with the original petition submitted before Hon'ble JSERC.

Table 9 O&M & NTI expense in Rs.Cr as submitted by the Petitioner

Particulars	FY17		FY18		FY 19		FY 20		FY 21	
	MYT	True-up	MYT	True-up	MYT	True-up	MYT	True-up	MYT	True-up
O&M	17.38	14.75	18.49	27.32	19.78	28.59	21.17	23.62	22.67	27.09
NTI	0.04	1.98	0.04	6.57	0.04	5.13	0.04	6.14	0.04	4.86

Fixed Asset

Public Comments/Suggestions

4.5 There is a fixed asset addition of INR 18.60 Cr in FY 2016-17 and INR10.42 Cr in FY 2018-19. The Hon'ble Commission is requested to validate these expenses with proper proof and necessity of the same for the power plant operation, and whether this additional capex has been approved prior to the investment by the Hon'ble commission.

Petitioner's Response

4.6 The Petitioner would like to highlight that asset addition considered during FY 17 & FY 19 is as per annual audited accounts. Further, details of asset addition have been already highlighted within the GFA schedule and subsequent notes of the annual audited accounts of the respective years. The assets added by JUUNL is based on its requirements and JUUNL intends to take necessary approvals from the Hon'ble Commission as and when required.

Interest on Normative Loan

Public Comments/Suggestions

4.7 As per Generation tariff regulations 2015, 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. However, JUUNL has taken the last approved interest rate of FY16 and did not consider actual weighted average rate of interest as per approved regulation. This needs to be properly validated.

Petitioner's Response

4.8 The petitioner would like to highlight that as per clause 7.23 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015,

"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 does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered.

Provided further, in case of new generating company commencing its operation after the date of effectiveness of these Regulations, and which doesn't have actual loan portfolio, the rate of interest shall be considered on normative basis and shall be equal to the Base rate of State Bank of India plus 200 basis points as on the date on which the generating unit is declared under commercial operation."

The Petitioner is of the understanding that Base rate of State Bank of India plus 200 basis points is applicable for new generating stations only. Thus, the Petitioner in absence of any actual loan for a particular year, it has considered interest rate of 14.75% (SBIPLR rate) as considered by the Hon'ble Commission in order dated 25.09.2018. Thus, the Petitioner humbly requests the Hon'ble Commission to consider the interest as 14.75 % for computation of normative interest on loan for FY 2016-17 to FY 2020-21.

Annual Revenue Requirement

Public Comments/Suggestions

4.9 There is some computational error in FY18 where the figure for formula is not matching with the formula specified. Kindly provide an explanation to this. As far as capacity charges are concerned for FY17, PAFM is 18%, however for FY18 and FY19, the PAFM is 80% and 83% respectively. However, net generation for FY 19 was around 60.55MU despite having a PAFM around 83%. The data is not sync for FY17 and FY19.This needs to be properly validated. This is why the ECR for FY19 is way higher at INR 2.603 per unit and the ECR rates are fluctuating widely.

Petitioner's Response

4.10 The Petitioner would like to highlight that Moderated DE (Al+A2-DE) has been calculated based on clause 9.14 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 & Case No. 24 of 2018 review order by Hon'ble JSERC. The Petitioner is of the understanding that JBVNL has failed to take into cognizance the precedence highlighted in the above-mentioned orders while giving their comments.

The Petitioner is of the understanding that JBVNL has failed to take into cognizance the precedence highlighted in clause 9.14 of JSERC generation regulation 2015 &Case No.24 of 2018 and has not understood the methodology of calculating energy charge rate. The scheduled energy Ex-bus for the year (Actual Generation) from FYI7 to FY2I is highlighted below:

Table 10 Schedule energy (ex-bus) actuals as submitted by the Petitioner

Particulars	FY17	FY18	FY19	FY20	FY21
PAFM	18%	80%	83%	47%	49%
Scheduled energy Ex-bus for the year (Actual Generation) (MUs)	29.88	190.04	102.28	35.96	49.84

Further the operational efficiency data has been provided within the original petition as Annexure B to the Hon'ble Commission. The operational efficiency data is based on the data available within monthly and yearly reports maintained by officials at plant site.

True up from FY 17 to FY 21

Public Comments/Suggestions

4.11 The capacity charges calculated by JUUNL for FY 18 and FY 19 were INR 23.56 Cr and INR 26.27 Cr respectively. The capacity charges calculated for various years by JUUNL are erroneous as per clause no 6.30 and Clause no 6.31 from the Hon'ble Commission order dated 25th September 2018 allowing JUUNL to claim full capacity charge at 50% availability taking consideration of its constraints faced. However, it only allowed JUUNL to claim incentive proportionately when it achieves a NAPAF beyond 75%.

However, JUUNL claimed all the incentive above 50% NAPAF for the years cited above. The capacity charges for FY18 and FY19 comes out to be around INR 15.63 Cr and 16.80 Cr as against INR 23.56 Cr and INR 26.27Cr claimed by JUUNL. It clearly mentioned that the revenue recovered through capacity charges shall not exceed 50% of the AFC at any time. Similarly, for energy charge rate if for reasons beyond the control of the generating unit. as per clause 19.7. shortfall in energy charges in comparison to 50% Of the AFC shall be allowed to be recovered in six equal monthly installments. Any excess energy beyond the saleable schedule energy to be charged with Rs.0.80 per unit. This is not followed in the petition filed by JUUNL.

Petitioner's Response

4.12 The Petitioner would like to highlight that it has determined capacity charges as per clause 9.9 to 9.16 of the JSERC Generation Tariff Regulations 2015.

ARR for True up from FY 17 to FY 21

Public Comments/Suggestions

4.13 The ARR as claimed by the petitioner for the FY17 to FY 2l are INR 43.59 Cr, INR40.76Cr, INR 52.21 Cr, INR 14.64 Cr, INR 22.31 Cr respectively. The calculation for ARR over the periods are fluctuating very widely due to miscalculation by JUUNL as the capacity charges are erroneous. This needs to be revalued judiciously as per the regulations before passing on to the tariff. This will affect the gap calculation too.

Petitioner's Response

4.14 The Petitioner would like to highlight that it has determined capacity charges as per clause 9.9 to 9.16 of the JSERC Generation Tariff Regulations 2015. Additionally, the Petitioner has followed the methodology adopted by the Hon'ble Commission as per review order Case No.24 of2018 dated 8th March 2019 for computing energy charge rate and subsequent energy charges.

MYT FY22 to FY 26

Public Comments/Suggestions

4.15 The annual fixed charges calculation formula, as provided by JUUNL, was wrong. Kindly check and rectify the error. Employee expenses, A&G expense and NTI values need to be rechecked with proper explanation.

Petitioner's Response

4.16 The Petitioner would like to highlight that it has determined annual fixed charges based on JSERC Generation Tariff Regulations 2020. Further, Employee expenses, A&G expense and NTI values has been projected over and above FY 2l actual values based on the norms and provisions provided in JSERC Generation Tariff Regulations 2020.

Scheduling of the Plant

Public Comments/Suggestions

4.17 No schedule of generating unit due to low level of reservoir, unavailability of water by irrigation department and due to chat puja celebration should not be considered as availability of the unit.

Petitioner's Response

4.18 The Petitioner would Iike to highlight that it has conducted several discussions and meetings with Energy Department GoJ, Water Department GoJ, Department of Drinking Water and Sanitation GoJ regarding water availability from Getalsud reservoir for power generation. However, till date no measure has been taken. JUUNL is dependent on water availability from dam to generate power. However, JUUNL needs to maintain its plant in ideal running condition with adequate human resources to generate power as and when required by JBVNL and also to meet exigency situation like blackout/natural disaster. Hence, JUUNL requests Hon'ble Commission to pass directives or suggest measures such that 24X7 power is made available to JUUNL to generate power.

NAPAF should be restored to 75%

Public Comments/Suggestions

4.19 Notwithstanding the reasons cited by JUUNL, the normative NAPAF should be restored to 75% as decided earlier by the Hon'ble Commission if JUUNL is unable to schedule the unit for 3 hours in a day.

Petitioner's Response

4.20 The Petitioner would like to highlight that Hon'ble Commission has considered the design energy as specified by BHEL as the gross generation and approved the normative plant availability factor as 50% in its earlier tariff order issued on 25.09.2018 for each year of the Control Period i.e., from FY2016-17 to FY2020-21. Further, the Petitioner would like to highlight the actual Plant availability factor of the SRHP plant for FY 2016-17 to FY 2020-21 is as below:

Table 11 PAFM as submitted by Petitioner

Particulars	FY17	FY18	FY19	FY20	FY21
PAFM	18%	80%	83%	47%	49%

Thus, the Petitioner would like to appraise the Hon'ble Commission that the actual plant availability factor of the SRHP is almost in line with the Plant availability factor (PAF) of 50% approved by the Hon'ble Commission vide order dated 25th September 2018. It is therefore requested to the Hon'ble Commission to take cognizance of the above reasons and kindly reduce the normative plant availability factor to 50% instead of 75% presently.

UI charges

Public Comments/Suggestions

4.21 UI charges need to be applicable to SRHP due to no schedule of power by the SRHP against the demand of JBVNL.

Petitioner's Response

4.22 The Petitioner requests the Hon'ble Commission to resolve water related constraints such that JUUNL is able to generate power and schedule power regularly. The Petitioner requests Hon'ble Commission to pass suitable directives if necessary in this regard.

Views of the Commission

4.23 The Commission has considered the submissions of the stakeholders and the replies by the Petitioner and deliberated and discussed it in the chapters in the order. The comments and suggestion which have no relevance or bearing to the petition have not been discussed.

Chapter 5: TRUE-UP FOR FY 2016-17 to FY 2020-21

5.1 The Commission has analyzed the submission of the Petitioner with respect to the ARR for the period FY 2016-17 to FY 2020-21 and has undertaken the true up exercise of ARR components. The component wise description of the Petitioner's submission and the Commission's analysis thereof is provided hereunder.

5.2 The Commission while conducting the True up exercise for FY 2016-17 to FY 2020-21 has taken into consideration:

(a) Audited accounts for FY 2016-17 to FY 2020-21;

(b) JSERC (Terms & Conditions for Determination of Generation) Tariff Regulations, 2015;

(c) Materials placed before the Commission;

(d) Methodology adopted by the Commission in its previous Orders.

5.3 The component-wise detailed filled by the Petitioner and the Commission's analysis and discussion is made in the upcoming paragraph.

Operational Performance

Plant Availability
Petitioner's Submission

5.4 The Petitioner has submitted the actual plant availability factor for the SRHP plant of second control period which has been summarized in the table below:

Table 12 Plant Availability Factor(%) of SRHP as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Availability	18%	80%	83%	47%	49%

5.5 The Petitioner has also submitted the plant availability factor based on the data available within monthly and yearly reports maintained by officials at plant site.

5.6 The Petitioner has highlighted that the availability factor of the Swarn Rekha Hydel Power Project, Sikidiri is almost in line with the Plant availability factor (PAF) approved by the Hon'ble Commission vide order dated 25th September 2018. However, the Plant availability factor for the FY 2016-17 is low and to the tune of 18%.

5.7 The Petitioner has also highlighted that the reason for low PAF of Swarn Rekha Hydel Power Project, Sikidiri is due to shortfall in rain leading to scarcity of water as well as other issues such as same reservoir is being used for irrigation and drinking purposes.

5.8 The Petitioner has requested the Hon'ble Commission to consider the actual plant availability factor excluding the incidences of water shortage or lack of generation due to lower water level as submitted in the table above.

Commission's Analysis

5.9 The Commission has referred to JSERC (Terms & Conditions for Determination of Generation) Tariff Regulations, 2015 gazetted 20th January 2016 wherein the NAPAF of the plant was set at 75% for the second control period however in the MYT order for FY 2016-17 to FY 2020-21 dated September 25th 2018 the Commission had revised and approved the availability of the plant at 50% for the entire duration of the second control period.

5.10 The Commission vide discrepancy note had also directed the Petitioner to submit SLDC report on plant availability factor of the plant for the period. The Petitioner vide letter no 70 dated 19.10.2023 had submitted the same to the Commission wherein the Commission has observed that the scheduling of SRHP is not being done by SLDC at present, however based on the monthly report submitted by Project Manager(SRHP) the same data is being recorded at SLDC. The Commission, after scrutinizing the data has found the availability factor to be in line with the submission made by the Petitioner.

5.11 The Petitioner has submitted, that the reason for decrease in overall PAF is due to shortfall in rain leading to scarcity of water, as well as of the fact that the same reservoir is being used for irrigation and drinking purposes. The Petitioner has also submitted letters from meteorological department and water resources department supporting the insufficient water level for operation.

5.12 In view of the reasons highlighted above and after review of the data and supporting documents, the Commission has considered the actual availability as per the submitted data and has approved the same for the true-up period. The details of the PAF approved by the Commission is given in the table below:

Table 13 Plant Availability factor(%) of the plant as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Availability	17.69%	80.38%	83.37%	47.96%	49.42%

Gross Generation

Petitioner's Submission

5.13 The Petitioner in its Tariff Petition has submitted the actual gross generation for both the units during FY 2016-17 to FY 2020-21 as given in the table below:

Table 14 Gross Generation (MU) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	30.12	190.28	102.49	36.12	49.98

Commissions Analysis

5.14 The Commission upon scrutinizing and verifying the documents, submitted by the Petitioner, approves gross generation of the plant for FY 2016-17 to FY 2020-21 as mentioned in the table below:

Table 15 Gross Generation (MU) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	30.12	190.28	102.49	36.12	49.98

Auxiliary Consumption
Petitioner's Submission

5.15 The Petitioner in its Tariff Petition for the period FY 2016-17 to FY 2020-21 has submitted the auxiliary consumption of the plant as shown in the table below:

Table 16 Auxiliary Consumption(%) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Auxiliary Consumption	0.15%	0.15%	0.13%	0.10%	0.09%

Commissions Analysis

5.16 Auxiliary consumption refers to the quantum of energy consumed by the auxiliary equipment of the generating station. Higher auxiliary consumption reduces the net generation of a generating station and leads to higher cost per unit of generation

5.17 Regulation 9.8 of the Generation Tariff Regulations, 2015 specifies norm for the auxiliary consumption for the Petitioner for FY 2016-17 to FY 2020-21 as 0.7%. The Commission, after prudent check of the information submitted by the Petitioner, has found that the Petitioner has erred in calculating the auxiliary consumption (%) wrt to Auxiliary consumption(MU). The Commission, after analyzing the documents and information, approves the auxiliary consumption for the period FY 2016-17 to FY 2020-21, as given in the table below:

Table 17 Auxiliary Consumption (%) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Auxiliary Consumption	0.7%	0.13%	0.20%	0.42%	0.30%

Net Generation
Petitioner's Submission

5.18 The Petitioner has submitted the net generation of the plant for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 18 Net Generation(MU) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	30.12	190.28	102.49	36.12	49.98
Net Generation	29.88	190.04	102.28	35.96	49.84

Commission's Analysis

5.19 The Commission, after scrutiny of the documents and considering the auxiliary consumption as approved in para 5.17 approves the net generation of the Petitioner for FY 2016-17 to FY 2020-21 as mentioned in the table below:

Table 19 Net Generation(MU) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	30.12	190.28	102.49	36.12	49.98
Auxiliary Consumption(%)	0.7%	0.13%	0.20%	0.42%	0.30%
Net Generation	29.88	190.04	102.28	35.97	49.83

Determination of Fixed Cost

Capitalization during the period i.e. 2016-17 to FY 2020-21
Petitioners Submission

5.20 The Gross Fixed asset schedule as submitted by the Petitioner along with addition in GFA for the period i.e. FY2016-17 to FY 2020-21 is given in the table below:

Table 20 Gross Fixed Asset(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Opening GFA	43.27	43.46	43.47	43.57	43.59
Addition for the year	0.186	0.01	0.10	0.014	0.018
Closing GFA	43.46	43.47	43.57	43.59	43.61

5.21 The Petitioner has submitted, that the corresponding addition in GFA has been considered into debt and equity ratio of 70:30.

Commission's Analysis

5.22 The Commission has referred to MYT order dated 25.09.2018 wherein the Commission had approved planned additional capitalization of the Petitioner in the Business plan which included different work activities which the Petitioner had to undertake for increasing the overall performance of the plant. The detailed addition in GFA approved by the Commission then for the period is referred in the table below:

Table 21 GFA (Rs.Cr) approved by the Commission in the MYT order for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Opening GFA	43.02	43.02	45.02	47.52	51.27
Addition for the year	0	2.00	2.50	3.75	4.38
Closing GFA	43.02	45.02	47.52	51.27	55.65

5.23 However, the Petitioner did not undertake any such activity as proposed which had been approved by the Commission in Business Plan and MYT order dated 25.09.2018 for FY 2016-17 to FY 2020-21. The Commission has expressed concern regarding this oversight, noting that the implementation of these activities could have potentially enhanced the overall performance of the plant.

5.24 In the present True-up petition for FY 2016-17 to FY 2020-21 the Commission upon scrutinizing and prudent check of the documents and audited accounts submitted by the Petitioner approves the gross fixed asset for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 22 Gross Fixed Asset(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Opening GFA	43.27	43.46	43.47	43.57	43.59
Addition for the year	0.186	0.01	0.10	0.014	0.018
Closing GFA	43.46	43.47	43.57	43.59	43.61

Depreciation
Petitioner's Submission

5.25 The Petitioner has submitted that it has followed clause 7.28 to 7.33 of JSERC Generation Tariff Regulations,2015 for the calculation of depreciation expense which has the following methodology –

"7.28 Depreciation shall be calculated for each year of the tariff period, on the amount of Capital Cost of the assets admitted by the Commission; Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant.

7.29 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. Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site: Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under Long-term power purchase agreement at regulated tariff.

7.30 Land other than 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.

7.31 Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in Appendix-I to these Regulations for the assets of the generating station: Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

7.32 In case of existing projects, the balance depreciable value as on 1st April 2016 *shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31st March 2016 from the gross depreciable value of the assets.*

The rate of depreciation shall be continued to be charged at the rate specified in Appendix-I till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

7.33 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."

5.26 The Petitioner has further submitted that there was no capital investment activity during the second control period, so no additional depreciation expense was incurred.

5.27 The Petitioner has submitted a fixed asset schedule & depreciation based on the actuals as per the audited annual accounts. The Petitioner has requested the Hon'ble Commission to allow the submitted depreciation expense as per audited accounts as summarized in the table below:

Table 23 Depreciation (Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Depreciation	1.68	1.44	1.07	0.85	0.06

Commission's Analysis

5.28 The Commission has referred to clause 7.28 to clause 7.33 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015, as provided below:

"7.28 Depreciation shall be calculated for each year of the tariff period, on the amount of Capital Cost of the assets admitted by the Commission; Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant.

7.29 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. Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation *of the site: Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under Long-term power purchase agreement at regulated tariff.*

7.30 Land other than 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.

7.31 Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in Appendix-I to these Regulations for the assets of the generating station: Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

7.32 In case of existing projects, the balance depreciable value as on 1st April 2016 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31st March 2016 from the gross depreciable value of the assets.

The rate of depreciation shall be continued to be charged at the rate specified in Appendix-I till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

7.33 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."

5.29 The Commission has reviewed the depreciation details submitted by the Petitioner and has also checked the audited accounts of FY 2016-17 to FY 2020-21 and accordingly approves the depreciation for the period as referred to in the table below:

Table 24 Depreciation(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Depreciation	1.68	1.44	1.07	0.85	0.06

Interest on Loan

Petitioner's Submission

5.30 The Petitioner has submitted that it has followed clause 7.13, 7.14, 7.19 to 7.27 of "JSERC Generation Tariff Regulations, 2015" for the calculation of Interest on Loan which has the following methodology:

"7.13 In case of the generating station declared under commercial operation prior to 1st April 2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2016 shall be considered for determination of tariff. During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2017 shall be considered for determination of tariff.

7.14 For the project declared under commercial operation on or after 1st April 2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan: Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

7.19 The loans arrived at in the manner indicated in clause 7.13 and 7.14 of these Regulations shall be considered as gross normative loan for calculation of interest on loan.

7.20 The normative loan outstanding as on 1st April 2016 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31st March 2016 from the gross normative loan

7.21 The repayment for any year during the Tariff Period shall be deemed to be equal to the depreciation allowed for that Year.

7.22 Notwithstanding any moratorium period availed by the Generating Company, 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.

7.23 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 does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered.

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

5.31 The Petitioner has considered the debt equity ratio as 70:30. The Petitioner has no outstanding loan thus the Petitioner has claimed normative interest on loan. The Petitioner has considered the closing balance of normative loan for FY 2015-16 as approved by the Hon'ble

Commission in order dated 25.09.2018 as the opening balance of normative loan for FY 2016-17. Further, in absence of any actual loan for a particular year the Petitioner has considered interest rate of 14.75% (SBIPLR rate) as considered by the Hon'ble Commission in order dated 25.09.2018.

5.32 The year wise normative interest on loan as submitted by the Petitioner is summarized in the table below:

Table 25 Interest on Loan(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	26.39	24.89	23.46	22.46	21.62
Addition	0.13	0.01	0.07	0.01	0.01
Repayment	1.63	1.44	1.07	0.85	0.06
Closing Balance	24.89	23.46	22.46	21.62	21.57
Average	25.64	24.17	22.96	22.04	21.60
Rate of Interest	14.75%	14.75%	14.75%	14.75%	14.75%
Interest on Loan	3.78	3.57	3.39	3.25	3.19

Commission's Analysis

5.33 The Commission has referred to clause 7.19 to clause 7.27 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations,2015 as referred below:

"7.19 The loans arrived at in the manner indicated in clause 7.13 and 7.14 of these Regulations shall be considered as gross normative loan for calculation of interest on loan.

7.20 The normative loan outstanding as on 1st April 2016 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31st

March 2016 from the gross normative loan.

7.21 The repayment for any year during the Tariff Period shall be deemed to be equal to the depreciation allowed for that Year.

7.22 Notwithstanding any moratorium period availed by the Generating Company, 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.

7.23 The rate of interest shall be the weighted average r ate 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 does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered.

Provided further, in case of new generating company commencing its operation after the date of effectiveness of these Regulations, and which doesn't have actual loan portfolio, the rate of interest shall be considered on normative basis and shall be equal to the Base rate of State Bank of India plus 200 basis points as on the date on which the generating unit is declared under commercial operation.

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

7.25 The Generating Company shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event there is costs associated with such refinancing, such cost shall be pass through to the Beneficiaries and the net savings shall be shared between the Beneficiaries and the Generating Company, in the ratio of 2:1.

7.26 The changes to the terms and conditions of the loans shall be reflected from *the date of such re-financing.*

7.27 In case of dispute, any of the parties may make an application in accordance with the Conduct of Business Regulation: Provided that the Beneficiaries shall not withhold any payment on account of the interest claimed by the Generating Company during the pendency of any dispute arising out of re-financing of loan."

5.34 The Commission upon scrutinizing the data furnished by the Petitioner observes that the Petitioner has no outstanding actual loan as on date and the Petitioner has claimed normative interest on Loan for the period FY 2016-17 to FY 2020-21.

5.35 The Commission has also observed that the Petitioner has erred in considering the interest rate for the normative loan. The Commission has referred to clause 7.23 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations,2015 and has considered the same for calculating the interest rate for normative loan which is also in line with the MYT order issued by the Commission for FY 2016-17 to FY 2020-21 dated 25.09.2018.

5.36 The repayment of loan for each year of the period i.e. FY 2016-17 to FY 2020-21 has been considered equal to the value of depreciation approved by the Commission for the respective year mentioned in para 5.29 above which is in line with clause 7.21 of the JSERC Generation Tariff Regulations, 2015.

5.37 The Interest on Loan as approved by the Commission for the period i.e. FY 2016-17 to FY 2020-21, has been tabulated below:

Table 26 Interest on Loan(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	26.39	24.89	23.46	22.46	21.62
Addition	0.13	0.01	0.07	0.01	0.01

Repayment	1.63	1.44	1.07	0.85	0.06
Closing Balance	24.89	23.46	22.46	21.62	21.57
Average	25.64	24.17	22.96	22.04	21.60
Rate of Interest	11.30%	11.10%	10.70%	11.05%	10.15%
Interest on Loan	2.90	2.68	2.46	2.44	2.19

Return on Equity
Petitioner's Submission

5.38 The Petitioner has followed clause 7.13 to clause 7.18 of the JSERC Generation Tariff Regulations,2015 for calculation of Return on Equity for the period FY 2016-17 to FY 2020-21.

5.39 The Petitioner has considered the debt equity ratio as 70:30, further the Petitioner has claimed normative return on equity. The Petitioner has considered the closing equity for FY 2015-16 as approved by the Hon'ble Commission in order dated 25.09.2018 as the opening equity for FY 2016-17.

5.40 Further, the Petitioner has submitted that in line with the regulations the Petitioner has considered the rate of return on equity at 16.50% and since there is no tax payment, the rate has not been grossed up with applicable tax rate.

5.41 The year wise normative return on equity, as submitted by the Petitioner for FY 2016-17 to FY 2020-21 is shown in the table below:

Table 27 Return on Equity(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	12.91	12.97	12.97	13.00	13.00

Addition	0.06	0.003	0.03	0.004	0.01
Closing Balance	12.97	12.97	13.00	13.00	13.01
Average Equity	12.94	12.97	12.98	13.00	13.01
Rate of equity	16.50%	16.50%	16.50%	16.50%	16.50%
Return on equity	2.13	2.14	2.14	2.15	2.15

Commission's Analysis

5.42 The Commission has referred to clause 7.15 to clause 7.18 of the JSERC Generation Tariff Regulations,2015 as given below:

"7.15 Return on equity shall be computed in rupee terms, on the equity base determined in accordance with clause 7.13 and 7.14 of these Regulations.

7.16 Return on equity shall be computed on pre-tax basis at the base rate of 15.50% for thermal generating stations, and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage, to be grossed up as per clause 7.17 of these Regulations.

Provided that return on equity with respect to the actual base rate applicable to the Generating Company, in line with the performance of the respective generating station for the respective year during the Control period shall be trued up separately for each year of the Control period along with the tariff petition filed for the next Control period.

Provided that in case of Projects commissioned on or after 1st April, 2016, an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in Appendix-II to these Regulations:

Provided further that the additional return of 0.5% shall not be admissible if the Project is not completed within the timeline specified above for reasons whatsoever:

Provided the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

As and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

7.17 The rate of return on equity shall be computed by grossing up the base rate with the normal applicable tax rate for the FY 2016-17 applicable to the Generating Company.

Provided that return on equity with respect to the actual tax rate applicable to the Generating Company, in line with the provisions of the relevant Finance Acts of the respective year during the Control period shall be trued up separately for each year of the Control period along with the tariff petition filed for the next Control period.

7.18 Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where 't' is the applicable tax rate in accordance with clause 7.17 of these Regulations. Illustration:-

(i) In case of Generating Company paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess:

Rate of pre-tax return on equity = 15.50/ (1-0.2096) =19.610%

(ii) In case of Generating Company paying normal corporate tax @ 33.99% including surcharge and cess:

Rate of pre-tax return on equity = 15.50/ (1-0.3399) = 23.481%.

Provided the generating company shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2016-17 to 2020-21 on actual gross income of any financial year

Provided penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries on year to year basis."

5.43 The Commission has observed the Petitioner's submission for no tax component being paid or assessed so far by the Petitioner and hence the Commission has considered the return on equity on pre-tax basis at the rate of 16.50% as submitted by the Petitioner.

5.44 The additions in equity has been considered at 30% of the additional capitalization approved for each year of the control period. The opening equity for the FY 2016-17 has been considered as per the closing values for the FY 2015-16 as approved in its True-up order.

5.45 The Return on Equity as approved by the Commission for the period FY 2016-17 to FY 2020-21, is given in the following table:

Table 28 Return on Equity(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	12.91	12.97	12.97	13.00	13.00
Addition	0.06	0.003	0.03	0.004	0.01

Closing Balance	12.97	12.97	13.00	13.00	13.01
Average Equity	12.94	12.97	12.98	13.00	13.01
Rate of equity	16.50%	16.50%	16.50%	16.50%	16.50%
Return on equity	2.13	2.14	2.14	2.15	2.15

Operation & Maintenance Expense
Petitioners Submission

5.46 The Petitioner has submitted the O&M Expenses for FY 2016-17 to FY 2020-21 under the following broad categories:

(a) Employee Expenses;
(b) Administrative and General costs;
(c) Repairs and maintenance expenses; and
(d) Other expenses

5.47 The Petitioner has submitted that employee expenses consist of salaries, overtime allowance, leave salary and expenses for staff & officers' welfare.

5.48 The Petitioner has submitted that Repair and Maintenance is meant for the upkeep of the generating station. Further, as every asset requires repair and maintenance at some point, to keep the hydro generating station healthy and reliable, the Petitioner must infuse certain amount of funds on R&M activities. JUUNL is trying its best to ensure achievement of parameters as specified by the Hon'ble Commission and accordingly making necessary expenditure on R&M activities.

5.49 The Petitioner has submitted Administrative and General expenses which mainly consist of rents, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

5.50 The Petitioner has also referred to Regulations 6.11, 6.12 and 6.14(a) of

JSERC Generation Tariff Regulations, 2015 which states that:

"The Commission shall set targets for each year of the Control Period for the items or parameters that are deemed to be "controllable" and which includes:
Gross Station Heat Rate
Normative Annual Plant Availability Factor
Auxiliary Energy Consumption
Secondary Fuel Oil Consumption
Operation and Maintenance Expenses
Financing Cost which includes cost of debt (interest), cost of equity (return) and Depreciation.

Any financial loss on account of underperformance on targets for parameters specified in clause 6.11 (a) to (e) of these Regulations is not recoverable through tariffs. Similarly, any financial gain on account of over-performance with respect to these parameters is to the Generating Company's benefit and shall not be adjusted in Tariffs.
Any surplus and deficit on account of O&M expenses shall be to the account of the generating company and shall not be trued up in ARR".

5.51 The Petitioner has submitted the O&M expense as per the audited annual accounts as summarized in the table below:

Table 29 O&M Expense (Rs.Cr)as submitted by the Petitioner for the period i.e. FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Employee Expense	8.63	14.28	15.27	13.31	13.22
A&G Expense	4.37	10.28	10.40	8.25	11.92
R&M Expense	1.67	2.66	2.47	1.96	1.87
Other Misc Expense	0.08	0.08	0.45	0.09	0.09
Total O&M Expense	**14.75**	**27.32**	**28.59**	**23.62**	**27.09**

5.52 The Petitioner has prayed to the Hon'ble commission to approve the operation and maintenance expense as per the actuals in the audited annual accounts.

Commissions Analysis

5.53 The Commission has referred to clause 7.40 of the JSERC Generation Tariff Regulations,2015 as quoted below:

7.40 Operation and Maintenance (O&M) expenses shall comprise of the following:
(a) Salaries, wages, pension contribution and other employee costs;
(b) Administrative and General costs;
(c) Repairs and maintenance expenses; and
(d) Other miscellaneous expenses statutory levies and taxes (except corporate income tax).

5.54 Further the Commission has also referred to clause 6.11, clause 6.12,6.14(a) and 6.14(b) as quoted below:

"6.11 The Commission shall set targets for each year of the Control Period for the items or parameters that are deemed to be "controllable" and which includes:
(a) Gross Station Heat Rate;
(b) Normative Annual Plant Availability Factor
(c) Auxiliary Energy Consumption;
(d) Secondary Fuel Oil Consumption;
(e) Operation and maintenance Expenses;
(f) Financing cost which includes cost of debt (interest), cost of equity (return);&
(g) Depreciation

6.12 Any financial loss on account of underperformance on targets for parameters specified in clause 6.11 (a) to (e) of these Regulations is not recoverable through tariffs. Similarly, any financial gain on account of over-performance with respect to these parameters is to the Generating Company's benefit and shall not be adjusted in Tariffs.

6.14 The true up across various controllable parameters shall be conducted as per principles stated below: -
(a) During the control period, the Commission shall undertake true up of parameters except those mentioned in point (b) below in accordance with Clauses 14.1 to 14.3 of this Regulation;

(b) Any surplus and deficit on account of O&M expenses shall be to the account of

the generating company and shall not be trued up in ARR. The Commission shall also not undertake true up of actual capital cost incurred vis-à-vis target as well as related depreciation and financing cost during the control period;"

5.55 The Commission, after scrutinizing the information's submitted by the Petitioner, finds that the Petitioner has claimed employee expense, repair & maintenance expense and administrative and general expense as per the audited accounts for FY 2016-17 to FY 2020-21.

5.56 The Commission, upon prudent check of the audited accounts, has found that there is an increase in employee expense and A&G expense wrt the MYT order dated 25.09.2018 for FY 2016-17 to FY 2020-21.

5.57 The Commission has reviewed the A&G expense in particular and has found that the Petitioner has considered bank charges, interest on govt loan and penal interest on loan for the period in A&G expense as highlighted in the table below:

Table 30 Particulars in A&G expense (Rs.Cr) for the period FY 2016-17 to FY 2020-21

Particulars	**FY17**	**FY18**	**FY19**	**FY20**	**FY21**
Bank Charges	2.25	1.54	1.54	0.00	0.00
Interest on Govt Loan	0.00	0.00	6.50	6.50	9.08
TDS by bank of India by Flexi Deposit	0.00	0.00	0.47	0.00	0.00
Penal Interest	0.00	0.00	0.00	0.00	0.96
Total(Rs.Cr)	**2.25**	**1.54**	**8.51**	**6.50**	**10.04**

5.58 The Petitioner, in the instant tariff petition, has submitted that it has no outstanding loan for the period FY 2016-17 to FY 2020-21 and has claimed normative loan in lieu of actual loan, hence claiming the above particulars highlighted in the table is not justified.

5.59 The Commission has also referred to JSERC Generation Tariff

Regulations 2015 and has found no provision for claiming such expense under A&G accounts. Hence the Commission does not find any rationale in considering the above expense under A&G heads and thus disapproves the amount as mentioned in the above table no 30.

5.60 The Commission has also referred to the submission made by the Petitioner for other miscellaneous expenses under O&M expense which includes expenses pertaining to water & other direct cost along with the pollution board expense. Upon careful examination of the audited accounts, the Commission has found that this expenditure is associated with an agreement between JUUNL and the Irrigation department, aimed at reimbursing the waterways department for sharing maintenance costs related to the Getalsud Dam.

5.61 The Commission, after analyzing the submission made by the Petitioner, and verifying the audited accounts, approves O&M expense after giving due consideration to the above ambiguity submitted by the Petitioner in the interest of all stakeholders and approves the total O&M expenses for the year FY 2016-17 to FY 2020-21 as given in the table below:

Table 31 :O&M Expense(Rs.Cr) as approved by the Commission for the period i.e. FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Employee Expense	8.30	13.55	14.43	13.31	13.22
Terminal Liabilities	0.33	0.73	0.84	0.00	0.00
Total Employee Expense	**8.63**	**14.28**	**15.27**	**13.31**	**13.22**
A&G Expense	2.11	8.74	1.88	1.75	1.87
R&M Expense	1.68	2.66	2.47	1.96	1.86
Other Exp	0.08	0.08	0.45	0.09	0.09
Total	**12.50**	**25.77**	**20.08**	**17.12**	**17.05**

Interest on Working Capital
Petitioner's Submission

5.62 The Petitioner has referred to clause 2.1(8), clause 7.36 & clause 7.38 of the JSERC Generation Tariff Regulations,2015 for components of working capital along with calculation of interest on working capital.

5.63 In line with the above provisions of the regulations the Petitioner has calculated the working capital components as per the actual audited figures and arrived at the total working capital requirement as summarized in the table below:

Table 32 Interest on Working Capital(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
O&M expenses for 1 month	1.23	2.28	2.38	1.97	2.26
Maintenance spares (@15% of O&M Expenses)	2.21	4.10	4.29	3.54	4.06
Receivables for 2 months	3.54	4.89	5.25	4.16	4.82
Total Working Capital	6.98	11.26	11.92	9.67	11.14
Interest Rate Applicable	12.80%	12.60%	12.20%	12.55%	11.65%
Interest on Working Capital	0.89	1.42	1.45	1.21	1.30

Commission's Analysis

5.64 The Commission has referred to clause 7.36, clause 7.38 and clause 7.39 of the Generation Tariff Regulations 2015 as quoted below:

"7.36 For hydro generating station, the working capital requirements shall be determined using the following components:

(a) Receivables equivalent to two months of fixed cost; and

(b) Maintenance spares @ 15% of Operation and maintenance expenses specified in clauses 7.40 to 7.48 of these regulations;

(c) Operation and Maintenance expenses for 1 month

7.38 Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 01.04.2016 or as on 1st April of the year during the tariff period 2016-17 to 2020-21 in which the generating station or a unit *thereof, is declared under commercial operation, whichever is later. Provided that the rate of interest on working capital shall be trued up on the basis of actual bank rate as on 1st April of the respective year at the time of true up for that year.*

7.39 The interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures."

5.65 The Commission has also referred to clause 2.1(8) of the Generation Tariff Regualtions,2015 for computing rate of interest of working capital as quoted below:

"2.1(8) "Bank Rate" means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;"

5.66 The Commission after scrutinizing the facts submitted by the Petitioner and after prudent check, has approved the interest on working capital for the Petitioner for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 33 Interest on Working Capital(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
O&M expenses for 1 month	1.04	2.15	1.67	1.43	1.42
Maintenance spares (@15% of O&M Expenses)	1.88	3.87	3.01	2.57	2.56
Receivables equivalent to 2 months of fixed cost	2.99	4.47	3.60	2.88	2.90
Total Working Capital	5.91	10.48	8.29	6.87	6.88
Interest Rate Applicable	12.80%	12.60%	12.20%	12.55%	11.65%
Interest on Working Capital	**0.76**	**1.32**	**1.01**	**0.86**	**0.80**

Revenue from Sale of Power

Petitioner's Submission

5.67 The Petitioner has submitted the revenue from sale of power for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 34 Revenue billed (Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Revenue from Sale of Power	12.44	29.74	24.30	17.44	19.45

Commission's Analysis

5.68 The Commission hereby approves the revenue from sale of power for the period i.e. from FY 2016-17 to FY 2020-21 as per the audited accounts submitted by the Petitioner as referred to in the table below:

Table 35 Revenue from sale of power(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Revenue from Sale of Power	12.44	29.74	24.30	17.44	19.45

Non-Tariff Income

Petitioner's Submission

5.69 The Petitioner has submitted the actual figures of the non-tariff income for SRHP as per the audited annual accounts as follows:

Table 36 Non-Tariff Income(Rs Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Non-Tariff Income	1.98	6.57	5.13	6.14	4.86

Commission's Analysis

5.70 The Commission has referred to the audited accounts submitted by the Petitioner and has found that the Non-Tariff Income claimed by the Petitioner basically consists of miscellaneous receipts and bank interest including term deposit. The Commission after prudent check of the audited accounts approves the Non-Tariff income of the Petitioner for FY 2016-17 to FY 2020-21 as given in the table below:

Table 37 Non-Tariff Income(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Non-Tariff Income	1.98	6.57	5.13	6.14	4.86

Summary of Fixed Cost Determinants & Generation Tariff

Petitioners Submission

5.71 The Petitioner has referred to clause 9.1 of the JSERC Generation Tariff Regulations,2015 for the components to be considered for tariff of hydro generating stations as cited below:

"9.1 The Tariff for supply of electricity from a hydro power generating station shall comprise of capacity charge and energy charge to be derived in the manner specified in clauses 9.9 to 9.19 of these Regulations, for recovery of annual fixed cost consisting of the following components:

(a) Return on Equity;
(b) Interest and Financing Charges on Loan Capital;
(c) Depreciation;
(d) Operation and Maintenance Expenses;
(e) Interest Charges on Working Capital;"

5.72 In line with the above provisions the Petitioner has calculated the fixed cost components as per the actual audited figures and arrived at the Annual Fixed Cost (AFC) as summarized in the table below:

Table 38 Annual Fixed Cost(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
O&M Expenses	14.75	27.32	28.59	23.62	27.09

Depreciation	1.63	1.44	1.07	0.85	0.06
Interest on Loans	3.78	3.57	3.39	3.25	3.19
Return on Equity	2.13	2.14	2.14	2.15	2.15
Interest on Working Capital	0.89	1.42	1.45	1.21	1.30
Non-Tariff Income	1.98	6.57	5.13	6.14	4.86
Annual Fixed Charges	21.21	29.32	31.51	24.93	28.93

Computation and Payment of Capacity Charges and Energy Charges for Hydro Generating Stations

5.73 The Petitioner has referred to regulation 9.9 to 9.16 of the JSERC Generation Tariff Regulations 2015 which provides the methodology for computation and payment of capacity and energy charges for hydro generating station.

To determine the capacity charges, the Petitioner has adopted the following methodology:

"9.9 The Annual fixed cost of a Hydro generating station shall be computed, 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 allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the home State.
Provided that during the period between the Date of Commercial Operation of the first unit of the generating station and the Date of Commercial Operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the Capacity Charge and Energy Charge payable during such period.

9.10 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.

9.11 The PAFM shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \sum_{i=1} NDC_i \,/\, \{N \times IC \times (100 - AUX)\}\ \%$$

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 nodal load dispatch centre after the Day is over;

IC - Installed Capacity (in MW) of the complete generating station;

N - Number of Days in the month

9.12 The energy charge shall be payable by every Beneficiary for the total energy scheduled to be supplied to the Beneficiary, excluding free energy, if any, 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 {Scheduled Energy (ex-bus) for the month in kWh} x (100 – FEHS) / 100.

9.13 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 clause 9.15 of these Regulations:

$$ECR = AFC \times 0.5 \times 10 \,/\, \{DE \times (100 - AUX) \times (100 - FEHS)\}$$

Where, DE - Annual Design Energy specified for the Hydro generating station, in MWh, subject to the provision in clause 9.14 of these Regulations;

FEHS - Free Energy for home State, in per cent, as defined in clause 10.5 of these Regulation;

9.14 In case actual total energy generated by a hydro generating station during a Year is less than the Design Energy for reasons beyond the control of the

Generating Company, the following treatment shall be applied on a rolling basis;

(i) in case the energy shortfall occurs within 10 years from the Date of Commercial Operation of a generating station, the ECR for the Year following the Year of energy shortfall shall be computed based on the formula specified in clause 9.13 of these Regulations with the modification that the DE for the Year shall be considered as equal to the actual energy generated during the Year of the shortfall, till the energy charge shortfall of the previous Year has been made up, True-Up Petition for FY 16-17 to FY 20-21 AND B-Plan, ARR and Tariff Determination for MYT Control Period FY 21-22 to FY 25-26 20 | Page after which normal ECR shall be applicable;

(ii) in case the energy shortfall occurs after ten years from the Date of Commercial Operation of a generating station, the following shall apply. Suppose the specified annual Design Energy for the station is DE MWh, and the actual energy generated during the concerned (first) and the following (second) financial year is A1 and A2 MWh respectively, A1 being less than DE. Then, the Design Energy to be considered in the formula as specified in clause of these Regulation for calculating the ECR for the third financial year shall be moderated as (A1 + A2 – DE) MWh, subject to a maximum of DE MWh and a minimum of A1 MWh;

(iii) Actual energy generated (e.g. A1, A2) shall be arrived at by multiplying the net metered energy sent out from the station by 100 / (100 – AUX).

9.15 In case the Energy Charge Rate (ECR) for a Hydro generating station, as computed in clause 9.13 of these Regulations, exceeds eighty paise per kWh, and the actual saleable energy in a Year exceeds {DE x (100 – AUX) x (100 – FEHS) / 10000} MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only.

Provided that in a Year following a Year in which total energy generated was less than the Design Energy for reasons beyond the control of the Generating Company, the Energy Charge Rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous Year has been made up."

5.74 The Petitioner has followed the methodology adopted by the Hon'ble Commission as per the review order Case No. 24 of 2018 dated 8th March

2019 for computing energy charge rate and subsequent energy charges.

5.75 In line with the above provisions the Petitioner has calculated the energy charge rate and arrived at the Energy Charges as summarized in the tables below:

Table 39 Moderated Design Energy (DE) as submitted by the Petitioner FY 2016-17 to FY 2020-21

Particulars	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Design Energy(DE)	-	-	159.43	159.43	159.43	159.43	159.43
Total Gross Generation	33.71	51.29	30.12	190.28	102.49	36.12	49.98
A1	-	-	33.71	51.29	30.12	190.28	102.49
A2	-	-	51.29	30.12	190.28	102.49	36.12
Formula (A1+A2-DE)	-	-	(74.43)	159.43	60.97	133.34	(20.82)
Moderated DE (subject to minimum of A1 and maximum of DE)	-	-	33.71	159.43	60.97	159.43	102.49

Table 40Energy Charge Rate (Rs/kWh) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

Particulars	FY 17	FY 18	FY 19	FY 20	FY 21
Annual Fixed Charges(RsCr)	21.21	29.32	31.51	24.93	28.93
NAPAF(%)	50%	50%	50%	50%	50%
PAFM(%)	18%	80%	83%	47%	49%
Capacity Charges(RsCr)	3.75	23.56	26.27	11.81	14.30
DE to be considered after moderation in MUs	33.71	159.43	60.97	159.43	102.43
Normative Aux Consumption(%)	0.70%	0.70%	0.70%	0.70%	0.70%
Net Generation in MUs	33.47	158.31	60.55	158.31	101.77
Energy Charge Rate(ECR) in Rs./kWh	3.169	0.926	2.603	0.787	1.421

Table 41 Total Energy Charge(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY 2020-21

S.No	Particulars	UOM	FY17	FY18	FY19	FY20	FY21
A	ECR for shortfall MUs	Rs./kWh	3.169	0.926	2.603	0.787	1.421
B	ECR for MUs after shortfall	Rs./kWh	0.800	0.800	0.800	0.800	0.800
C	Design Energy	MUs	159.43	159.43	159.43	159.43	159.43
D	Aux Consumption	%	0.70%	0.70%	0.70%	0.70%	0.70%
E	(DE x(100-Aux) x (100 FEHS) /1000) Condition 1 [C*(1-D)]	MUs	158.31	158.31	158.31	158.31	158.31
F	Schedule Energy Ex-bus for the year	MUs	29.88	190.04	102.30	35.96	49.84
G	Excess Energy [F-E]	MUs	NA	31.73	NA	NA	NA
H	Remaining Energy	MUs	-	158.31	-	-	-
I	Energy Charge for Excess energy [(G*B)/10]	Rs.Cr	-	2.54	-	-	-
J	Energy Charge for Remaining energy [(H*A)/10]	Rs.Cr	-	14.66	-	-	-
K	Moderated DE (subject to minimum of A1 and maximum of DE)	MUs	33.71	159.43	60.97	159.43	102.49
L	Shortfall MUs [C-K]	MUs	125.72	-	98.46	-	56.94
M	Energy Charge for shortfall units [(L*A)/10]	Rs.Cr	39.84	-	25.62	-	8.09
N	Scheduled energy after adjusting for shortfall [(F L)]	MUs	NA	NA	3.84	35.96	NA
O	Energy Charge for scheduled energy after adjusting for shortfall [(N*B)/10]	Rs.Cr	-	-	0.31	2.83	-
P	Total Energy Charge [I+J+M+O]	Rs.Cr	39.84	17.20	25.93	2.83	8.09

Annual Revenue Requirement

5.76 The Petitioner has submitted that the overall ARR has been calculated as per the methodology adopted by the Hon'ble Commission in the previous tariff order dated 25.09.2018 and in accordance with the provisions of the Generation Tariff Regulations, 2015.

5.77 The Petitioner has submitted that the overall ARR for the respective financial years based on the actual expenses incurred shown in the audited annual accounts has been summarized in the table below:

Table 42 ARR(Rs.Cr) as submitted by the Petitioner for FY 2016-17 to FY2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Energy Charge(Rs.Cr)	39.84	17.20	25.93	2.83	8.09
Capacity Charge(Rs.Cr)	3.75	23.56	26.27	11.81	14.30
Annual Revenue Requirement(Rs.Cr)	43.59	40.76	52.21	14.64	22.39

Commissions Analysis

5.78 The Commission has referred to clause 9.1 of the JSERC Generation Tariff Regulations, 2020 considering components for recovery of annual fixed cost as quoted below:

"9.1 The Tariff for supply of electricity from a hydro power generating station shall comprise of capacity charge and energy charge to be derived in the manner specified in clauses 9.9 to 9.19 of these Regulations, for recovery of annual fixed cost consisting of the following components:

(a) Return on Equity;

(b) Interest and Financing Charges on Loan Capital;

(c) Depreciation;

(d) Operation and Maintenance Expenses;

(e) Interest Charges on Working Capital;"

5.79 The Commission, after scrutiny and prudent check, hereby approves the annual fixed cost of the plant for FY 2016-17 to FY 2020-21, as given in the table below:

Table 43 Summary of Annual Fixed Cost(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	UOM	FY2016-17			FY2017-18			FY2018-19			FY2019-20			FY2020-21		
		MYT	Petition	App	MYT	Petition	App	MYT	Petition	App	MYT	Petition	App	MYT	Petition	App
Employee Expense including Terminal Liability	Rs. Cr	10.18	8.63	8.63	10.88	14.28	14.28	11.63	15.27	15.27	12.43	13.31	13.31	13.29	13.22	13.22
A&G Exp	Rs. Cr	1.49	4.37	2.11	1.60	10.28	8.74	1.71	10.40	1.88	1.83	8.25	1.75	1.97	11.92	1.87
R&M Exp	Rs. Cr	5.60	1.67	1.68	6.01	2.66	2.66	6.44	2.47	2.47	6.91	1.96	1.96	7.41	1.87	1.86
Other Exp(Water Charges)	Rs .Cr	0.00	0.08	0.08	0.00	0.08	0.08	0.00	0.45	0.45	0.00	0.09	0.09	0.00	0.09	0.09
O&M Expense	Rs .Cr	17.27	14.75	12.50	18.49	27.32	25.77	19.78	28.59	20.08	21.17	23.61	17.12	22.67	27.10	17.05
Depreciation	Rs .Cr	1.62	1.63	1.63	1.68	1.44	1.44	1.81	1.07	1.07	1.99	0.85	0.85	2.23	0.06	0.06
Interest on loans	Rs. Cr	2.89	3.78	2.90	2.78	3.57	2.68	2.76	3.39	2.46	2.80	3.25	2.44	2.88	3.19	2.19
Return on Equity	Rs. Cr	2.00	2.14	2.13	2.05	2.14	2.14	2.15	2.14	2.14	2.30	2.15	2.15	2.49	2.15	2.15
Interest on working capital	Rs. Cr	1.04	0.89	0.76	1.11	1.42	1.32	1.18	1.45	1.01	1.26	1.21	0.86	1.35	1.30	0.80
Total Fixed Cost	Rs. Cr	24.83	23.19	19.92	26.11	35.88	33.36	27.69	36.64	26.76	29.51	31.07	23.41	31.62	33.79	22.25
Non-Tariff Income	Rs. Cr	0.04	1.98	1.98	0.04	6.57	6.57	0.04	5.13	5.13	0.04	6.14	6.14	0.04	4.86	4.86
Annual Fixed Charge	Rs. Cr	**24.79**	**21.21**	**17.94**	**26.07**	**29.31**	**26.79**	**27.65**	**31.51**	**21.62**	**29.47**	**24.93**	**17.27**	**31.58**	**28.93**	**17.39**

Computation and Payment of Capacity Charges and Energy Charges for Hydro Generating Stations

5.80 The Commission has referred to clause 9.9 to clause 9.15 of the JSERC Generation Tariff Regulations,2015 for computation of capacity charge and energy charge for the period FY 2016-17 to FY 2020-21 as quoted below:

"9.9 The Annual fixed cost of a Hydro generating station shall be computed, 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 allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the home State.

Provided that during the period between the Date of Commercial Operation of the first unit of the generating station and the Date of Commercial Operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the Capacity Charge and Energy Charge payable during such period.

9.10 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.

9.11 The PAFM shall be computed in accordance with the following formula:

PAFM = 10000 x i=1Σ 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 nodal load dispatch centre after the Day is over;

IC - Installed Capacity (in MW) of the complete generating station;

N - Number of Days in the month

9.12 The energy charge shall be payable by every Beneficiary for the total energy scheduled to be supplied to the Beneficiary, excluding free energy, if any, 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 {Scheduled Energy (ex-bus) for the month in kWh} x (100 – FEHS) / 100.

9.13 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 clause 9.15 of these Regulations:

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, subject to the provision in clause 9.14 of these Regulations;

FEHS - Free Energy for home State, in per cent, as defined in clause 10.5 of these Regulation;

9.14 In case actual total energy generated by a hydro generating station during a Year is less than the Design Energy for reasons beyond the control of the Generating Company, the following treatment shall be applied on a rolling basis;

(i) in case the energy shortfall occurs within 10 years from the Date of Commercial Operation of a generating station, the ECR for the Year following the Year of energy shortfall shall be computed based on the formula specified in clause 9.13 of these Regulations with the modification that the DE for the Year shall be considered as

equal to the actual energy generated during the Year of the shortfall, till the energy charge shortfall of the previous Year has been made up, after which normal ECR shall be applicable;

(ii) in case the energy shortfall occurs after ten years from the Date of Commercial Operation of a generating station, the following shall apply. Suppose the specified annual Design Energy for the station is DE MWh, and the actual energy generated during the concerned (first) and the following (second) financial year is A1 and A2 MWh respectively, A1 being less than DE. Then, the Design Energy to be considered in the formula as specified in clause of these Regulation for calculating the ECR for the third financial year shall be moderated as (A1 + A2 – DE) MWh, subject to a maximum of DE MWh and a minimum of A1 MWh;

(iii) Actual energy generated (e.g. A1, A2) shall be arrived at by multiplying the net metered energy sent out from the station by 100 / (100 – AUX).

9.15 In case the Energy Charge Rate (ECR) for a Hydro generating station, as computed in clause 9.13 of these Regulations, exceeds eighty paise per kWh, and the actual saleable energy in a Year exceeds {DE x (100 – AUX) x (100 – FEHS) / 10000} MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only.

Provided that in a Year following a Year in which total energy generated was less than the Design Energy for reasons beyond the control of the Generating Company, the Energy Charge Rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous Year has been made up.

9.16 The capacity charge payable to a pumped storage hydro generating station for a calendar month shall be:

(AFC x NDM / NDY) (in Rupees), if actual Generation during the month is >= 75% of the Pumping Energy consumed by the station during the month and {(AFC x NDM / NDY) x (Actual Generation during the month during peak hours/ 75% of the Pumping Energy consumed by the station during the month) (in Rupees)}, if actual Generation during the month is < 75 % of the Pumping Energy consumed by the station during the month.

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

NDM = Number of days in the month

NDY = Number of days in the year

Provided that there would be adjustment at the end of the year based on actual generation and actual pumping energy consumed by the station during the year.

5.81 The Commission, while determining the capacity charge has adopted the methodology mentioned in the regulation as cited in the above para. The Commission has also referred to MYT order dated 25.09.2018 wherein the Commission has specifically highlighted that the Petitioner would be entitled for incentive only when the PAFM is more than 75%. Thus the Commission has considered the PAFM of 75% while computing and approving the capacity charges (inclusive of incentive) as per clause 9.10 of the JSERC Generation Tariff Regulations, 2015.The detailed calculation is being provided in Annexure (10.2) of this order. The Capacity charges as approved by the Commission for the plant for FY 2016-17 to FY 2020-21 is given in the table below:

Table 44 Capacity Charges(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	UoM	FY17	FY 18	FY19	FY 20	FY21
Annual Fixed Charge	Rs.Cr	17.94	26.79	21.62	17.27	17.39
NAPAF(as approved)	%	50%	50%	50%	50%	50%
NAPAFM(computing capacity charges inclusive of incentive)	%	75%	75%	75%	75%	75%
Capacity Charges	**Rs.Cr**	**2.13**	**14.37**	**12.01**	**5.46**	**5.73**

5.82 The Commission has referred to clause 9.14 of the JSERC Generation Tariff Regulations which specifies a scenario that in case actual total energy generated by a hydro generating station during a year is less than the design energy for reasons beyond the control of the Generating Company, then moderation in DE needs to be considered wherein the revised moderated DE would be subjected to minimum of A1 & maximum of DE(revised) and accordingly the Commission has undertaken moderation as given in the table below:

Table 45 Moderated Design Energy (MUs) as calculated by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Design Energy	-	-	159.43	159.43	159.43	159.43	159.43
Total Gross Generation	33.71	51.29	30.12	190.28	102.49	36.12	49.98
A1	-	-	33.71	51.29	30.12	190.28	102.49
A2	-	-	51.29	30.12	190.28	102.49	36.12
Formula (A1+A2-DE)	-	-	-74.43	-78.02	60.97	133.34	-20.82
Moderated DE (subjected to minimum of A1 and Maximum of DE)	-	-	33.71	159.43	60.97	133.34	102.49

5.83 Based in the above moderated design energy the Commission has calculated the ECR as given in the table below:

Table 46 Energy Charge Rate(Rs./kWh) as calculated by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Annual Fixed Charge(Rs.Cr)	17.94	26.79	21.62	17.27	17.39
50% of AFC	8.97	13.40	10.81	8.63	8.70
Moderated DE(MU)	33.71	159.43	60.97	133.34	102.49
Aux Consumption(%)	0.70%	0.70%	0.70%	0.70%	0.70%
ECR(Rs/kWh)	2.680	0.846	1.786	0.652	0.854

5.84 The Commission has also referred to clause 9.15 of the JSERC

Generation Tariff Regulations,2015 as quoted below:

"9.15 In case the Energy Charge Rate (ECR) for a Hydro generating station, as computed in clause 9.13 of these Regulations, exceeds eighty paise per kWh, and the actual saleable energy in a Year exceeds {DE x (100 – AUX) x (100 – FEHS) / 10000} MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only.

Provided that in a Year following a Year in which total energy generated was less than the Design Energy for reasons beyond the control of the Generating Company, the Energy Charge Rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous Year has been made up."

5.85 As referred in the above para the Commission has accordingly calculated the energy charge after considering the energy shortfall of the previous years as given in the table below:

Table 47 Energy Charge(Rs.Cr) as computed by the Commission after adjusting shortfall

Particulars	Unit	FY17	FY18	FY19	FY20	FY21
ECR for Shortfall MUs	Rs/kWh	2.680	0.846	1.786	0.652	0.854
ECR for MUs after shortfall	Rs./kWh	0.800	0.800	0.800	0.652	0.800
Design Energy(DE)	MU	159.43	159.43	159.43	159.43	159.43
Auxiliary Consumption	%	0.70%	0.70%	0.70%	0.70%	0.70%
DE*(100-AUX)*(100-FEHS)/1000 Condition1	MU	158.31	158.31	158.31	158.31	158.31
Schedule Energy Ex-Bus for the year	MU	29.88	190.04	102.30	35.96	49.84
Excess Energy	MU	-	31.73	-	-	-
Remaining Energy	MU	-	158.31	-	-	-
Energy Charge for Excess Energy	RsCr	-	2.54	-	-	-
Energy Charge for	Rs.Cr	-	13.40	-	-	-

Remaining Energy						
Moderated DE	MU	33.71	159.43	60.97	133.34	102.49
Shortfall MUs	MU	125.72	-	98.46	26.09	56.94
Energy Charge for Shortfall MUs	RsCr	33.692	-	17.584	1.701	4.865
Scheduled energy after adjusting shortfall	MU	-	-	3.84	9.87	-
Energy Charge for Scheduled energy after adjusting shortfall	Rs Cr	-	-	0.31	0.644	-
Total Energy Charge	Rs.Cr	33.692	15.934	17.891	2.345	4.865

5.86 Based on the above calculated capacity and energy charges for the period FY 2016-17 to FY 2020-21 the Commission hereby approves the Annual Revenue Requirement of the Plant as given in the table below:

Table 48 ARR(Rs.Cr) as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
Capacity Charges(Rs.Cr)	2.130	14.368	12.010	5.462	5.729
Energy Charges(Rs.Cr)	33.692	15.934	17.891	2.345	4.865
ARR(Rs.Cr)	35.82	30.30	29.90	7.81	10.59

Chapter 6: Gap/(Surplus) for FY 2016-17 to FY 2020-21

Petitioners Submission

6.1 The Petitioner has submitted Gap/(Surplus) for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 49 Gap/(Surplus)(Rs.Cr) as submitted by the Petitioner for the period FY 17 to FY21

Particulars	FY 17	FY18	FY19	FY20	FY21
ARR	43.59	40.76	52.21	14.64	22.39
Total Amount Billed	12.44	29.74	24.30	17.44	19.45
Opening Gap/(Surplus)	-	33.14	49.03	84.62	92.26
Gap/(Surplus) for the year	31.15	11.02	27.90	(2.80)	2.94
Closing Gap/(Surplus)	31.15	44.16	76.94	81.82	95.20
Rate of Interest	12.80%	12.60%	12.20%	12.55%	11.65%
Carrying Cost	1.99	4.87	7.68	10.44	10.92
Closing Gap/(Surplus) including Carrying Cost	33.14	49.03	84.62	92.26	106.12

Commissions Analysis

6.2 For computation of Gap/(Surplus) for the period the Commission has referred to clause 6.16 to clause 6.18 of the JSERC Generation Tariff Regulations 2015 for adjustment of excess/deficit amount as quoted below:

"6.16 Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company shall refund to the beneficiaries as the case may be, the excess amount so recovered shall be as specified in the Clause 6.18 of this regulation.

6.17 Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations; the generating company licensee *shall recover from the beneficiaries the under-recovered amount shall be as specified in the Clause 6.18 of this regulation.*

6.18 The amount under-recovered or over-recovered, along with simple interest at the rate equal to the bank rate as on 1st April of the respective year, shall be recovered or refunded by the generating company in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission."

6.3 The Commission has also taken into consideration the order passed by the Commission for Case no. 24 of 2018 dated 8th March 2019 for computing the gap/(surplus) for the period.

6.4 The Commission after due deliberation has approved the gap/(surplus) of the Petitioner for the period FY 2016-17 to FY 2020-21 as given in the table below:

Table 50 Gap/(Surplus) in Rs.Cr as approved by the Commission for FY 2016-17 to FY 2020-21

Particulars	FY17	FY18	FY19	FY20	FY21
ARR	35.82	30.30	29.90	7.81	10.59
Revenue	12.44	29.74	24.30	17.44	19.45
Opening Gap/(Surplus)	(8.93)	14.80	17.26	25.31	18.25
Addition during the FY	23.38	0.56	5.60	(9.63)	(8.85)
Adjustment during the Year	0.00	0.00	0.00	0.00	0.00
Closing Gap/(Surplus)	14.45	15.36	22.86	15.68	9.39
Avg Gap/(Surplus)	2.76	15.08	20.06	20.49	13.82
Interest Rate	12.80%	12.60%	12.20%	12.55%	11.65%
Carrying Cost for respective Financial Year	**0.35**	**1.90**	**2.45**	**2.57**	**1.61**
Gap/(Surplus) inc Carrying Cost	**14.80**	**17.26**	**25.31**	**18.25**	**11.00**

Chapter 7: Approval of Business Plan & Tariff for the MYT Control Period FY 2021-22 to FY 2025-26

7.1 The Petitioner submitted the Business Plan comprising of investment plan, trajectory for performance parameters and operation & maintenance expenses for the third MYT Control period from FY 2021-22 to FY 2025-26 which is discussed and dealt in this chapter.

7.2 The Commission while considering the Business Plan and MYT for the FY 2021-22 to FY 2025-26 has taken into consideration of:

(a) Audited accounts for FY 2016-17 to FY 2020-21;
(b) JSERC (Terms & Conditions for Determination of Generation) Tariff Regulations, 2020;
(c) Materials placed before the Commission;
(d) Methodology adopted by the Commission in its previous Orders.

7.3 In this connection it is pertinent to take note of clause 6.6 of the JSERC Generation Tariff Regulations 2020 which lays down:

"6.6 The Business Plan shall be for the entire Control Period and shall inter-alia contain: -

a) Capital Investment Plan*: The Generating Company shall submit the Capital Investment Plan for the entire Control Period, detailing the investments planned by the Generating Company along with the corresponding capitalisation schedule and financing plan. This Plan shall also include capacity enhancement plan, if any, and proposed efficiency improvements and its cost benefit analysis. It shall also submit plant-wise details of Capital Structure and cost of Financing (interest on Debt) and return on equity, after considering the existing market conditions, terms of the existing loan agreements, risk associated in generating business and creditworthiness;*

b) Operational Plan*: A set of targets proposed for performance parameters such as Annual Plant Availability Factor (PAF), Plant Load Factor (PLF), Gross Station Heat Rate (SHR), Secondary Fuel Oil Consumption, Auxiliary Power Consumption (Aux)etc., and shall also include Unit-wise Outage Plan;*

c)Human Resource Plan: *Human Resource Plan with manpower planning* *including details of the estimated year wise manpower addition and retirements for the Control Period to run the power plant efficiently and effectively;*

d) Proposals for Non-Tariff Income with item-wise description and details;

e) Proposals in respect of income from Other Business; and

f) Business Plan shall also contain the requisite information for the preceding Control Period:

Provided that requisite information for the preceding Control Period shall include year-wise audited data on Scheme-wise capital investment, capacity enhancement plan, if any, proposed efficiency improvements and its cost benefit analysis, quality improvement measures undertaken, Employee Expenses, Repair &Maintenance Expenses and A&G Expenses along with detailed break up and any other information used for preparing projections of various performance parameters and other components during the Control Period. In case of a new generating plant, such information is required to be submitted for the period of operations up to the start of the Control Period."

Capital Investment Plan for FY 2021-22 to FY2025-26

Petitioners Submission

7.4 The Petitioner has pointed out that two units off 65 MW each of Swarn Rekha Hydel Power Project, Sikidiri has outlived the Design life of 30-35 years, therefore there is need for conducting a Remaining Life Assessment (RLA) for which petitioner has initiated the required process for the RLA study and is expected that the study shall be concluded at the earliest.

7.5 Further, the Petitioner envisages to renovate and modernize its office buildings, Guest Houses in order to provide State of Art facilities to its officials similar to other progressive utilities of the State and country.

7.6 The Petitioner has stated that it would like to appraise the Hon'ble Commission that the above mentioned activities are at the stage of planning and the actual cost estimates relating to the works have to be determined.

7.7 Additionally, the Petitioner is planning for major renovation and modernization work for the entire control period which are still on conceptualization phase.

7.8 Thus, the Petitioner has humbly requested to take cognizance of the above-mentioned points and consider the submission of capital expenditure plan along with required documents for the ensuing years of the MYT control period of FY 2021-22 to FY 2025-26.

Commissions Analysis

7.9 The Commission has taken note of the submissions made by the Petitioner for consideration of capital expenditure plan during the ensuing years of the MYT control period i.e. FY 2021-22 to FY 2025-26. However, it is pertinent for Petitioner to note that the details during submission must comprise of the details enumerated below:

a) Purpose of investment;

b) Approval of Competent Authority;

c) Detailed Project Report;

d) Capital Structure;

e) Capitalization Schedule;

f) Implementation schedule including timelines;

g) Cost-benefit analysis& Rate reasonability;

h) Improvement in operational efficiency envisaged in the Control Period;

7.10 Thereafter, the Commission will scrutinize the particulars of the capital expenditure and its capitalization schedule and after a prudence check, the determination will be made regarding the approval of capital expenditure for the relevant period.

7.11 As on date there is no capital investment schedule projected by the Petitioner, hence the Commission has considered the closing GFA of FY 2020-21 as the opening GFA of FY 2021-22 and for the subsequent relevant years, the details of which is deliberated in the table below:

Table 51 GFA(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY 2025-26
Opening GFA	43.61	43.61	43.61	43.61	43.61
Addition	0.00	0.00	0.00	0.00	0.00
Closing GFA	43.61	43.61	43.61	43.61	43.61

Financing Plan & Capitalization Schedule

Petitioner's Submission

7.12 The Petitioner has submitted that the source of funding will be through debt and equity for the planned expenditure for renovation, modernization expenditure and life extension or capital expenditure.

7.13 The Petitioner has submitted that it has plans to raise the funds in normative 70:30 ratio, with 70% of the expenditure being funded through debt or an interest-bearing loan and rest 30% through equity contribution.

7.14 The Petitioner has appraised the Commission that once the total quantum of capital expenditure is finalized and approved at petitioner's end then it would submit the capitalization schedule for the third MYT control period FY 2021-22 to FY 2025-26.

Commissions Analysis

7.15 The Commission has taken a note of the submission made by the Petitioner regarding financing plan and capitalization schedule.

Operational Plan

Petitioner's Submission

7.16 The Petitioner has submitted that the Hon'ble Commission has considered the design energy as specified by BHEL as the gross generation and approved the normative plant availability factor as 50% in its earlier tariff order issued on 25.09.2018 for each year of the Control Period i.e., from FY 2016-17 to FY 2020-21.

7.17 In addition, the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 also mandates the normative plant availability factor of 75% which is non-achievable due to following reasons:

a) Swarn Rekha Hydel Power Project, Sikidiri is a peak load operating plant which is designed to operate only for 3-4 hours in a day.

b) As per the operation manual of BHEL the working condition of the plant is peak load operation, and its design energy is 14% of load factor.

c) It is designed for continuous operation only if water level is 1925 ft. besides, the water level is affected because the same reservoir is used for water consumption needs of Ranchi town as well as for irrigation purposes.

d) The situation is further aggravated by the shortfall in the rainfall in the last few years.

7.18 Further, the Petitioner would like to highlight the actual plant availability factor for the SRHP plant for FY 2016 17 to FY 2020-21 is below:

Table 52 Actual Plant Availability factor of the SRHP Plant

Particulars	FY17	FY18	FY19	FY20	FY21
Plant Availability Factor	18%	80%	83%	47%	49%

7.19 Thus, the Petitioner would like to appraise the Hon'ble Commission that the actual Plant availability factor of the SRHP is almost in line with the Plant availability factor (PAF) of 50% approved by the Hon'ble Commission vide order dated 25th September 2018.

7.20 It is therefore requested to the Hon'ble Commission to take cognizance of the above reasons and kindly reduce the normative plant availability factor to 50% instead of 75% presently.

7.21 Further, the Petitioner has projected the percentage of auxiliary consumption in line with the clause 18.7 of JSERC Generation Tariff Regulations, 2020 as 0.70% throughout the control period.

Table 53 Plant Performance Parameters for SRHP as projected by the Petitioner for 3rd control period

Particulars	FY22	FY23	FY24	FY25	FY26
Plant Availability Factor(%)	50%	50%	50%	50%	50%
Auxiliary Consumption(%)	0.70%	0.70%	0.70%	0.70%	0.70%

7.22 The Petitioner has considered the design energy as specified by BHEL as the gross generation taking into account the plant availability factor of 50% due to the reasons highlighted under para 7.17.

7.23 The Petitioner has prayed to the Hon'ble Commission to approve the generation taking cognizance of the ground realities and issues faced while operating the plant as highlighted above. The gross generation, as projected by the Petitioner for the third control period, is given in the table below:

Table 54 Gross generation & Auxiliary consumption as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	Unit	FY22	FY23	FY24	FY25	FY26
Plant Availability factor	%	50%	50%	50%	50%	50%
Auxiliary Consumption	%	0.70%	0.70%	0.70%	0.70%	0.70%
Gross Generation	MU	159.43	159.43	159.43	159.43	159.43
Auxiliary Consumption	MU	1.12	1.12	1.12	1.12	1.12
Net Generation	MU	158.32	158.32	158.32	158.32	158.32

Commissions Analysis

7.24 In order to ascertain the anticipated availability of the plant, the Commission has assessed the submission provided by the Petitioner and has examined the factual data regarding plant availability submitted by the Petitioner in the True-Up order for FY 2016-17 to FY 2020-21, as outlined in the preceding section of this order.

7.25 The Commission has also acknowledged the submission made by the Petitioner under para 7.17 regarding the low availability of the plant over the years.

7.26 In view of the above, it is expected that the plant will not be able to meet the specified Normative Annual Plant Availability Factor (NAPAF) of 75% as specified in Clause 18.7(Norms of Operation) of the Generation Tariff Regulations, 2020 for projection of availability during each year of the Control Period i.e. from FY 2021-22 to FY 2025-26.

7.27 In view of the circumstances highlighted above, the Commission hereby approves the normative availability at 50% for the MYT control period i.e. FY 2021-22 to FY 2025-26 which is also in line with the MYT order dated 25.09.2018 for FY 2016-17 to FY 2020-21.

7.28 The Commission has approved a relaxed availability considering the issues highlighted above. It may also happen that due to good rainfall and higher water availability in reservoir, the Petitioner may be available for more than 75%. Hence the Commission would like to highlight that the Petitioner would be eligible for incentive in the MYT control i.e. FY 2021-22 to FY 2025-26 period only when the PAFM goes above 75%.

7.29 The Commission has considered Auxiliary Consumption at 0.70% for each year of the Control Period i.e. from FY 2021-22 to FY 2025-26 as specified in the Clause 18.7 (Norms of Operation) of the Generation Tariff Regulation, 2020.

7.30 The Commission has considered the design energy (i.e.159.43MU) as specified by BHEL for computing the gross generation and considering the availability factor and auxiliary consumption as approved above has approved the generation for the third control period i.e. FY 2021-22 to FY

2025-26 as highlighted in the table below:

Table 55 Gross generation & Auxiliary consumption as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	Unit	FY22	FY23	FY24	FY25	FY26
Plant Availability factor	%	50%	50%	50%	50%	50%
Auxiliary Consumption	%	0.70%	0.70%	0.70%	0.70%	0.70%
Gross Generation	MU	159.43	159.43	159.43	159.43	159.43
Auxiliary Consumption	MU	1.12	1.12	1.12	1.12	1.12
Net Generation	MU	158.32	158.32	158.32	158.32	158.32

Determination of Fixed Cost

Operation & Maintenance Expenses
Petitioner's Submission

7.31 The Petitioner has projected the Operation and maintenance expense for the SRHP for the 3rd MYT control period in line with the provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 wherein the methodology for projecting is mentioned in various provisions of O&M expenses as follows:

"Operation and Maintenance (O&M) expenses

15.35 Operation and Maintenance (O&M) expenses shall comprise of the following:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance expenses;

Existing Hydro generating stations

15.41 The O&M expenses permissible towards ARR of each year of the Control Period shall be approved based on the formula shown below:

O&Mn = (R&Mn + EMPn + A&Gn) + Terminal Liabilities

Where, R&Mn – Repair and Maintenance Costs of the Generating Company for the nth year;

EMPn – Employee Costs of the Generating Company for the nth year excluding terminal liabilities;

A&Gn – Administrative and General Costs of the Generating Company for the nth year.

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

*a) (Repair & Maintenance) n = K*GFA*(INDXn/ INDXn-1)*

Where, 'K' is a constant (expressed in %) governing the relationship between Repair & Maintenance costs and Gross Fixed Assets (GFA) and shall be calculated based on the % of Repair &Maintenance to GFA of the preceding years of the Base Year in the MYT Order after normalising any abnormal expenses;

'GFA' is the opening value of the gross fixed asset of the nth year;

b) EMPn + A&Gn = [(EMPn-1) (1+Gn)+ (A&Gn-1)]*(INDXn/ INDXn-1)*

Where,

EMPn-1 – Employee Costs of the Generating Company for the (n-1)th year excluding terminal liabilities;

A&Gn-1 – Administrative and General Costs of the Generating Company for the (n -1)th year excluding legal/litigation expenses;

INDXn – Inflation factor to be used for indexing the employee cost and A&G cost. This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding year before the base year;

Gn – is a growth factor for the nth year and it can be greater than or lesser than zero based on the actual performance. Value of Gn shall be determined by the Commission in the MYT Order for meeting the additional manpower requirement based on the Generating Company Filing, benchmarking and any other factor that the Commission feels appropriate;

*c) INDXn = 0.55*CPIn +0.45*WPIn;"*

7.32 In line with the above-mentioned provisions of the JSERC Tariff Regulations, 2020 the Petitioner has projected the Employee Expenses, A&G Expenses for the entire control period using the inflation factor of 4.19% which is weighted average of the WPI and CPI indexes in the ratio of 55:45 for CPI and WPI respectively with a growth factor of 7%.

7.33 The Petitioner would like to appraise the Hon'ble Commission that the Dearness Allowance of Jharkhand Government employees have increased from 34% to 42% in 2023. Further, the basic salary of Jharkhand Government employees annually increases by ~3%. Thus, taking into account these factors the Petitioner has considered a growth factor of 7% while projecting O&M expenses for FY 2021-22 to FY 2025-26 of the MYT control period.

7.34 The terminal benefits has been projected to be the same as per the actual figure for FY 15-16, as under the Clause 15.42 (c) of JSERC Generation Tariff Regulation, 2020 whereby it clearly mentions that the terminal liabilities will be as per the actuals submitted by the Generating company. The clause is reproduced below:

"Terminal Liabilities will be approved as per actual submitted by the Generating Company or be established through actuarial studies."

7.35 Thus, the Petitioner has submitted the projected operation and maintenance expense in line with JSERC Generation Tariff Regulations, 2020 based on the actual Employee Expenses, A&G Expenses of FY 2020-21 and subsequently excluding the terminal benefits for last five years (from FY 2016-17 to FY 2020-21), as summarized in the table below:

Table 56 Employee & A&G expense(Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Employee Benefits(excluding terminal benefits)	14.74	16.43	18.32	20.42	22.77
A&G Expenses	12.42	12.93	13.48	14.04	14.63
Total Employee+ A&G Expense	27.16	29.37	31.80	34.46	37.40

7.36 In line with the above-mentioned provisions of the JSERC Tariff Regulations, 2020 the Petitioner projected the R&M Expenses for the entire control period using the K factor of 4.50% and inflation factor of 4.19% which is weighted average of the WPI and CPI indexes in ratio of 55:45 for CPI and WPI respectively. The R&M Expenses for the MYT 3rd control period is summarized in the table below:

Table 57 R&M Expenses(Rs.Cr) for the third control period i.e. FY 2021-22 to FY 2025-26 as projected by the Petitioner

Particulars	FY22	FY23	FY24	FY25	FY26
Opening GFA	43.61	43.61	43.61	43.61	43.61
R&M Expense	2.04	2.04	2.04	2.04	2.04
K Factor	4.69%	4.69%	4.69%	4.69%	4.69%

7.37 The Petitioner has projected the O&M expense for the third control period i.e. FY 2021-22 to FY 2025-26 as highlighted in the table below:

Table 58 O&M expense(Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY 22	FY23	FY24	FY25	FY26
Employee Exp	14.74	16.43	18.32	20.42	22.77
A&G Exp	12.42	12.93	13.48	14.04	14.63
R&M Exp	2.04	2.04	2.04	2.04	2.04
Total O&M Exp	29.20	31.41	33.84	36.51	39.44

Commissions Analysis

7.38 The Commission, referring to definition 44 and Regulation 15.35 of the Generation Tariff Regulations,2020 specifies as follows:

"44. 'Operation and Maintenance Expenses' or 'O&M expenses' means the expenditure incurred for operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, repairs and maintenance, spares, consumables, insurance and overheads, and fuel other than used for generation of electricity;"

"15.35 Operation and Maintenance (O&M) expenses shall comprise of the following:

1. Salaries, wages, pension contribution and other employee costs;

2. Administrative and General costs;

3. Repairs and maintenance expenses;"

7.39 Further referring to clauses 15.40 to clause 15.44 and clause 15.47 of the generation Tariff, Regulations 2020 which specifies the methodology to be adopted for computation of employee expense, repair and maintenance expense and administrative and general expense referred to as below:

"Existing Generating Stations

15.40 The O&M Expenses for the Base Year of the Control Period shall be approved by the Commission taking into account the audited accounts of FY 2015-16 to FY 2019-20, Business Plan filed by the Generating Company, estimates of the actual for the Base Year, prudence check and any other factor considered appropriate by the Commission.

15.41 The O&M expenses permissible towards ARR of each year of the Control Period shall be approved based on the formula shown below:

O&Mn = (R&Mn + EMPn + A&Gn) + Terminal Liabilities

Where, R&Mn – Repair and Maintenance Costs of the Generating Company for the nth year; EMPn – Employee Costs of the Generating Company for the nth year excluding terminal liabilities;

A&Gn – Administrative and General Costs of the Generating Company for the nth *year*

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

*a) (Repair &Maintenance) n = K*GFA*(INDXn/ INDXn-1)*

Where,

'K' is a constant (expressed in %) governing the relationship between Repair &Maintenance costs and Gross Fixed Assets (GFA) and shall be calculated based on the % of Repair &Maintenance to GFA of the preceding years of the Base Year in the MYT Order after normalizing any abnormal expenses;

'GFA' is the opening value of the gross fixed asset of the nth year;

b) EMPn + A&Gn = [(EMPn-1) (1+Gn)+ (A&Gn-1)]*(INDXn/ INDXn-1)*

Where, EMPn-1 – Employee Costs of the Generating Company for the (n-1)th year excluding terminal liabilities;

A&Gn-1 – Administrative and General Costs of the Generating Company for the (n-1)th year excluding legal/litigation expenses;

INDXn – Inflation factor to be used for indexing the employee cost and A&G cost. This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding year before the base year;

Gn – is a growth factor for the nth year and it can be greater than or lesser than zero based on the actual performance. Value of Gn shall be determined by the Commission in the MYT Order for meeting the additional manpower requirement based on the Generating Company Filing, benchmarking and any other factor that the Commission feels appropriate;

*c) INDXn = 0.55*CPIn +0.45*WPIn;*

Note-1: For the purpose of estimation, the same INDXn/INDXn-1value shall be used for all years of the Control Period. However, the Commission will consider the actual values in the INDXn/INDXn-1at the end of each year during the Annual Performance Review exercise and true up the employee cost and A&G expenses on account of this variation, for the Control Period;

Note-2: Any variation due to changes recommended by the Pay Commission or *wage revision agreement, etc., will be considered separately by the Commission.*

Note-3: Terminal Liabilities will be approved as per actual submitted by the Generating Company along with documentary evidence such as actuarial studies.

15.43 The Generating Company, in addition to the above details shall also submit the detailed break-up of the Legal/Litigation Expenses for the previous Years (FY 2015-16 to FY 2019-20) along with the details and documentary evidence of incurring such expenses. The Commission shall approve the legal expenses as per the relevant provisions of the Jharkhand State Litigation Policy based on the necessary documentary evidence submitted for the Control Period and shall carry out due prudence check of legal expenses at the time of truing up.

15.44 The additional Operation and Maintenance expenses on account of implementation of revised emission standards shall be approved on case to case basis."

"15.47 The Security Expenses and Capital Spares for hydro generating stations shall be allowed separately after prudence check:

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

7.40 The Commission while computing and approving the O&M expenses for the third control period has taken into consideration the audited accounts of FY 2016-17 to FY 2020-21 as well as approved values of true-up order for the period FY 2016-17 to FY 2020-21.

7.41 **Employee Expense:** The Commission has considered the base figures as per approved true up values of FY 2020-21 of employee expense (excluding terminal liabilities) for finalizing the values for the MYT period FY2021-22 to FY 2025-26.

7.42 As the audited figures of FY 2020-21 is already being submitted by the Petitioner hence the Commission has considered the inflation factor of FY 2020-21 i.e. 4.13% considering the weightage of WPI & CPI as mentioned in JSERC Generation Tariff Regulations, 2020.Accordingly the same is being used for escalation of the base figures of FY 2020-21 for arriving at employee expense for each year of the third control period.

7.43 The Commission has taken a note of the fact that the Petitioner has projected a growth factor of 7% considering annual increase of Dearness Allowance @4% and annual basic salary increment of 3% for each year of the control period. The Commission vide discrepancy note had asked the Petitioner to submit relevant details supporting the claim to which the Petitioner has submitted letters from the JUVNL for the increment of Dearness Allowance validating the claim. The reference of the letters is given below:

a) Ref:1012/Nigam Mukhalaya, Ranchi dated 21/10/2020 for the year 2022.

b) Ref:495/Nigam Mukhalaya, Ranchi dated 02/06/2023 for the year 2023.

7.44 The Commission has referred to Note:2 & Note 3 under clause 15.42 of the JSERC Generation Tariff Regulations,2020 for consideration of the above growth factor and terminal liabilities for the third control period. The details of the extract from the regulation is referred below:

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

……

……

Note-2: Any variation due to changes recommended by the Pay Commission or wage revision agreement, etc., will be considered separately by the Commission.

Note-3: Terminal Liabilities will be approved as per actual submitted by the Generating Company along with documentary evidence such as actuarial studies."

7.45 The Commission, after consideration of the methodology as mentioned in the above paras, approves the employee expense for the third control period i.e. FY 2021-22 to FY 2025-26 as given in the table below:

Table 59 Employee Expense(Rs.Cr) as approved by the Commission for MYT control period FY 2021-22 to FY2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Employee Benefits (Salary, wages etc)	14.73	16.41	18.29	20.37	22.70
Terminal Benefits	0.00	0.00	0.00	0.00	0.00
Total Employee Expense	14.73	16.41	18.29	20.37	22.70

7.46 **R&M Expense:** The Commission, after scrutinizing and prudence check of the audited values of GFA and actual R&M expense submitted by the Petitioner has computed the K factor (i.e.4.89%) considering the average of the values of the past five years which has been audited i.e. FY 2016-17 to FY 2020-21 and has considered the same for calculation of R&M expense with an inflation factor of 4.13%.

7.47 The Commission has also taken into consideration the GFA for the period as approved under para 7.11 above and has calculated the R&M expense for the third control period as highlighted in the table below:

Table 60 R&M expense(Rs.Cr) as approved by the Commission for MYT control period FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
R&M expense	2.22	2.22	2.22	2.22	2.22

7.48 **A&G Expense:** The Commission has adopted the similar methodology for calculation of the A&G expense as reflected in above paras wherein the Commission has escalated the approved True up values of FY 2020-21 with an inflation factor of 4.13% and has arrived at the A&G expense for the respective years of the third control period. The A&G expense as approved by the Commission for the third control period i.e. FY 2021-22 to FY 2025-26 is highlighted in the table below:

Table 61 A&G Expense(Rs.Cr) as approved by the Commission for the MYT control period i.e. FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
A&G expense	1.95	2.03	2.11	2.20	2.29

7.49 The projected O&M expense approved by the Commission for the third control period i.e. FY 2021-22 to FY 2025-26 is given in the table below:

Table 62 O&M expense(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Employee Expense (excluding terminal liabilities)	14.73	16.41	18.29	20.37	22.70
A&G Expense	1.95	2.03	2.11	2.20	2.29
R&M Expense	2.22	2.22	2.22	2.22	2.22
Total	**18.90**	**20.66**	**22.62**	**24.79**	**27.21**

Depreciation
Petitioner's Submission

7.50 The Petitioner has submitted that since it has not projected any capital expenditure and subsequent capitalization for the 3rd MYT Control period as of now, the Petitioner has projected the depreciation expense on the existing assets only, which is as per the actuals. The Petitioner has excluded the depreciation for the assets formed from grant or subsidy in line with the methodology given in the JSERC Generation Tariff Regulations, 2020 as reproduced below:

"Depreciation

15.28 Depreciation shall be calculated every year, on the amount of Capital Cost of the assets as admitted by the Commission. In case tariff of multiple Units of a generating station is determined, weighted average life for the generating station shall be applied: Provided that depreciation shall not be allowed on assets funded *by Consumer Contribution and Capital Subsidies/Grants. Provision for replacement of such assets shall be made in the Capital Investment Plan.*

15.30 Depreciation shall be calculated annually, based on the straight-line method, at the rates specified at Appendix-I. The base value for the purpose of depreciation shall be original cost of the asset:

15.32 The residual value of assets shall be considered as 10%and depreciation shall be allowed to a maximum of 90% of the original cost of the asset. Land is not a depreciable asset, and its cost shall be excluded while computing 90% of the original cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable:

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site."

7.51 The Petitioner has projected the total depreciation expense for the MYT 3rd control period as summarized in the table below:

Table 63 Depreciation(Rs.Cr) as computed by the Petitioner for third control period

S.No	Particulars	Value
A	Closing GFA upto FY 21	43.61
B	Closing Accumulated Depreciation upto FY 21	38.54
C	Salvage Value [10%*A]	4.36
D	Balance depreciable value for rest 5 years [A-B-C]	0.70
E	Depreciation for each year [D/5]	0.14

Table 64 Depreciation(Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Depreciation Expense	0.14	0.14	0.14	0.14	0.14

Commissions Analysis

7.52 The Commission has referred to clause 15.28 to clause 15.34 of the JSERC

Generation Tariff Regulations,2020 as quoted below:

"Depreciation

15.28 Depreciation shall be calculated every year, on the amount of Capital Cost of the assets as admitted by the Commission. In case tariff of multiple Units of a generating station is determined, weighted average life for the generating station shall be applied:

Provided that depreciation shall not be allowed on assets funded by Consumer Contribution and Capital Subsidies/Grants. Provision for replacement of such assets shall be made in the Capital Investment Plan.

15.29 Depreciation for each year shall be determined based on the methodology as specified in these Regulations along with the rates and other terms specified in these Regulations.

15.30 Depreciation shall be calculated annually, based on the straight-line method, at the rates specified at Appendix-I. The base value for the purpose of depreciation shall be original cost of the asset:

Provided that the Generating Company shall ensure that once the individual asset is depreciated to the extent of seventy (70) percent of the Book Value of that asset, remaining depreciable value as on March 31 of the year closing shall be spread over the balance useful life of the asset;

Provided that in case the tenure of PPA executed between the Generating plant and Beneficiaries is more than that of the Useful life of the plant, the Commission after prudence check may consider the PPA life for spreading the remaining depreciable value as on March 31 of the year instead of useful life;

Provided that in case after carrying out the residual life assessment, it is found that the residual life of the generating station or unit as the case may be is beyond the useful life specified in these regulations the Commission after prudence check, may spread the remaining depreciable value to be recovered over the extended life of the plant.

15.31 Depreciation shall be charged from the first year of commercial operation of the asset. In case, the operation of the asset is for a part of the year, depreciation shall be charged on pro-rata basis:

Provided that any depreciation disallowed on account of lower availability of the generating station shall not be allowed to be recovered at a later stage during the useful life and the extended life.

15.32 The residual value of assets shall be considered as 10%and depreciation shall be allowed to a maximum of 90% of the original cost of the asset. Land is not a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable: Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term Power Purchase Agreement at regulated tariff.

15.33 The Commission may, in the absence of the Fixed Assets Register, calculate Depreciation (%) arrived by dividing the Depreciation and the Average Gross Fixed Assets as per the latest available Audited Accounts of the Generating Company. The Depreciation (%) so arrived shall be multiplied by the Average GFA approved by the Commission for the relevant Financial Year to arrive at the Depreciation for that Financial Year.

15.34 In case of de-capitalization of assets in respect of Generating Station or Unit thereof the cumulative depreciation shall be adjusted by taking into account the depreciation recovered through tariff towards decapitalization asset during its useful services."

7.53 As there is no capitalization schedule projected by the Petitioner till date, hence the Commission has considered the depreciation as reflected in the audited accounts of the Petitioner for FY 2020-21.

7.54 The Commission has considered the accumulated depreciation as reflected in the audited accounts of FY 2020-21 along with the closing GFA upto FY 2020-21 and has calculated the remaining value of depreciable asset in accordance with regulation and has spread it along the respective years of the third control period. The Depreciation expense for the control period as approved by the Commission is given in the table below:

Table 65 Accumulated depreciation(Rs.Cr) as per audited accounts till FY 2020-21

Particulars	FY 21
Accumulated Depreciation(opening)	38.48
Depreciation during the year	0.06
Accumulated depreciation(Closing)	38.54
GFA Closing	43.61
% of GFA depreciated till date	88.39%
Balance Depreciable Value	1.61%
Balance Depreciable Value for rest 5 years	0.70
Depreciation for each year for next 5 years	0.14

Table 66 Depreciation (RsCr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Depreciation Expense	0.14	0.14	0.14	0.14	0.14

Interest on Loan

Petitioner's Submission

7.55 The Petitioner has projected the interest on loan for the MYT 3rd control period in accordance with the JSERC Generation Tariff Regulations, 2020.

7.56 The Petitioner has submitted that it would like to appraise the Hon'ble Commission that since there is no historical debt liability or additional debt on the Petitioner so, the entire interest on loan expense is projected by the Petitioner on normative basis.

7.57 The Petitioner has submitted that it has considered Bank Rate of State Bank of India as on 15.03.2022 of 7.55% and accordingly has considered the interest rate of 9.55% for the entire control period.

7.58 The Petitioner has submitted that since the Petitioner has not projected any capital expenditure and subsequent capitalization for the 3rd MYT Control period as of now, hence the Petitioner has projected the addition of debt during the 3rd MYT control period as nil and the amount of loan repayment has been considered equal to the depreciation expense for the 3rd MYT control period. The projected loan schedule and the interest expense for the 3rd MYT control period is summarized in the table below:

Table 67Interest on Loan(Rs.Cr) as submitted by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Opening balance of normative Loan	21.57	21.43	21.29	21.15	21.01
Addition during the year	0.00	0.00	0.00	0.00	0.00
Repayment	0.14	0.14	0.14	0.14	0.14
Closing Balance of normative loan	21.43	21.29	21.15	21.01	20.87
Average Normative Loan	21.50	21.36	21.22	21.08	20.94
Rate of Interest	9.55%	9.55%	9.55%	9.55%	9.55%
Interest on Loan	2.05	2.04	2.03	2.01	2.00

Commissions Analysis

7.59 The Commission has referred to clause 15.13 to clause 15.22 of the JSERC Generation Tariff Regulations,2020 for computing the interest on loan. The relevant extract from the regulation is quoted below:

"Interest on Loan Capital

15.13 The loans arrived at in the manner indicated in Clause 15.6 and Clause 15.7of these Regulations, shall be considered as gross normative loan for calculation of Interest on Loan.

15.14 The normative loan outstanding as on April 01, 2021 shall be worked out by *deducting the cumulative repayment as admitted by the Commission up to March 31, 2021 from the gross normative loan.*

15.15 The repayment for each year of the Control Period shall be deemed to be equal to the depreciation allowed for that financial year.

15.16 In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on pro-rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such assets.

15.17 Notwithstanding any moratorium period availed by the Generating Company, the repayment of loan shall be considered from the first year of operation of the scheme/asset.

15.18 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 Generating Company: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, then the rate of interest shall be considered on normative basis and shall be equal to Bank Rate as on April 01of the respective year of the Control Period plus 200 basis points; Provided also that, in case of new Generating Company commencing its operation after the date of effectiveness of these Regulations, and which does not have actual loan portfolio, the rate of interest shall be considered on normative basis and shall be equal to Bank Rate as on April 01of the respective year of the Control Period plus 200 basis points.

15.19 The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest;

15.20 The above interest computation shall exclude interest on loan amount, normative or otherwise, to the extent of capital cost funded by Consumer Contribution, Grants or Deposit Works carried out by Generating Company.

15.21 The Generating Company 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 pass-through to the Beneficiaries and the net savings shall be shared between the beneficiaries and the Generating Company, in the ratio of 50:50.

15.22 In case of dispute, any of the parties may make an application in accordance *with the JSERC (Conduct of Business) Regulations, 2016, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.*

7.60 The Commission after prudence check of the submission made by the Petitioner, along with verification and wrt the audited accounts, has considered the normative loan closing of FY 2020-21 (i.e.21.57 Cr) as the opening of FY 2021-22.

7.61 The Commission has observed that the Petitioner has not projected any capital expenditure and subsequent capitalization for the third MYT control period as of now, hence the Commission has considered the addition of debt during the third MYT control period as nil.

7.62 The Commission has adopted the relevant clause of 15.15 of the JSERC Generation Tariff Regulations,2020 for the repayment of loan which is considered to be equal to depreciation allowed for that respective year.

7.63 The Commission has observed that the Petitioner has erred in considering the interest rate on normative loan. The Commission has considered the interest rate on the normative loan wrt to clause 15.18 of the JSERC Generation Tariff Regulations 2020 (i.e. Bank Rate as on April 01of the respective year of the Control Period plus 200 basis points).

7.64 The Commission hereby approves the interest on loan for the third control period i.e. FY 2021-22 to FY 2025-26 as given in the table below:

Table 68 Interest on Loan(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**
Opening balance of normative Loan	21.57	21.43	21.29	21.15	21.01
Addition during the year	0.00	0.00	0.00	0.00	0.00
Repayment	0.14	0.14	0.14	0.14	0.14
Closing Balance of normative loan	21.43	21.29	21.15	21.01	20.87

Average Normative Loan	21.50	21.36	21.22	21.08	20.94
Rate of Interest	9.00%	9.00%	9.00%	9.00%	9.00%
Interest on Loan	1.93	1.92	1.91	1.90	1.88

Return on Equity
Petitioner's Submission

7.65 The Petitioner has projected the Return on Equity for the MYT 3rd control period in accordance with the JSERC Generation Tariff Regulations, 2020 as cited below:

"Return on Equity

15.9 The return on equity shall be computed in rupee terms, on the equity base determined in accordance with Clause15.6 and Clause 15.7 of these Regulations.

15.10 The return on equity shall be computed on post-tax basis at the base rate of 14.00%for thermal generating stations, and run of the river hydro generating station, and at the base rate of 15.00% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:"

7.66 The Petitioner has submitted that it would like to appraise the Hon'ble Commission that since, the Petitioner has not projected any capital expenditure and subsequent capitalization for the 3rd MYT Control period as of now, the Petitioner has also not projected any equity infusion. Hence, the Petitioner has projected the Return on Equity on normative basis.

7.67 As no tax component has been paid or assessed so far, so the Petitioner in line with the methodology adopted by the Hon'ble Commission in clause 15.11 and as per the clause 15.12 of the JSERC Generation Tariff Regulation, 2020 has projected the return on equity on pre-tax basis at the rate of 15.00%.

7.68 The Petitioner has submitted the year wise projected return on equity for the entire 3rd MYT control period in the table below, which is in line with the provisions of the JSERC Generation Tariff Regulations 2020.

Table 69 Return on Equity (Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Opening equity	13.01	13.01	13.01	13.01	13.01
Addition during the year	0.00	0.00	0.00	0.00	0.00
Closing equity	13.01	13.01	13.01	13.01	13.01
Average equity	13.01	13.01	13.01	13.01	13.01
Rate of return	15.00%	15.00%	15.00%	15.00%	15.00%
Return on equity	1.95	1.95	1.95	1.95	1.95

Commissions Analysis

7.69 The Commission has worked out the normative equity for the MYT control period as per Clause 15.9 and 15.10 of the Generation Tariff Regulation, 2020.

"Return on Equity

15.9 The return on equity shall be computed in rupee terms, on the equity base determined in accordance with Clause15.6 and Clause 15.7 of these Regulations.

15.10 The return on equity shall be computed on post-tax basis at the base rate of 14.00%for thermal generating stations, and run of the river hydro generating station, and at the base rate of 15.00% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that the return on equity shall be allowed only on the equity employed on assets which are commissioned and are in use;

Provided further that the rate of return of a new project shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station is *found to be declared under commercial operation without commissioning of any of Restricted Governor Mode Operation (RGMO)/Free Governor Mode Operation (FGMO), data telemetry, communication system up to load despatch centre or protection system;*

Provided also as and when any of the above requirements are found lacking in a generating station based on the report submitted by the SLDC, return on equity shall be reduced by 1.00% for the period for which the deficiency continues."

7.70 Since the Petitioner has not considered any equity infusion due to absence of capital expenditure and subsequent capitalization for the third control period hence the Commission has considered the return on equity on normative basis. The Commission has considered the closing normative equity of FY 2020-21(i.e. 13.01Cr) as the opening equity for FY 2021-22 and has computed the RoE for the third control period i.e. FY 2021-22 to FY 2025-26 accordingly.

7.71 The Commission has considered the rate of return of RoE wrt to clause 15.10 of the JSERC Generation Tariff Regulations 2020 as quoted above.

7.72 The Commission has observed the Petitioner's submission for no tax component being paid or assessed so far by the Petitioner and hence the Commission has considered the return on equity on pre-tax basis at the rate of 15.00%.

7.73 The Return on Equity for the third control period i.e. FY 2021-22 to FY 2025-26 as approved by the Commission is given in the table below:

Table 70 Return on Equity(Rs.Cr) as approved by the Commission for the third control period i.e. FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Opening equity	13.01	13.01	13.01	13.01	13.01
Addition during the year	0.00	0.00	0.00	0.00	0.00
Closing equity	13.01	13.01	13.01	13.01	13.01

Average equity	13.01	13.01	13.01	13.01	13.01
Rate of return	15.00%	15.00%	15.00%	15.00%	15.00%
Return on equity	1.95	1.95	1.95	1.95	1.95

Interest on Working Capital
Petitioner's Submission

7.74 The Petitioner has projected the interest on working capital for the 3rd MYT control period in accordance with the JSERC Generation Tariff Regulations, 2020.

*"**Interest on working Capital***

15.25 The working capital for Hydro Generating Stations (including Pumped Storage Hydro Generating Station) and shall comprise the following components:

1. Operation and Maintenance expenses, including security expenses for one month;

2. Maintenance spares @ 15% of Operation & Maintenance Expenses including security expenses;

3. Receivables equivalent to 45 days of annual fixed cost.

15.26 The rate of Interest on Working Capital shall be on normative basis and shall be equal to Bank Rate plus 350 basis points as on September 30 of the financial year in which the MYT Petition is filed or as on April 01, of the year during the Control Period from FY 2021-22 to FY 2025-26 in which the generating station or a Unit thereof, is declared under commercial operation, whichever is later: Provided that the rate of interest on working capital shall be trued up on the basis of Bank Rate plus 350 basis points as applicable on April 01, of the respective financial year at the time of true up.

15.27 The interest on working capital shall be payable on normative basis notwithstanding that the Generating Company has not taken working capital loan from any outside agency…"

7.75 Based on the above provisions of the JSERC Generation Tariff Regulations, 2020 the Petitioner has submitted the year wise interest on working capital for the third MYT control period summarized as follows:

Table 71 Interest on Working Capital(Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
O&M expenses for 1 month	2.43	2.62	2.82	3.04	3.29
Maintenance Spares @15% of O&M expenses	4.38	4.71	5.08	5.48	5.92
Receivables equivalent to 45 days of annual fixed cost	3.62	3.91	4.22	4.56	4.94
Total Working capital requirement	10.44	11.23	12.12	13.08	14.14
Interest rate applicable	13.60%	13.60%	13.60%	13.60%	13.60%
Interest on working capital	**1.42**	**1.53**	**1.65**	**1.78**	**1.92**

Commissions Analysis

7.76 The Commission has worked out the interest on working capital for the third control period i.e. FY 2021-22 to FY 2025-26 as per clause 15.25 to clause 15.27 of the JSERC Generation Tariff Regulations,2020 as quoted below:

15.25 The working capital for Hydro Generating Stations (including Pumped Storage Hydro Generating Station) and shall comprise the following components:

1. Operation and Maintenance expenses, including security expenses for one month;

2. Maintenance spares @ 15% of Operation & Maintenance Expenses including security expenses;

3. Receivables equivalent to 45 days of annual fixed cost.

15.26 The rate of Interest on Working Capital shall be on normative basis and shall be equal to Bank Rate plus 350 basis points as on September 30 of the financial year in which the MYT Petition is filed or as on April 01, of the year *during the Control Period from FY 2021-22 to FY 2025-26 in which the generating station or a Unit thereof, is declared under commercial operation, whichever is later: Provided that the rate of interest on working capital shall be trued up on the basis of Bank Rate plus 350 basis points as applicable on April 01, of the respective financial year at the time of true up.*

15.27 The interest on working capital shall be payable on normative basis notwithstanding that the Generating Company has not taken working capital loan from any outside agency.

7.77 The Commission has observed that the Petitioner has erred in computing the rate of interest of working capital which should have been Bank rate plus 350 basis points (i.e. 1 Year MCLR +350 basis points). The Commission has considered the rate of interest of working capital as per relevant provisions of the JSERC Generation Tariff Regulations 2020 and has considered it as 10.50% accordingly.

7.78 The Commission wrt the provisions mentioned in the regulations as mentioned above, has computed the interest on working capital for FY 2021-22 to FY 2025-26, as given in the table below.

Table 72 Interest on Working Capital(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
O&M expenses for 1 month	1.57	1.72	1.88	2.07	2.27
Maintenance Spares @15% of O&M expenses	2.83	3.10	3.39	3.72	4.08
Receivables equivalent to 45 days of annual fixed cost	2.25	2.47	2.71	3.00	3.31
Total Working capital requirement	6.66	7.29	7.99	8.78	9.66
Interest rate applicable	10.50%	10.50%	10.50%	10.50%	10.50%
Interest on working capital	**0.70**	**0.77**	**0.84**	**0.92**	**1.01**

Non-Tariff Income
Petitioner's Submission

7.79 The Petitioner has projected the non-tariff income (NTI) based on the average NTI figure of the last three years as per the audited annual accounts which comes out to be Rs 5.38 Cr. The Non-Tariff Income, as projected by the Petitioner for FY 2021-22 to FY 2025-26, is given in the table below:

Table 73 Non-Tariff Income(Rs.Cr) as projected by the Petitioner for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Non-Tariff Income	1.58	1.72	1.89	2.07	2.27

Commissions Analysis

7.80 The Commission has acknowledged the submission made by the Petitioner and upon verification of the same has approved the non-tariff Income for the third control period i.e. FY 2021-22 to FY 2025-26 as given in the table below:

Table 74 Non-Tariff Income(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY22	FY23	FY24	FY25	FY26
Non-Tariff Income	1.58	1.72	1.89	2.07	2.27

Summary of Fixed cost approved by the Commission for FY 2021-22 to FY 2025-26

7.81 The Commission has referred to clause 15.3 of the Generation Tariff Regulations,2020 for determination of Annual fixed cost as quoted below:

15.3 Capacity Charges: *The Capacity Charges shall be derived on the basis of annual fixed cost. The Annual Fixed Cost (AFC) of a generating station shall consist of the following components:*

1. Return on Equity;
2. Interest on Loan Capital;
3. Depreciation;
4. Interest on Working Capital;
5. Operation & Maintenance Expenses, and
6. Less: Non-Tariff Income, and
7. Less: Income from Other Business as specified under Clause15.50& Clause

15.51:

7.82 The Commission with reference to the above provisions of the JSERC Generation Tariff Regulations,2020 approves the annual fixed cost for the third control period i.e. FY 2021-22 to FY 2025-26 as given in the table below:

Table 75 Annual Fixed Cost(Rs.Cr) as approved by the Commission for FY 2021-22 to FY 2025-26

Particulars	FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25		FY 2025-26	
	Petition	Approved	Petition	Approved	Petition	Approved	Petition	Approved	Petition	Approved
Employee Expense (excluding Terminal Liability)	14.74	14.73	16.43	16.41	18.32	18.29	20.42	20.37	22.77	22.70
A&G Exp	12.42	1.95	12.93	2.03	13.48	2.11	14.04	2.20	14.63	2.29
R&M Exp	2.04	2.22	2.04	2.22	2.04	2.22	2.04	2.22	2.04	2.22
Other Exp(Water Charges)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O&M Expense	29.20	18.90	31.40	20.66	33.84	22.62	36.50	24.79	39.44	27.21
Depreciation	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Interest on loans	2.05	1.93	2.04	1.92	2.03	1.91	2.01	1.90	2.00	1.88
Return on Equity	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Interest on working capital	1.42	0.70	1.53	0.77	1.65	0.84	1.78	0.92	1.92	1.01
Total Fixed Cost	34.76	23.62	37.06	25.44	39.61	27.46	42.38	29.70	45.45	32.20
Non-Tariff Income	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38	5.38
Annual Fixed Charge	**29.38**	**18.24**	**31.68**	**20.06**	**34.23**	**22.08**	**37.00**	**24.32**	**40.07**	**26.82**

7.83 The Commission hereby directs the Petitioner to recover the capacity and energy charges for the respective years of the 3rd control period as per the methodology adopted in section A19 of the JSERC Generation Tariff Regulations 2020.

Chapter 8: STATUS OF EARLIER DIRECTIVES

8.1 The Commission has time and again issued various directives in order to improve the functioning of the Petitioner. The compliance submitted by the Petitioner to the Commission earlier directions is tabulated below:

Table 76 Status of earlier directives issued by the Commission

S.No	Directives	Compliance Status
1	**Filling of True up Petition for True-up for FY 2016-17 and 2017-18**: The Commission directs the Petitioner to submit petition for truing up of FY 2016-17 and FY 2017-18. The Petitioner should adhere to the timelines as provided in the JSERC Generation tariff Regulations 2015.	The Petitioner would like to appraise the Hon'ble Commission that the annual audited accounts o FY 2016-17 to FY 2021-22 is prepared. However, the Petitioner in the present petition is filing for True-up for FY 2016-17 to FY 2020-21. The Petitioner humbly submits to the Hon'ble Commission that the Petitioner will file True-up petition for FY 2021 22 subsequently post approval of MYT tariff or FY 2021-22 to FY 2025-26 by the Hon'ble Commission.
2	**Data adequacy in next Tariff petition:** The Commission directs the Petitioner to note the data deficiencies highlighted throughout the present petition and submit required details and certificates along with the next petition.	The Petitioner would like to appraise the Hon'ble Commission that the Petitioner has provided valid documents to substantiate its claim in the present petition. Additionally, the Petitioner would like to mention that in case of any further deficiencies the Petitioner will cooperate and will ty to provide necessary documents as an when required by the Hon'ble Commission to validate its submissions.
3	**Detailed Project Report (DPR)** The Petitioner has not submitted DPR of schemes that has been proposed along with the Petition. The Petitioner is required to submit detailed DPR along with the next Petition. In the DPRs the Petitioner has to submit details about the project along with costs and the impact of such schemes. The analysis and costs should be supported by rate reasonability and should have approval of the competent authority of JUUNL. The Petitioner should provide supporting documents in the	The Petitioner would like to appraise the Hon'ble Commission that the Detailed Project Reports (DPR) are under preparation and shall be submitted to the Hon'ble Commission as soon as possible. • The Petitioner humbly prays to the Hon'ble Commission to consider the delay in its submission of the Detailed Project Reports (DPR).

	form of ordered rates, order for work carried out previously, quotations etc. The Petitioner is directed to ensure compliance.	
4	**New addition/ increase in scope of work during execution of approved schemes** The Petitioner is hereby directed that during execution of work pertaining to any preapproved schemes, any increase in scope of work, procurement, services etc. should be brought to the notice of the Commission immediately.	The Petitioner would like to appraise the Hon'ble Commission that there are now new additional schemes or increase in scope of work of approved schemes. • Additionally, the Petitioner would like to humbly submit to the Hon'ble Commission that the Petitioner will take prior approval from the Hon'ble Commission for any new additional schemes or increase in scope of work of approved schemes.
5	**Asset register and depreciation of individual assets** : The Petitioner is hereby directed to submit Fixed asset register along with the next petition. Also, while calculating depreciation, the Petitioner should submit asset wise depreciation schedule for each units of the plant considering the rates given in the Regulations.	The Petitioner would like to appraise the Hon'ble Commission that the Petitioner had appointed an external Consultant for Maintenance of Fixed Asset register. The appointment letter has been submitted as (Annexure-D) to the Hon'ble Commission. • Also, the Petitioner has submitted the Fixed Asset register as (Annexure-E) to the Hon'ble Commission.
6	**De-silting of the plant**: The Commission has noticed from the Petitioner's submission that the plant faces issues due to silting. The Commission hereby directs the Petitioner to undertake measures to de-silt the plant so that its operation may be enhanced, and the plant availability improves.	The Petitioner would like to appraise the Hon'ble Commission that the Petitioner has conducted several discussions and meetings with Energy Department GoJ, Water Department GoJ, Department of Drinking Water & Sanitation GoJ regarding water availability from Getalsud reservoir for power generation. (Annexure-F) • Additionally, the Petitioner would like to appraise the Hon'ble Commission that a meeting was held by MD JUUNL on De-Silting of the Plant. (Annexure-G). The process and work related to De Silting of the Plant is under process and documents related to the same will be provided to the Hon'ble Commission as soon as possible.
7	**Report on non-schedule of the plant**: The Commission has observed that on certain occasions, the plant was capable of generating power but was not scheduled by SLDC. The	The Petitioner would like to appraise the Hon'ble Commission that monthly power generation report highlighting plant availability and water level is shared with SLDC Ranchi, and JBVNL. A copy of monthly generation report is attached as (Annexure-H) for the reference of Hon'ble Commission.

	Commission hereby directs the Petitioner to submit a report on the issue by giving instances when such a schedule was denied. The Petitioner should take pro-active steps within its control to maintain a higher availability of the plant.	

Chapter 9: DIRECTIVES

Timeliness and Data Adequacy in the Next Tariff Petition

9.1 The Commission directs the licensee to file the next tariff petition, after removing deficiencies highlighted in this Tariff Order. The Petitioner should ensure that the data submitted to the Commission is accurate and justified with proper certification. The Commission also directs the licensee to ensure submission of the next tariff petition within the time frame as stipulated in Section A 39 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

Residual Life Assessment of the Plant

9.2 Considering the fact that the plant has already exhausted its useful life therefore the Commission directs the petitioner to conduct RLA for both the units of the plant at the earliest.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on February 26th,2024.

Date: 26.02.2024

Place: Ranchi

Sd/	Sd/	Sd/
Atul Kumar	**Mahendra Prasad**	**Justice Amitav Kumar Gupta**
MEMBER (Technical)	**MEMBER (Legal)**	**CHAIRPERSON**

Chapter 10: ANNEXURE

10.1 List of members of public who participated in the Public Hearing and submitted their Suggestions/Comments

Sr. No.	Name	Address/Organization
1	Rakesh Pandey	JUUNL
2	Santosh Kumar	JUUNL
3	Sanjay Kumar Singh	SRHP,Sikidiri,JUUNL
4	Bijoy Kumar Ghosh	JBVNL
5	Ravishankar Kumar	JBVNL
6	Tanudeep Mallick	Consultant,Deloitte
7	Shouvik Mukherjee	Consultant,Deloitte
8	Rishi Chatterjee	Consultant,Deloitte
9	K.R. Sinha	JUUNL
10	Jayant Pal	JUUNL
11	Radhakrishna Tripathy	Consultant,JBVNL
12	Anita Prasad	JBVNL
13	Manoj M Murmu	JUUNL
14	Praveen Kujur	JUUNL
15	Ujjwala Kalyani Guria	JBVNL
16	Vinay Angira	JUUNL
17	Birendra Kisku	JBVNL
18	Shanta Kumar Saurabh	SRHP,Sikidiri,JUUNL
19	Krishnadeo Narayan	JUUNL
20	Atul Kumar Upadhyay	SRHP,Sikidiri,JUUNL
21	Pradeep Kumar Sharma	JUUNL

10.2 Calculation of Capacity Charges (Rs. Cr) of SRHP for FY 2016-17 to FY 2020-21

Table 77 Capacity Charges(Rs.Cr) of SRHP for FY 2016-17

FY 2016-17						
Month	PAFM	NAPAF	NDM	NDY	50% of AFC	CC
Apr	30%	75%	30	365	8.971	0.295
May	0%	75%	31	365	8.971	0.000
June	0%	75%	30	365	8.971	0.000
July	50%	75%	31	365	8.971	0.508
August	46.78%	75%	31	365	8.971	0.475
September	50%	75%	30	365	8.971	0.492
October	35.49%	75%	31	365	8.971	0.360
November	0%	75%	30	365	8.971	0.000
December	0%	75%	31	365	8.971	0.000
January	0%	75%	31	365	8.971	0.000
February	0%	75%	28	365	8.971	0.000
March	0%	75%	31	365	8.971	0.000
Capacity Charges(Rs.Cr)						**2.130**

Table 78 Capacity Charges(Rs.Cr) of SRHP for FY 2017-18

FY 2017-18						
Month	PAFM	NAPAF	NDM	NDY	50% of AFC	CC
Apr	15%	75%	30	365	13.396	0.220
May	50%	75%	31	365	13.396	0.759
June	30%	75%	30	365	13.396	0.440
July	72.98%	75%	31	365	13.396	1.107
August	100%	75%	31	365	13.396	1.517
September	97%	75%	30	365	13.396	1.424
October	100%	75%	31	365	13.396	1.517
November	100%	75%	30	365	13.396	1.468
December	100%	75%	31	365	13.396	1.517
January	100%	75%	31	365	13.396	1.517
February	100%	75%	28	365	13.396	1.370
March	99.63	75%	31	365	13.396	1.511
Capacity Charges(Rs.Cr)						**14.368**

Table 79Capacity charges(Rs.Cr) of SRHP for FY 2018-19

FY 2018-19						
Month	PAFM	NAPAF	NDM	NDY	50% of AFC	CC
Apr	100%	75%	30	365	10.812	1.185
May	8.33%	75%	31	365	10.812	0.102
June	6.67%	75%	30	365	10.812	0.079
July	85.49%	75%	31	365	10.812	1.047
August	100%	75%	31	365	10.812	1.224
September	100%	75%	30	365	10.812	1.185
October	100%	75%	31	365	10.812	1.224
November	100%	75%	30	365	10.812	1.185
December	100%	75%	31	365	10.812	1.224

January	100%	75%	31	365	10.812	1.224
February	100%	75%	28	365	10.812	1.106
March	100%	75%	31	365	10.812	1.224
Capacity Charges(Rs.Cr)						**12.010**

Table 80 Capacity Charges(Rs.Cr) of SRHP for FY 2019-20

FY 2019-20						
Month	PAFM	NAPAF	NDM	NDY	50% of AFC	CC
Apr	100%	75%	30	366	8.633	0.944
May	74.19%	75%	31	366	8.633	0.723
Jun	0%	75%	30	366	8.633	0.000
Jul	50%	75%	31	366	8.633	0.487
Aug	50%	75%	31	366	8.633	0.487
Sep	50%	75%	30	366	8.633	0.472
Oct	49.92%	75%	31	366	8.633	0.487
Nov	1.36%	75%	30	366	8.633	0.013
Dec	42.88%	75%	31	366	8.633	0.418
Jan	50%	75%	31	366	8.633	0.487
Feb	50%	75%	29	366	8.633	0.456
Mar	50%	75%	31	366	8.633	0.487
Capacity Charges (Rs.Cr)						**5.462**

Table 81 Capacity Charges(Rs.Cr) of SHRP for FY 2020-21

FY 2020-21						
Month	PAFM	NAPAF	NDM	NDY	50% of AFC	CC
Apr	50%	75%	30	365	8.695	0.476
May	50%	75%	31	365	8.695	0.492
Jun	50%	75%	30	365	8.695	0.476
Jul	46.19%	75%	31	365	8.695	0.455
Aug	48.78%	75%	31	365	8.695	0.480
Sep	48.06%	75%	30	365	8.695	0.458
Oct	50%	75%	31	365	8.695	0.492
Nov	50%	75%	30	365	8.695	0.476
Dec	50%	75%	31	365	8.695	0.492
Jan	50%	75%	31	365	8.695	0.492
Feb	50%	75%	28	365	8.695	0.445
Mar	50%	75%	31	365	8.695	0.492
Capacity Charges (Rs. Cr)						**5.729**

Where,

AFC - Annual Fixed Cost approved 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.