Jharkhand State Electricity Regulatory Commission

Order on

True-up for FY 2018-19

and

Annual Performance Review for FY 2019-20

for

Tata Power Company Limited (TPCL)

Ranchi

September 09, 2020

CONTENTS

List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal for Electricity
COD	Date of Commercial Operation
Cr.	Crore
ECR	Energy Charge Rate
FY	Financial Year
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoI	Government of India
HO & SS	Head Office and Shared Services
JSERC	Jharkhand State Electricity Regulatory Commission
KCal	Kilocalorie
Kg	Kilogram
kWh	Kilowatt-hour
LDC	Load Dispatch Centre
LPPF	Landed Price of primary fuel
MAT	Minimum Alternative Tax
MCL	MCL Mahanadi Coalfields Ltd. (IB Valley Coalfields)
ml	Millilitre
MT	Million Tonnes
MU	Million Units
MW	Megawatt
NAPAF	Normative Annual Plant Availability Factor
O&M	Operation and Maintenance
PAF	Plant Availability Factor
PLF	Plant Load Factor
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
SLM	Straight Line Method
TPCL	Tata Power Company Limited
TSL	Tata Steel Limited
UoM	Unit of Measurement
WB	West Bokaro

List of Tables

BEFORE

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 09 of 2019

In the matter of:

Petition for

True-up for FY 2018-19

and

Annual Performance Review for FY 2019-20

In the matter:

Tata Power Corporation Limited (TPCL)
Jojobera Power Plant, PO Rahargora, Jamshedpur- 831016……………. **Petitioner**

PRESENT

Mr. R.N. Singh	Member (Engg.)
Mr. P.K. Singh	Member (Legal)

Order dated September 09, 2020

Tata Power Company Limited (hereinafter referred to as TPCL or the Petitioner) has filed Petition dated December 26, 2019 for Truing up for FY 2018-19 and Annual Performance Review for FY 2019-20 for Unit-II and Unit-III at Jojobera.

A 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 has 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 came into force, the earlier Electricity Regulatory Commission Act of 1998 stands repealed and the functions of State Electricity Regulatory Commission 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:
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;
(b) 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;

(c) facilitate intra-state transmission and wheeling of electricity;

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

(e) 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;

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

(g) levy fee for the purposes of this Act;

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

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

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

(k) 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) reorganisation 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 shall ensure transparency while exercising its powers and discharging its functions.

1.7 In discharge of its functions, the State Commission is also guided by the National Tariff Policy, 2016 as brought out by Government of India in compliance to Section 3 of the Act. The objectives of the National 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;
(e) Promote generation of electricity from Renewable sources;
(f) Promote Hydroelectric Power generation including Pumped Storage Projects (PSP) to provide adequate peaking reserves, reliable grid operation and integration of variable renewable energy sources;
(g) Evolve a dynamic and robust electricity infrastructure for better consumer services;
(h) Facilitate supply of adequate and uninterrupted power to all categories of consumers;
(i) Ensure creation of adequate capacity including reserves in generation, transmission and distribution in advance, for reliability of supply of electricity to consumers.

Tata Power Company Limited (TPCL)

1.8 Tata Power Company Limited (hereinafter referred to as TPCL or the Petitioner), is a company incorporated under the Indian Companies Act, (VII of 1913) with its Registered Office at Bombay House, 24,HomiMody Street, Fort, Mumbai - 400001 and is engaged in the business of Electricity Generation, Transmission and Distribution.

1.9 Tata Steel Limited (TSL), which is engaged in the production of iron and steel and is also a distribution licensee in Jamshedpur (Jharkhand), obtained permission from the Government of Bihar to establish power plants in Jojobera in 1991 through its subsidiary company named Jamshedpur Power Company Limited (JAPCOL) which was subsequently transferred to Tata Power Company Limited (TPCL). TPCL thereafter commissioned five Units out of which two Units (Unit-II & Unit-III) of 120 MW each at Jojobera is dedicated to supply power to TSL.

1.10 TPCL operates five units at Jojobera, Jharkhand with cumulative capacity of 547.5 MW out of which two units (Unit-II & Unit-III) are the subject matter of tariff determination in this Tariff Order. Both the units have an installed capacity of 120 MW each. Unit-II commenced its operations on February 01, 2001 and Unit-III on February 01, 2002.

The Petitioner's Prayers

1.11 The Petitioner in this Petition made following prayers before the Commission:

- Accept the Petition;

- Approve the Trued-up Operational, Fuel and Financial Parameters, Additional Capitalization, Annual Revenue Requirement and Generation Tariff for Unit-II and Unit-III of Jojobera proposed through Truing-up for FY 2018-19;
- Approve the proposed Operational, Fuel and Financial Parameters, Additional Capitalization, Annual Revenue Requirement and Generation Tariff for Unit-II and Unit-III of Jojobera for APR FY 2019-20;
- Provide an opportunity to the Petitioner to present its case prior to the finalization of the Tariff Order. Tata Power believes that such an approach would provide a fair treatment to all the stakeholders and may eliminate the need for a review or clarification;
- Permit the Petitioner to propose suitable changes to the Petition and the mechanism of meeting the revenue on further analysis, prior to the final approval by the Hon'ble Commission;
- Condone any inadvertent omissions/errors/rounding-off differences/shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required at a future date;
- Pass such further and other Orders, as the Hon'ble Commission may deem fit and proper, keeping in view the facts and circumstances of the case.

Scope of the Present Order

1.12 The Commission in this Order has approved the True-up for FY 2018-19 and Annual Performance Review for FY 2019-20 of both the Units (Unit-II & Unit-III) of Jojobera generating station.

1.13 While approving this Order, the Commission has taken into consideration:

a) Material placed on record by the Petitioner;
b) Provisions of the Electricity Act, 2003;
c) Principles laid down in the National Electricity Policy;
d) Principles laid down in the National Tariff Policy;
e) Provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 (hereinafter referred to as JSERC Generation Tariff Regulations, 2015 or the Tariff Regulations).

1.14 Accordingly, the Commission had scrutinized the Petition in detail and hereby issue the Order on Truing-up for FY 2018-19 and Annual Performance Review for FY 2019-20 of Unit-II and Unit-III of Jojobera generating station of TPCL.

A 2: PROCEDURAL HISTORY

Background

2.1 The Commission vide MYT Order dated February 19, 2018 approved the Business Plan and determined the Annual Revenue Requirement for the MYT Control Period from FY 2016-17 to FY 2020-21 including Truing-up for FY 2015-16.

2.2 Later, the Petitioner had filed a review petition against the MYT Order dated February 19, 2018 which was disposed of by the Commission by Order dated January 9, 2019.

2.3 The True-up for FY 2016-17 was carried out by the Commission vide its Order dated December 27, 2019.

2.4 The Commission had approved the True-up for FY 2017-18, Annual Performance Review for FY 2018-19 and Mid-Term review for Revised Annual Revenue Requirement and Generation Tariff for FY 2019-20 & FY 2020-21 vide Order dated February 14, 2020.

2.5 The Petitioner has filed the current Petition before the Commission for approval for True-up for FY 2018-19 and Annual Performance Review for FY 2019-20.

Information Gaps in the Petitions

2.6 As part of the Tariff determination exercise, several deficiencies/information gaps were observed in the Petition submitted by the Petitioner. It was communicated to the Petitioner vide letter no. JSERC/Case (Tariff) No. 09 of 2019/418 dated February 10, 2020.

2.7 The Petitioner has submitted its response to the aforesaid letter and furnished additional data/information to the Commission vide letter no. JPP/REG/JSERC/038/20 dated March 17, 2020, affidavit dated August 14, 2020 and email dated August 18, 2020.

2.8 The Commission has scrutinized the additional data/information and considered the same while passing this Order. The Commission had examined the replies and supporting documents as supplied by the Petitioner on the discrepancies pointed out to it.

Inviting Public Comments/Suggestions

2.9 The Commission had directed the Petitioner to make available copies of the Petition to the members of the general public on request, and also issue a public notice inviting comments/suggestions on the Petition for approval of True-up for FY 2018-19 and Annual Performance Review for FY 2019-20.

2.10 The aforesaid public notice was issued by the Petitioner in various newspapers and a period of twenty-one (21) days was given to the members of the general public for submitting their comments/suggestions.

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

Newspaper	Date of Publication
Hindustan Times (English)	10th & 11th May 2020
Business Standard (English)	10th & 11th May 2020
Prabhat Khabar (Hindi)	10th & 11th May 2020
Dainik Bhaskar (Hindi)	10th & 11th May 2020

2.11 Further, taking a considerate view of the pandemic situation due to COVID-19, the Commission had issued a notice on its website www.jserc.org and various newspapers giving additional time of 10 days till July 28, 2020 to various Stakeholders to submit their comments/suggestions. Further, the Commission had also organized a Public Hearing through video conference on August 07, 2020, where an additional opportunity to all the Stakeholders was provided to submit their comments/suggestions on the above said petition. The details of newspapers publishing the notice by the Commission are as under:

Table 2: List of newspapers and dates of publication of public notice by the Commission

Newspaper	Date of Publication
Hindustan (Hindi)	18.07.2020
Prabhat Khabar (Hindi)	18.07.2020
The Times of India (English)	18.07.2020
The Hindustan Times (English)	18.07.2020

Submission of Comments/Suggestions and Conduct of Public Hearing

2.12 Objections/Comments/Suggestions on the Petition were received. The Objections/ Comments/Suggestions of the Public, Petitioner's responses and Commission's views thereon are detailed in **Section A4** of this Order.

A 3: BRIEF FACTS OF THE PETITION

Truing up for FY 2018-19

Annual Revenue Requirement for FY 2018-19

3.1 The summary of Aggregate Revenue Requirement for FY 2018-19 as submitted by the Petitioner vis-à-vis as approved by the Commission in MYT Order dated February 19, 2018 is provided in the table below.

Table 3: ARR for FY 2018-19 as submitted by the Petitioner (Rs. Crore)

Particulars	UoM	Unit-II		Unit-III	
		MYT Order	Petition	MYT Order	Petition
Depreciation	Rs. Cr.	8.18	6.72	9.71	7.88
Interest on Loan	Rs. Cr.	4.89	4.07	4.58	3.43
O&M Expenses	Rs. Cr.	54.52	51.24	48.21	44.17
Return on Equity (Pre-Tax)	Rs. Cr.	29.89	29.32	28.97	28.09
Interest on Working Capital	Rs. Cr.	13.12	14.41	12.79	14.21
Annual Fixed Charges	**Rs. Cr.**	**110.61**	**105.76**	**104.25**	**97.78**
Energy Charge Rate	**Rs/kWh**	**2.578**	**3.230**	**2.587**	**3.292**
Energy Charges	**Rs. Cr.**	**193.77**	**225.51**	**208.00**	**231.38**
Tax on Efficiency Gain	Rs. Cr.	-	2.09	-	2.06
ARR including Tax on Efficiency Gains	Rs. Cr.	**304.39**	**333.36**	**312.26**	**331.23**
Revenue	Rs. Cr.	-	330.85	-	330.82
Revenue recovered through arrear billing	Rs. Cr.	-	0.22	-	-
Gap/(Surplus)	**Rs. Cr.**	**-**	**2.29**	**-**	**0.41**
Gap/(Surplus) including Carrying Cost	**Rs. Cr.**	**-**	**2.70**	**-**	**0.53**

3.2 The Petitioner had computed the gap of Rs. 2.29 Crore and Rs. 0.41 Crore for Unit-II and Unit-III respectively. The Petitioner further requested the Commission to factor in the effective number of months, considering the date of disposal of this petition while approving the Carrying Cost on revenue gap for FY 2018-19 and thereon the monthly interest applicable on the outstanding balance to be recovered in six equal monthly instalments.

Annual Performance Review for FY 2019-20

Annual Revenue Requirement for FY 2019-20

3.3 The Petitioner had projected the Annual Revenue Requirement for FY 2019-20 based on the actual figures till November, 2019 and estimated for the remaining months of FY 2019-20 as tabulated below.

Table 4: ARR for FY 2019-20 as submitted by the Petitioner (Rs. Crore)

Particulars	UoM	Unit-II		Unit-III	
		MYT Order	Petition	MYT Order	Petition
Depreciation	Rs. Cr.	8.94	7.16	10.40	7.98
Interest on Loan	Rs. Cr.	5.00	4.22	4.64	3.24
O&M Expenses	Rs. Cr.	59.17	54.03	50.74	46.59
Return on Equity (Pre-Tax)	Rs. Cr.	30.41	28.26	29.42	26.80
Interest on Working Capital	Rs. Cr.	13.44	15.11	12.97	14.69
Annual Fixed Charges	**Rs. Cr.**	**116.95**	**108.77**	**108.18**	**99.29**
Energy Charge Rate	**Rs/kWh**	**2.578**	**3.258**	**2.587**	**3.271**
Energy Charges	**Rs. Cr.**	**206.63**	**237.27**	**193.77**	**243.69**
Tax on Efficiency Gain	Rs. Cr.	-	0.73	-	0.96
ARR including Tax on Efficiency Gains	Rs. Cr.	**323.59**	**346.78**	**301.95**	**343.95**

3.4 The Petitioner had projected the Annual Revenue Requirement for FY 2019-20 as Rs. 346.78 Crore against the approved value of Rs. 323.59 Crore for Unit-II and Rs. 343.95 Crore against the approved value of Rs. 301.95 Crore for Unit-III.

A 4: PUBLIC CONSULTATION PROCESS

4.1 The Petition filed by the Petitioner evoked responses from several Stakeholders. The Public Hearing was held through video conferencing on August 07, 2020 to ensure maximum public participation and transparency wherein Stakeholders put forth their comments and suggestions before the Commission. The list of the attendees is attached as **Annexure-1** to this Order.

4.2 The comments and suggestions of the members of the public along with the response thereon of the Petitioner and the views of the Commission are detailed hereunder.

Additional Capitalization

Public Comments/Suggestions

4.3 The Long term Beneficiary (TSL) stated that the prudence check needs to be carried out while approving any capitalization during the financial year. The Stakeholder further added that, after preliminary study it seems that Battery should form part of R&M Expenses instead of additional capitalization during the financial year.

Petitioner's response

4.4 The Petitioner submitted that the Battery Chargers/Battery Banks which are forming part of the back-up control system are integral part of thermal power plant and their availability and optimal performance is essential for continuous operation of the plant.

4.5 Battery Charger/Bank has its own life, which is less when compared to the Useful life of thermal generating plant. Accordingly, based on various criteria like performance level of the equipment, life of the equipment or obsolescence of the equipment, the Petitioner decides for refurbishment/up-gradation/replacement of any asset. Therefore, subsequent expenditure related to fixed assets which improves performance to original level or helps in reducing deterioration of the future benefits from the existing asset which are expected to be used for more than one accounting period/12 months, becomes integral part of the existing asset is recognized as a capital expenditure and is added to the Gross Fixed Assets as per Indian Accounting Standard (Ind-As) as applicable from 2016 onwards. On the other hand, R&M Expenses are recognized as the costs incurred for day-to-day servicing and are primarily the costs of labour, consumables and may include the cost of small parts.

4.6 The Petitioner further submitted that replacement of small parts or expenditure which are incurred at frequent intervals for the upkeep of the plant has been always immediately charged to the Profit and Loss account as R&M expenditure. But here, TPCL is replacing/upgrading/refurbishing battery banks after 16-17 years of operation. This replacement/upgradation/refurbishment has been with an upgraded version and is expected to last for similar number of years, i.e. for more than one accounting period of 12 months/one year. Moreover, the capital expenditure undergoes rigorous statutory audit process for capitalization of the expenditure as Fixed Asset.

4.7 In addition, the Commission after prudence check allowed the Capex Scheme for replacement of Battery Bank and accordingly same is now being claimed as an additional capital expenditure in FY 2018-19 and partly in FY 2019-20 after incurring such approved expenditure. On the other hand, regular expenditure towards cleaning of battery banks, expenditure towards consumables like petroleum jelly for cleaning of battery terminals, measurement of specific gravity etc. are being incurred and are booked under R&M expenditure. The Petitioner further pointed out that Battery is recognized as assets in the depreciation Schedule of the JSERC Generation Tariff Regulations, 2010 & 2015. In view of foregoing, the Petitioner prayed to keep aside the contention of TSL and approve the proposed additional capitalization as submitted before the Commission.

Commission's views

4.8 The Commission has considered the objection raised and the response submitted by the Petitioner and has dealt with the same in the subsequent section of this Order while approving the additional capitalization.

Smaller Unit Size & Operational Efficiency

Public Comments/Suggestions

4.9 TSL, long term beneficiary apprised that smaller sized Units were developed in a phase manner, seeing the scenario at that time which was the optimal solution keeping in mind the power demand of the city then and subsequent increase in demand in ensuing years. Although, per unit cost of generation of lower capacity Units seems slightly higher than bigger Units, it needs to be kept in mind that huge capital is required for higher capacity plant which at that time would have been difficult to arrange and even if arranged, most part of the high capacity built would have remained idle for a long time. Further, there were space and logistics constraints for higher capacity Units in the populated city of Jamshedpur. Hence, comparing the tariff of smaller Units of 120 MW with higher size Units now will not be correct since benefit of lower capitalization by investing in the smaller size Units have already been passed on to the consumers.

Petitioner's response

4.10 The Petitioner is in agreement with the views of TSL and submitted that benefit of lower capitalisation by investing in smaller sized Units have already been passed on to the end consumers. Moreover, Tata Power by following the prudent practices has been able to maintain these Units efficiently with operational parameters better than norms and ECR better than similar sized other Units of the country, as was presented in the presentation, and is providing reliable/uninterrupted supply to end consumers of the city. Furthermore, Tata Power is taking all due steps like getting allocation under SHAKTI Coal, which is not only cheaper coal but also Tata Power is giving discounts to improve upon the Regulated Unit Tariffs which will further benefit end consumers.

Commission's views

4.11 The Commission has considered the objection raised and the response submitted by the Petitioner. The Commission observes that the energy charges for the plant have been increasing drastically in the recent years even after performance parameters being within the norms. The Commission in the past have been directing the Petitioner to optimise its cost of primary fuel by optimising the fuel mix. The Petitioner has been allocated coal under SHAKTI scheme which should result in lower energy charges however, in the interest of consumers the Petitioner should continue its efforts for further reduction in the energy charges so that the disparity in the cost of energy available in the market vis-a-vis its own cost of generation can be reduced.

A 5: TRUE-UP FOR FY 2018-19

5.1 The Petitioner submitted the True-up petition for FY 2018-19 based on the audited account taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in its earlier Tariff Orders.

5.2 The Commission has already carried out the Annual Performance Review of FY 2018-19 vide its Mid Term Review (MTR) Order dated February 14, 2020 wherein on the basis of provisional data for FY 2018-19 the impact on account of cost approved in APR vis-a-vis cost approved in MYT Order has already been passed on to the beneficiary. Therefore, for the purpose of truing up, the gap/surplus amount has been computed by comparing the costs as approved in the APR Order vis-a-vis trued up now.

5.3 The Commission has now carried out the True-up for FY 2018-19 taking into consideration the following:

- Audited account for the FY 2018-19;
- JSERC Generation Tariff Regulations, 2015;
- Methodology adopted by the Commission in its earlier Tariff Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

5.4 The Petitioner has submitted the month wise actual plant availability truly certified by Tata Steel Load Dispatch Centre (LDC). The Petitioner had claimed the average annual plant availability of Unit-II as 93.17% and that of Unit-III as 93.58% respectively.

Commission's Analysis

5.5 The Commission in the MYT Order dated February 19, 2018 as well as MTR Order dated February 14, 2020 had approved the Normative Annual Plant Availability Factor (NAPAF) as 85% for the control period in line with Clause 8.4 of JSERC Generation Tariff Regulation, 2015.

5.6 The Commission observed that the detail of availability submitted by the Petitioner is declared by "LDC, Tata Steel" and directed the Petitioner to submit the auditor certificate certifying the operational parameters for Unit-II and Unit-III for FY 2018-19. In addition, the Petitioner was also directed to provide the reason for not submitting the true copy certified by State LDC.

5.7 In reply to Commission's query dated February 10, 2020, the Petitioner submitted that the statutory auditor certifies only financial data. For operational data, the Petitioner had provided the PAF Certificates of each month duly approved by Tata Steel, LDC. In addition to above, the Petitioner also submitted the monthly generation report on auxiliary consumption and generation for both the Units at Jojobera Power Plant duly signed by the representatives of Tata Steel, a long-term beneficiary and the Petitioner.

5.8 The Petitioner further submitted that as per Power Purchase Agreement (PPA) between the Petitioner and Tata Steel Limited (Long Term Beneficiary), Tata Steel Load Dispatch Centre, mean the Power Management Centre of the Tata Steel Limited shall be authorized to Monitor and certify the availability factor of Jojobera power plant Units.

5.9 Further, the Petitioner submitted the detail of planned and unplanned shutdown of Unit-II and Unit-III for FY 2018-19 in compliance to the Commission's query vide its letter dated February 10, 2020.

5.10 The Commission noted the reply submitted by the Petitioner and scrutinized the month wise actual plant availability truly certified by Tata Steel LDC, and finds plant availability claimed by the Petitioner is different from that certified by Tata Steel LDC. The Commission approves the actual plant availability for FY 2018-19 as 90.51% and 91.14% for Unit-II and Unit-III respectively as certified by Tata Steel LDC.

5.11 The actual Plant Availability as approved by the Commission in the Mid Term Review Order dated February 14, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2018-19 is summarised below.

Table 5: Plant availability as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
NAPAF	%	85.00	85.00	85.00
Actual Plant Availability	%	93.17	93.17	90.51
Unit-III				
NAPAF	%	85.00	85.00	85.00
Actual Plant Availability	%	93.58	93.58	91.14

Auxiliary Consumption

Petitioner's Submission

5.12 The Petitioner has submitted the actual Auxiliary Consumption of Unit-II and Unit-III for FY 2018-19 as 9.11% and 9.27% respectively as compared to Normative Auxiliary Power Consumption of 10.00% for each Unit as approved by the Commission in the MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020. However, for truing up exercise, the Petitioner has claimed the normative value of auxiliary consumption as 10.00% for both the Units.

Commission's Analysis

5.13 The Commission has scrutinized the Petitioner submission and approves the actual auxiliary consumption as submitted by the Petitioner for FY 2018-19.

5.14 Further, according to the Provision of Clause 6.11 and Clause 6.12 of JSERC Generation Tariff Regulations, 2015, auxiliary consumption is a controllable factor and any financial loss or gain on account of underperformance or over-performance is neither passed on nor recoverable through tariff. Hence, for computation of Energy Charge Rate (ECR), the Commission has considered the normative auxiliary consumption of 10.00% for both the Units as approved in the MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020.

5.15 The Auxiliary Consumption as approved by the Commission in the MTR Order dated February 14, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2018-19 is provided in the table below.

Table 6: Auxiliary Consumption as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Actual Auxiliary Consumption	%	9.11	9.11	9.11
Unit-III				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Actual Auxiliary Consumption	%	9.27	9.27	9.27

Plant Load Factor and Generation

Petitioner's Submission

5.16 The Petitioner had submitted the actual Plant Load Factor (PLF) for Unit-II as 73.08% and 73.68% for Unit-III which is less than the PLF of 79.46% for Unit-II and 85.00% for Unit-III respectively as approved by the Commission in the MYT Order dated February 19, 2018.

5.17 The Petitioner further submitted that the actual gross generation for both the Units is lower than that approved in the MYT Order dated February 19, 2018 is due to low demand from the Beneficiary.

5.18 The Petitioner had claimed the actual gross generation of Unit-II and Unit-III of the Jojobera generating station as 768.18 MU and 774.53 MU respectively. Accordingly, the Petitioner submitted net generation (ex-bus generation) for Unit-II and Unit-III as 698.18 MU and 702.77 MU respectively after deducting the auxiliary consumption.

Commission's Analysis

5.19 The Commission observed that there is huge gap between the actual Plant Availability Factor (PAF) and actual Plant Load factor (PLF). The Commission directed the Petitioner to provide Unit wise proper justification with supporting evidence for gap between availability and PLF. The Petitioner was also required to provide whether Unit wise detail of any surplus power generated in addition to what has been supplied to TSL.

5.20 In reply to the Commission's query, the Petitioner submitted that being a generating company, providing reliable and quality power supply is its prime responsibility and the Petitioner had to maintain the PAF of more than 90% on annual basis. With regard to Plant Load Factor, the Petitioner submitted that the decision on generation level of Unit-II & Unit-III is taken by the Load Dispatch Centre for optimum dispatch of electricity based on the authority provided to it by the Commission while approving the Power Purchase Agreement between Tata Steel (a long-term beneficiary) and the Petitioner. The Petitioner further submitted that TSL, a Distribution Licensee is the only Beneficiary and no surplus power is generated in addition to what is supplied to TSL, the only Beneficiary.

5.21 The Commission is of the view that the Petitioner should look into the reasons for sub-optimal utilisation of its assets which could be due to high cost of generation. The Petitioner should take steps towards reduction of the cost of generation so that more power can be scheduled thus increasing its utilisation.

5.22 The Commission had scrutinized the detail submitted by the Petitioner and approves the Gross Generation and Net Generation for FY 2018-19 as shown below.

Table 7: Plant Load Factor and Generation as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Gross Generation	MU	768.20	768.18	768.18
Net Generation	MU	698.20	698.18	698.18
Unit-III				
Gross Generation	MU	774.53	774.53	774.53
Net Generation	MU	702.77	702.77	702.77

Gross Station Heat Rate (GHR)

Petitioner's Submission

5.23 The Petitioner has submitted the actual Gross Station Heat Rate (GHR) as 2538 kCal/kWh for Unit-II and 2542 kCal/kWh for Unit-III against the normative approved value of 2567 kCal/kWh and 2577 kCal/kWh for Unit-II and Unit-III respectively. However, the Petitioner has claimed the normative value of 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III for Truing-up exercise.

Commission's Analysis

5.24 According to Provisions of Clause 6.11 and Clause 6.12 of JSERC Generation Tariff Regulations, 2015, Gross Station Heat Rate (GHR) is a controllable factor and any financial loss or gain on account of underperformance or over-performance is not recoverable through tariff.

5.25 In accordance to the Clause 8.4 of JSERC Generation Tariff Regulation, 2015 and in line with MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020, the Commission approves the GHR as 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III.

Table 8: Gross Station Heat Rate (GHR) as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Normative Station Heat Rate	kCal/kWh	2567.00	2567.00	2567.00
Actual Station Heat Rate	kCal/kWh	2538.11	2538.11	2538.11
Unit-III				
Normative Station Heat Rate	kCal/kWh	2577.00	2577.00	2577.00
Actual Station Heat Rate	kCal/kWh	2542.07	2542.07	2542.07

Specific Fuel Oil Consumption

Petitioner's Submission

5.26 The Petitioner had submitted the specific fuel oil consumption as 1.00 ml/kWh for both the Units as specified in Clause 8.4 of JSERC Generation Tariff Regulations, 2015.

Commission's Analysis

5.27 The Commission in its MYT Order dated February 19, 2018 approved the Specific Fuel Oil Consumption as 0.50 ml/kWh for the Control period from FY 2016-17 to FY 2020-21. The abstract from the MYT Order is reproduced below.

> *"6.137 The JSERC Generation Tariff Regulations, 2015 specifies the following*
>
> > *"16.4 The Commission may in public interest and for reasons to be recorded in writing, relax any of the provision of these Regulations."*
>
> *6.138 Considering all of the above, the Commission has decided to approve the specific oil consumption (of LDO) at 0.5 ml/kWh for each year of the Control Period i.e. from FY 2016-17 to FY 2020-21 for both Unit 2 and Unit 3. This norm may be re-looked based on Petitioner's actual performance during the Control period and as deemed fit by the Commission after due consideration of the actual performance of the Petitioner. In the subsequent APR and True-up Petitions, the Petitioner is directed to also submit details of number of unit-wise start-ups taken after shutdown. Also, details should include monthly quantity of secondary fuel consumed during plant start-up and flame support if required."*

5.28 The Petitioner had filed the review Petition before the Commission against the MYT Order dated February 19, 2018 for revision of targets on specific fuel oil consumption for the 2nd control period. The Commission retain the normative value as approved in the MYT Order dated February 19, 2018 and disposed of the review petition. The relevant abstract is reproduced below.

> *".... the Commission has fixed 0.5 ml/kWh for each year of the control period at this stage. However, as mentioned in the MYT Order itself, the Commission may re-look into the same during APR and True up of the years to be submitted by the Petitioner subject to the petitioner providing the details of start-ups taken after the shut downs and monthly quantity of secondary fuel consumed during plant start-up"*

5.29 Further, the Petitioner had filed the petition before the Hon'ble APTEL against the MYT Order dated February 19, 2018 which is still pending. Since, the matter is sub-judice before the Hon'ble APTEL, the Commission has considered the Specific Fuel Oil Consumption as 0.50 ml/kWh as approved in MYT Order dated February 19, 2018 for both the Units as shown below.

Table 9: Specific Fuel Oil Consumption as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Specific Fuel Oil Consumption (Unit-II)	ml/kWh	0.50	1.00	0.50
Specific Fuel Oil Consumption (Unit-III)	ml/kWh	0.50	1.00	0.50

Fuel Cost Parameters

Coal Mix and Gross Calorific Value (GCV) of Primary Fuel

Petitioner's Submission

5.30 The Petitioner submitted that the coal is primarily sourced from West Bokaro Colliery of Tata Steel (Middling Coal) and Mahanadi Coal Fields, Odisha (MCL Coal). The collieries of West Bokaro is located in Ramgarh district of Jharkhand state which is approximately at a distance of 200 km from plant site by roadways and ~190 km by railway, whereas mines of MCL is situated around 300 km form plant site by railway.

5.31 The Petitioner has further submitted that due to shortfall in supply from the above sources, the Petitioner had arranged coal from other sources as shown below:-

- 2-Product Coal & Tailing coal from Collieries of West Bokaro;
- E-Auction (as and when available);
- Washed Coal from private washeries;
- Imported Coal (in rare cases).

5.32 The Petitioner submitted the summary of total coal received at Jojobera Power Plant station as against the Planned/Agreed Quantum and shortages in FY 2018-19. The Petitioner further detailed the source wise actual coal consumption in Unit-II and Unit-III for FY 2018-19.

5.33 The Petitioner added that to bridge the gap of shortfall in quantity of coal and to meet the requirement of Distribution Licensee, the Petitioner had to deviate from the original plan.

5.34 The Petitioner further submitted that the Annual Weighted Average Gross Calorific Value (GCV) from various sources of coal have been computed as weighted average of monthly GCV of coal (which in turn had been arrived at by computing weighted average of daily GCV of coal from that source with the daily coal consumption as weight) from that source with the monthly consumption as weight. The Petitioner had submitted the month wise and year wise detail of weighted average GCV of all the type of coal as reference.

Commission's Analysis

5.35 The Commission observed that the Petitioner had procured coal from other sources in addition to sources that are approved by the Commission in its MYT Order dated February 19, 2018 owing to different reasons.

5.36 The Commission in the discrepancy note dated February 10, 2020 directed the Petitioner to provide justification for deviation from the approved coal purchase plan as per MYT Order. The Petitioner in its reply dated March 17, 2020 submitted the details of coal consumption along with justification for deviations from the approved procurement plan.

5.37 The Commission has computed the GCV for each type of coal by considering the actual weighted average GCV after scrutinizing the actual monthly GCV submitted by the Petitioner. **The Petitioner is directed to bring to the notice of the Commission for any such changes and shortage in supply of coal on quarterly basis and should ensure the cost effectiveness of such purchase.**

5.38 Considering the facts submitted by the Petitioner and after due diligence, the Commission approves the coal mix and weighted average GCV of coal for Unit-II and Unit-III of Jojobera Generation station as shown below.

Table 10: Coal Mix and GCV for Unit-II as approved by the Commission

Particulars	Coal Mix (%)			GCV (kCal/kg)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Middling Coal	33.22	33.22	33.22	4057.98	4057.98	4057.98
MCL Coal	8.73	8.73	8.73	3243.50	3243.50	3243.50
Washery Coal	22.13	22.13	22.13	3916.66	3916.66	3916.66
2-Product+Tailing (By Rake)	17.72	17.72	17.72	2842.96	2842.96	2842.96
CCL/BCCL Coal (E-Auction)	10.02	10.02	10.02	4083.73	4083.73	4083.73
Tailing (By Road)	2.75	2.75	2.75	4258.26	4258.26	4258.26
WB Reject Coal	2.05	2.05	2.05	2484.65	2484.65	2484.65
Imported Coal	3.37	3.37	3.37	4122.05	4122.05	4122.05
Weighted Average GCV	**-**	**-**	**-**	**3718.22**	**3718.22**	**3718.22**

Table 11: Coal Mix and GCV for Unit-III as approved by the Commission

Particulars	Coal Mix (%)			GCV (kCal/kg)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Middling Coal	34.45	34.45	34.45	4050.39	4050.39	4050.39
MCL Coal	7.84	7.84	7.84	3236.81	3236.81	3236.81
Washery Coal	19.19	19.19	19.19	3948.56	3948.56	3948.56
2-Product+Tailing (By Rake)	19.16	19.16	19.16	2831.59	2831.59	2831.59
CCL/BCCL Coal (E-Auction)	7.89	7.89	7.89	4048.92	4048.92	4048.92
Tailing (By Road)	2.86	2.86	2.86	4259.37	4259.37	4259.37
WB Reject Coal	2.66	2.66	2.66	2465.61	2465.61	2465.61
Imported Coal	5.95	5.95	5.95	4133.86	4133.86	4133.86
Weighted Average GCV	**-**	**-**	**-**	**3702.19**	**3702.19**	**3702.19**

Transit Loss

Petitioner's Submission

5.39 The Petitioner submitted that coal is procured primarily from two sources i.e. Middling Coal from the West Bokaro Collieries of Tata Steel in Jharkhand and MCL Coal procured from the Mahanadi Coalfields in Orissa. In addition to these, the Petitioner had additionally procured two different by-products of coal from West Bokaro Collieries i.e. Two (2) Product and Tailing in order to cater the demand adequately. The Petitioner emphasized that the coal procured from West Bokaro Collieries are by-products of the Coal Beneficiation process and therefore falls under the category of Washed Coal having high moisture content at the time of loading.

5.40 The Petitioner further highlighted that the actual Transit Loss in Middling Coal and 2-Product+Tailing Coal (by Rake) is higher than the normative value and works out to be 3.30% and 5.74% respectively for FY 2018-19 which is mainly on account of reduction in moisture content during transportation by rake and is beyond the control of the Petitioner and therefore considered the transit loss on actual basis for Middling, 2-Product+Tailing (Rake) coal and washed coal. The transit loss for other category of coal had been considered by the Petitioner as per the norms given in Regulation 8.21 of the Generation Tariff Regulations 2015.

5.41 The Petitioner requested the Commission to approve the actual Transit Loss in case of Middling coal and 2-Product+Tailing coal (by Rake) and rest on normative basis for FY 2018-19.

Commission's Analysis

5.42 The Commission observed that the actual transit loss of coal depends on various factors like category of coal, foreign particles content, moisture content, distance from mines etc. Considering all the factors, the Commission stipulated the weighted average normative transit loss of 0.8% for non-pit head plant and 0.2% for pit head plant in the Generation Tariff Regulations, 2015.

5.43 In accordance with the Clause 8.21 of JSERC Generation Tariff Regulation, 2015, the Commission had approved the normative transit loss as 0.80% in the MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020.

5.44 The Petitioner had filed a review petition before the Commission for considering the higher transit loss of washed coal and to allow 1.00% transit loss for washed coal i.e. middling coal for 2nd Control period. The Commission disposed off the review petition vide its Order dated January 09, 2019 allowing normative transit loss of 0.8% for 2nd Control period. The extract is reproduced below.

> *"The Commission has approved the Normative Transit Loss of 0.8% irrespective of the coal type as per Regulation 8.21 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015. Normative transit loss under the Regulation accounts for higher loss for some categories of coal such as middling coal and lower transit loss for other types of coals. The Commission may examine the actual transit loss for the year during APR and True-up and will decide on the quantum of transit loss to be passed on".*

5.45 The Commission further observes that the Petitioner had filed an Appeal in this matter before the Hon'ble APTEL against the MYT Order dated February 19, 2018 which is still pending. Since, the matter is sub-judice before the Hon'ble APTEL, the Commission approves the transit loss as 0.80% for both the Units for domestic coal and 0.20% for imported coal for FY 2018-19.

5.46 In view of the above, the Commission approves the transit loss on normative basis for FY 2018-19 as shown below.

Table 12: Transit Loss as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Middling Coal	%	0.80	3.30	0.80
MCL Coal	%		0.80	
Washery Coal	%		0.80	
2-Product+Tailing (By Rake)	%		5.74	
E-Auction	%		0.80	
Tailing (By Road)	%		0.80	
WB Reject Coal	%		0.80	
Imported Coal	%	0.20	0.20	0.20

Landed Cost of Coal

Petitioner's Submission

5.47 The Petitioner submitted source wise actual landed price of coal from each source. For Middling coal and 2-Product+Tailing coal (by Rake), the landed price was calculated considering the actual transit loss however, normative transit loss has been considered for other categories of coal as per JSERC Generation Tariff Regulations, 2015.

5.48 The Petitioner further submitted that the price and quality of the fuel are uncontrollable in nature for a generating company and requested the Commission to approve the same as proposed by the Petitioner.

Commission's Analysis

5.49 The Commission has scrutinized the total coal consumption, GCV and landed price of primary coal submitted by the Petitioner.

5.50 The Commission for reasons already stated earlier in this Order approves the normative transit loss for the calculation of landed price of coal.

5.51 After scrutinizing the submission made by the Petitioner, the Commission has arrived at the weighted average landed cost of coal by the following methodology:-

- Audited figures of the Base price of coal including sizing charges, applicable tax, transportation charges, handling charges and provisional adjustment/stock adjustment (if any);
- Normative Transit loss as approved by the Commission;
- Actual consumption of various types of coal.

5.52 The weighted average landed price of coal as approved in its MTR Order dated February 14, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2018-19 is provided in the table below.

Table 13: Landed Price of Coal for Unit-II as approved by the Commission (Rs./Ton)

Particulars	MTR Order	Petition	Approved
Middling Coal	4181.46	4181.46	4181.46
MCL Coal	2681.75	2681.75	2681.75
Washery Coal	5203.35	5203.35	5203.35
2-Product+Tailing (By Rake)	2976.08	2976.08	2976.08
CCL/BCCL (E-Auction) Coal	4161.10	4161.10	4161.10
Tailing (By Road)	4092.23	4092.23	4092.23
WB Reject Coal	2670.78	2670.78	2670.78
Imported Coal	6116.80	6116.80	6116.80
Avg. Landed Price of Coal at Normative Transit loss	**4092.83**	**4156.39***	**4092.83**

* Petitioner has calculated the landed price of Middling coal and 2-Product+Tailing coal (by Rake) on actual transit loss

Table 14: Landed Price of Coal for Unit-III as approved by the Commission (Rs./Ton)

Particulars	MTR Order	Petition	Approved
Middling Coal	4214.33	4214.33	4214.33
MCL Coal	2686.89	2686.89	2686.89
Washery Coal	5265.01	5265.01	5265.01
2-Product+Tailing (By Rake)	2984.19	2984.19	2984.19

Particulars	MTR Order	Petition	Approved
CCL/BCCL (E-Auction) Coal	4360.16	4360.16	4360.16
Tailing (By Road)	4091.39	4091.39	4091.39
WB Reject Coal	2671.33	2671.33	2671.33
Imported Coal	6115.03	6115.03	6115.03
Avg. Landed Price of Coal including Transit loss	**4140.44**	**4207.95***	**4140.44**

* Petitioner has calculated the landed price of Middling coal and 2-Product+Tailing coal (by Rake) on actual transit loss

Calorific value and Cost of Secondary Fuel

Petitioner's Submission

5.53 The Petitioner submitted the weighted average calorific value and landed price as 9100 kCal/L and Rs. 47597 per litre for Unit-II and 9100 kCal/L and Rs. 44515 per litre for Unit-III respectively.

Commission's Analysis

5.54 The Commission had scrutinized the month wise secondary oil consumption and landed price of secondary fuel oil consumption detail submitted by the Petitioner and approves the calorific value and landed price of secondary fuel as shown below.

Table 15: Calorific value & Landed price of Secondary fuel as approved by the Commission

Particulars	Calorific Value (kCal/L)			Landed Price (Rs./kL)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Unit-II	9100	9100	9100	47597	47597	47597
Unit-III	9100	9100	9100	44515	44515	44515

Energy Charge Rate (ECR)

Petitioner's Submission

5.55 The Petitioner submitted the Energy Charge Rate (ECR) for FY 2018-19 as Rs. 3.230/kWh and Rs. 3.292/kWh for Unit-II and Unit-III respectively as per JSERC Generation Tariff Regulations, 2015.

5.56 The Petitioner further submitted that for calculation of ECR, normative Gross Station Heat Rate of 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III respectively, normative Auxiliary Consumption of 10.00% and normative secondary fuel oil as 1.00 ml/kWh for both the Units has been considered.

Commission's Analysis

5.57 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy (variable) charge shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).

5.58 The formula for calculation of energy charge payable to a Generating Company is specified in Clause 8.18 and Clause 8.19 of JSERC Generation Tariff Regulation, 2015 as quoted below.

> *"8.18 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.}*
>
> *8.18 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formula:*
> *(a) For coal based stations*
>
> *ECR = {(GHR – SFC x CVSF) x LPPF/CVPF+SFCxLPSFi+LCxLPL} x 100/(100 – AUX)}*
>
> *…………..*
>
> *Where,*
> *AUX - Normative auxiliary energy consumption in percentage*
> *CVPF –Weighted Average Gross calorific value of coal as received, in KCal per kg, for coal based stations. In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.*
> *CVSF - Calorific value of secondary fuel, in KCal per ml*
> *ECR - Energy charge rate, in Rupees per kWh sent out.*
> *GHR - Gross station heat rate, in KCal per kWh.*
> *LC - Normative limestone consumption in kg per kWh*
> *LPPF - Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.(In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)*
> *LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month*
> *LPL = Weighted average landed price of limestone in Rupees per kg*
> *SFC - Specific fuel oil consumption, in ml per kWh".*

5.59 The Commission observed that the energy charge claimed by the Petitioner is too high as compared to the approved value. The Petitioner was directed to justify the reason for higher energy charge. The Petitioner in its reply dated March 17, 2020 submitted the following reasons for the increase in the Energy Charge Rate as compared to the approved value in MYT Order dated February 19, 2018.

- Increase in coal price;
- Higher Transit Loss as compared to Normative value;
- Difference in coal mix than approved value;
- Claim of Specific Secondary Fuel Oil Consumption (1ml/kL) than approved Specific Secondary Fuel Oil Consumption (0.50ml/kL).

5.60 The Commission approves the ECR based on approved coal mix, normative transit loss, normative Secondary Fuel Oil consumption as approved in this Order. The table below details the ECR and Fuel Cost for Unit-II and Unit-III as approved by the Commission for FY 2018-19.

Table 16: Energy Charge Rate (ECR) for Unit-II as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Net Generation	MU	698.20	698.18	698.18
Auxiliary Consumption	%	10.00	10.00	10.00
Gross Station Heat Rate	kCal/kWh	2567.00	2567.00	2567.00
Specific Oil Consumption	mL/kWh	0.50	1.00	0.50
Calorific Value of Oil	kCal/mL	9.10	9.10	9.10
GCV of Primary Fuel	kCal/kg	3718.22	3718.22	3718.22
Landed Price of Primary Fuel	Rs./Ton	4092.83	4156.39	4092.83
Landed Price of Secondary Fuel	Rs./kL	47597.00	47597.00	47597.00
Energy Charge Rate (ECR)	**Rs/kWh**	**3.160**	**3.230**	**3.160**

Table 17: Energy Charge Rate (ECR) for Unit-III as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Net Generation	MU	702.77	702.77	702.77
Auxiliary Consumption	%	10.00	10.00	10.00
Gross Station Heat Rate	kCal/kWh	2577.00	2577.00	2577.00
Specific Oil Consumption	mL/kWh	0.50	1.00	0.50
Calorific Value of Oil	kCal/mL	9.10	9.10	9.10
GCV of Primary Fuel	kCal/kg	3702.19	3702.19	3702.19
Landed Price of Primary Fuel	Rs./Ton	4140.44	4207.95	4140.44
Landed Price of Secondary Fuel	Rs./kL	44515.00	44515.00	44515.00
Energy Charge Rate (ECR)	**Rs/kWh**	**3.221**	**3.292**	**3.221**

Summary of Fuel Cost

5.61 The table below provides the summary of Fuel Cost as submitted by the Petitioner and approved by the Commission for True-up of FY 2018-19.

Table 18: Fuel Cost for Unit-II as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Cost of Primary Fuel	Rs. Cr.	218.81	-	218.81
Cost of Secondary Fuel	Rs. Cr.	1.85		1.85
Energy Cost	**Rs. Cr.**	**220.66**	**225.51**	**220.66**

Table 19: Fuel Cost for Unit-III as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Cost of Primary Fuel	Rs. Cr.	224.65	-	224.65
Cost of Secondary Fuel	Rs. Cr.	1.74		1.74
Energy Cost	**Rs. Cr.**	**226.39**	**231.38**	**226.39**

Determination of Fixed Cost

Additional Capitalization

Petitioner's Submission

5.62 The Petitioner in the MYT Business Plan and Tariff Petition for FY 2016-17 – FY 2020-21 projected the additional Capitalization Plan for the control period in accordance with the JSERC Generation Tariff Regulations, 2015 including spill over schemes from 1st Control Period to 2nd Control Period with detailed justification for the same. The Commission after due diligence and due prudence check approved the various Capital Expenditure Schemes in the MYT Order dated February 19, 2018 including new and carry forward Capex Schemes.

5.63 The Petitioner had submitted that since MYT Order was issued on February 19, 2018 i.e. nearly at the end of FY 2017-18, so except for urgent and necessary capital works, the Petitioner had kept the original additional capitalization plan of the new Capex Schemes for FY 2016-17 and FY 2017-18 in abeyance till the time it was approved by the Commission.

5.64 The Petitioner had submitted the actual capitalization for Unit-II and Unit-III for FY 2018-19 which is broadly categorised under two heads:

i. **Capitalization-Standalone:** This category includes the capitalized costs incurred for assets/schemes exclusively for Unit-II or Unit-III.

ii. **Capitalization-Common Facilities:** This category includes the assets/schemes which are common to all the Units at the Jojobera Power Plant i.e. Unit-I, Unit-II, Unit-III, Unit-IV of Tata Power and Unit-V of Industrial Energy Limited (IEL). These assets/schemes provide facilities to all the above Units and therefore the capitalized cost of such assets/schemes are apportioned to derive the GFA part of Unit-II and Unit-III appropriately.

5.65 The Petitioner submitted that the same methodology has been adopted by the Commission for approving additional capitalization in the MYT Order dated February 19, 2018. The Petitioner further submitted that the apportionment ratio was worked out individually for Unit-II and Unit-III and combined based on the installed capacity of these Units with respect to the installed capacity of Unit-I, Unit-II, Unit-III, Unit-IV and IEL Unit-V of Jojobera Power Plant. The methodology of such apportionment is shown below.

Table 20: Methodology of apportionment as submitted by the Petitioner

Particulars	UoM	MYT Order
Installed Capacity (Unit-I)	MW	67.5
Installed Capacity (Unit-II)	MW	120
Installed Capacity (Unit-III)	MW	120
Installed Capacity (Unit-IV)	MW	120
Installed Capacity (Unit-V-IEL)	MW	120
Installed Capacity of Jojobera Power Plant	MW	547.5
Contribution of Unit-II	%	21.92
Contribution of Unit-III	%	21.92
Combined Contribution (Unit-II+Unit-III)	**%**	**43.84**

5.66 The following table summarises the additional capitalization for Unit-II and Unit-III as proposed by the Petitioner for FY 2018-19. The Petitioner submitted that the major reason for deviation from approved capitalization is mainly on account of partly or fully deferred capitalization.

Table 21: Asset wise Capitalization as submitted by the Petitioner (Rs. Crore)

Particular	MTR Order	Petition	Remark
Unit-II (Standalone)			
Flame Scanner Panel Up gradation	-	0.04	Cost overrun due to delay in capitalization.
Burner Panel Bends	0.71	0.88	Cost overrun and Carry forward due to delay in receiving the Order
Centrifugal Compressor for Ash Plant	0.65	0.77	Cost overrun due to change in the Scope of Work
210 AH UPS battery bank	0.28	0.28	-
6.6 kV Switchboard Replacement	2.72	2.72	-
Up gradation of turbine visory system	1.17	1.18	-
Up-gradation of furnace safeguard, supervisory & BOP control System	4.97	4.97	-
Unit-III (Standalone)			
HRH & MS Safety Valve	0.04	0.05	-
Centrifugal Compressor for Ash Plant	0.65	0.77	Cost overrun due to change in the Scope of Work
Unit-II & Unit-III (Common)			
Anhydrous Ammonia System	0.05	0.05	-
New Scheme Proposed			
Up gradation of Plant Security System	-	0.11	Up-gradation of Plant Security System
Capitalization owing to Past Settlements	-	0.10	Past approved Settlement as capitalized in FY 2018-19 as per books
Minor Assets- Plant & Machinery	-	0.005	AC for Office
IT Assets	-	0.24	IT assets capitalized in FY 2018-19 as per books
Replacement of Dead Tank CT with live Tank CT	-	0.29	Due to urgent technical requirement and ensure environment/emission norms
Net- Capitalization	**11.26**	**12.43**	

Table 22: Capitalization and Decapitalization as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Capitalization	10.53	11.23	0.73	1.20
Decapitalization	1.39	1.39	0.57	0.57

Commission's Analysis

5.67 The Commission has outlined the provisions for the approval of any additional capitalization for a generating station as mentioned in the JSERC Generation Tariff Regulation, 2015. The Clause is stated below:-

"*Additional Capitalisation*

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

(i) Undischarged liabilities;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions under clause 7.3,7.4 of these Regulations;

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

(v) Change in law.

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

'7.6 The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

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

(ii) Change in law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

(iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(vi) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

(vii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to ecological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plan operation; and

Provided that in respect sub-clause (vii) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture air conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machine, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 01.04.2016 for the Control period.

Provided further that any capital expenditure other than that of the nature specified above in (i) to (vi) in case of coal/lignite-based station shall be met out of compensation allowance as specified in Clause 7.46;

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

5.68 The Commission has carried out APR for FY 2018-19 in its MTR Order dated February 14, 2020 and approved the additional capitalization as approved in the MYT Order dated February 28, 2018 and directed the Petitioner to submit detailed reasons for cost escalation and justification for schemes proposed at the time of filing true up petition for FY 2018-19. The relevant extract is reproduced below:

"6.62 In regard to revision in capitalization scheme for FY 2018-19, the Commission has scrutinized the submissions of the Petitioner. The Commission however is of the view that as the audited figures are not available, therefore the

Commission has considered only those schemes that have already been approved in the MYT Order. Further, while allowing cost the Commission has considered the minimum of the actual projected expenses and that allowed by the Commission in the MYT Order. The Commission directs the Petitioner to submit detailed reasons for cost escalation and new scheme proposed at the time of filing true up petition for FY 2018-19.

6.63 Further, the Petitioner in its submission dated December 26, 2019 has provided the detail of deletion of assets for the FY 2018-19. The Commission approves the deletion of assets as proposed by the Petitioner subject to prudence check at the time of true-up."

5.69 The Commission directed the Petitioner to provide the detail reasoning for cost over-run and justification for new scheme vide its letter dated February 10, 2020. In reply to the Commission's query dated February 10, 2020, the Petitioner submitted the detailed reasons for cost over-run for approved capex and justification for new schemes as shown below.

Particular	Remark
Unit-II (Standalone)	
Flame Scanner Panel Up gradation	**Cost over-run: Rs. 0.50 Crore to Rs. 0.72 Crore** The scheme value was initially estimated based on the quotations of visible scanner. However, with advancement in technology, high end flame scanners are available in market which can detect both visible and infra-red spectrum as produced by coal flame. Since, these scanners can detect entire range of spectrum and are much reliable in terms of detecting flame failure compared to visible scanner, the Petitioner ordered for high end scanners. The Petitioner incurred this expenditure to avoid additional expenditure in near future which would have been required for upgradation of the low-end scanner, which would have been much more costlier. This has led to slight increase in the cost.
Burner Panel Bends	**Cost over-run: Rs. 0.85 Crore to Rs. 1.02 Crore** Originally complete Burner Panel was considered for replacement and accordingly price estimation was worked out. However, after discussion with vendors it turned out that replacement of complete Burner Panel would take longer time and could not be accommodated within one shutdown duration of 22-25 days as projected. Accordingly, the replacement of the Burner Panel Bends has to be carried out in phases. Part-wise procurement of material has led to some increase in price owing to inflation and complexity of manufacturing process.
Centrifugal Compressor for Ash Plant	**Cost over-run: Rs. 0.65 Crore to Rs. 0.77 Crore** As per initial estimation only Compressor had been considered with the support of Cooling Water supply from existing ACW System of Unit-II & Unit-III. But at the time of procurement, it was found that the finalized Compressor needs more water flow rate than the capacity available in the existing system. Hence, a separate cooling water system had to be installed to cater requirement of Compressor causing increase in the project cost and the same was unavoidable. The procurement of separate cooling water system is the additional scope of work costing Rs. ~0.30 Crore, considering both the Units, which has led to increase in the scheme cost by Rs. 0.24 Crore.

Particular	Remark
Unit-III (Standalone)	
Centrifugal Compressor for Ash Plant	**Cost over-run: Rs. 0.65 Crore to Rs. 0.77 Crore** As per initial estimation only Compressor had been considered with the support of Cooling Water supply from existing ACW System of Unit-II & Unit-III. But at the time of procurement, it was found that the most suited Compressor needs more water flow rate than the capacity available in the existing system. Hence, a separate cooling water system had to be installed to cater requirement of Compressor causing increase in the project cost and the same was unavoidable. The procurement of separate cooling water system is the additional scope of work costing Rs. ~0.30 Crore, considering both the Units, which has led to increase in the scheme cost by Rs 0.24 Crore.
New Scheme Proposed	
Up gradation of Plant Security System	**Cost: Rs. 0.11 Crore** Jamshedpur, an industrial hub with the growth of industries and the presence of the non-state actors around this industrial belt has further increased threat from Naxals/Left Wing Extremism (LWE)/Terrorists. The baffle gates are designed to allow a single person at a time and is equipped with access control system (ACS) based on proximity/RFID/face detection & recognition system/wave biometric etc. As of now, the Exit & Entry of ~1200 workers on a daily basis and around 1900 to 2000 at time of Unit outage are managed by the security forces posted at the entrance gates.
Capitalization owing to Past Settlements	**Cost: Rs. 0.10 Crore** Petitioner has claimed the amount as per books arising on account of settlements related to past approved assets.
Minor Assets	**Cost: Rs. 0.005 Crore** Procurement of AC for Office. The Petitioner submitted that Minor assets have life cycle of not more than 5 years and hence, it become necessary to replace these out-dated assets.
IT Assets	**Cost: Rs. 0.24 Crore** Procurement of IT assets mainly laptop for official work The Petitioner submitted that IT assets have life cycle of ~5 years and hence, it become necessary to replace these out-dated assets.
Replacement of Dead Tank CT with live Tank CT	**Cost: Rs. 0.29 Crore** Since 2003, multiple failures of Dead Tank CTs has been witnessed in the Tata Steel Power System along with switchyard of DVC and 132KV switchyard of Tata Power. However, blasting of Dead Tank CT on 31.03.2017 in DVC Golmuri Switchyard was so severe that it resulted into a black out condition in the Petitioner Generating Station with tripping of three Generating units with one unit already in outage. Basis the above incident, the multiple failures observed in past and in view of the large scale power system disturbance, arising of unsafe situation, equipment damage and potential threat to embedded power system due to such failure of CTs; Tata Steel took a decision for replacement of all Dead Tank CTs with Live Tank CTs in their switchyards and further recommended similar replacements for switchyard of Tata Power and DVC in Golmuri in order to control/eliminate such failure in future. Also, historically, it has been seen that dead tank CTs have a high rate of failure compared to live tank CT and any fault in 132KV CT is a mouth fault for the generator resulting in huge voltage dip and station black out. The existing dead tank CTs have porcelain insulators and when these CTs blast the parts of the porcelain does secondary damage by affecting nearby equipment's and may also harm persons in vicinity. The new CTs will be having composite polymer (silicon rubber) insulators and, thus, the risk of secondary damage can be mitigated. Recently, on 6.02.2020, dead tank CT of Manufacturing year 2009 failed in Y phase of Bus Sectionalizer#2 in our switchyard. The blasting of CT caused secondary damages and many bus post insulators were damaged by

Particular	Remark
	the impact of porcelain pieces of the dead tank CT. It took six days to completely restore back the power system considering the extent of secondary damage. It is humbly submitted that such failure of the CTs is uncontrollable for the Petitioner and is mandatorily required to incur such expenditure in phased manner for controlling/eliminating such failure in future. It is reiterated that the scheme is extremely critical for safe operation of the Units, safety of the working staff and security of the Grid.

5.70 The Commission observed that there was minor cost overrun in the cost of Flame Scanner Panel Up gradation, Burner Panel Bends, Centrifugal Compressor for Ash Plant for effective and efficient working of the thermal power plant and are allowed in this Order.

5.71 In regards to new scheme, the Commission scrutinized the capitalization owing to Past Settlements and approves the same as it is linked to past approved schemes by the Commission. Further, the capitalization of Rs. 0.24 Crore towards IT assets is approved considering the facts that these IT assets become out-dated and need to be replaced.

5.72 In case of Replacement of Dead Tank CT with live Tank CT, the Commission observes that such improvising steps were also taken up by other Utilities like TSL, DVC and approves the same, considering its necessity for efficient and safe operation.

5.73 The Commission is of the view that minor activities like up-gradation of plant security system and minor assets additions like AC form part of O&M activities. Hence, the Commission doesn't find it prudent for such expenditure to be booked as additional expenditure.

5.74 The Commission approves the capitalization for FY 2018-19 as detailed above. The Commission also directs the Petitioner to ensure that proper planning should be carried out before finalization and submission of Capex planning before the Commission for approval. Further, in case there is need to review/revise any scheme or change in the Scope of Work, the same need to be submitted before the Commission with proper justification for approval.

Table 23: Asset wise Capitalization as approved by the Commission (Rs. Crore)

Particular	MTR Order	Petition	Approved
Unit-II (Standalone)			
Flame Scanner Panel Up gradation	0.00	0.04	0.04
Burner Panel Bends	0.71	0.88	0.88
Centrifugal Compressor for Ash Plant	0.65	0.77	0.77
210 AH UPS battery bank	0.28	0.28	0.28
6.6 kV Switchboard Replacement	2.72	2.72	2.72
Up gradation of turbine visory system	1.18	1.18	1.18

Particular	MTR Order	Petition	Approved
Up-gradation of furnace safeguard, supervisory & BOP control System	4.97	4.97	4.97
Unit-III (Standalone)			
HRH & MS Safety Valve	0.04	0.05	0.05
Centrifugal Compressor for Ash Plant	0.65	0.77	0.77
Unit-II & Unit-III (Common)			
Anhydrous Ammonia System	0.05	0.05	0.05
New Scheme Proposed			
Up gradation of Plant Security System	-	0.11	-
Capitalization owing to Past Settlements	-	0.10	0.10
Minor Assets - (Plant & Machinery)	-	0.005	-
IT Assets	-	0.24	0.24
Replacement of Dead Tank CT with live Tank CT	-	0.29	0.29
Net- Capitalization	**11.26**	**12.43**	**12.32**

5.75 Further, the Petitioner submitted decapitalization for FY 2018-19 as Rs. 1.39 Crore and Rs. 0.57 Crore for Unit-II and Unit-III respectively.

5.76 The Petitioner further in its reply dated August 14, 2020, submitted that decapitalization primarily relates to Original Project Cost (barring minor Rs. 0.09 Crore in FY 2018-19 in each of Unit-II and Unit-III relating to IT assets) and the loans for which have already been repaid by the Petitioner. The Petitioner further submitted that as on date, the outstanding loan relates only to additional capitalisation from FY 2011-12 onwards only and these loans need to be serviced only with depreciation of these additional capitalization. Therefore, decapitalization of assets from Original Cost should not affect either the outstanding loan or the additional loan due to additional capitalization.

5.77 Based on the submission made by the Petitioner and after prudence check, the Commission observes that as per the details provided, the de-capitalization is related to Original Project Cost for which loan is already paid by the Petitioner.

5.78 The Commission has also scrutinized the auditor certificate submitted by the Petitioner regarding de-capitalization of assets for FY 2018-19 and after prudence check approves the decapitalization as shown below.

Table 24: Capitalization as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Capitalization	10.53	11.23	11.17	0.73	1.20	1.16
Decapitalization	1.39	1.39	1.39	0.57	0.57	0.57

Table 25: Gross Fixed Assets (GFA) as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Opening GFA	475.86	488.24	475.86	461.90	472.69	461.90
Capitalization	10.53	11.23	11.17	0.73	1.20	1.16
Decapitalization	1.39	1.39	1.39	0.57	0.57	0.57
Closing GFA	485.00	498.08	485.64	462.06	473.32	462.48

Depreciation

Petitioner's Submission

5.79 The Petitioner submitted the depreciation for FY 2018-19 as summation of the depreciation incurred on the following assets:

- Original Project Cost;
- Additional Capitalization approved for FY 2011-12 to FY 2015-16;
- Additional Capitalization projected for FY 2016-17 & FY 2017-19; and
- Additional Capitalization projected for FY 2018-19.

5.80 The Petitioner has proposed the recovery of remaining depreciable value on Original project cost as per depreciation rate specified in the Regulations, in case the cumulative depreciation of asset is less than 70%, else, by spreading it equally in the remaining Useful life i.e. 25 years.

5.81 For additional capitalization approved for FY 2011-12 to FY 2015-16 and additional capitalization projected for FY 2016-17 & FY 2017-18, the Petitioner has proposed to spread equally the balance depreciable value as on April 01, 2018 in remaining years of PPA tenure of 30 years i.e. till January 31, 2031 for Unit-II & January 31, 2032 for Unit-III respectively.

5.82 For additional capitalization, the Petitioner submitted that the depreciation for the 1st year is computed from mid-year in accordance with methodology approved by the Commission in recent MYT Order and in Previous Tariff Orders. Further, depreciation for the subsequent years had been computed by spreading the Balance depreciable value equally in the balance years of the PPA life of 30 years.

5.83 In view of the above methodology, the depreciation claimed by the Petitioner in the Petition for FY 2018-19 is shown in the table below.

Table 26: Depreciation as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Depreciation	5.78	6.72	6.59	7.88

5.84 The Petitioner during Public Hearing dated August 07, 2020 and vide its additional submission dated August 14, 2020 revised the calculation of depreciation and proposed that the remaining depreciable amount on Original Cost and additional capitalization to be equally spread on Balance Useful Life of the Project i.e. 25 years as the cumulative depreciation till FY 2017-18 has crossed 70% for both the Units. The Petitioner further added that similar methodology is also followed by CERC.

5.85 The revised depreciation claimed by the Petitioner for FY 2018-19 is shown in the table below.

Table 27: Revised Depreciation as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Depreciation	5.78	9.04	6.59	9.53

Commission's Analysis

5.86 The JSERC Generation Tariff Regulation, 2015 has specified the following methodology for the calculation of depreciation expense for existing generating station

"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.
……………

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 31stMarch 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.

5.87 The Commission observed that the Petitioner in its earlier Petitions submitted the asset class wise break of depreciation claimed on Original Capital Cost (spread equally considering useful life of 25 years) and additional capitalization (spread equally considering the PPA tenure of 30 years) separately before the Commission for its consideration. Further, the same approach was followed by the Petitioner while filing the current petition for true up for FY 2018-19 and APR for FY 2019-20.

5.88 However, the Petitioner during Public Hearing dated August 07, 2020 and through additional submission dated August 14, 2020 revised the calculation of depreciation and suggested that the remaining depreciable amount of both Original Capital Cost and additional capitalization be equally spread on Balance Useful Life of the Project considering 25 years of useful life as the cumulative depreciation till 2017-18 has crossed 70% for both the Units.

5.89 The Commission noted that the Petitioner has revised their deprecation calculation during the Public Hearing scheduled on August 07, 2020 and submitted the detail to the Commission on August 14, 2020. The Commission is of the view that any material change impacting tariff need to be submitted well in advance before the Commission as well as before other stakeholders for public scrutiny. Hence, the Commission at this stage has not gone into the merits of the revised approach and approves the deprecation as per the approach adopted in its earlier Tariff Orders.

Table 28: Depreciation as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Depreciation	**5.78**	**6.72**	**5.83**	**6.59**	**7.88**	**6.40**

Operation & Maintenance Expenses

Petitioner's Submission

5.90 The Petitioner had claimed the Operation and Maintenance (O&M) expenses under the following broad categories:-

- Employee Expenses with Terminal Benefits;
- Repairs & Maintenance (R&M) Expenses;
- Administrative and General (A&G) Expenses;
- Petition application Fee & Publication Expenses;
- Ash Disposal Expenses;
- Raw water Expenses;
- Capital Spares.

5.91 The Petitioner has claimed the normative employee expenses as approved in the MYT Order dated February 19, 2018. The terminal liabilities are considered on actuals based on the audited accounts.

5.92 The Petitioner had claimed the normative R&M expenses as approved in the MYT Order dated February 19, 2018 for the purpose of true-up for FY 2018-19 as per Clause 6.14.b read with Clause 6.11 and Clause 6.12 of the JSERC Generation Tariff Regulations, 2015.

5.93 The A&G expenses submitted by the Petitioner comprises of ash disposal expenses, head office expenses & shared services expenses, application fees, and publication expenses and other A&G expenses.

5.94 The Petitioner had claimed the ash disposal expenses, application fees and publication expenses based on the actual as per audited accounts. However, the expenses related to head office expenses & shared services expenses and other A&G expenses are considered on normative basis as approved in the MYT Order dated February 19, 2018.

5.95 The Petitioner submitted that the Commission in the MYT Order dated February 19, 2018 approved the Raw Water Expense for FY 2018-19 considering projected Generation, estimated Specific Raw Water Consumption of 3.18 m^3/MWh and the revised Raw Water charges of Rs 20.25/m^3 as charged by Supplier to its industrial consumers including the

Petitioner. However, the Petitioner emphasis that actual raw water expenses for FY 2018-19 is lower than the approved value mainly on the account of lower wet ash disposal and lower Generation. In light of the above, the Petitioner had claimed the actual raw water expenses as per audited accounts.

5.96 The Petitioner had claimed the capital spare for purchase of critical spares for Turbine and DCS Cards amounting to Rs. 0.64 Crore and Rs. 0.69 Crore for Unit-II and Unit-III respectively which is well within the approved value in MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020.

Table 29: O&M Expenses as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Employee Expenses	7.35	7.35	7.35	7.35
Terminal Liabilities	1.02	1.02	1.02	1.02
R&M Expenses	19.08	19.08	13.62	13.62
Ash Disposal Expenses	3.66	3.66	3.71	3.71
Raw Water Expenses	2.35	4.50	2.32	4.46
HO & SS Expenses	10.03	10.03	8.79	8.79
Application Fees & Publication Expenses	0.15	0.15	0.15	0.15
Other A&G Expenses	4.8	4.8	4.38	4.38
Capital Spares	0.64	0.64	0.69	0.69
O&M Expenses	**49.08**	**51.24**	**42.03**	**44.17**

Commission's Analysis

5.97 The JSERC Generation Tariff Regulations, 2015 Clause 7.40 and Clause 7.41 lays out the provision for determination of O&M expenses and the same is 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).*
> *7.41 Existing Thermal Generating Stations:*
> *(a) The Applicant shall submit details of O&M expenses as required by the Commission. The O&M expenses excluding terminal liabilities for the Base Year shall be determined based on accounting statements for the base year, estimates of the Generating Company for relevant years and other factors considered relevant.*

(b) The O&M expenses excluding terminal liabilities permissible towards determination of tariff for each year of the Control Period shall be determined after a prudency check by the Commission based on submissions of the Generating Company, previous years' actual expenses and any other factor considered relevant.

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

(d) Increase in O&M charges on account of war, insurgency or changes in laws, or like eventualities where the Commission is of the opinion that an increase in O&M charges is justified, may be considered by the Commission for a specified period."

5.98 The Commission had scrutinized the submission made by the Petitioner and approves the terminal liabilities, ash disposal expenses and Petition application Fee & Publication Expenses as per audited accounts.

5.99 The Commission had approved the employee cost, R&M expenses, HO & SS expenses and other A&G expenses as per normative value approved in the MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020.

5.100 The Petitioner submitted that the Government of Jharkhand had increased the water charges vide notification dated April 01, 2011 issued by the Water Resources Department, Government of Jharkhand. Tata Steel Limited (TSL) challenged the exorbitant increase in water charges by preferring a writ petition being WPC No. 4544 of 2011 before the Hon'ble High Court of Jharkhand. Hon'ble High Court had passed the Interim Order in favour of TSL directing them to pay only Rs. 1.00 Crore per month towards water charges till the pending writ petition is decided. However, the Interim Order does not specify, what part of Rs. 1.00 Crore is associated to the Petitioner's Unit-II & unit-III of Jojobera plant.

5.101 As per the submission of the Petitioner, they are billed as per new increased rate and the Petitioner is paying to TSL as per the revised rate. It is observed that while TSL is recovering water charges from TPCL as per the revised rates it is paying the Govt. of Jharkhand only at the rate permitted by Hon'ble High Court. It is also noticed that the Petitioner being fully aware of this didn't dispute the bills raised by TSL which is not a prudent approach to be followed by a commercial entity.

5.102 The Commission had gone through the submissions of the Petitioner and observed that the matter is sub-judice before the Hon'ble Jharkhand High Court. The Commission is adopting the same methodology as adopted in its MTR Order dated February 14, 2020.

The raw water expense approved is subject to final outcome of above-mentioned petition before the Hon'ble Jharkhand High Court.

Table 30: Raw water as approved by the Commission (Rs. Crore)

Particular	UoM	Unit-II	Unit-III
Consumption	'000 Gallons	4,89,938	4,84,868
Rate	Rs./'000 Gallons	92.06	92.06
Water Bill	Rs. Cr.	4.50	4.46
Approved Raw Water Expenses	**Rs. Cr.**	**2.35**	**2.32**

5.103 The O&M expense as approved by the Commission for FY 2018-19 is shown below.

Table 31: O&M Expenses (Normative Component) as approved by the Commission (Rs. Cr.)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Employee Cost	7.35	7.35	7.35	7.35	7.35	7.35
R&M Expenses	19.08	19.08	19.08	13.62	13.62	13.62
HO & SS Expenses	10.03	10.03	10.03	8.79	8.79	8.79
Other A&G Expenses	4.80	4.80	4.80	4.38	4.38	4.38

Table 32: O&M Expenses (Variable Component) as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Terminal Liabilities	1.02	1.02	1.02	1.02	1.02	1.02
Ash Disposal Expenses	3.66	3.66	3.66	3.71	3.71	3.71
Raw Water Expenses	2.35	4.50	2.35	2.32	4.46	2.32
Application & Publication Expenses	0.15	0.15	0.15	0.15	0.15	0.15
Capital Spares	0.64	0.64	0.64	0.69	0.69	0.69

Table 33: O&M Expenses as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Employee Cost	7.35	7.35	7.35	7.35	7.35	7.35
Terminal Liabilities	1.02	1.02	1.02	1.02	1.02	1.02
R&M Expenses	19.08	19.08	19.08	13.62	13.62	13.62
Ash Disposal Expenses	3.66	3.66	3.66	3.71	3.71	3.71
Raw Water Expenses	2.35	4.50	2.35	2.32	4.46	2.32
HO & SS Expenses	10.03	10.03	10.03	8.79	8.79	8.79
Application & Publication Expenses	0.15	0.15	0.15	0.15	0.15	0.15
Other A&G Expenses	4.80	4.80	4.80	4.38	4.38	4.38
Capital Spares	0.64	0.64	0.64	0.69	0.69	0.69
O&M Expenses	**49.08**	**51.24**	**49.07**	**42.03**	**44.17**	**42.03**

Interest on Loan

Petitioner's Submission

5.104 The Petitioner submitted that the repayment of the long-term loan on Original Project Cost of Unit-II & Unit-III had been completed in the FY 2009-10 and FY 2010-11 respectively.

5.105 In line with the MYT Order dated February 19, 2018, the Petitioner had considered 70% of the actual capitalization as Normative Loan for FY 2018-19 with interest rate of 13.02% and 12.33% for Unit-II and Unit-III respectively.

5.106 The Petitioner had considered the normative repayment of debt equal to the depreciation of the additional capitalization only citing the reason that the interest payment on original project cost is already completed in year FY 2009-10 and FY 2010-11 respectively for Unit-II and Unit-III and hence depreciation part on original cost is not considered as part of normative repayment of debt.

5.107 The Interest and Finance Charges claimed by the Petitioner is shown in the table below.

Table 34: Interest on Loan as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Opening Loan	27.86	29.01	26.44	28.81
Deemed Loan Addition	6.40	7.86	0.11	0.84
Deemed Loan Repayment	3.50	3.34	2.82	2.77
Closing Loan	30.75	33.53	23.73	26.88
Interest Rate	13.02%	13.02%	12.33%	12.33%
Interest on Loan	**3.82**	**4.07**	**3.09**	**3.43**

Commission's Analysis

5.108 The Commission has calculated the gross normative loan for FY 2018-19 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as quoted below.

> *"7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 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 1.04.2016,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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -
i. The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.

ii. Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.

iii. Any expenditure incurred or projected to be incurred on or after 1stApril 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."

5.109 The Commission had scrutinized the details submitted by the Petitioner and observed that the actual loan on the assets capitalised as on Commercial Date of Operation is entirely repaid by the Petitioner. Since the normative loan value approved by the Commission is on the additional capitalisation from FY 2011-12, the normative opening loan for FY 2018-19 is considered equal to closing normative loan amount of FY 2017-18 as approved in the previous MTR Order dated February 14, 2020.

5.110 The Commission is continuing with the same methodology as adopted in the earlier Orders for deriving the value of deemed loan repayment for FY 2018-19.

5.111 In accordance to Clause 7.23 of JSERC Generation Tariff Regulations, 2015 and as approved in MTR Order dated February 14, 2020, the Commission has approved the interest rate as 13.02% and 12.33% for Unit-II and Unit-III respectively as shown below.

Table 35: Interest on Loan as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	**Petition**	**Approved**	**MTR Order**	**Petition**	**Approved**
Opening Loan	27.86	29.01	27.86	26.44	28.81	26.44
Deemed Loan Addition	6.40	7.86	7.82	0.11	0.84	0.81
Deemed Loan Repayment	3.50	3.34	3.56	2.82	2.77	2.85
Closing Loan	30.75	33.53	32.11	23.73	26.88	24.40
Interest Rate	13.02%	13.02%	13.02%	12.33%	12.33%	12.33%
Interest on Loan	**3.82**	**4.07**	**3.90**	**3.09**	**3.43**	**3.13**

Interest on Working Capital (IOWC)

Petitioner's Submission

5.112 The Petitioner submitted the Interest on Working Capital (IOWC) requirement in line with Clause 7.34 of the JSERC Generation Tariff Regulations, 2015, as shown below.

Table 36: IOWC as submitted by the Petitioner (Rs. Crore)

<table>
<tr><th rowspan="2">Particulars</th><th colspan="2">Unit-II</th><th colspan="2">Unit-III</th></tr>
<tr><th>MTR Order</th><th>Petition</th><th>MTR Order</th><th>Petition</th></tr>
<tr><td>Coal Stock (30 Days)</td><td>21.00</td><td rowspan="2">42.00</td><td>21.42</td><td rowspan="2">42.87</td></tr>
<tr><td>Coal for Generation (30 Days)</td><td>21.00</td><td>21.42</td></tr>
<tr><td>Cost of Secondary Fuel (60 Days)</td><td>0.35</td><td>0.71</td><td>0.33</td><td>0.66</td></tr>
<tr><td>Maintenance Spares (20% O&M)</td><td>9.82</td><td>10.25</td><td>8.41</td><td>8.83</td></tr>
<tr><td>O&M Expenses (1 Month)</td><td>4.09</td><td>4.27</td><td>3.50</td><td>3.68</td></tr>
<tr><td>Receivables (2 Months)</td><td>53.53</td><td>60.92</td><td>53.12</td><td>60.42</td></tr>
<tr><td>Total Working Capital requirement</td><td>109.80</td><td>118.14</td><td>108.20</td><td>116.47</td></tr>
<tr><td>Interest rate on WC</td><td>12.20%</td><td>12.20%</td><td>12.20%</td><td>12.20%</td></tr>
<tr><td>Interest on Working Capital</td><td>13.40</td><td>14.41</td><td>13.20</td><td>14.21</td></tr>
</table>

Commission's Analysis

5.113 The Commission has computed the Interest on Working Capital (IOWC) for FY 2018-19 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as reproduced below.

> *"7.34 The Commission shall determine the Working Capital requirement for coal based generating stations containing the following components:*
> *(a) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
> *(b) Cost of coal or lignite and limestone for 30 days for generation corresponding to normative annual plant availability factor;*

(c) Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor;

(c) Maintenance spares @ 20% of operation and maintenance expenses;

(d) Operation and Maintenance expenses for 1 month; and

(e) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor.

7.37 The cost of fuel in cases covered under clause 7.34 and 7.35 of these Regulations shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period."

5.114 The Bank Rate as on April 01, 2018 is considered for the purpose of computation of Interest on Working Capital (IOWC) as per Clause 7.38 of JSERC Generation Tariff Regulation, 2015. The Interest on Working Capital (IOWC) as approved by the Commission for FY 2018-19 is summarized in the following table.

Table 37: IOWC as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Coal Stock (30 Days)	21.00	42.00	21.21	21.42	42.87	21.60
Coal for Generation (30 Days)	21.00		21.21	21.42		21.60
Cost of Secondary Fuel (60 Days)	0.35	0.71	0.36	0.33	0.66	0.33
Maintenance Spares (20% O&M)	9.82	10.25	9.81	8.41	8.83	8.41
O&M Expenses (1 Month)	4.09	4.27	4.09	3.50	3.68	3.50
Receivables (2 Months)	53.53	60.92	59.69	53.12	60.42	59.01
Total Working Capital requirement	109.80	118.14	116.38	108.20	116.47	114.45
Interest rate on WC	12.20%	12.20%	12.20%	12.20%	12.20%	12.20%
Interest on Working Capital	**13.40**	**14.41**	**14.20**	**13.20**	**14.21**	**13.96**

Return on Equity

Petitioner's Submission

5.115 The Petitioner stated that the additional capitalization is done from internal accrual and hence considered the financing of additional capitalization at Normative Debt: Equity ratio of 70:30 for FY 2018-19. The Petitioner had further submitted that for additional capitalization during the FY 2018-19, Return on Equity had been computed from mid-year.

5.116 The Petitioner had submitted that the Minimum Alternate Tax (MAT) rate as 21.55% is considered while calculating the Return on Equity post-tax. Accordingly, the Petitioner had calculated the Return on Equity for FY 2018-19 as shown below.

Table 38: Return on Equity as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	**Petition**	**MTR Order**	**Petition**
Opening Equity	142.76	146.73	138.57	141.98
Addition	2.74	3.37	0.05	0.36
Closing Equity	145.50	150.10	138.62	142.34
Rate of Return	15.50%	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.34	23.01	21.48	22.03
MAT	21.55%	21.55%	21.55%	21.55%
ROE (Pre-Tax)	**28.48**	**29.32**	**27.38**	**28.09**

Commission's Analysis

5.117 The Commission has calculated the Gross Normative Equity for FY 2018-19 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulations, 2015.

"7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 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 1.04.2016,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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -
i. The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of

computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.

ii. Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.

iii. Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."

5.118 The Commission vide letter dated February 10, 2020 directed the Petitioner to submit the actual income tax paid along with the documentary evidence instead of grossing up with MAT rate in the truing up petition for FY 2018-19. The Petitioner vide letter dated March 17, 2020 replied that the income tax on profit earned in a financial year is being paid for the company as a whole based on its financial position across the various assets. For FY 2018-19, the Petitioner had paid total Income Tax of Rs. 86 Crore. The Petitioner had also submitted the quarterly tax payment challans.

5.119 Further, the Petitioner had filed return of Income Tax for FY 2018-19 on special rates with tax liability as Rs. 8.74 Crore on taxable income claimed to be Rs. 51.30 Crore as is shown in Form 29B. The claim of taxable income is lower due to claim of investment loss of about Rs. 1213 Crore claimed in other businesses not related to Jojobera Unit-II and Unit-III. However, the Unit-II and Unit-III being generating assets have still been claimed to be covered under 80IA and hence, on stand-alone basis would be covered under MAT as per extant provisions of Tax Laws. Therefore, the Petitioner had claimed Return on Equity by grossing up by MAT Rate of 21.55% for Unit-II and Unit-III, which is much lower than the Normal Corporate Tax Rate of 34.94% for FY 2018-19 stipulated in the regulations. The Petitioner additionally submitted that the claims in return are subject to final assessment by Income Tax Department. Hence, the Petitioner requested the Commission to consider the income tax claimed @ MAT Rate for FY 2018-19.

5.120 Further, the Petitioner in its additional submission dated August 14, 2020, that both the Units have crossed fifteen years of operational life and, hence, 80IA benefit would not be available to these Units and on standalone basis normal tax rates shall apply. However, the Petitioner sought MAT rate for grossing up.

5.121 The Commission has noted the reply of the Petitioner and in accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, approves the Return on Equity at 15.50% which is grossed up with the MAT rate i.e. 21.55% as applicable for FY 2018-19 as shown below.

Table 39: Return on Equity as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Opening Equity	142.76	146.73	142.76	138.57	141.98	138.57
Addition	2.74	3.37	2.93	0.05	0.36	0.18
Closing Equity	145.50	150.10	145.69	138.62	142.34	138.75
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.34	23.01	22.36	21.48	22.03	21.49
MAT	21.55%	21.55%	21.55%	21.55%	21.55%	21.55%
ROE (Pre-Tax)	**28.48**	**29.32**	**28.50**	**27.38**	**28.09**	**27.40**

Tax on Saving on Operational Parameters

Petitioner's Submission

5.122 The Petitioner submitted that the Income Tax due to gain on account of Secondary Fuel Consumption, Auxiliary Power Consumption and Gross Station Heat Rate (GHR) is recoverable from the Beneficiary as per Clause 7.49 of the JSERC Generation Tariff Regulations, 2015 which had also been clarified and upheld by the Hon'ble Tribunal in their Judgment dated August 10, 2016 in Appeal no**.:** 195 of 2015.

Table 40: Tax Liability on saving in Operation Parameters as submitted by Petitioner (Rs. Cr.)

Particulars	Unit-II	Unit-III
	Petition	Petition
Tax on Gain on Secondary Fuel	0.80	0.71
Tax on the Gain on Aux. Consumption	0.61	0.51
Tax on the Gain on Station Heat Rate	0.68	0.84

Commission's Analysis

5.123 The Commission has scrutinized the claim of the Petitioner on Tax Liability on saving on operational parameters as per Clause 7.49 of the JSERC Generation Tariff Regulations, 2015 as reproduced below.

> "*Tax on Income*
> *7.49 Tax on the income streams of the Generating Company shall not be recovered from the Beneficiaries.*

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2016 whenever it materializes, shall be recoverable directly from the beneficiaries and the long-term customers;

Provided further that any tax liability on incentives and savings due to improved performance on any parameter, if any, shall be considered for passing onto the Beneficiaries in the ratio of the sharing of the gains as prescribed under these Regulations."

Tax Liability on Gain on Secondary Fuel

5.124 The Commission observed that the Petitioner had claimed the incentive on 1.00 ml/kWh against the approved value of 0.5 ml/kWh as per MYT Order dated February 19, 2018. The Commission has considered the MYT Order value and calculated the tax liability on gain secondary fuel as shown below.

Table 41: Tax Liability on saving in Secondary Fuel as approved by the Commission (Rs. Cr.)

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Actual Gross Generation	MU	768.18	768.18	774.53	774.53
Normative LDO	ml/kWh	1.00	0.50	1.00	0.50
LDO Consumption	kL	768.18	384.09	774.53	387.27
Actual LDO Consumption	kL	155.80	155.80	197.35	197.35
Difference in LDO	kL	612.38	228.29	577.18	189.92
Landed Price of Oil	Rs./kL	47597.00	47597.00	44515.00	44515.00
Gain	Rs. Crore	2.91	1.09	2.57	0.85
Applicable Tax Rate	%	21.55	21.55	21.55	21.55
Tax Liability on Secondary Fuel	**Rs. Crore**	**0.80**	**0.30**	**0.71**	**0.23**

Tax Liability on Gain on Auxiliary Power Consumption

5.125 The Commission approves the tax liability on gain on auxiliary consumption as tabulated below.

Table 42: Tax Liability on saving in Auxiliary as approved by the Commission (Rs. Crore)

Particulars		Unit-II		Unit-III	
	UoM	Petition	Approved	Petition	Approved
Normative Aux. Consumption	%	10.00	10.00	10.00	10.00
Actual Aux. Consumption	%	9.11	9.11	9.27	9.27
Units Saved	MU	6.82	6.82	5.69	5.69
ECR	Rs./kWh	3.23	3.16	3.29	3.22
Gain due to lower Aux.	Rs. Crore	2.20	2.16	1.87	1.83
Applicable Tax Rate	%	21.55	21.55	21.55	21.55
Tax liability on Auxiliary	**Rs. Crore**	**0.61**	**0.59**	**0.51**	**0.50**

Tax Liability on Gain on Station Heat Rate

5.126 In line to the Clause 7.49, the Commission approves the tax liability on gain on Station Heat Rate as shown below.

Table 43: Tax Liability on saving in SHR as approved by the Commission (Rs. Crore)

Particulars		Unit-II		Unit-III	
	UoM	Petition	Approved	Petition	Approved
Normative Heat Rate	kCal/kWh	2567.00	2567.00	2577.00	2577.00
Actual Heat Rate	kCal/kWh	2538.11	2538.11	2542.07	2542.07
Gain in Heat Rate	kCal/kWh	28.89	28.89	34.93	34..93
Actual Gross Generation	MU	768.18	768.18	774.53	774.53
Total Heat Energy Saved	MkCal	22195.88	22192.66	27050.81	27054.38
Equivalent GCV of Coal	kCal/kg	3718.22	3718.22	3702.19	3702.19
Equivalent Coal Saved	Ton	5969.49	5968.62	7306.70	7307.67
Actual Landed Price of Coal	Rs./Ton	4156.39	4092.83	4207.95	4140.44
Gain on Account of GHR	Rs. Crore	2.48	2.44	3.07	3.03
Applicable Tax Rate	%	21.55	21.55	21.55	21.55
Tax liability on GHR	**Rs. Crore**	**0.68**	**0.67**	**0.84**	**0.83**

Summary of Annual Revenue Requirement

Commission's Analysis

5.127 The summary of Annual Fixed Charge (AFC) for FY 2018-19 as approved by the Commission is shown below.

Table 44: Annual Fixed Cost as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
O&M Expenses	49.08	51.24	49.07	42.03	44.17	42.03
Depreciation	5.78	6.72	5.83	6.59	7.88	6.40
Interest on Loan	3.82	4.07	3.90	3.09	3.43	3.13
Int. on WC	13.40	14.41	14.20	13.20	14.21	13.96
Return on Equity	28.48	29.32	28.50	27.38	28.09	27.40
Annual Fixed Cost	**100.54**	**105.76**	**101.50**	**92.30**	**97.78**	**92.92**

5.128 The summary of Annual Fixed Charge after taking into account the availability Factor for FY 2018-19 as approved by the Commission is shown below.

Table 45: AFC after availability as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Annual Fixed Cost	100.54	105.76	101.50	92.30	97.78	92.92
Availability	93.17%	93.17%	90.51%	93.58%	93.58%	91.14%
AFC after Availability	**100.54**	**105.76**	**101.50**	**92.30**	**97.78**	**92.92**

5.129 The summary of recoverable Annual Revenue Requirement (ARR) for FY 2018-19 as approved by the Commission is shown below.

Table 46: Annual Revenue Requirement as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
AFC after Availability	100.54	105.76	101.50	92.30	97.78	92.92
Energy Cost	220.66	225.51	220.66	226.39	231.38	226.39
Tax on Gain (Secondary Fuel)	-	0.80	0.30	-	0.71	0.23
Tax on Gain (SHR)	-	0.68	0.67	-	0.84	0.83
Tax on Gain (Auxiliary)	-	0.61	0.59	-	0.51	0.50
Annual Revenue Requirement	**321.21**	**333.36**	**323.72**	**318.69**	**331.23**	**320.87**

Revenue from Sale of Power

Petitioner's Submission

5.130 The Petitioner had submitted the revenue from sale of power for FY 2018-19 as Rs. 330.85 Crore and Rs. 330.82 Crore for Unit-II and Unit-III respectively. In addition to above, an additional amount of Rs. 0.44 Crore for Unit-II had been recovered through supplementary billing in six instalments (Jan'19-June'19) as approved by the Commission in review Order dated January 09, 2019 for FY 2018-19. Out of Rs. 0.44 Crore recovered through arrear bill during the period from Jan'19 to June'19, hence, the Petitioner has apportioned the same as Rs. 0.22 Crore for period from Jan'19 to Mar'19 for FY 2018-19.

Table 47: Revenue as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II	Unit-III
	Petition	Petition
Revenue from Sale of Power	331.07	330.82

Commission's Analysis

5.131 The Petitioner in its petition (Para-111) submitted that they have recovered Rs. 0.44 Crore for Unit-II through supplementary billing in six instalments from month of January 2019 to June 2019. However, in Table-47 (in the petition), the revenue recovered through arrear billing is showing as Rs. 0.22 Crore. The Commission vide its letter dated February 10, 2020 directed the Petitioner to clarify the same.

5.132 In compliance to Commission query, the Petitioner submitted that Rs. 0.22 Crore is shown as additional revenue recovered through arrear bill for the period for Jan'19 to Mar'19 for FY 2018-19 and included in the revenue for FY 2018-19. The remaining

Rs. 0.22 Crore out of Rs. 0.44 Crore is recovered from the Beneficiary in three instalments and adjusted in the gap calculation.

5.133 The Commission has examined the reply of the Petitioner and approves the revenue for FY 2018-19 as shown below.

Table 48: Revenue as approved by the Commission (Rs. Crore)

Particulars	Unit-II		Unit-III	
	Petition	Approved	Petition	Approved
Revenue from Sale of Power	331.07	331.07	330.82	330.82

Gap/Surplus for FY 2018-19

5.134 In accordance to Clause 6.16 and Clause 6.18 of the JSERC Generation Tariff Regulations, 2015 as reproduced 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."*

5.135 Accordingly, the Commission has approved the gap/surplus for FY 2018-19 for Unit-II and Unit-III in the following tables.

Table 49: Gap/(Surplus) for Unit-II as approved by the Commission (Rs. Crore)

Particulars	Unit-II
Opening Gap/(Surplus)	-
Addition during the Year	(7.35)
Revenue recovered (Apr'19-June'19)	(0.22)
Closing Balance	(7.57)
Carrying Cost on Surplus for FY 2018-19	(0.45)
Carrying Cost on Surplus for FY 2019-20	(0.95)

Particulars	Unit-II
Carrying Cost on Surplus for FY 2020-21	(0.44)
Surplus including Carrying Cost	(9.40)

Table 50: Gap/(Surplus) for Unit-III as approved by the Commission (Rs. Crore)

Particulars	Unit-III
Opening Gap/(Surplus)	-
Addition during the Year	(9.95)
Closing Balance	(9.95)
Carrying Cost on Surplus for FY 2018-19	(0.61)
Carrying Cost on Surplus for FY 2019-20	(1.25)
Carrying Cost on Surplus for FY 2020-21	(0.58)
Surplus including Carrying Cost	(12.38)

5.136 The Petitioner in its additional submission dated August 14, 2020 stated that as per MTR Order dated February 14, 2020 has submitted that they had refunded the surplus to the TSL (last instalment due in Sep'20) and hence, requested the Commission to take this into account while computing the carrying cost.

5.137 The Commission would like to clarify that in the MTR Order dated February 14, 2020, APR for FY 2018-19 was carried out and the true up for FY 2018-19 is being carried out in this Order. As the Petitioner has not submitted the details of surplus refunded, the Petitioner is required to collect/refund the Gap/(Surplus) from the Beneficiary according to trued up value approved in this Order duly taking into account earlier adjustment, if any, based on MTR Order dated February 14, 2020.

A 6: ANNUAL PERFORMANCE REVIEW FOR FY 2019-20

6.1 The Commission vide MYT Order dated February 19, 2018 approved the Business Plan and determined the Annual Revenue Requirement for the MYT Control Period from FY 2016-17 to FY 2020-21 including Truing-up for FY 2015-16.

6.2 Later, on January 07, 2019, the Petitioner had filed a Mid-Term Review Petition based on the actual value for FY 2016-17 & FY 2017-18 and revised the value for remaining period of Control Period i.e. FY 2018-19 to FY 2020-21. The Commission has carried out the MTR based on the realistic facts presented before the Commission and after prudence check and issued the MTR Order on February 14, 2020.

6.3 The Petitioner, in the current Petition has sought the Annual Performance Review (APR) for FY 2019-20 based on the actual operational performance till Nov' 2019 and projected for the remaining months of the FY 2019-20. The Petitioner submitted that the actual financial performance for FY 2019-20 will be submitted before the Commission along with True-up Petition for FY 2019-20.

6.4 The Commission has carried out the Annual Performance Review for FY 2019-20 taking into consideration the following:

a) JSERC Generation Tariff Regulations, 2015;
b) Methodology adopted by the Commission in its earlier Tariff Orders.

6.5 The same shall be trued-up based on audited accounts for the FY 2019-20 and taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in its earlier Tariff Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

6.6 The Petitioner had projected the Plant Availability Factor as 99.85% and 90.63% for Unit-II and Unit-III respectively based on actual availability achieved till Nov' 2019 and that estimated for remaining months.

Commission's Analysis

6.7 The Commission in the MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020 had approved the Normative Annual Plant Availability Factor

(NAPAF) as 85% for 2nd control period in line to Clause 8.4 of JSERC Generation Tariff Regulation, 2015. The Commission vide its MTR Order Dated February 14, 2020 carried out Mid Term Review of availability factor and approved revised estimated PAF of 88.99% for both Unit-II and Unit-III. The Petitioner in the current Petition has again revised the estimated PAF as mentioned above.

6.8 The Commission has scrutinized the submission made by the Petitioner and approves the Normative Plant Availability Factor (NAPAF) and estimated Plant Availability Factor (PAF) as shown below.

Table 51: Plant availability as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
NAPAF	%	85.00	85.00	85.00
Estimated Plant Availability	%	88.99	99.85	99.85
Unit-III				
NAPAF	%	85.00	85.00	85.00
Estimated Plant Availability	%	88.99	90.63	90.63

Auxiliary Consumption

Petitioner's Submission

6.9 The Petitioner had estimated the Auxiliary Consumption as 9.68% and 9.72% for Unit-II and Unit-III respectively based on actuals till November 2019 and projected as normative value of 10% for remaining months of FY 2019-20.

Commission's Analysis

6.10 The Commission has scrutinized the Petitioner submission and approves the auxiliary consumption as submitted by the Petitioner for FY 2019-20.

6.11 Further, according to Provision of Clause 6.11 and Clause 6.12 of JSERC Generation Tariff Regulations, 2015, auxiliary consumption is a controllable factor and any financial loss or gain on account of underperformance or over-performance is neither recoverable nor passed on through tariff. Hence, for computation of Energy Charge Rate (ECR), the Commission has considered the normative auxiliary consumption of 10.00% for both the Units as approved in the MYT Order dated February 19, 2018.

6.12 The auxiliary consumption as approved by the Commission in the MTR Order dated February 14, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is provided in the table below.

Table 52: Auxiliary Consumption as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Estimated Auxiliary Consumption	%	9.68	9.68	9.68
Unit-III				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Estimated Auxiliary Consumption	%	9.72	9.72	9.72

Plant Load Factor and Generation

Petitioner's Submission

6.13 The Petitioner estimated the Plant Load Factor (PLF) for Unit-II as 76.50% and 78.30% for Unit-III which is less than the PLF of 84.50% for Unit-II and 78.97% for Unit-III respectively as approved by the Commission in the MYT Order dated February 19, 2018.

6.14 The Petitioner had claimed the gross generation of Unit-II and Unit-III of the Jojobera generating station as 806.33 MU and 825.33 MU respectively. Accordingly, the Petitioner submitted net generation (ex-bus generation) for Unit-II and Unit-III as 728.31 MU and 745.09 MU respectively after deducting the proposed auxiliary consumption as submitted above.

Commission's Analysis

6.15 The Commission vide its MTR Order Dated February 14, 2020 carried out Mid Term Review of plant load factor and approved revised estimated PLF as 76.77% and 78.54% for Unit-II and Unit-III respectively. The Petitioner in the current Petition has again revised the estimated PLF as mentioned above.

6.16 The Commission raised its concern regarding huge gap between the projected Plant Availability Factor (PAF) and Plant Load factor (PLF). The Commission is of the view that the Petitioner should look into the reasons for sub-optimal utilisation of its assets which could be due to high cost of generation. The Petitioner should take steps towards reduction of the cost of generation so that more power can be scheduled thus increasing its utilisation. For Annual Performance Review for FY 2019-20, the Commission approves the Gross Generation and Net Generation as shown below.

Table 53: Plant Load Factor and Generation as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Gross Generation	MU	806.33	806.33	806.33
Net Generation	MU	728.31	728.31	728.31

Particulars	UoM	MTR Order	Petition	Approved
Unit-III				
Gross Generation	MU	825.33	825.33	825.33
Net Generation	MU	745.09	745.09	745.09

Gross Station Heat Rate (GHR)

Petitioner's Submission

6.17 The Petitioner had claimed Gross Station Heat Rate (GHR) as 2551 kCal/kWh for Unit-II and 2554 kCal/kWh for Unit-III against the normative approved value of 2567 kCal/kWh and 2577 kCal/kWh for Unit-II and Unit-III respectively. However, the Petitioner had considered the normative value of 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III for computation of energy charge.

Commission's Analysis

6.18 According to Provision of Clause 6.11 and Clause 6.12 of JSERC Generation Tariff Regulations, 2015, Gross Station Heat Rate (GHR) is a controllable factor and any financial loss or gain on account of underperformance or over-performance is neither recoverable nor to be passed on through tariff.

6.19 In accordance to the Clause 8.4 of JSERC Generation Tariff Regulation, 2015, in line with MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020, the Commission approves the GHR as 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III respectively for FY 2019-20.

Table 54: Gross Station Heat Rate (GHR) as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Unit-II				
Normative Station Heat Rate	kCal/kWh	2567	2567	2567
Unit-III				
Normative Station Heat Rate	kCal/kWh	2577	2577	2577

Specific Fuel Oil Consumption

Petitioner's Submission

6.20 The Petitioner submitted the specific fuel oil consumption as 1.00 ml/kWh for both the Units as specified in Clause 8.4 of JSERC Generation Tariff Regulations, 2015.

Commission's Analysis

6.21 The Commission in its MYT Order dated February 19, 2018 approved the Specific Fuel Oil Consumption as 0.50 ml/kWh for 2nd Control period. The abstract from the MYT Order is reproduced below.

> *"6.137 The JSERC Generation Tariff Regulations, 2015 specifies the following*
>
> > *16.4 The Commission may in public interest and for reasons to be recorded in writing, relax any of the provision of these Regulations."*
>
> *6.138 Considering all of the above, the Commission has decided to approve the specific oil consumption (of LDO) at 0.5 ml/kWh for each year of the Control Period i.e. from FY 2016-17 to FY 2020-21 for both Unit 2 and Unit 3. This norm may be re-looked based on Petitioner's actual performance during the Control period and as deemed fit by the Commission after due consideration of the actual performance of the Petitioner. In the subsequent APR and True-up Petitions, the Petitioner is directed to also submit details of number of unit-wise start-ups taken after shutdown. Also, details should include monthly quantity of secondary fuel consumed during plant start-up and flame support if required."*

6.22 The Petitioner had filed the review petition before the Commission against the MYT Order dated February 19, 2018 for revision of targets on specific fuel oil consumption for the 2nd control period. The Commission retain the normative value as approved in the MYT Order dated February 19, 2018 and dispose of the review petition. The relevant abstract is reproduced below.

> *"……. the Commission has fixed 0.5 ml/kWh for each year of the control period at this stage. However, as mentioned in the MYT Order itself, the Commission may re-look into the same during APR and True up of the years to be submitted by the Petitioner subject to the petitioner providing the details of start-ups taken after the shut downs and monthly quantity of secondary fuel consumed during plant start-up"*

6.23 The Commission has considered the Specific Fuel Oil Consumption as 0.5 ml/kWh as approved in MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020 for both Unit-II and Unit-III for Annual Performance Review for FY 2019-20 as shown below.

Table 55: Specific Fuel Oil Consumption as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Specific Fuel Oil Consumption (Unit-II)	ml/kWh	0.50	1.00	0.50
Specific Fuel Oil Consumption (Unit-III)	ml/kWh	0.50	1.00	0.50

Fuel Cost Parameters

Coal Mix and Gross Calorific Value (GCV) of Primary Fuel

Petitioner's Submission

6.24 The Petitioner submitted that due to various challenges associated with coal supply chain like expiry of FSA with MCL on April 30, 2018, decrease in the production from West Bokaro, the Petitioner had sought other means to meet its coal requirement. Since, there was no coal linkage available for Unit-II and Unit-III from October, 2018 onwards, the shortfall of MCL coal was substituted with washed coal purchased from private washeries and coal sourced through e-auction until the allocation was made from SHAKTI coal in August, 2019. The Petitioner further submitted that the Fuel Supply Agreement for this allocation are yet to be signed and regular supplies are likely to commence from February, 2020.

6.25 The Petitioner apprise that they have recently participated in the minimum bid E-auction conducted by Coal India Limited for its various subsidiaries under the Scheme for Harnessing and Allocating Koyala (Coal) Transparently in India ("SHAKTI Policy") to securitize long-term coal linkage. As per bid results, the Petitioner got allotment of 4,64,300 Ton/annum provisionally at a Levelised discount of 4.00 paisa/kWh for units generated from the coal under SHAKTI Policy from different subsidiaries of Coal India Limited as per the quantum(s) mentioned below.

Table 56: Provisional coal allocation under SHAKTI Scheme (Ton)

Source	Grade	Provisional Allocation
ECL	G4	85500.00
CCL	G11	193000.00
MCL	G13	185800.00

Note: Subject to signing of LoI and FSA with CIL

6.26 Stating the status of SHAKTI coal, the Petitioner submitted that it has successfully executed the FSA with ECL and FSA with CCL and MCL are likely to be executed in future. Hence, for the purpose Annual Performance Review for FY 2019-20, the Petitioner had considered the actual consumption till November, 2019 and estimated for December, 2019 and January, 2020 as per the current fuel mix. For February, 2020 and March, 2020, the Petitioner had taken into account the coal sourcing under SHAKTI Policy.

Commission's Analysis

6.27 The Commission observed that the Petitioner was able to secure coal under SHAKTI policy to optimise its energy cost. However, with the lapse of time in completing the formality of Fuel Supply Agreement with Coal India Limited, the Petitioner had projected delivery of SHAKTI coal only for the last two months in FY 2019-20.

6.28 The Commission in this Order for Annual Performance Review had considered the coal mix and GCV for FY 2019-20 as submitted by the Petitioner. However, the same shall be subject to truing up on the basis of audited accounts and the Commission will carry out due diligence of the efforts and steps carried out by the Petitioner to optimise its fuel cost. The Petitioner is required to submit the documentary evidence of efforts taken by it to optimise the fuel cost.

6.29 Considering the facts submitted by the Petitioner, the following tables summarize the coal mix and weighted average GCV of coal as approved by the Commission for Unit-II and Unit-III of Jojobera Generation Plant.

Table 57: Coal Mix and GCV for Unit-II as approved by the Commission

Particulars	Coal Mix (%)			GCV (kCal/kg)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Middling Coal	50.82	50.82	50.82	4057.58	4057.58	4057.58
MCL Coal	5.23	5.23	5.23	3353.17	3353.17	3353.17
Washery Coal	4.84	4.84	4.84	4405.02	4405.02	4405.02
2-Product+Tailing (By Rake)	18.94	18.94	18.94	2596.61	2596.61	2596.61
CCL Coal	2.91	2.91	2.91	3250.00	3250.00	3250.00
Tailing (By Road)	0.99	0.99	0.99	4296.42	4296.42	4296.42
WB Reject Coal	1.88	1.88	1.88	2473.60	2473.60	2473.60
Imported Coal	11.67	11.67	11.67	4170.32	4170.32	4170.32
ECL Coal	2.14	2.14	2.14	5116.01	5116.01	5116.01
BCCL (E-Auction) Coal	0.57	0.57	0.57	4133.43	4133.43	4133.43
Wtg. Avg. GCV	-	-	-	**3746.24**	**3746.24**	**3746.24**

Table 58: Coal Mix and GCV for Unit-III as approved by the Commission

Particulars	Coal Mix (%)			GCV (kCal/kg)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Middling Coal	51.59	51.59	51.59	4062.69	4062.69	4062.69
MCL Coal	4.75	4.75	4.75	3318.28	3318.28	3318.28
Washery Coal	4.85	4.85	4.85	4403.42	4403.42	4403.42
2-Product+Tailing (By Rake)	18.66	18.66	18.66	2595.78	2595.78	2595.78
CCL Coal	2.84	2.84	2.84	3250.00	3250.00	3250.00
Tailing (By Road)	1.31	1.31	1.31	4295.33	4295.33	4295.33
WB Reject Coal	2.01	2.01	2.01	2471.65	2471.65	2471.65
Imported Coal	11.42	11.42	11.42	4169.33	4169.33	4169.33

Particulars	Coal Mix (%)			GCV (kCal/kg)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
ECL Coal	1.93	1.93	1.93	5087.31	5087.31	5087.31
BCCL (E-Auction) Coal	0.64	0.64	0.64	4178.74	4178.74	4178.74
Wtg. Avg. GCV	-	-	-	**3750.68**	**3750.68**	**3750.68**

Transit Loss

Petitioner's Submission

6.30 The Petitioner had projected the transit loss on normative basis for each source of coal for FY 2019-20 in line to approved in MYT Order dated February 19, 2018 and as per regulations.

Commission's Analysis

6.31 The Commission approves the transit loss on normative basis as approved in the MYT Order dated February 19, 2018 and in line to JSERC Generation Tariff Regulations, 2015 as shown below.

Table 59: Transit Loss as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Domestic Coal	%	0.80	0.80	0.80
Imported Coal	%	0.20	0.20	0.20

Landed Cost of Coal

Petitioner's Submission

6.32 The Petitioner in its petition had projected landed price of coal from each source for FY 2018-19 based on the actual for the period from April, 2019 to November, 2019 and projected for the remaining months of FY 2019-20. The landed price was calculated considering the transit loss on normative value for each source as per JSERC Generation Tariff Regulations, 2015.

6.33 The Petitioner submitted that the price and quality of the fuel are uncontrollable in nature for a generating company and requested the Commission to approve the same as proposed by the Petitioner.

Commission's Analysis

6.34 The Commission in this Order for Annual Performance Review for FY 2019-20 has approved the landed price of coal from each source based on the data submitted by the

Petitioner however, the same shall be subject to truing up based on the actuals as per audited accounts.

6.35 The Commission for reasons already stated earlier in this Order approves the normative transit loss for the calculation of landed price of coal.

6.36 The weighted average landed price of coal as approved by the Commission for Annual Performance Review for FY 2019-20 subject to truing up is provided in the table below.

Table 60: Landed Price of Coal for Unit-II as approved by the Commission (Rs./Ton)

Particulars	MTR Order	Petition	Approved
Middling Coal	4388.51	4388.51	4388.51
MCL Coal	2900.97	2900.97	2900.97
Washery Coal	5377.78	5377.78	5377.78
2-Product+Tailing (By Rake)	3098.74	3098.74	3098.74
CCL Coal	2788.49	2788.49	2788.49
Tailing (By Road)	4467.24	4467.24	4467.24
WB Reject Coal	2726.28	2726.28	2726.28
Imported Coal	5723.16	5723.16	5723.16
ECL Coal	5612.38	5612.38	5612.38
BCCL (E-Auction) Coal	5363.37	5363.37	5363.37
Landed Price of Primary Fuel	**4224.82**	**4224.82**	**4224.82**

Table 61: Landed Price of Coal for Unit-III as approved by the Commission (Rs./Ton)

Particulars	MTR Order	Petition	Approved
Middling Coal	4389.01	4389.01	4389.01
MCL Coal	2885.61	2885.61	2885.61
Washery Coal	5373.07	5373.07	5373.07
2-Product+Tailing (By Rake)	3098.94	3098.94	3098.94
CCL Coal	2788.49	2788.49	2788.49
Tailing (By Road)	4467.77	4467.77	4467.77
WB Reject Coal	2721.92	2721.92	2721.92
Imported Coal	5742.65	5742.65	5742.65
ECL Coal	5590.25	5590.25	5590.25
BCCL (E-Auction) Coal	5334.55	5334.55	5334.55
Landed Price of Primary Fuel	**4230.34**	**4230.34**	**4230.34**

Calorific value and Cost of Secondary Fuel

Petitioner's Submission

6.37 The Petitioner has submitted the weighted average calorific value and landed price as 9100 kCal/L and Rs. 49749 per litre for Unit-II. Similarly, for Unit-III, the estimated weighted average calorific value and landed price is 9100 kCal/L and Rs. 49562 per litre respectively.

Commission's Analysis

6.38 The Commission has scrutinized the submission made by the Petitioner and observed that the landed price of secondary fuel had increased drastically as compared to the previous years.

6.39 Considering the fact that the landed price of secondary fuel is volatile and depend on the market supply and demand. Hence, the Commission in this Order has approved the calorific value and landed price of Secondary Fuel as submitted by the Petitioner. However, the Petitioner is required to ensure price discipline while purchasing the secondary fuel and also provide the auditor's certificate at the time of true up.

Table 62: Calorific value & Landed price of Secondary fuel as approved by the Commission

Particulars	Calorific Value (kCal/L)			Landed Price (Rs./kL)		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Unit-II	9100	9100	9100	49749	49749	49749
Unit-III	9100	9100	9100	49562	49562	49562

Energy Charge Rate (ECR)

Petitioner's Submission

6.40 The Petitioner claimed the Energy Charge Rate (ECR) as Rs. 3.258 per kWh and Rs. 3.271 per kWh for Unit-II and Unit-III respectively for FY 2019-20.

6.41 The Petitioner had projected the ECR after considering the benefit of economical coal under SHAKTI scheme and discount factor of 4 paisa/kWh in the month of February'20 and March'20 and requested the Commission to consider the revised submission for calculation of Energy Charge Rate.

Commission's Analysis

6.42 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2015, the energy (variable) charge shall cover primary fuel and secondary fuel costs and shall be payable by every beneficiary for the energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).

6.43 The formula for calculation of energy charge payable to a Generating Company is specified in Clause 8.18 and Clause 8.19 of JSERC Generation Tariff Regulation, 2015 as quoted below.

"8.18 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.}

8.18 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formula:
(a) For coal based stations

ECR = {(GHR – SFC x CVSF) x LPPF/CVPF+SFCxLPSFi+LCxLPL} x 100/(100 – AUX)}

…………..

Where,
AUX - Normative auxiliary energy consumption in percentage
CVPF –Weighted Average Gross calorific value of coal as received, in KCal per kg, for coal based stations. In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.
CVSF - Calorific value of secondary fuel, in KCal per ml
ECR - Energy charge rate, in Rupees per kWh sent out.
GHR - Gross station heat rate, in KCal per kWh.
LC - Normative limestone consumption in kg per kWh
LPPF - Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.(In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)
LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month
LPL = Weighted average landed price of limestone in Rupees per kg
SFC - Specific fuel oil consumption, in ml per kWh"

6.44 The Commission had scrutinized the submission of the Petitioner and has calculated the ECR to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015 and approved parameters in this Order. The table below detailed the ECR and Fuel Cost for Unit-II and Unit-III as approved by the Commission for FY 2019-20.

Table 63: Energy Charge Rate (ECR) for FY 2019-20 as approved by the Commission

Particulars	UoM	Unit-II			Unit-III		
		MTR Order	Petition	Approved	MTR Order	Petition	Approved
Net Generation	MU	728.31	728.31	728.31	745.09	745.09	745.09
Normative Auxiliary	%	10.00	10.00	10.00	10.00	10.00	10.00
Gross Station Heat Rate	kCal/kWh	2567.00	2567.00	2567.00	2577.00	2577.00	2577.00

Particulars	UoM	Unit-II			Unit-III		
		MTR Order	Petition	Approved	MTR Order	Petition	Approved
Specific Oil Consumption	mL/kWh	0.50	1.00	0.50	0.50	1.00	0.50
Calorific Value of Oil	kCal/mL	9.10	9.10	9.10	9.10	9.10	9.10
GCV of Primary Fuel	kCal/kg	3746.24	3746.24	3746.24	3750.68	3750.68	3750.68
Landed Price of Primary Fuel	Rs./Ton	4224.82	4224.82	4224.82	4230.34	4230.34	4230.34
Landed Price of Secondary Fuel	Rs./kL	49749.00	49749.00	49749.00	49562.00	49562.00	49562.00
Energy Charge Rate (ECR)	**Rs/kWh**	**3.239**	**3.260**	**3.239**	**3.251**	**3.273**	**3.251**

6.45 The Petitioner further submitted that due to discount of Rs. 0.04/kWh on sale of SHAKTI scheme coal, there will be reduction in energy cost by Rs. 0.20 Crore and Rs. 0.19 Crore in Unit-II and Unit-III respectively for FY 2019-20.

6.46 The Commission has scrutinized the submission of the Petitioner and approved the reduction as submitted by the Petitioner as shown below and shall be subject to prudence check at the time of truing up.

Table 64: ECR for FY 2019-20 as approved by the Commission after considering the impact of Discounting on SHAKTI Scheme Coal

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Primary Fuel before Discount	Rs. Cr.	-	233.85	-	240.20
Sales due to ECL Coal	MU	12.68	12.68	12.56	12.56
Sales due to CCL Coal	MU	18.18	18.18	18.11	18.11
Sales due to MCL Coal	MU	18.06	18.06	17.80	17.80
Discount Amount (@0.04/kWh)	Rs. Cr.	0.20	0.20	0.19	0.19
Primary Fuel Charge after Discount	Rs. Cr.		233.66		240.01
Secondary Fuel Charge	Rs. Cr.	-	2.01	-	2.05
Net Energy Charge after Discount	**Rs. Cr.**	**237.27**	**235.67**	**243.69**	**242.06**
Energy Charge Rate after Discount	**Rs./kWh**	**3.258**	**3.236**	**3.271**	**3.249**

Summary of Fuel Cost

6.47 The table below provides the summary of Fuel Cost submitted by the Petitioner and that approved by the Commission for FY 2019-20.

Table 65: Fuel Cost for Unit-II as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Cost of Primary Fuel	Rs. Cr.	233.66		233.66
Cost of Secondary Fuel	Rs. Cr.	2.01	-	2.01
Energy Cost	**Rs. Cr.**	**235.67**	**237.27**	**235.67**

Table 66: Fuel Cost for Unit-III as approved by the Commission

Particulars	UoM	MTR Order	Petition	Approved
Cost of Primary Fuel	Rs. Cr.	240.01	-	240.01
Cost of Secondary Fuel	Rs. Cr.	2.05		2.05
Energy Cost	**Rs. Cr.**	**242.06**	**243.69**	**242.06**

Determination of Fixed Cost

Additional Capitalization

Petitioner's Submission

6.48 The Petitioner had submitted the estimated capitalization for Unit-II and Unit-III for FY 2019-20 which is broadly categorised under following two heads:-

i. **Capitalization-Standalone:** This category includes the capitalized costs incurred for assets/schemes exclusively for Unit-II or Unit-III.

ii. **Capitalization-Common Facilities:** This category includes the assets/schemes which are common to all the Units at the Jojobera Power Plant i.e. Unit-I, Unit-II, Unit-III, Unit-IV of Tata Power and Unit-V of Industrial Energy Limited (IEL). These assets/schemes provide facilities to all the above Units and therefore the capitalized cost of such assets/schemes are apportioned to derive the GFA part of Unit-II and Unit-III appropriately.

6.49 The following table summarises the additional capitalization for Unit-II and Unit-III as proposed by the Petitioner for FY 2019-20. The Petitioner submitted that the major reason for deviation in estimated and approved capitalization is mainly on account of partly or fully deferred capitalization with minor addition of new schemes which are essential for running the plant.

Table 67: Asset wise Capitalization as submitted by the Petitioner (Rs. Crore)

Particular	FY 2019-20	
	MTR Order	Petition
Unit-II (Standalone)		
Up gradation of Metering System	0.28	0.28
Oil filtration system for Coal Mill	0.50	0.50
210 AH UPS battery bank	0.12	0.12
6.6 kV Switchboard Replacement	1.28	1.28
Unit-III (Standalone)		
6.6 kV Switchboard Replacement	1.46	1.46
Up gradation of Metering System	0.28	0.28
Oil filtration system for Coal Mill	0.50	0.50
Unit-II & Unit-III (Common)		
Up gradation of Plant Security System	-	0.03
New Schemes		
Replacement of Dead Tank CT with live Tank CT	-	0.18
Capitalization	**4.41**	**4.62**

6.50 The capitalization for FY 2019-20 as submitted by the Petitioner for Unit-II and Unit-III is shown below.

Table 68: Capitalization as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Capitalization	2.18	2.28	2.24	2.34

Commission's Analysis

6.51 The Commission has outlined the following provisions for the approval of any additional capitalization for a generating station in the JSERC Generation Tariff Regulation, 2015.

"*Additional Capitalisation*

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

(i) Undischarged liabilities;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions under clause 7.3,7.4 of these Regulations;

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

(v) Change in law.

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

'7.6 The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

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

(ii) Change in law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

(iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(vi) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialisation of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

(vii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to ecological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plan operation; and

Provided that in respect sub-clause (vii) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture air conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machine, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 01.04.2016 for the Control period.

Provided further that any capital expenditure other than that of the nature specified above in (i) to (vi) in case of coal/lignite-based station shall be met out of compensation allowance as specified in Clause 7.46;

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

6.52 The Commission has carried out MTR for FY 2019-20 in its MTR Order dated February 14, 2020, and approved the additional capitalization after prudence check subject to truing up. The relevant extract is reproduced below:

"6.62 In regard to revision in capitalization scheme for FY 2018-19, the Commission has scrutinized the submissions of the Petitioner. The Commission however is of the view that as the audited figures are not available, therefore the Commission has considered only those schemes that have already been approved in the MYT Order. Further, while allowing cost the Commission has considered

the minimum of the actual projected expenses and that allowed by the Commission in the MYT Order. The Commission directs the Petitioner to submit detailed reasons for cost escalation and new scheme proposed at the time of filing true up petition for FY 2018-19.

6.63 Further, the Petitioner in its submission dated December 26, 2019 has provided the detail of deletion of assets for the FY 2018-19. The Commission approves the deletion of assets as proposed by the Petitioner subject to prudence check at the time of true-up."

7.73 The Commission scrutinized the detail submitted by the Petitioner dated December 26, 2019 and carried out prudence check while approving the asset wise additional capitalization for FY 2019-20 and FY 2020-21as shown below subject to truing up based on actual and approved scheme in MYT Order dated February 19, 2018.

7.74 Further, the Petitioner has not provided any detail of assets which are de-capitalized in FY 2019-20 and FY 2020-21. The Commission directs the Petitioner to provide the detail of de-capitalized assets at the time of true-up"

6.53 In regard to revision in capitalization scheme for FY 2019-20, the Commission scrutinized the detail and reasoning for cost overrun submitted by the Petitioner. The Commission has carried out prudence check of the actual capitalization along new schemes.

6.54 In reply to the Commission query dated February 10, 2020, the Petitioner submitted the detail reasons for cost over-run for approved capex and justification for new schemes.

Particular	Remark
New Scheme Proposed	
Up gradation of Plant Security System	**Cost: Rs. 0.03 Crore** Jamshedpur, an industrial hub with the growth of industries and the presence of the non-state actors around this industrial belt has further increased threat from Naxals/Left Wing Extremism (LWE)/Terrorists. The baffle gates are designed to allow a single person at a time and is equipped with access control system (ACS) based on proximity/RFID/face detection & recognition system/wave biometric etc. As of now, the exit and entry of approximately 1200 workers on a daily basis and around 1900 to 2000 at time of Unit outage are managed by the security forces posted at the entrance gates.
Replacement of Dead Tank CT with live Tank CT	**Cost: Rs. 0.18 Crore** Since 2003, multiple failures of Dead Tank CTs has been witnessed in the Tata Steel Power System along with switchyard of DVC and 132KV switchyard of Tata Power. However, blasting of Dead Tank CT on 31.03.2017 in DVC Golmuri Switchyard was so severe that it resulted into a black out condition in the Petitioner Generating Station with tripping of three Generating units with one unit already in outage. Basis the above incident, the multiple failures observed in past and in view of the large scale power system disturbance, arising of unsafe situation, equipment damage and potential threat to embedded power system due to such failure of CTs; Tata Steel took a decision for replacement of all Dead Tank CTs with Live Tank CTs in their switchyards and further recommended similar replacements for

Particular	Remark
	switchyard of Tata Power and DVC in Golmuri in order to control/eliminate such failure in future. Also, historically, it has been seen that dead tank CTs have a high rate of failure compared to live tank CT and any fault in 132KV CT is a mouth fault for the generator resulting in huge voltage dip and station black out. The existing dead tank CTs have porcelain insulators and when these CTs blast the parts of the porcelain does secondary damage by affecting nearby equipment's and may also harm persons in vicinity. The new CTs will be having composite polymer (silicon rubber) insulators and, thus, the risk of secondary damage can be mitigated. Recently, on 6.02.2020, dead tank CT of Manufacturing year 2009 failed in Y phase of Bus Sectionalizer#2 in our switchyard. The blasting of CT caused secondary damages and many bus post insulators were damaged by the impact of porcelain pieces of the dead tank CT. It took six days to completely restore back the power system considering the extent of secondary damage. It is humbly submitted that such failure of the CTs is uncontrollable for the Petitioner and is mandatorily required to incur such expenditure in phased manner for controlling/eliminating such failure in future. It is reiterated that the scheme is extremely critical for safe operation of the Units, safety of the working staff and security of the Grid.

6.55 With reference to the new schemes, the Commission approves the scheme towards Replacement of Dead Tank CT with live Tank CT and has not considered the expenditure towards Up gradation of Plant Security System, for reasons already mentioned in the true up section for FY 2018-19.

6.56 The Commission further observed that the Petitioner had not provided any detail of assets which are de-capitalized in FY 2019-20. The Commission directs the Petitioner to provide the detail of de-capitalized assets at the time of true-up. In view of the above, the Commission approves the additional capitalisation for FY 2019-20 as shown below.

Table 69: Asset wise Capitalization as approved by the Commission (Rs. Crore)

Particular	FY 2019-20		
	MTR Order	Petition	Approved
Unit-II (Standalone)			
Up gradation of Metering System	0.28	0.28	0.28
Oil filtration system for Coal Mill	0.50	0.50	0.50
210 AH UPS battery bank	0.12	0.12	0.12
6.6 kV Switchboard Replacement	1.28	1.28	1.28
Unit-III (Standalone)			
6.6 kV Switchboard Replacement	1.46	1.46	1.46
Up gradation of Metering System	0.28	0.28	0.28
Oil filtration system for Coal Mill	0.50	0.50	0.50
Unit-II & Unit-III (Common)			
Up gradation of Plant Security System	-	0.03	-
New Schemes			
Replacement of Dead Tank CT with live Tank CT	-	0.18	0.18
Capitalization	**4.41**	**4.62**	**4.60**

Table 70: Capitalization as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Capitalization	2.18	2.28	2.27	2.24	2.34	2.33

6.57 The Gross Fixed Assets as approved by the Commission for FY 2019-20 is shown below.

Table 71: Gross Fixed Assets (GFA) as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Opening GFA	485.00	498.09	485.64	462.06	473.32	462.48
Capitalization	2.18	2.28	2.27	2.24	2.34	2.33
Decapitalization	-	-	-	-	-	-
Closing GFA	487.18	500.37	487.91	464.29	475.66	464.81

Depreciation

Petitioner's Submission

6.58 The Petitioner had submitted the depreciation for FY 2019-20 as summation of the depreciation on the following assets:-

- Original Project Cost;
- Additional Capitalization approved for FY 2011-12 to FY 2015-16;
- Additional Capitalization projected for FY 2016-17 to FY 2018-19; and
- Additional Capitalization projected for FY 2019-20.

6.59 The Petitioner has proposed the recovery of remaining depreciable value on Original project cost as per depreciation rate specified in the Regulations, in case the cumulative depreciation of asset is less than 70%, else by spreading it equally in the remaining Useful life i.e. 25 years.

6.60 For additional capitalization approved for FY 2011-12 to FY 2015-16 and additional capitalization projected for FY 2016-17 & FY 2018-19, balance depreciable value as on April 01, 2019 in remaining years of the PPA tenure of 30 years i.e. till January 31, 2031 for Unit-II and January 31, 2032 for Unit-III respectively.

6.61 For additional capitalization, the Petitioner submitted that the depreciation for the 1st year is computed from mid-year in accordance with methodology approved by the Commission in recent MYT Order and in Previous Tariff Orders. Further, depreciation for the subsequent years had been computed by spreading the Balance depreciable value equally in the balance years of the PPA life of 30 years.

Table 72: Depreciation as submitted by the Petitioner (Rs. Crore)

Particular	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Depreciation	6.37	7.16	6.65	7.98

6.62 The Petitioner during Public Hearing dated August 07, 2020 and vide its additional submission dated August 14, 2020 revised the calculation of depreciation and proposed that the remaining depreciable amount on Original Cost and additional capitalization to be equally spread on Balance Useful Life of the Project i.e. 25 years as the cumulative depreciation till FY 2017-18 has crossed 70% for both the Units. The Petitioner further added that similar methodology is also followed by CERC.

6.63 The revised depreciation claimed by the Petitioner for FY 2019-20 is shown in the table below.

Table 73: Revised Depreciation as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Depreciation	6.37	9.98	6.65	9.75

Commission's Analysis

6.64 The JSERC Generation Tariff Regulation, 2015 has specified the following methodology for the calculation of depreciation expense for existing generating station

> *"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.*
> *…………..*
>
> *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 31stMarch 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.*

6.65 The Commission observed that the Petitioner in its earlier Petitions submitted the asset class wise break of depreciation claimed on Original Capital Cost (spread equally considering useful life of 25 years) and additional capitalization (spread equally considering the PPA tenure of 30 years) separately before the Commission for its consideration. Further, the same approach was followed by the Petitioner while filing the petition for APR for FY 2018-19.

6.66 However, the Petitioner during Public Hearing dated August 07, 2020 and through additional submission dated August 14, 2020 revised the calculation of depreciation and suggested that the remaining depreciable amount of both Original Capital Cost and additional capitalization be equally spread on Balance Useful Life of the Project considering 25 years of useful life as the cumulative depreciation till 2017-18 has crossed 70% for both the Units.

6.67 The Commission observes that the Petitioner has revised their deprecation calculation during the Public Hearing scheduled on August 07, 2020 and submitted the detail to the Commission on August 14, 2020. The Commission is of the view that any material change impacting tariff need to be submitted well in advance before the Commission as well as before other stakeholders for public scrutiny. Hence, the Commission at this stage has not gone into the merits of the revised approach and approves the deprecation as per the approach adopted in its earlier Tariff Orders.

Table 74: Depreciation as approved by the Commission (Rs. Crore)

Particular	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Depreciation	**6.37**	**7.16**	**6.49**	**6.65**	**7.98**	**6.48**

Operation & Maintenance Expenses

Petitioner's Submission

6.68 The Petitioner had claimed the Operation and Maintenance (O&M) expenses under the following broad head:-

a. Employee Expenses with Terminal Benefits;
b. Repairs & Maintenance (R&M) Expenses;
c. Administrative and General (A&G) Expenses;
d. ARR Application Fees & Publication Expenses;
e. Raw water Expenses;
f. Ash Disposal Expenses;
g. Capital Spares.

6.69 The Petitioner had claimed the employee expenses including terminal liabilities, R&M expenses on normative basis as approved in the MYT Order dated February 19, 2018.

6.70 The A&G expenses submitted by the Petitioner comprises of ash disposal expenses, head office expenses & shared services expenses, application fees, and publication expenses and other A&G expenses.

6.71 The Petitioner projected the ash disposal expenses as Rs. 3.63 Crore and Rs. 3.71 Crore for Unit-II and Unit-III respectively for FY 2019-20 .

6.72 The Petitioner submitted that the Head Office expenses, other A&G expenses and ARR Publication Expense & Application Fee has been considered on normative basis as approved in the MYT Order dated February 19, 2018.

6.73 For the purpose of Annual Performance Review for FY 2019-20, the Petitioner submitted the raw water expense considering the projected water consumption and water charge rate applicable for the Financial year. The raw water consumption is projection based on actual till November 2019 and assessed for the remaining months on weighted average consumption.

6.74 The Petitioner had projected the capital spares as Rs. 0.70 Crore for procurement of critical spares for Turbine and DCS Cards for each Unit.

6.75 The detail of O&M expenses as claimed by the Petitioner for FY 2019-20 is shown below.

Table 75: O&M Expenses as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Employee Expenses	7.88	7.88	7.88	7.88
Terminal Liabilities	0.25	0.25	0.25	0.25
R&M Expenses	20.46	20.46	14.61	14.61
Ash Disposal Expenses	3.63	3.63	3.71	3.71
Raw Water	2.55	4.89	2.61	5.01
HO Expenses	10.76	10.76	9.43	9.43
Application & Publication fee	0.31	0.31	0.30	0.30
Other A&G Exp.	5.14	5.14	4.70	4.70
Capital Spares	0.70	0.70	0.70	0.70
Net O&M Expenses	**51.68**	**54.03**	**44.19**	**46.59**

Commission's Analysis

6.76 The Clause 7.40 and Clause 7.41 of the JSERC Generation Tariff Regulations, 2015 lays out the provision for determination of O&M expenses as reproduced 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).*
> *7.41 Existing Thermal Generating Stations:*
> *(a) The Applicant shall submit details of O&M expenses as required by the Commission. The O&M expenses excluding terminal liabilities for the Base Year shall be determined based on accounting statements for the base year, estimates of the Generating Company for relevant years and other factors considered relevant.*
> *(b) The O&M expenses excluding terminal liabilities permissible towards determination of tariff for each year of the Control Period shall be determined after a prudency check by the Commission based on submissions of the Generating Company, previous years' actual expenses and any other factor considered relevant.*
> *(c) Terminal Liabilities will be approved as per actual submitted by the Generating Company or be established through actuarial studies.*

(d) Increase in O&M charges on account of war, insurgency or changes in laws, or like eventualities where the Commission is of the opinion that an increase in O&M charges is justified, may be considered by the Commission for a specified period."

6.77 The Commission has scrutinized the submission made by the Petitioner and approves the employee cost, R&M Expenses, HO & SS Expenses and Other A&G Expenses on normative basis as approved in MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020.

6.78 The Commission approves the terminal liabilities and publication expense on normative basis as approved in MTR Order dated February 14, 2020.

6.79 The Commission observed that due to improvement in specific raw water consumption, the Raw Water Expenses claimed by the Petitioner is lower than the approved value in MTR Order dated February 14, 2020.

6.80 The Commission has reassessed the raw water consumption based on the estimated specific water consumption and gross unit generation as submitted by the Petitioner. The Commission has adopted the same methodology while approving the Raw Water expenses as considered while truing up for FY 2016-17 and FY 2017-18.

Table 76: Raw water Expenses as approved by the Commission (Rs. Crore)

Particular	**UoM**	**Unit-II**	**Unit-III**
Consumption	'000 Gallons	494,856	506,560
Rate	Rs./'000 Gallons	98.97	98.97
Water Bill	Rs. Cr.	4.89	5.01
Approved Raw Water Expenses	**Rs. Cr.**	**2.55**	**2.61**

6.81 The Commission observed that the capital spares as claimed by the Petitioner is well within the limit as approved in MTR Order dated February 14, 2020 and therefore approves the capital spares as submitted by the Petitioner.

6.82 The O&M expense as approved by the Commission for FY 2019-20 vis-a-vis as claimed by the Petitioner is shown below.

Table 77: O&M Expenses as approved by the Commission (Rs. Crore)

Particulars	**Unit-II**			**Unit-III**		
	MTR Order	**Petition**	**Approved**	**MTR Order**	**Petition**	**Approved**
Employee Expenses	7.88	7.88	7.88	7.88	7.88	7.88
Terminal Liabilities	0.25	0.25	0.25	0.25	0.25	0.25
R&M Expenses	20.46	20.46	20.46	14.61	14.61	14.61

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Ash Disposal Expenses	3.63	3.63	3.63	3.71	3.71	3.71
Raw Water	2.55	4.89	2.55	2.61	5.01	2.61
HO Expenses	10.76	10.76	10.76	9.43	9.43	9.43
Application & Publication fee	0.31	0.31	0.31	0.30	0.30	0.30
Other A&G Exp.	5.14	5.14	5.14	4.70	4.70	4.70
Capital Spares	0.70	0.70	0.70	0.70	0.70	0.70
O&M Expenses	**51.68**	**54.03**	**51.68**	**44.19**	**46.59**	**44.19**

Interest on Loan

Petitioner's Submission

6.83 The Petitioner submitted that the repayment of the long-term loan on Original Project Cost of Unit-II and Unit-III had been completed in the FY 2009-10 and 2010-11 respectively.

6.84 The Petitioner has further submitted that the entire additional capitalisation incurred in FY 2019-20 was funded through equity and therefore in line with the MYT Order dated February 19, 2018, the Petitioner had considered 70% of the projected capitalization as Normative Loan for FY 2019-20 with interest rate of 13.02% and 12.33% for Unit-II and Unit-III respectively.

6.85 The Petitioner has considered the normative repayment of debt equal to the depreciation of the additional capitalization only citing the reason that the interest payment on original project cost is already completed in FY 2009-10 and FY 2010-11 respectively for Unit-II and Unit-III and hence depreciation part on original cost is not considered as part of normative repayment of debt.

Table 78: Interest on Loan as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Opening Loan	30.75	33.54	23.73	26.88
Deemed Loan Addition	1.52	1.60	1.56	1.64
Deemed Loan Repayment	4.09	3.78	2.87	2.87
Closing Loan	28.18	31.35	22.42	25.65
Interest Rate	13.02%	13.02%	12.33%	12.33%
Interest on Loan	**3.84**	**4.22**	**2.85**	**3.24**

Commission's Analysis

6.86 The Commission has calculated the gross normative loan for FY 2019-20 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulation, 2015 as quoted below.

"7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 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 1.04.2016,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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -
i. The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.

ii. Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.

iii. Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."

6.87 The Commission has scrutinized the detail submitted by the Petitioner and observed that the actual loan on the Assets Capitalised as on Commercial Date of Operation has been entirely repaid by the Petitioner. Since, the addition during the FY 2019-20 is from internal funding, normative loan corresponding to 70% of additional capitalisation has been considered.

6.88 The Commission is continuing with the same methodology as adopted in the earlier Orders for deriving the value of deemed loan repayment for FY 2019-20.

6.89 In accordance to Clause 7.23 of JSERC Generation Tariff Regulations, 2015 and as approved in MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020, the Commission has approved the interest rate as 13.02% and 12.33% for Unit-II and Unit-III respectively as shown below.

Table 79: Interest on Loan as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Opening Loan	30.75	33.54	32.11	23.73	26.88	24.40
Deemed Loan Addition	1.52	1.60	1.59	1.56	1.64	1.63
Deemed Loan Repayment	4.09	3.78	4.21	2.87	2.87	2.94
Closing Loan	28.18	31.35	29.49	22.42	25.65	23.09
Interest Rate	13.02%	13.02%	13.02%	12.33%	12.33%	12.33%
Interest on Loan	**3.84**	**4.22**	**4.01**	**2.85**	**3.24**	**2.93**

Interest on Working Capital (IOWC)

Petitioner's Submission

6.90 The Petitioner in line with Clause 7.34 of the JSERC Generation Tariff Regulations, 2015 had estimated the Interest on Working Capital (IOWC) as shown below.

Table 80: IOWC as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Coal Stock (30 Days)	21.52	21.19	21.60	21.27
Coal for Generation (30 Days)	21.52	21.19	21.60	21.27
Cost of Secondary Fuel (60 Days)	0.37	0.74	0.37	0.74
Maintenance Spares (20% O&M)	10.34	10.81	8.84	9.32
O&M Expenses (1 Month)	4.31	4.50	3.68	3.88
Receivables (2 Months)	56.55	61.95	55.98	60.54
Total Working Capital requirement	114.60	120.37	112.08	117.02
Interest rate on WC	12.55%	12.55%	12.55%	12.55%
Interest on Working Capital	**14.38**	**15.11**	**14.07**	**14.69**

Commission's Analysis

6.91 The Commission has computed the Interest on Working Capital (IOWC) for FY 2019-20 for both the Units as per Clause 7.34 and Clause 7.37 of JSERC Generation Tariff Regulations, 2015 as reproduced below.

"7.34 The Commission shall determine the Working Capital requirement for coal based generating stations containing the following components:
(a) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;
(b) Cost of coal or lignite and limestone for 30 days for generation corresponding to normative annual plant availability factor;
(c) Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor;
(c) Maintenance spares @ 20% of operation and maintenance expenses;
(d) Operation and Maintenance expenses for 1 month; and
(e) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor.

7.37 The cost of fuel in cases covered under clause 7.34 and 7.35 of these Regulations shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period."

6.92 The Bank Rate as on April 01, 2019 has been considered for the purpose of computation of Interest on Working Capital (IOWC) as per Clause 7.38 of JSERC Generation Tariff Regulation, 2015. The Interest on Working Capital (IOWC) as approved by the Commission for FY 2019-20 is summarized in the following table.

Table 81: IOWC as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Coal Stock (30 Days)	21.52	21.19	21.58	21.60	21.27	21.65
Coal for Generation (30 Days)	21.52	21.19	21.58	21.60	21.27	21.65
Cost of Secondary Fuel (60 Days)	0.37	0.74	0.37	0.37	0.74	0.37
Maintenance Spares (20% O&M)	10.34	10.81	10.34	8.84	9.32	8.84
O&M Expenses (1 Month)	4.31	4.50	4.31	3.68	3.88	3.68
Receivables (2 Months)	56.55	61.95	60.95	55.98	60.54	59.38
Total Working Capital requirement	114.60	120.37	119.11	112.08	117.02	115.58
Interest rate on WC	12.55%	12.55%	12.55%	12.55%	12.55%	12.55%
Interest on Working Capital	**14.38**	**15.11**	**14.95**	**14.07**	**14.69**	**14.51**

Return on Equity

Petitioner's Submission

6.93 The Petitioner has stated that the additional capitalization is done from internal accrual and hence considered the financing of additional capitalization at Normative Debt: Equity ratio of 70:30 for FY 2019-20.

6.94 The Petitioner has further submitted that for additional capitalization during the FY 2019-20, Return on Equity (RoE) had been computed from mid Financial Year. The Petitioner has submitted that the Minimum Alternate Tax (MAT) rate as 17.472% as applicable for FY 2019-20 had been considered for calculation of Return on Equity.

Table 82: Return on Equity as submitted by the Petitioner (Rs. Crore)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Opening Equity	145.50	150.10	138.62	142.34
Addition	0.65	0.68	0.67	0.70
Closing Equity	146.15	150.78	139.29	143.04
Rate of Return	15.50%	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.60	23.32	21.54	22.12
MAT	17.47%	17.47%	17.47%	17.47%
ROE (Pre-Tax)	**27.39**	**28.26**	**26.10**	**26.80**

Commission's Analysis

6.95 The Commission has calculated the Gross Normative Equity for FY 2019-20 as per Clause 7.13 and Clause 7.14 of the JSERC Generation Tariff Regulations, 2015 as reproduced below:

"7.13 In case of the generating station declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 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 1.04.2016,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:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

Explanation: -
i. The premium, if any, raised by the Generating Company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station.

ii. Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.

iii. Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."

6.96 In accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the Return on Equity at 15.50% which is grossed up with the applicable MAT rate i.e. 17.47% for the FY 2019-20. Accordingly, the Commission approves the Return on Equity for FY 2019-20 as shown below.

Table 83: Return on Equity as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Opening Equity	145.50	150.10	145.69	138.62	142.34	138.75
Addition	0.65	0.68	0.68	0.67	0.70	0.70
Closing Equity	146.15	150.78	146.37	139.29	143.04	139.44
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.60	23.32	22.64	21.54	22.12	21.56
MAT	17.47%	17.47%	17.47%	17.47%	17.47%	17.47%
ROE (Pre-Tax)	**27.39**	**28.26**	**27.43**	**26.10**	**26.80**	**26.12**

Tax on Saving on Operational Parameters

Petitioner's Submission

6.97 The Petitioner had submitted that the Income Tax due to gain on account of Secondary Fuel Consumption, Auxiliary Power Consumption and Gross Station Heat Rate (GHR) is recoverable from the Beneficiary as per Clause 7.49 of the JSERC Generation Tariff Regulations, 2015 which had also been clarified and upheld by the Hon'ble Tribunal in their Judgment dated August 10, 2016 in Appeal No. 195 of 2015.

6.98 The Tax liability on gain of operational parameters as claimed by the Petitioner is shown below.

Table 84: Tax Liability on saving in Operation Parameters as submitted by Petitioner (Rs. Cr.)

Particulars	Unit-II		Unit-III	
	MTR Order	Petition	MTR Order	Petition
Tax on Gain (Secondary Fuel)	-	0.25	-	0.35
Tax on Gain (Auxiliary)	-	0.18	-	0.16
Tax on Gain (SHR)	-	0.30	-	0.45

Commission's Analysis

6.99 The Commission is of the view that since the Petitioner's claim of tax liability on saving on operational parameters is provisional and based on estimation. Hence, the Commission at this stage is not considering the same and directs the Petitioner to resubmit their claim at the time of true up along with documentary support on the basis of actual audited data.

Summary of Annual Revenue Requirement

Commission's Analysis

6.100 The summary of Annual Fixed Charge (AFC) for FY 2019-20 as approved by the Commission is shown below.

Table 85: Annual Fixed Cost as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
O&M Expenses	51.68	54.03	51.68	44.19	46.59	44.19
Depreciation	6.37	7.16	6.49	6.65	7.98	6.48
Interest on Loan	3.84	4.22	4.01	2.85	3.24	2.93
Int. on WC	14.38	15.11	14.95	14.07	14.69	14.51
Return on Equity	27.39	28.26	27.43	26.10	26.80	26.12
Annual Fixed Cost	**103.65**	**108.78**	**104.55**	**93.85**	**99.29**	**94.23**

6.101 The summary of Annual Fixed Charge after taking into account the availability Factor for FY 2019-20 as approved by the Commission is shown below.

Table 86: AFC after availability as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
Annual Fixed Cost	103.65	108.78	104.55	93.85	99.29	94.23
Availability	88.99%	88.99%	99.85%	88.99%	88.99%	90.63%
AFC after Availability	**103.65**	**108.78**	**104.55**	**93.85**	**99.29**	**94.23**

6.102 The summary of recoverable Annual Revenue Requirement (ARR) for FY 2019-20 as approved by the Commission subject to truing up is shown below.

Table 87: Annual Revenue Requirement as approved by the Commission (Rs. Crore)

Particulars	Unit-II			Unit-III		
	MTR Order	Petition	Approved	MTR Order	Petition	Approved
AFC after Availability	103.65	108.78	104.55	93.85	99.29	94.23
Energy Cost	235.67	237.27	235.67	242.06	243.69	242.06
Tax on Gain (Secondary Fuel)	-	0.25	-	-	0.35	-
Tax on Gain (SHR)	-	0.3	-	-	0.45	-
Tax on Gain (Auxiliary)	-	0.18	-	-	0.16	-
Annual Revenue Requirement	**339.32**	**346.78**	**340.22**	**335.91**	**343.95**	**336.29**

6.103 The Petitioner in its additional submission dated August 14, 2020 stated that as per MTR Order dated February 14, 2020 has submitted they have refunded the surplus to the TSL (last instalment due in Sep'20) and hence, requested the Commission to take this into account while computing the carrying cost.

6.104 The Commission would like to clarify that in the MTR Order dated February 14, 2020, Mid-Term Review for FY 2019-20 was carried out and the APR for FY 2019-20 is being carried out in this Order. As the Petitioner has not submitted the details of surplus refunded, the Petitioner is required to collect/refund the Gap/(Surplus) from the Beneficiary according to APR value approved in this Order duly taking into account earlier adjustment, if any, based on MTR Order dated February 14, 2020.

A 7: DIRECTIVES

Primary Fuel

7.1 The Commission has observed that due to various reasons like primary fuel mix, GCV and Landed price the energy charge rate is too high. The Petitioner is required to prepare its strategy for coal procurement plan to optimise its energy charge.

Additional Capitalization in case of revision of Scheme/Scope of Work

7.2 The Commission directs the Petitioner to ensure that proper planning should be carried out before finalization and submission of Capex planning before the Commission for approval. Further, in case there is need to review/revise any scheme or change in the Scope of Work, the same is required to be submitted before the Commission with proper justification for approval.

Residual Life Study

7.3 The Commission observed that both the Units (Unit-II & Unit-III) have remaining useful life less than ten years as per regulations. The Petitioner is required to carry out the carryout residual life study before any additional capitalization in the plant and justify its operational and financial benefits.

In addition to above, the Petitioner is also directed to submit the compliance to the directives issued by the Commission in its earlier Orders.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on September 09, 2020.

Date: 09.09.2020
Place: Ranchi

Sd/-	**Sd/-**
(P. K. Singh)	**(R. N. Singh)**
MEMBER (Legal)	**MEMBER (Engg.)**

ANNEXURE

Annexure-1: List of participating members of the public in the public hearing though video conferencing

Sr. No.	Name	Address/Organization
		Date & Time: August 07, 2020 02:30 PM
1	Abhijeet Ain Das	Public/Stakeholder
2	Achyutanand Choudhary	JUSCO
4	Bishwajeet Kumar	TSL
5	Chhaya Kumari	Public/Stakeholder
6	Dilip Kumar	TPCL
7	Hari Budhia	Public/Stakeholder
8	Nirmal Prasad	Dainik Jagran
9	Pankaj Prakash	TPCL
10	Peyush Tandon	Public/Stakeholder
11	Rakesh Mohapatra	TPCL
12	Richa Sanchita	Public/Stakeholder
14	Subhash Shekhar	Public/Stakeholder
15	Suvojit Maity	TPCL
16	Tushar Raj	TPCL
17	V. P. Singh	JUSCO
18	Vikrant Singh	Public/Stakeholder
19	Vivek Kumar	Public/Stakeholder
20	Chandan Kuar	Public/Stakeholder
21	Saroj Kumar	Public/Stakeholder
22	Amit Kumar Sinha	Public/Stakeholder
23	S. K. Mathur	Public/Stakeholder