

# **Jharkhand State Electricity Regulatory Commission**



Order on  
True-up for FY 2019-20, Business Plan and MYT Petition for  
Control Period from FY 2021-22 to FY 2025-26  
for  
Tata Power Company Limited (TPCL)

Ranchi  
November 04, 2022



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### List of Abbreviations

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



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**BEFORE**

## **Jharkhand State Electricity Regulatory Commission, Ranchi**

**Case (Tariff) No.: 10 of 2020**

**In the matter of:**

**Petition for  
True-up for FY 2019-20, APR for FY 2020-21,  
Business Plan  
and  
MYT Petition for Control Period from FY 2021-22 to FY 2025-26**

**In the matter:**

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

**PRESENT**

Shri. Atul Kumar

Member (Technical)

Shri. Mahendra Prasad

Member (Law)

**Order dated November 04, 2022**

Tata Power Company Limited (hereinafter referred to as TPCL or the Petitioner) has filed Petition dated December 01, 2021 for Truing up for FY 2019-20, Annual Performance Review for FY 2020-21, Business Plan and MYT Petition for Control Period from FY 2021-22 to FY 2025-26 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, Homi Mody 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 the following prayers before the Commission:
  - Accept the Petition;



- Approve the 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 2019-20 and APR for FY 2020-21 proposals enclosed herewith;
- Approve the proposed Operational, Fuel and Financial Parameters, Additional Capitalization, Annual Revenue Requirement and Generation Tariff for Unit-II and Unit-III of Jojobera in the Business Plan and MYT proposal for the Period from FY 2021-22 to FY 2025-26 enclosed herewith;
- Grant liberty to the Petitioner to approach Hon'ble Commission at appropriate stage subsequently:
  - a. for determination of Supplementary Tariff for FGD System to be installed for Unit-II and Unit-III including compensation for additional capital cost, operational parameter deterioration and O&M/water expenses;
  - b. for approval of Renovation & Modernisation (R&M) Plan for Unit-II and Unit-III after carrying out RLA Study in upcoming annual shutdowns in Third Control Period;
  - c. for pass through of arrears of Water Charges paid/payable to TSL but not approved/claimed as per Hon'ble Commission's Orders along with applicable carrying cost;
  - d. for claiming compensation for deterioration in operational parameters due to low PLF and for loss of savings in operational parameters due to change in operational norms;
  - e. to modify/make additions to the above Capex proposal, if need arises during the proceedings of the present Petition and/or in subsequent Trueup/APR Petitions;
  - f. to seek revision in tariff due to wage revision agreement being reached;
- 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 Through the instant Petition, the Petitioner has sought True up for FY 2019-20, APR for FY 2020-21, approval of Business Plan and MYT for the Control Period from FY 2021-22 to FY 2025-26.
- 1.13 The Commission in this Order has approved the True-up for FY 2019-20, Business Plan and MYT Petition for the Control Period from FY 2021-22 to FY 2025-26 for both the Units (Unit-II & Unit-III) of Jojobera generating station.
- 1.14 The Commission has not carried out the APR for FY 2020-21 as considerable time has lapsed and the Petitioner has already filed True up Petition for FY 2020-21 which is under active consideration of this Commission.
- 1.15 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);
  - f) Provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 (hereinafter referred to as JSERC Generation Tariff Regulations, 2020 or the Tariff Regulations).
- 1.16 Accordingly, the Commission had scrutinized the Petition in detail and hereby issues the Order on Truing-up for FY 2019-20, Business Plan and MYT Petition for the Control Period from FY 2021-22 to FY 2025-26 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 True-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 disposed of 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 Commission has approved the True-up for FY 2018-19 and Annual Performance Review for FY 2019-20 vide Order dated September 09, 2020.
- 2.6 The Petitioner has filed the current Petition before the Commission for approval for True-up for FY 2019-20, APR for FY 2020-21, Business Plan and MYT Petition for the Control Period from FY 2021-22 to FY 2025-26.

### **Information Gaps in the Petitions**

- 2.7 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. 10 of 2022/402 dated January 28, 2021.
- 2.8 The Petitioner has submitted its response to the aforesaid letter and furnished additional data/information to the Commission vide letter no. dated February 11, 2021.
- 2.9 The Petitioner has made two additional submission vide letter dated January 15, 2021 which included Detailed Project Report in support of additional capitalization and vide letter dated August 10, 2022 revising the Additional Capitalization and Decapitalization for FY 2019-20, APR of FY 2020-21 and Business plan and MYT of FY 2021-22 and FY 2025-26.

- 2.10 Furthermore, the Petitioner submitted an additional affidavit on August 10, 2022 for True up for FY 2019-20, APR for FY 2020-21 and Business plan and MYT for FY 2021-22 to FY 2025-26.
- 2.11 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**

- 2.12 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 2019-20, APR for FY 2020-21, Business Plan and MYT Petition for the Control Period from FY 2021-22 to FY 2025-26.
- 2.13 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**

<b>Newspaper</b>	<b>Date of Publication</b>
Prabhat Khabar	16.02.2021 & 17.02.2021
Dainik Bhaskar	16.02.2021 & 17.02.2021
The Hindustan Times	16.02.2021 & 17.02.2021
The Pioneer	16.02.2021 & 17.02.2021

- 2.14 Further, the Commission had also organized a Public Hearing on August 23, 2022, 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**

<b>Newspaper</b>	<b>Date of Publication</b>
Prabhat Khabar	31.07.2022
Dainik Jagran	31.07.2022
The Times of India (English)	31.07.2022
The Economic Times (English)	31.07.2022
Prabhat Khabar	17.08.2022
Dainik Jagran	17.08.2022
The Times of India (English)	17.08.2022
The Economic Times (English)	17.08.2022



### **Submission of Comments/Suggestions and Conduct of Public Hearing**

- 2.15 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 2019-20

- 3.1 The summary of Aggregate Revenue Requirement for FY 2019-20 as submitted by the Petitioner vis-à-vis as approved by the Commission in APR Order dated September 09, 2020 is provided in the table below.

**Table 3: ARR for FY 2019-20 as submitted by the Petitioner (Rs. Crore)**

Particulars	UoM	Unit-II		Unit-III	
		APR Order	Petition	APR Order	Petition
Depreciation	Rs. Cr.	6.49	10.23	6.48	10.03
Interest on Loan	Rs. Cr.	4.01	3.86	2.93	2.81
O&M Expenses	Rs. Cr.	51.68	56.52	44.19	48.75
Return on Equity	Rs. Cr.	27.43	27.33	26.12	26.06
Interest on Working Capital	Rs. Cr.	14.95	15.71	14.51	15.28
<b>Annual Fixed Cost</b>	<b>Rs. Cr.</b>	<b>104.55</b>	<b>113.65</b>	<b>94.23</b>	<b>102.92</b>
<b>Energy Charge Rate</b>	<b>Rs./kWh</b>	<b>3.239</b>	<b>3.357</b>	<b>3.251</b>	<b>3.377</b>
<b>Energy Cost</b>	<b>Rs. Cr.</b>	<b>235.86</b>	<b>225.85</b>	<b>242.26</b>	<b>220.07</b>
Tax Gain	Rs. Cr.	-	2.93	-	1.38
Discount due to Shakti Coal	Rs. Cr.	0.20	0.05	0.19	0.06
<b>ARR</b>	<b>Rs. Cr.</b>	<b>340.22</b>	<b>342.37</b>	<b>336.29</b>	<b>324.31</b>
Revenue from Billing	Rs. Cr.	-	336.03	-	321.32
<b>Gap/(Surplus)</b>	<b>Rs. Cr.</b>	<b>-</b>	<b>6.34</b>	<b>-</b>	<b>2.99</b>
<b>Gap/(Surplus) including Carrying Cost</b>	<b>Rs. Cr.</b>	<b>-</b>	<b>19.76</b>	<b>-</b>	<b>17.17</b>

### Annual Performance Review for FY 2020-21

- 3.2 The Petitioner had projected the Annual Revenue Requirement for FY 2020-21 based on the actual figures for first six months of FY 2020-21 and estimated for the remaining six months of FY 2020-21 as tabulated below.

**Table 4: ARR for FY 2020-21 as submitted by the Petitioner (Rs. Crore)**

Particulars	UoM	Unit-II		Unit-III	
		MTR Order	Petition	MTR Order	Petition
Depreciation	Rs. Cr.	6.95	10.91	7.64	10.95
Interest on Loan	Rs. Cr.	3.84	3.38	3.32	2.91
O&M Expenses	Rs. Cr.	58.83	57.07	50.74	48.48
Return on Equity	Rs. Cr.	30.60	30.23	29.42	29.08
Interest on Working Capital	Rs. Cr.	13.30	13.07	13.20	12.63
<b>Annual Fixed Cost</b>	<b>Rs. Cr.</b>	<b>113.51</b>	<b>114.66</b>	<b>104.32</b>	<b>104.04</b>



Particulars	UoM	Unit-II		Unit-III	
		MTR Order	Petition	MTR Order	Petition
Energy Charge Rate	Rs./kWh	2.968	2.868	2.987	2.883
Energy Cost	Rs. Cr.	221.94	188.40	240.21	171.71
Tax Gain	Rs. Cr.	-	0.95	-	1.09
Discount due to Shakti Coal	Rs. Cr.	1.11	1.99	1.10	1.98
<b>ARR</b>	<b>Rs. Cr.</b>	<b>334.35</b>	<b>302.02</b>	<b>343.42</b>	<b>274.85</b>

3.3 The Petitioner had projected the ARR for FY 2020-21 as Rs. 302.02 Crore against the approved value of Rs. 335.34 Crore for Unit-II and Rs. 274.85 Crore against the approved value of Rs. 343.42 Crore for Unit-III.

#### MYT Petition for the Control Period from FY 2021-22 to FY 2025-26

3.4 The Petitioner had projected the ARR for the Control Period from FY 2021-22 to FY 2025-26 for Unit-II and Unit-III as tabulated below.

**Table 5: ARR for Unit-II as submitted by the Petitioner (Rs. Crore)**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Ex-Bus Generation	MU's	771.89	813.40	795.10	841.88	792.93
Return on Equity	Rs Cr.	27.58	27.85	27.97	27.98	27.98
Interest on Loan	Rs Cr.	2.22	1.73	0.91	0.19	0.00
Depreciation	Rs Cr.	12.34	13.64	14.70	14.75	14.82
Interest on Working Capital	Rs Cr.	9.16	8.99	9.34	9.14	9.54
O&M Expenses	Rs Cr.	56.60	51.60	61.58	56.10	66.44
<b>ARR</b>	<b>Rs Cr.</b>	<b>107.89</b>	<b>103.81</b>	<b>114.51</b>	<b>108.17</b>	<b>118.79</b>
Incentive	Rs Cr.	-	0.01	-	1.44	-
<b>AFC (including Incentive)</b>	<b>Rs Cr.</b>	<b>107.89</b>	<b>103.82</b>	<b>114.51</b>	<b>109.61</b>	<b>118.79</b>
Energy Charge Rate	Rs/kWh	2.731	2.749	2.711	2.730	2.710
<b>Energy Charges</b>	<b>Rs Cr.</b>	<b>210.79</b>	<b>223.59</b>	<b>215.56</b>	<b>229.84</b>	<b>214.89</b>
Discount due to SHAKTI Coal	Rs Cr.	3.59	3.59	3.63	3.63	3.63
ECR after SHAKTI Discount	Rs/kWh	2.684	2.705	2.665	2.687	2.664
<b>Net-ARR</b>	<b>Rs Cr.</b>	<b>315.09</b>	<b>323.82</b>	<b>326.44</b>	<b>335.82</b>	<b>330.06</b>

**Table 6: ARR for Unit-III as submitted by the Petitioner (Rs. Crore)**

Particulars	UoM	FY22	FY 23	FY 24	FY 25	FY 26
Ex-Bus Generation	Mus	775.80	790.62	852.77	793.98	843.27
Return on Equity	Rs. Cr.	26.73	26.96	27.03	27.03	27.04
Interest on Loan	Rs. Cr.	2.41	1.98	1.28	0.45	0.02
Depreciation	Rs. Cr.	12.77	13.65	14.08	14.11	14.15
Interest on Working Capital	Rs. Cr.	8.99	9.45	9.20	9.58	9.36



Particulars	UoM	FY22	FY 23	FY 24	FY 25	FY 26
O&M Expenses	Rs. Cr.	48.90	58.93	53.88	63.70	58.11
Total Annual Fixed Cost	Rs. Cr.	99.80	110.97	105.46	114.86	110.18
Incentive	Rs. Cr.	0.00	0.00	1.87	0.00	1.51
<b>Annual Fixed Charge</b>	Rs. Cr.	<b>99.80</b>	<b>110.97</b>	<b>107.33</b>	<b>114.86</b>	<b>110.18</b>
<b>Energy Cost</b>	Rs. Cr.	217.86	222.43	239.04	221.08	236.14
<b>Energy Charge Rate</b>	Rs/kWh	2.808	2.813	2.803	2.784	2.800
Discount due to Shakti Coal	Rs. Cr.	3.60	3.60	3.63	3.63	3.63
Energy Charge Rate after Shakti Discount	Rs/kWh	2.762	2.768	2.761	2.739	2.757
<b>ARR</b>	<b>Rs. Cr.</b>	<b>314.06</b>	<b>329.80</b>	<b>342.74</b>	<b>332.31</b>	<b>342.68</b>



## A 4: PUBLIC CONSULTATION PROCESS

- 4.1 The Petition filed by the Petitioner evoked responses from several Stakeholders. The Public Hearing was held on August 23, 2022 at Jamshedpur 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.

### Capital Expenditure

#### *Public Comments/Suggestion*

- 4.3 Switch board replacement was done in Unit 2 in FY 2019-20 for which Company spent Rs. 223 Crores but in FY 2019-20, there was no expenditure for Unit 3.

#### *Petitioner Response*

- 4.4 The Petitioner submitted that the scheme named “6.6 KV switch board replacement” has already been approved by Hon’ble Commission in its order dated 19.02.2018 for both Unit 2 & 3 separately. This project has been completed in FY 2019-20 for Unit 2, for which capitalization was Rs. 127.69 Lakhs (not crore). For Unit 3, Capitalization for this scheme was Rs. 134.93 Lakhs and Rs. 272.38 Lakhs in FY 2019-20 & FY 2020-21 respectively. Capitalization phasing of this scheme for both of Unit 2 & 3 (for FY 2019-20 & FY 2020-21) has already been submitted in the Petition for True Up of FY 2019-20 & APR of FY 2020-21 for kind consideration of the Hon’ble Commission.
- 4.5 The Petitioner submitted that both these schemes are of replacement category and switchboards were replaced for the first time after COD of the Units 2 & 3 on 01.02.2001 & 01.02.2002 respectively i.e., after a span of 19/20 years. Since, it has been erroneously mentioned that scheme was executed for Unit 2 only and not for Unit 3 in FY 2019-20, the Petitioner humbly requests Hon’ble Commission to keep aside the above-mentioned objection.

#### *Commission analysis*

- 4.6 The above mentioned issue is discussed in detail in **Section A 5** of this Order.



## Power Supply

### *Public Comments/Suggestion*

- 4.7 The Petitioner is supplying power to which entity of Tata Steel, whether it is the division which is producing steel or the division which is distributing power and if it is distribution licensee, whether there is any agreement between Tata Power & that distribution licensee. The Stakeholder has also stated that the name & detail of person from Tata Steel Limited (TSL), with whom that agreement was signed. Stakeholder further requested Commission to check address of persons to whom electricity is being supplied by TSL.

### *Petitioner Response*

- 4.8 The Petitioner submitted that Tata Power's Jojobera Unit 2 and Unit 3 of 120 MW each are supplying to Tata Steel Ltd (TSL) as a Distribution Licensee as per the provisions of Power Purchase Agreement (PPA) duly approved by Hon'ble Commission read with Generation Tariff Regulations, 2015. The approved PPA dated 21.03.2018 has been signed by authorized signatory of TSL namely Mr. Avneesh Gupta, the then vice president shared services, with company's registered office at Bombay House, 24, Homy Mody Street, Mumbai 400001. TSL is supplying power to consumers in its area of supply licensed by Hon'ble Commission, details of which are not available with the Petitioner.
- 4.9 Further, Units 1&4 of Tata Power Jojobera TPP are captive/unregulated units, which are supplying power to Tata Steel Works for its own consumption in other businesses. Power procurement by Tata Steel for its other business from its captive Units are beyond the scope of this Petition, hence, need no reply.

### *Commission Analysis*

- 4.10 The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

## FGD System

### *Public Comments/Suggestion*

- 4.11 FGD Project, which is being carried out for the units of Tata Power, is a matter which is concerned with Jharkhand State Pollution Control Board and not Hon'ble Commission. Stakeholder also stated that Hon'ble Commission should judge whether it is applicable for Unit 2 & 3 and if it is not applicable for Unit 2 & 3, then Hon'ble Commission should not consider the cost of FGD Project in ARR.





***Petitioner Response***

- 4.12 The Petitioner submitted that the execution of FGD Project is being carried out as per mandate of MOEF & CC, notification dated 07.12.2015 and subsequent amendments to such notification.
- 4.13 After due prudence check the Hon'ble Commission vide its Order dated 30.09.2020 has granted approval for installation of FGD System for the Regulated Units 2 & 3 and further directed Tata Power to approach Hon'ble Commission once the project is over for cost approval and tariff determination for the same. Accordingly, FGD cost approval is not a part of the present petition and, hence, question raised by querist is beyond the scope of this petition.

***Commission Analysis***

- 4.10 The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

**Ash Disposal**

***Public Comments/Suggestion***

- 4.14 Ash disposal is a matter which is concerned with Jharkhand State Pollution Control Board and Hon'ble Commission shouldn't interfere in the subject of Ash Disposal.

***Petitioner Response***

- 4.15 The Petitioner submitted that periodical ash utilization reports have already been sent to JSPCB. Also, as per the compliance of the directives of previous tariff orders issued by Hon'ble Commission, Tata Power is sending a copy of Quarterly Ash Utilization Reports (sent to JSPCB) to Hon'ble Commission for its kind perusal.
- 4.16 Tata Power also wishes to inform that Ash Disposal from Jojobera Units 2&3 is being done in accordance with guidelines/directions issued by statutory bodies viz, MoEF & CC, CPCB or JSPCB, whereas Ash Disposal Cost is a part of Operation & Maintenance Cost in proposed ARR as per Generation Tariff Regulations 2020. Further, claims regarding Ash Disposal are as per earlier Orders of Hon'ble Commission and Hon'ble APTEL.
- 4.17 Therefore, Petitioner humbly requests before this Hon'ble Commission that objection lacks merit and should be kept aside.



***Commission Analysis***

- 4.18 The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.

**Fuel Mix**

***Public Comments/Suggestion***

- 4.19 The Petitioner has not provided any details regarding imported coal.

***Petitioner Response***

- 4.20 The Petitioner has provided the details of small quantity of imported coal consumed in FY 2019-20. Petitioner further submitted that for the last two years there was no consumption of imported coal in Jojobera Units 2&3. However, in case it has to import foreign coal in future, the Petitioner shall duly apprise the Hon'ble Commission in its quarterly reports.

***Commission Analysis***

- 4.21 The Commission has noted the objection and its response from the Petitioner. The issue has been appropriately dealt with in Fuel mix section of True up of FY 2019-20 and MYT order of FY 2021-21 to FY 2025-26.

**Profit and Loss account**

***Public Comments/Suggestion***

- 4.22 Hon'ble Commission should also look into the details of Profit & Loss report submitted by the Petitioner to SEBI, so that the difference between Jojobera Plant's P&L and P&L Submitted to SEBI, gets highlighted.

***Petitioner Response***

- 4.23 The Petitioner submitted the Audited Profit & Loss statement for Unit 2 & 3, which is extract of consolidated Accounts, in every True Up Petition in accordance with Generation Tariff Regulations issued by Hon'ble Commission. Since submission of Tata Power's consolidated P&L report for all its businesses is beyond the scope of Petition as per Generation Tariff Regulation. Therefore, the Petitioner hereby humbly requested the Commission that above mentioned objection lacks merit and should be kept aside.

***Commission Analysis***

- 4.24 The Commission has noted the Stakeholder's objection and Petitioner's response on the said issue.



## A 5: TRUE-UP FOR FY 2019-20

- 5.1 The Petitioner submitted the True-up petition for FY 2019-20 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 2019-20 vide its Order dated September 09, 2020 on the basis of provisional data for FY 2019-20. Further 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 by the Petitioner. 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-à-vis that trued up now.
- 5.3 The Commission has now carried out the True-up for FY 2019-20 taking into consideration the following:
- Audited account for the FY 2019-20;
  - 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 95.81% and that of Unit-III as 94.61% 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 2019-20. 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 vide Letter no. JSERC/Case (Tariff) No. 10 of 2022/402 dated January 28, 2021, the Petitioner vide letter dated February 11, 2021 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.
- 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 The Commission noted the reply submitted by the Petitioner and scrutinized the month wise actual plant availability truly certified by Tata Steel, LDC and approves the actual plant availability for FY 2019-20 as 95.81% and 94.61% for Unit-II and Unit-III respectively as certified by Tata Steel LDC.
- 5.10 The actual Plant Availability as approved by the Commission in the Order dated September 09, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is summarised below.

**Table 7: Plant availability as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
<b>Unit-II</b>				
NAPAF	%	85.00	85.00	85.00
Actual Plant Availability	%	99.85	95.82	95.82
<b>Unit-III</b>				
NAPAF	%	85.00	85.00	85.00
Actual Plant Availability	%	90.63	94.60	94.60

### ***Auxiliary Consumption***

#### ***Petitioner's Submission***

- 5.11 The Petitioner has submitted the actual Auxiliary Consumption of Unit-II and Unit-III for FY 2019-20 as 9.47% and 9.64% respectively as compared to Normative Auxiliary Power Consumption of 10.00% for each Unit as approved. 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***

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



- 5.13 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, MTR order dated February 14, 2020 and APR Order dated September 09, 2020.
- 5.14 The Auxiliary Consumption as approved by the Commission in the Order dated September 09, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is provided in the table below.

**Table 8: Auxiliary Consumption as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
<b>Unit-II</b>				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Actual Auxiliary Consumption	%	9.68	9.47	9.47
<b>Unit-III</b>				
Normative Auxiliary Consumption	%	10.00	10.00	10.00
Actual Auxiliary Consumption	%	9.72	9.64	9.64

### ***Plant Load Factor and Generation***

#### ***Petitioner's Submission***

- 5.15 The Petitioner has submitted the actual Plant Load Factor (PLF) for Unit-II as 70.51% and 68.43% for Unit-III which is less than the PLF of 76.77% for Unit-II and 78.54% for Unit-III respectively as approved by the Commission in Order dated September 09, 2020.
- 5.16 The Petitioner further submitted that the actual gross generation for both the Units is lower than that approved in Order dated September 09, 2020 is due to low demand from the Beneficiary.
- 5.17 The Petitioner had claimed the actual gross generation of Unit-II and Unit-III of the Jojobera generating station as 743.20 MU and 721.29 MU respectively. Accordingly, the Petitioner submitted net generation (ex-bus generation) for Unit-II and Unit-III as 672.80 MU and 651.75 MU respectively after deducting the auxiliary consumption.

#### ***Commission's Analysis***

- 5.18 The Commission observed that there is huge gap between the actual Plant Availability Factor (PAF) and actual 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.

- 5.19 The Commission had scrutinized the detail submitted by the Petitioner and approves the Gross Generation, Net Generation and Plant Load Factor for FY 2019-20 as shown below.

**Table 9: Plant Load Factor and Generation as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
<b>Unit-II</b>				
Gross Generation	MU	806.33	743.20	743.20
Net Generation	MU	728.31	672.80	672.80
Plant Load Factor	%	76.77	70.51	70.51
<b>Unit-III</b>				
Gross Generation	MU	825.33	721.29	721.29
Net Generation	MU	745.11	651.75	651.75
Plant Load Factor	%	78.54	68.43	68.43

### **Gross Station Heat Rate (GHR)**

#### **Petitioner's Submission**

- 5.20 The Petitioner has submitted the actual Gross Station Heat Rate (GHR) as 2544 kCal/kWh for Unit-II and 2546 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**

- 5.21 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 on account of underperformance is not recoverable through tariff.
- 5.22 In accordance to the Clause 8.4 of JSERC Generation Tariff Regulation, 2015 and in line with MYT Order dated February 19, 2018, Order dated February 14, 2020 and Order dated September 09, 2020, the Commission approves the GHR as 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III.

**Table 10: Gross Station Heat Rate (GHR) as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
<b>Unit-II</b>				
Normative Station Heat Rate	kCal/kWh	2567.00	2567.00	2567.00
Actual Station Heat Rate	kCal/kWh	-	2544.00	2544.00
<b>Unit-III</b>				
Normative Station Heat Rate	kCal/kWh	2577.00	2577.00	2577.00



Particulars	UoM	APR Order	Petition	Approved
Actual Station Heat Rate	kCal/kWh	-	2546.00	2546.00

### ***Specific Fuel Oil Consumption***

#### ***Petitioner's Submission***

- 5.23 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***

- 5.24 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.”*

- 5.25 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 2<sup>nd</sup> Control Period. The Commission retained the normative value as approved in 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”*





- 5.26 Further, the Petitioner had filed an Appeal 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 and APR Order dated September 09, 2020 for both the Units as shown below.

**Table 11: Specific Fuel Oil Consumption as approved by the Commission**

Particulars	UoM	APR 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***

- 5.27 The Petitioner submitted that the coal is primarily sourced from West Bokaro Colliery of Tata Steel (Middling Coal) and e-auction coal, from ECL, MCL and BCCL subsidiaries of Coal India Limited. It is further submitted that due to internal approval and completion of necessary verifications of the documents by the subsidiaries of the CIL and execution of tripartite agreement the supply of Shakti Scheme 2 is delayed.
- 5.28 The Petitioner submitted the summary of total coal received at Jojobera Power Plant station as against the Planned/Agreed Quantum and shortages in FY 2019-20. The Petitioner further detailed the source wise actual coal consumption in Unit-II and Unit-III for FY 2018-19.
- 5.29 The Petitioner added that due to non-execution of FSA between CCL and MCL the supply Shakti Scheme 2 is delayed due to which 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.
- 5.30 The Petitioner has submitted the month wise and year wise detail of weighted average GCV of all the type of coal as reference along with the Auditor's Certificate for Month-wise Landed Price of all types of coal received in FY 2019-20.

##### ***Commission's Analysis***

- 5.31 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.





- 5.32 The Commission in the discrepancy note dated January 28, 2021 directed the Petitioner to provide justification for deviation from the approved coal purchase plan as per earlier Order. The Petitioner in its reply dated February 11, 2021 submitted the details of coal consumption along with justification for deviations from the approved procurement plan.
- 5.33 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.**
- 5.34 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 12: Coal Mix and GCV for Unit-II as approved by the Commission**

Coal Source	Fuel Mix (%)			GCV (kCal/kg)		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Middling Coal	50.82	41.81	41.81	4057.58	4027.61	4027.61
ECL [e-auction] Coal	0.85	6.79	6.79	5116.01	5429.25	5429.25
MCL [e-auction] Coal	2.43	2.12	2.12	3353.17	3819.00	3819.00
BCCL [e-auction] Coal	0.57	7.26	7.26	4133.43	4361.15	4361.15
Washery Coal	4.84	6.70	6.70	4405.02	4438.77	4438.77
2 Product + Tailing (Rake) Coal	18.94	18.81	18.81	2596.61	2617.21	2617.21
Tailing (Rake) Coal	0.99	3.22	3.22	4296.42	4228.09	4228.09
WB Reject Coal	1.88	1.64	1.64	2473.60	2473.60	2473.60
Imported Coal	11.67	10.19	10.19	4170.32	4170.32	4170.32
ECL [Shakti 2] Coal	1.29	1.45	1.45	5116.01	5250.80	5250.80
CCL [Shakti 2] Coal	2.91	0.00	0.00	3250.00	0.00	0.00
MCL [Shakti 2] Coal	2.80	0.00	0.00	3353.17	0.00	0.00
<b>Weighted Avg. of GCV</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3746.24</b>	<b>3918.08</b>	<b>3918.08</b>

**Table 13: Coal Mix and GCV for Unit-III as approved by the Commission**

Coal Source	Fuel Mix (%)			GCV (kCal/kg)		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Middling Coal	51.59	42.67	42.67	4062.69	4038.87	4038.87
ECL [e-auction] Coal	0.67	4.89	4.89	5087.31	5435.01	5435.01
MCL [e-auction] Coal	2.01	1.86	1.86	3318.28	3819.00	3819.00
BCCL [e-auction] Coal	0.64	7.21	7.21	4178.74	4371.43	4371.43
Washery Coal	4.85	7.08	7.08	4403.42	4439.98	4439.98
2 Product + Tailing (Rake) Coal	18.66	19.19	19.19	2595.78	2612.16	2612.16



Coal Source	Fuel Mix (%)			GCV (kCal/kg)		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Tailing (Rake) Coal	1.31	3.14	3.14	4295.33	4244.92	4244.92
WB Reject Coal	2.01	1.86	1.86	2471.65	2471.65	2471.65
Imported Coal	11.42	10.53	10.53	4169.33	4169.33	4169.33
ECL [Shakti 2] Coal	1.26	1.59	1.59	5087.31	5254.91	5254.91
CCL [Shakti 2] Coal	2.84	0.00	0.00	3250.00	0.00	0.00
MCL [Shakti 2] Coal	2.74	0.00	0.00	3318.28	0.00	0.00
<b>Weighted Avg. of GCV</b>	-	-	-	<b>3750.68</b>	<b>3892.13</b>	<b>3892.13</b>

### **Transit Loss**

#### **Petitioner's Submission**

- 5.35 The Petitioner submitted 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 2.79% and 4.85% respectively for FY 2019-20 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 and 2-Product+Tailing (Rake) 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.
- 5.36 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 2019-20.

#### **Commission's Analysis**

- 5.37 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.
- 5.38 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.
- 5.39 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 2<sup>nd</sup> Control period. The Commission disposed of the review petition vide its Order dated

January 09, 2019 allowing normative transit loss of 0.8% for 2<sup>nd</sup> 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”.*

- 5.40 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 domestic coal and 0.20% for imported coal for FY 2019-20 for both the Units.
- 5.41 In view of the above, the Commission approves the transit loss on normative basis for FY 2019-20 as shown below.

**Table 14: Transit Loss as approved by the Commission**

Coal Source	APR Order	Petition	Approved
Middling Coal	0.80%	2.79%	0.80%
ECL [e-auction] Coal		0.80%	
MCL [e-auction] Coal		0.80%	
BCCL [e-auction] Coal		0.80%	
Washery Coal		0.80%	
2 Product + Tailing (Rake) Coal		4.85%	
Tailing (Rake) Coal		0.80%	
WB Reject Coal		0.80%	
Imported Coal	0.20%	0.20%	0.20%
ECL [Shakti 2] Coal	0.80%	0.80%	0.80%
CCL [Shakti 2] Coal		0.80%	
MCL [Shakti 2] Coal		0.80%	

### ***Landed Cost of Coal***

#### ***Petitioner’s Submission***

- 5.42 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.

- 5.43 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**

- 5.44 The Commission has scrutinized the total coal consumption, GCV and landed price of primary coal submitted by the Petitioner.
- 5.45 The Commission for reasons already stated earlier in this Order approves the normative transit loss for the calculation of landed price of coal.
- 5.46 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.
- 5.47 The weighted average landed price of coal as approved in its APR Order dated September 09, 2020, as submitted by the Petitioner and approved now by the Commission for FY 2019-20 is provided in the table below.

**Table 15: Landed Price of Coal for Unit-II as approved by the Commission (Rs. /Ton)**

Coal Mix	Landed Price (Rs/MT)		
	APR Order	Petition	Approved
Middling Coal	4388.51	4393.75	4393.75
ECL [e-auction] Coal	5612.38	5871.70	5871.70
MCL [e-auction] Coal	2900.97	3106.00	3106.00
BCCL [e-auction] Coal	5363.37	5375.36	5375.36
Washery Coal	5377.78	5434.26	5434.26
2 Product +Tailing (Rake) Coal	3098.74	3099.25	3099.25
Tailing (Rake) Coal	4467.24	4414.82	4414.82
WB Reject Coal	2726.28	2726.28	2726.28
Imported Coal	5723.16	5723.16	5723.16
ECL [Shakti 2] Coal	5612.38	5483.17	5483.17
CCL [Shakti 2] Coal	2788.49	0.00	0.00
MCL [Shakti 2] Coal	2900.97	0.00	0.00

Coal Mix	Landed Price (Rs/MT)		
	APR Order	Petition	Approved
Avg. Landed Price of Coal at Normative Transit Loss	4224.82	4551.38*	4488.89

\*Landed Price is calculated by Petitioner taking into account the actual transit loss of Middling Coal & 2 Product +Tailing (Rake) Coal

**Table 16: Landed Price of Coal for Unit-III as approved by the Commission (Rs. /Ton)**

Coal Source	Landed Price (Rs/MT)		
	APR Order	Petition	Approved
Middling Coal	4389.01	4392.80	4392.80
ECL [e-auction] Coal	5590.25	5871.64	5871.64
MCL [e-auction] Coal	2885.61	3106.00	3106.00
BCCL [e-auction] Coal	5334.55	5369.42	5369.42
Washery Coal	5373.07	5430.39	5430.39
2 Product +Tailing (Rake) Coal	3098.94	3099.36	3099.36
Tailing (Rake) Coal	4467.77	4426.55	4426.55
WB Reject Coal	2721.92	2721.92	2721.92
Imported Coal	5742.65	5742.65	5742.65
ECL [Shakti 2] Coal	5590.25	5478.14	5478.14
CCL [Shakti 2] Coal	2788.49	0.00	0.00
MCL [Shakti 2] Coal	2885.61	0.00	0.00
Avg. Landed Price of Coal at Normative Transit Loss	4230.34	4530.09*	4466.33

\*Landed Price is calculated by Petitioner taking into account the actual transit loss of Middling Coal & 2 Product +Tailing (Rake) Coal

### Calorific value and Cost of Secondary Fuel

#### Petitioner's Submission

- 5.48 The Petitioner submitted the weighted average calorific value and landed price of secondary fuel i.e., LDO is 9100 kCal/L and Rs. 49792.53 /kL for Unit-II and 9100 kCal/L and Rs. 50161.00 /kL for Unit-III respectively.

#### Commission's Analysis

- 5.49 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 17: Calorific value & Landed price of Secondary fuel as approved by the Commission**

Particulars	Calorific Value (kCal/L)			Landed Price (Rs./kL)		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Unit-II	9100	9100	9100	49749	49792.5	49792.5
Unit-III	9100	9100	9100	49562	50161	50161



## Energy Charge Rate (ECR)

### Petitioner's Submission

- 5.50 The Petitioner submitted the Energy Charge Rate (ECR) for FY 2019-20 as Rs. 3.357/kWh and Rs. 3.377/kWh for Unit-II and Unit-III respectively before taking into account the discount of Shakti Coal.
- 5.51 Further, the Petitioner has pass on the discount of Rs. 0.04/kWh to its Beneficiaries on the Units generation corresponding to Shakti Coal allocated under round#2 auction as per the methodology approved by the Commission in the 1<sup>st</sup> amended of Power Purchase Agreement (PPA) between the Petitioner and Beneficiary for Jojobera Plant Unit-II and Unit-III.
- 5.52 For calculation of ECR, the Petitioner has considered the 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

- 5.53 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).
- 5.54 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*

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF/CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)\}$$

.....

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”.

5.55 The Commission observed that the energy charge claimed by the Petitioner is higher than approved value and directed the Petitioner to justify the reason for higher energy charge. The Petitioner in its reply dated February 11, 2021 submitted the following reasons for the increase in the Energy Charge Rate as compared to the approved value in APR Order dated September 09, 2020.

- Variation due to change in price/GCV of coal;
- 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).

5.56 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 2019-20.

**Table 18: Energy Charge Rate (ECR) for Unit-II as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
Net Generation	MU	728.31	672.80	672.80



Particulars	UoM	APR Order	Petition	Approved
Normative 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	3746.24	3918.08	3918.08
Landed Price of Primary Fuel	Rs./Ton	4224.82	4551.38	4488.89
Landed Price of Secondary Fuel	Rs./kL	49749.00	49792.53	49792.53
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>3.239</b>	<b>3.357</b>	<b>3.290</b>

**Table 19: Energy Charge Rate (ECR) for Unit-III as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
Net Generation	MU	745.09	651.75	651.75
Normative 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	3750.68	3892.13	3892.13
Landed Price of Primary Fuel	Rs./Ton	4230.34	4530.09	4466.33
Landed Price of Secondary Fuel	Rs./kL	49562.00	50161.00	50161.00
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>3.251</b>	<b>3.377</b>	<b>3.308</b>

### Summary of Fuel Cost

5.57 The table below provides the summary of Fuel Cost as submitted by the Petitioner and approved by the Commission for True-up of FY 2019-20.

**Table 20: ECR for Unit-II as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
Primary Fuel Cost	Rs. Cr.	233.85	-	219.47
Secondary Fuel Cost	Rs. Cr.	2.01		1.86
<b>Energy Cost</b>	<b>Rs. Cr.</b>	<b>235.86</b>	<b>225.85</b>	<b>221.33</b>
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>3.240</b>	<b>3.357</b>	<b>3.290</b>

**Table 21: ECR for Unit-III as approved by the Commission**

Particulars	UoM	APR Order	Petition	Approved
Primary Fuel Cost	Rs. Cr.	240.20	-	213.77
Secondary Fuel Cost	Rs. Cr.	2.05		1.82
<b>Energy Cost</b>	<b>Rs. Cr.</b>	<b>242.25</b>	<b>220.07</b>	<b>215.59</b>
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>3.251</b>	<b>3.377</b>	<b>3.308</b>

### Determination of Fixed Cost



## Additional Capitalization

### Petitioner's Submission

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

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

5.59 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 22: 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
<b>Combined Contribution (Unit-II+Unit-III)</b>	<b>%</b>	<b>43.84</b>

5.60 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 from approved capitalization is mainly on account of partly or fully deferred capitalization.

**Table 23: Asset wise Capitalization as submitted by the Petitioner (Rs. Crore)**

Particulars	MYT Order	Petition
<b>Unit II Standalone</b>		
Up gradation of Metering System	0.28	0.05
Oil filtration system for Coal Mill	0.50	0.47
210 AH UPS battery bank	0.12	0.10
2X60KVA UPS-Unit 2	0.40	0.38
6.6 kV Switchboard Replacement	1.28	1.28
Upgradation of furnace Safeguard & Supervisory System and BOP Control System	-	(0.04)
<b>Unit III Standalone</b>		
6.6 kV Switchboard Replacement	1.46	1.35
Up gradation of Metering System	0.28	0.05
Oil filtration system for Coal Mill	0.50	0.46
<b>Unit II &amp; Unit III Common</b>		
IT Equipment	-	0.27
<b>New Scheme</b>		
Replacement of Dead Tank CT with live Tank CT	0.18	(0.003)
<b>Net Capitalization</b>	<b>5.00</b>	<b>4.36</b>

**Table 24: Capitalization and Decapitalization as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Capitalization	2.27	2.37	2.33	1.99
Decapitalization	-	3.39	-	1.97

**Commission's Analysis**

5.61 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.”*

- 5.62 The Commission observed that the additional capital expenditure submitted by the Petitioner are in line with the APR order dated September 09, 2020. The Commission approves the capitalization for FY 2019-20 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 25: Asset wise Capitalization as approved by the Commission (Rs. Crore)**

Particulars	APR	Petition	Approved
<b>Unit II Standalone</b>			
Up gradation of Metering System	0.28	0.05	0.05
Oil filtration system for Coal Mill	0.50	0.47	0.47
210 AH UPS battery bank	0.12	0.10	0.10
2X60KVA UPS-Unit 2	0.40	0.38	0.38
6.6 kV Switchboard Replacement	1.28	1.28	1.28
Upgradation of furnace Safeguard & Supervisory System and BOP Control System	-	(0.04)	(0.04)
<b>Unit III Standalone</b>			
6.6 kV Switchboard Replacement	1.46	1.35	1.35
Up gradation of Metering System	0.28	0.05	0.05
Oil filtration system for Coal Mill	0.50	0.46	0.46
<b>Unit II &amp; Unit III Common</b>			
IT Equipment		0.27	0.27
<b>New Scheme</b>			
Replacement of Dead Tank CT with live Tank CT	0.18	(0.003)	(0.003)
<b>Net Capitalization</b>	<b>5.00</b>	<b>4.36</b>	<b>4.36</b>

- 5.63 Further, the Petitioner has submitted decapitalization for FY 2019-20 as Rs. 3.39 Crore and Rs. 1.97 Crore for Unit-II and Unit-III respectively. The Petitioner further vide its additional submission dated August 11, 2022 revised the decapitalization for FY 2019-20 as Rs. 4.49 Crore and Rs. 0.16 Crore respectively for Unit-II and Unit-III since provisional decapitalization of ‘Up gradation of Furnace safeguard & Supervisory System and BOP Control System of Unit-II was inadvertently linked to other Unit.



- 5.64 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.
- 5.65 The Commission has also scrutinized the auditor certificate submitted by the Petitioner regarding de-capitalization of assets for FY 2019-20 and after prudence check approves the decapitalization as shown below.

**Table 26: Capitalization as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Capitalization	2.27	2.37	2.37	2.33	1.99	1.99
Decapitalization	-	4.49	4.49	-	0.16	0.16

**Table 27: Gross Fixed Assets (GFA) for Unit II as approved by the Commission (Rs. Crore)**

Particulars	FY 2019-20			
	APR	Actual	Add. Submission	Approved
Opening GFA	485.64	485.64	485.64	485.64
Additional Capitalisation	2.27	2.37	2.37	2.37
Decapitalisation	-	3.39	4.49	4.49
Closing GFA	487.91	484.62	483.52	483.52

**Table 28: Gross Fixed Assets (GFA) for Unit III as approved by the Commission (Rs. Crore)**

Particulars	FY 2019-20			
	APR	Actual	Add. Submission	Approved
Opening GFA	462.48	462.48	462.48	462.48
Additional Capitalisation	2.33	1.99	1.99	1.99
Decapitalisation	-	1.97	0.16	0.16
Closing GFA	464.81	462.50	464.31	464.31

### Depreciation

#### Petitioner's Submission

- 5.66 The Petitioner submitted the depreciation for FY 2019-20 as summation of 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 & FY 2018-19; and
  - Additional Capitalization projected for FY 2019-20.
- 5.67 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.

- 5.68 The Petitioner submitted that the cumulative depreciation on total assets [i.e. GFA (Including Additional Capitalization)] up to FY 2017-18 has crossed 70% for both the Units 2 and 3, the Petitioner as per Regulation 7.32 read with Regulation 2.1(58) and 2.1(27) of GTR 2015, had spread the balance depreciable value (i.e. 90% of the Capital Cost minus Cumulative depreciation recovered for assets in service upto 2018-19) over the balance useful life (taking useful life of 25 years specified in Regulations) of the Plant.

**Table 29: Depreciation as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Depreciation	6.49	10.23	6.48	10.03

### **Commission's Analysis**

- 5.69 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 31<sup>st</sup> March 2016 from the gross depreciable value of the assets.*



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

*7.33 Depreciation shall be chargeable from the first Year of commercial operation. In case of commercial operation of the asset for part of the Year, depreciation shall be charged on pro rata basis.*

- 5.70 The Commission observed that the Petitioner proposes different methodology for calculation of depreciation vis-à-vis the method approved by the Commission. In reply to this query the Petitioner submitted that since cumulative depreciation on Gross Fixed Asset, i.e., (Original Cost and Additional Capitalisation) has crossed 70%, the Petitioner, therefore, in terms of Regulation 7.32 of the Generation Tariff Regulations 2015 has computed the depreciation on the aggregate asset by dividing the balance depreciable value by balance useful life of the project. Further, on the query that the proposed methodology is different from previous Petition, the Petitioner submitted that the proposed methodology/Computation of depreciation is not different from earlier Petition. In fact, in the Petition for True-up of FY 2016-17 and FY 2017-18, the Petitioner on similar lines had proposed for recovery of balance depreciable value as on 31.03.2016 within the balance PPA life.
- 5.71 The Commission has scrutinised the detail submitted by the Petitioner and observes that the Plant is in fag end of its life and overall depreciation of the generating stations had reached 70% for both the Units. Hence, in accordance with Regulations 7.3, the Commission is of the view to spread equally the remaining depreciable amount.
- 5.72 As per Regulation the Useful life of the generating station is 25 years, however, the Petitioner had executed the Power Purchase Agreement (PPA) with the Beneficiary for 30 years. Such signing of PPA, clearly infer that both the Petitioner and Beneficiary are aware that the existing plant is able to stand even after 25 years. Further, depreciating the legitimate depreciable amount in 25 years will defeat the purpose of reliability and economical power which is an attribute of long term PPA.
- 5.73 Hence, the Commission taking into account the PPA tenure, has spread the remaining depreciable amount in PPA life (30 years) which shall also economise the power cost, and therefore approves the depreciation taking into PPA life instead of Useful life.

**Table 30: Depreciation as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Depreciation	6.49	10.16	5.93	6.48	10.13	6.23



## ***Operation & Maintenance Expenses***

### ***Petitioner's Submission***

- 5.74 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.
- 5.75 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.
- 5.76 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 2019-20 as per Clause 6.14.b read with Clause 6.11 and Clause 6.12 of the JSERC Generation Tariff Regulations, 2015.
- 5.77 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.
- 5.78 The Petitioner has 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.
- 5.79 The Petitioner submitted that the Commission in the MYT Order dated February 19, 2018 approved the Raw Water Expense for FY 2019-20 considering projected Generation, estimated Specific Raw Water Consumption of 3.18 m<sup>3</sup>/MWh and Raw Water charges of Rs 20.25/m<sup>3</sup> as charged by Supplier to its industrial consumers including the Petitioner. However, the Petitioner emphasis that actual raw water expenses for FY 2019-20 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.



- 5.80 In regards to capital spare, the Petitioner submitted that the variations in the projection and actual expenditure is mainly because of part of material which was projected for FY 2020-21 were delivered in FY 2019-20 itself. Furthermore, the combined Capital spares approved for the MYT period FY 2016-17 to FY 2020-21 was Rs. 8.80 Crore. Out of the same for unit II and unit III till FY 2018-19 Petitioner has already claimed total of Rs. 1.33 crore as Capital Spares. Subsequently, in the MTR Order dated February 14, 2020, the Commission has approved Capital spare for FY 2019-20 and FY 2020-21 of Rs. 1.40 Crore and Rs. 6.00 Crore respectively.
- 5.81 It is observed that, the overall capital spares claimed is well within the overall approved value as per MYT Order dated February 19, 2018 and MTR Order dated February 14, 2020. The Commission has therefore approved the capital spares as claimed by the Petitioner. The Commission however clarifies that no capital spares shall be allowed at the time of truing up of FY 2020-21.

**Table 31: O&M Expenses as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Employee Expenses	7.88	7.88	7.88	7.88
Terminal Liabilities	0.25	0.92	0.25	0.92
R&M Expenses	20.46	20.46	14.61	14.61
Ash Disposal Expenses	3.63	4.15	3.71	4.06
Raw Water Expenses	2.55	4.40	2.61	4.28
HO & SS Expenses	10.76	10.76	9.43	9.43
Application Fees & Publication Expenses	0.31	0.28	0.30	0.28
Other A&G Expenses	5.14	5.14	4.70	4.70
Capital Spares	0.70	2.53	0.70	2.59
<b>O&amp;M Expenses</b>	<b>51.69</b>	<b>56.52</b>	<b>44.19</b>	<b>48.75</b>

**Commission's Analysis**

- 5.82 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 prudence 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."*

- 5.83 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.
- 5.84 The Commission had approved the Employee Cost, R&M Expenses, HO & SS Expenses and other A&G Expenses as per normative value approved in MYT Order dated February 19, 2018 and APR Order dated September 9, 2020.
- 5.85 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.
- 5.86 The Petitioner has produced new facts that there are two charges in net raw water charge i.e., water charge payable to TSL for service providing and other is water tax payable to Government of Jharkhand. The dispute and writ petition filed before the Hon'ble Jharkhand High Court is related to Water Tax. Additionally, the Petitioner requested the Commission to allow only 52% of water tax and base water charge as 100%.
- 5.87 The Commission had gone through the submissions of the Petitioner and observed that the matter related to Water Tax is sub-judice before the Hon'ble Jharkhand High Court. Thus,

the Commission is approving total Water Charge payable to TSL for its service and accepted the same methodology as adopted in its MTR Order dated February 14, 2020 for approving the Water Tax. The net Raw Water Expense approved in this Order is subject to final outcome of above-mentioned Petition before the Hon'ble Jharkhand High Court.

5.88 The O&M expense as approved by the Commission for FY 2019-20 is shown below.

**Table 32: O&M Expenses (Normative Component) as approved by the Commission (Rs. Cr.)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Employee Cost	7.88	7.88	7.88	7.88	7.88	7.88
R&M Expenses	20.46	20.46	20.46	14.61	14.61	14.61
HO & SS Expenses	10.76	10.76	10.76	9.43	9.43	9.43
Other A&G Expenses	5.14	5.14	5.14	4.70	4.70	4.70

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

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Terminal Liabilities	0.25	0.92	0.92	0.25	0.92	0.92
Ash Disposal Expenses	3.63	4.15	4.15	3.71	4.06	4.06
Raw Water Expenses	2.55	4.40	3.40	2.61	4.28	3.30
Application & Publication Expenses	0.31	0.28	0.28	0.31	0.28	0.28
Capital Spares	0.70	2.53	2.53	0.70	2.59	2.59

**Table 34: O&M Expenses as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Employee Cost	7.88	7.88	7.88	7.88	7.88	7.88
Terminal Liabilities	0.25	0.92	0.92	0.25	0.92	0.92
R&M Expenses	20.46	20.46	20.46	14.61	14.61	14.61
Ash Disposal Expenses	3.63	4.15	4.15	3.71	4.06	4.06
Raw Water Expenses	2.55	4.40	3.40	2.61	4.28	3.30
HO & SS Expenses	10.76	10.76	10.76	9.43	9.43	9.43
Application & Publication Expenses	0.31	0.28	0.28	0.3	0.28	0.28
Other A&G Expenses	5.14	5.14	5.14	4.70	4.70	4.70
Capital Spares	0.70	2.53	2.53	0.70	2.59	2.59
<b>O&amp;M Expenses</b>	<b>51.68</b>	<b>56.52</b>	<b>55.52</b>	<b>44.19</b>	<b>48.75</b>	<b>47.77</b>

### **Interest on Loan**

#### **Petitioner's Submission**

5.89 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.



- 5.90 In line with the MYT Order dated February 19, 2018, the Petitioner had considered 70% of the actual capitalization as Normative Loan for FY 2019-20 with interest rate of 13.02% and 12.33% for Unit-II and Unit-III respectively.
- 5.91 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.
- 5.92 The Interest and Finance Charges claimed by the Petitioner is shown in the table below.

**Table 35: Interest on Loan as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Opening Loan	32.11	32.11	24.4	24.4
Deemed Loan Addition	1.59	1.66	1.63	1.39
Deletion During year	-	0.09	-	0.09
Deemed Loan Repayment	4.21	6.66	2.94	4.60
Closing Loan	29.49	27.11	23.09	21.19
Interest Rate	13.02%	13.02%	12.33%	12.33%
<b>Interest on Loan</b>	<b>4.01</b>	<b>3.86</b>	<b>2.93</b>	<b>2.81</b>

### Commission's Analysis

- 5.93 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 1<sup>st</sup> 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.”*

5.94 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 2019-20 is considered equal to closing normative loan amount of FY 2018-19 as approved in the previous APR Order dated September 09, 2020.

5.95 The Commission has considered the deemed loan repayment equal to approved depreciation for FY 2019-20.

5.96 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 36: Interest on Loan as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Opening Loan	32.11	32.11	32.11	24.40	24.40	24.40
Deemed Loan Addition	1.59	1.66	1.66	1.63	1.39	1.39
Deemed Loan Repayment	4.21	6.66	5.93	2.94	4.60	6.23
Closing Loan	29.49	27.11	27.84	23.09	21.19	19.56
Interest Rate	13.02%	13.02%	13.02%	12.33%	12.33%	12.33%

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Interest on Loan	4.01	3.86	3.90	2.93	2.81	2.71

### *Interest on Working Capital (IOWC)*

#### *Petitioner's Submission*

5.97 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 37: IOWC as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Coal Stock (30 Days)	21.58	44.37	21.65	44.63
Coal for Generation (30 Days)	21.58		21.65	
Cost of Secondary Fuel (60 Days)	0.37	0.74	0.37	0.75
Maintenance Spares (20% O&M)	10.34	11.3	8.84	9.75
O&M Expenses (1 Month)	4.31	4.71	3.68	4.06
Receivables (2 Months)	56.55	64.06	59.38	62.53
Total Working Capital requirement	119.11	125.19	115.58	121.73
Interest rate on WC	12.55%	12.55%	12.55%	12.55%
<b>Interest on Working Capital</b>	<b>14.95</b>	<b>15.71</b>	<b>14.51</b>	<b>15.28</b>

#### *Commission's Analysis*

5.98 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.”

5.99 The Bank Rate as on April 01, 2019 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 2019-20 is summarized in the following table.

**Table 38: IOWC as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Coal Stock (30 Days)	21.58	44.37	22.05	21.65	44.63	22.13
Coal for Generation (30 Days)	21.58		22.05	21.65		22.13
Cost of Secondary Fuel (60 Days)	0.37	0.74	0.37	0.37	0.75	0.38
Maintenance Spares (20% O&M)	10.34	11.3	11.10	8.84	9.75	9.55
O&M Expenses (1 Month)	4.31	4.71	4.63	3.68	4.06	3.98
Receivables (2 Months)	56.55	64.06	62.48	59.38	62.53	60.93
Total Working Capital requirement	119.11	125.19	122.68	115.58	121.73	119.10
Interest rate on WC	12.55%	12.55%	12.55%	12.55%	12.55%	12.55%
<b>Interest on Working Capital</b>	<b>14.95</b>	<b>15.71</b>	<b>15.40</b>	<b>14.51</b>	<b>15.28</b>	<b>14.95</b>

### *Return on Equity*

#### *Petitioner's Submission*

5.100 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 2019-20. The Petitioner had further submitted that for additional capitalization during the FY 2019-20, Return on Equity had been computed from mid-year.

5.101 The Petitioner had submitted that the Minimum Alternate Tax (MAT) rate as 17.47% 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 39: Return on Equity as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Opening Equity	145.69	145.69	138.75	138.75

Particulars	Unit-II		Unit-III	
	APR Order	Petition	APR Order	Petition
Addition	0.68	-0.31	0.70	0.01
Closing Equity	146.37	145.39	139.44	138.75
Rate of Return	15.50%	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.64		21.56	
MAT	17.47%	17.47%	17.47%	17.47%
<b>ROE (Pre-Tax)</b>	<b>27.43</b>	<b>27.33</b>	<b>26.12</b>	<b>26.06</b>

### Commission's Analysis

5.102 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.

*“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 1<sup>st</sup> 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.”

- 5.103 The Commission vide letter dated January 27, 2021 directed the Petitioner to submit the actual income tax paid along with the documentary evidence for FY 2019-20. The Petitioner vide letter dated February 12, 2021 submitted the actual tax has been paid under MAT provisions at an effective rate of 17.47% (i.e. 5.83/33.38) for FY 2019-20, wherein Rs. 5.83 Crore is the total income tax, interest and fee payable whereas Rs. 33.38 is the Book Profit under MAT. Further, the Petitioner has submitted the ITR acknowledgment along with the additional submission as documentary evidence.
- 5.104 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. 17.472% as applicable for FY 2019-20 as shown below.

**Table 40: Return on Equity for Unit II as approved by the Commission (Rs. Crore)**

Particulars	APR	Petition	Approved
Opening Equity	145.69	145.69	145.69
Addition	0.68	(0.31)	(0.64)
Closing Equity	146.37	145.39	145.06
Rate of Return	15.50%	15.50%	15.50%
ROE (Post-Tax)	22.64	22.56	22.53
MAT	17.47%	17.47%	17.47%
<b>Return on Equity</b>	<b>27.43</b>	<b>27.33</b>	<b>27.30</b>

**Table 41: Return on Equity for Unit III as approved by the Commission (Rs. Crore)**

Particulars	APR	Petition	Approved
Opening Equity	138.75	138.75	138.75
Addition	0.70	0.01	0.55
Closing Equity	139.44	138.75	139.29
Rate of Return	15.50%	15.50%	15.50%
ROE (Post-Tax)	21.56	21.51	21.55
MAT	17.47%	17.47%	17.47%
<b>Return on Equity</b>	<b>26.12</b>	<b>26.06</b>	<b>26.11</b>

## ***Tax on Saving on Operational Parameters***

### ***Petitioner's Submission***

5.105 The Petitioner submitted that the Income Tax due to gain on account of Secondary Fuel Consumption, Auxiliary Power Consumption, Gross Station Heat Rate (GHR) and O&M Expenses 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 42: 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	0.49	0.57
Tax on Gain on Aux. Consumption	0.42	0.55
Tax on Gain on Station Heat Rate	0.28	0.19
Tax on reduction in O&M Expenses	1.74	0.07

### ***Commission's Analysis***

5.106 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 31<sup>st</sup> 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***

5.107 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.

5.108 The Commission has considered the MYT Order value and calculated the tax liability on gain secondary fuel as shown below.

**Table 43: 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	743.20	743.20	721.29	721.29
Normative LDO	ml/kWh	1.00	0.50	1.00	0.50
LDO Consumption	kL	743.20	371.60	721.29	360.64
Actual LDO Consumption	kL	279.14	279.14	180.39	180.39
Difference in LDO	kL	464.06	92.46	540.90	180.25
Landed Price of Oil	Rs./kL	49793.00	49792.53	50161.00	50161.00
Gain	Rs. Crore	2.31	0.46	2.71	0.90
Applicable Tax Rate	%	17.47%	17.47%	17.47%	17.47%
<b>Tax Liability on Secondary Fuel</b>	<b>Rs. Crore</b>	<b>0.49</b>	<b>0.10</b>	<b>0.57</b>	<b>0.19</b>

***Tax Liability on Gain on Auxiliary Power Consumption***

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

**Table 44: Tax Liability on saving in Auxiliary as approved by the Commission (Rs. Crore)**

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Normative Aux. Consumption	%	10.00	10.00	10.00	10.00
Actual Aux. Consumption	%	9.47	9.47	9.64	9.64
Units Saved	MU	3.92	3.92	2.59	2.59
ECR	Rs./kWh	3.36	3.29	3.38	3.31
Gain due to lower Aux.	Rs. Crore	1.32	1.29	0.87	0.86
Applicable Tax Rate	%	17.47	17.47	17.47	17.47
<b>Tax liability on Auxiliary</b>	<b>Rs. Crore</b>	<b>0.28</b>	<b>0.27</b>	<b>0.19</b>	<b>0.18</b>

***Tax Liability on Gain on Station Heat Rate***

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

**Table 45: Tax Liability on saving in SHR as approved by the Commission (Rs. Crore)**

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Normative Heat Rate	kCal/kWh	2567.00	2567.00	2577.00	2577.00
Actual Heat Rate	kCal/kWh	2544.00	2544.00	2546	2546.00
Gain in Heat Rate	kCal/kWh	23.00	23.00	31	31.00
Actual Gross Generation	MU	743.2	743.20	721.29	721.29
Total Heat Energy Saved	MkCal	16943.00	17093.61	22322	22359.92
Equivalent GCV of Coal	kCal/kg	3918	3918.09	3892	3892.13
Equivalent Coal Saved	Ton	4324	4362.74	5735	5744.91
Actual Landed Price of Coal	Rs./Ton	4551	4488.89	4530	4466.33
Gain on Account of GHR	Rs. Crore	1.97	1.96	2.6	2.57
Applicable Tax Rate	%	17.47%	17.47%	17.48%	17.47%

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Tax liability on GHR	Rs. Crore	0.42	0.41	0.55	0.54

### *Tax Liability due to reduction in O&M Expenses*

5.111 In line to the Clause 7.49, the Commission approves the tax liability due to reduction in actual O&M Expenses as shown below.

**Table 46: Tax Liability due to reduction in actual O&M Expenses as approved by the Commission (Rs. Crore)**

Particulars	UoM	Unit-II		Unit-III	
		Petition	Approved	Petition	Approved
Normative O&M Expenses	Rs. Crore	44.24	44.24	36.62	36.62
Actual O&M Expenses	Rs. Crore	36.04	36.04	36.31	36.31
Saving	Rs. Crore	8.20	8.20	0.31	0.31
Applicable MAT	%	17.47%	17.47%	17.47%	17.47%
<b>Tax liability Gain O&amp;M Expenses</b>	<b>Rs. Crore</b>	<b>1.74</b>	<b>1.74</b>	<b>0.07</b>	<b>0.07</b>

### *Shakti Scheme Discount*

#### *Petitioner's Submission*

5.112 Based on the allocation of primary fuel under Shakti Scheme and actual coal consumption, the Petitioner has calculated the energy generated from Shakti coal. The Petitioner has calculated the discount rate at Rs. 0.04/kWh for the coal procured under round-II and Rs. 0.07/kWh for coal produced and consumed under round-III bidding.

**Table 47: Shakti Scheme Discount as submitted by Petitioner (Rs. Crore)**

Particulars	UoM	Unit-II	Unit-III
		Petition	Petition
Sales due to ECL Coal (Round-II)	MU	12.94	13.85
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>0.05</b>	<b>0.06</b>

### *Commission's Analysis*

5.113 The Commission has scrutinized the detail of coal procured and consumed from Shakti Scheme in FY 2019-20. Further, in line to FSA and PPA approval from the Commission the Commission approves the discount amount due to Shakti Scheme coal as mentioned below.

**Table 48: Shakti Scheme Discount as approved by the Commission (Rs. Crore)**

Particulars	UoM	Unit-II	Unit-III
		Approved	Approved
Sales due to ECL Coal (Round-II)	MU	12.94	13.85
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>0.05</b>	<b>0.06</b>

**Summary of Annual Revenue Requirement****Commission's Analysis**

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

**Table 49: Annual Fixed Cost as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
O&M Expenses	51.68	56.52	55.52	44.19	48.75	47.77
Depreciation	6.49	10.23	5.93	6.48	10.03	6.23
Interest on Loan	4.01	3.86	3.90	2.93	2.81	2.71
Int. on WC	14.95	15.71	15.40	14.51	15.28	14.95
Return on Equity	27.43	27.33	27.30	26.12	26.06	26.11
<b>Annual Fixed Cost</b>	<b>104.55</b>	<b>113.65</b>	<b>108.05</b>	<b>94.23</b>	<b>102.92</b>	<b>97.77</b>

5.115 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 50: AFC after availability as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
Annual Fixed Cost	104.55	113.65	108.05	94.23	102.92	97.77
Availability	99.85%	95.82%	95.82%	90.63%	94.60%	94.60%
<b>AFC after Availability</b>	<b>104.55</b>	<b>113.65</b>	<b>108.05</b>	<b>94.23</b>	<b>102.92</b>	<b>97.77</b>

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

**Table 51: Annual Revenue Requirement as approved by the Commission (Rs. Crore)**

Particulars	Unit-II			Unit-III		
	APR Order	Petition	Approved	APR Order	Petition	Approved
AFC after Availability	104.55	113.65	108.05	94.23	102.92	97.77
Energy Cost	235.67	225.85	221.33	242.06	220.07	215.59
Tax on Gain (Secondary Fuel)	-	0.49	0.10	-	0.57	0.19
Tax on Gain (SHR)	-	0.42	0.41	-	0.55	0.54
Tax on Gain (Auxiliary)	-	0.28	0.27	-	0.19	0.18
Tax on Gain (O&M Expenses)	-	1.74	1.74	-	0.07	0.07
Less: Shakti Scheme Discount	-	0.05	0.05	-	0.06	0.06
<b>Annual Revenue Requirement</b>	<b>340.22</b>	<b>342.37</b>	<b>331.84</b>	<b>336.29</b>	<b>324.31</b>	<b>314.28</b>



## Revenue from Sale of Power

### Petitioner's Submission

5.117 The Petitioner had submitted the revenue from sale of power for FY 2019-20 as Rs. 336.03 Crore and Rs. 321.32 Crore for Unit-II and Unit-III respectively. The summary of monthly billing as certified by the Statutory Auditor including arrears bill arising out of MTR Order dated February 14, 2020 and APR Order dated September 09, 2020 is enclosed as supporting document along with Petition.

**Table 52: Revenue as submitted by the Petitioner (Rs. Crore)**

Particulars	Unit-II	Unit-III
	Petition	Petition
Revenue from Sale of Power	336.03	321.32

### Commission's Analysis

5.118 The Commission has examined the detail submitted by the Petitioner along with audited certificate submitted along with the Petition and approves the revenue for FY 2019-20 as shown below.

**Table 53: Revenue as approved by the Commission (Rs. Crore)**

Particulars	Unit-II		Unit-III	
	Petition	Approved	Petition	Approved
Revenue from Sale of Power	336.03	336.03	321.32	321.32

### Gap/Surplus for FY 2019-20

5.119 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 1<sup>st</sup> 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.”*

- 5.120 In addition to above revenue, arrears are being adjusted with the Beneficiary arising out of MTR Order dated February 14, 2020 and APR Order dated September 09, 2020, submitted along with Petition duly certified by auditor.
- 5.121 Based on MTR Order dated February 14, 2020, an amount of Rs. (11.04) Crore was adjusted for Unit-II in six equal instalments of Rs. (1.84) Crore each starting from Febraury’20 to July’20. Similarly, an amount of Rs. (0.90) Crore was to be adjusted in six instalments starting from Nov’20, in light of Tariff Order dated September 09, 2020.
- 5.122 Further, in case of Unit-III, an amount of Rs. (11.94) Crore was adjusted in six equal instalments of Rs. (1.99) Crore each starting from Febraury’20 to July’20. Similarly, an amount of Rs. (0.36) Crore was to be adjusted in six instalments starting from Nov’20, in light of Tariff Order dated September 09, 2020. The summary of monthly billing as certified by the Statutory Auditor including arrears bill arising out of MTR Order dated February 14, 2020 and APR Order dated September 09, 2020 was enclosed as supporting document along with Petition.
- 5.123 The Commission has examined the detail submitted by the Petitioner along with audited certificate submitted along with the Petition and approves the Gap/(Surplus) for FY 2019-20 for Unit-II and Unit-III in the following tables.

**Table 54: Gap/(Surplus) for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2019-20 (Approved)	FY 2020-21 (Approved)	FY 2021-22 (Approved)	FY 2022-23 (Approved)
Opening Gap/(Surplus)	-	(0.50)	6.13	5.98
Addition during the Financial Year	(4.19)	0.00	0.00	0.00
Adjustment during the FY	3.69	6.63	(0.15)	5.98
Closing Balance	(0.50)	6.13	5.98	0.00
Interest Rate	12.55%	11.65%	10.50%	10.50%
<b>Carrying Cost for respective FY</b>	<b>(0.22)</b>	<b>0.65</b>	<b>0.63</b>	<b>0.47*</b>

*\*Interest computed for 9 months considering complete recovery by March 2023*

**Table 55: Gap/(Surplus) for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2019-20 (Approved)	FY 2020-21 (Approved)	FY 2021-22 (Approved)	FY 2022-23 (Approved)
Opening Gap/(Surplus)	-	(3.06)	4.60	4.54
Addition during the Financial Year	(7.04)	0.00	0.00	0.00
Adjustment during the FY	3.98	7.66	(0.06)	4.54
Closing Balance	(3.06)	4.60	4.54	0.00



Particulars	FY 2019-20 (Approved)	FY 2020-21 (Approved)	FY 2021-22 (Approved)	FY 2022-23 (Approved)
Interest Rate	12.55%	11.65%	10.80%	10.50%
<b>Carrying Cost for respective FY</b>	<b>(0.40)</b>	<b>0.41</b>	<b>0.48</b>	<b>0.36*</b>

*\*Interest computed for 9 months considering complete recovery by March 2023*

- 5.124 The Commission would like to clarify the above Gap/(Surplus) is computed based on the information submitted before the Commission. In case there is any other adjustment between Petitioner and its Beneficiaries, the same need to be taken into account while final adjustment which shall be carried out mutually.





## **A 6: ANNUAL PERFORMANCE REVIEW FOR FY 2020-21**

- 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 filed a Mid-Term Review (MTR) Petition based on the actual value for FY 2016-17 & FY 2017-18 and revised the value for the subsequent year of the Control Period i.e. from 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 the 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 2020-21 based on the actual operational performance till Oct' 2020 and projected for the remaining months of FY 2020-21. The Petitioner had already submitted the actual financial performance for FY 2020-21 before the Commission for approval.
- 6.4 The Commission has, however, decided not to carry out the APR for FY 2020-21 as considerable time has lapsed and the Petitioner has already filed truing-up Petition for FY 2020-21 based on an audited account. As the truing up petition is under active consideration of this Commission. The Commission, therefore, does not find any merit in carrying out APR for FY 2020-21.



## **A 7: APPROVAL OF BUSINESS PLAN FOR THE MYT CONTROL PERIOD FROM FY 2021-22 TO FY 2025-26**

- 7.1 The Petitioner is required to file Business Plan for approval before the Commission as per Regulation 6.5 and Regulation 6.6 of Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020. The relevant Clauses are reproduced below:

### ***“Business Plan***

*6.5 Each Generating Company shall file for the Commission’s approval a Business Plan approved by an authorized signatory, as per the timelines specified in Section A 39 of these Regulations.*

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

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

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

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

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

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

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



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

- 7.2 In accordance with above said Regulations, the Petitioner has filed the Business Plan for the Control Period from FY 2021-22 to FY 2025-26 for approval before the Commission for Unit-II & Unit-III ( 2x120 MW) of Jojobera Power Plant on December 01, 2020.
- 7.3 The Commission in its discrepancy note directed the Petitioner to provide the approval of Competent Authority for the capital expenditure/scheme proposed for each year of the Control Period as per MYT Regulation. In compliance to above, the Petitioner vide its additional affidavit dated January 15, 2021 has submitted the Detail Project Report (DPR) for the schemes proposed in the Petition for the Control Period from FY 2021-2 to FY 2025-26 along with approval of the Competent Authority.
- 7.4 Further, the Petitioner submitted that Subsidiary Intelligence Bureau (MHA), GOI had visited the plant site to evaluate security set up at Jojobera Power Plant. After assessment, the concerned Authority has submitted its report on February 10, 2021, which is still in process of being evaluated by the Petitioner. Therefore, the Petitioner has sought liberty to approach the Commission in case any additional work is required to be done to comply with direction contained in above said report.
- 7.5 The Petitioner further added that the MYT Business Plan submitted are broadly classified into five heads as mentioned below and requested the Commission to duly consider the same while approving the Business Plan for the Control Period from FY 2021-22 to FY 2025-26.
- (a) **Operational Performance Plan:** The Operational Performance Plan detailed the performance trajectory for the Control Period from FY 2021-22 to FY 2022-26 vis-à-vis the performance for the period form FY 2016-17 to FY 2019-20.
- (b) **Annual Shutdown Plan:** The Annual Shutdown Plan of the Units throughout the Control Period provides brief description of the planned maintenance schedule &



activities for Jojobera Unit-II & Unit-III including the estimated outage plan required for installation and commissioning of FGD system for both the Units.

- (c) **Fuel Procurement Plan:** The Fuel Procurement Plan provides details about the future fuel procurement to ensure the fuel availability as per the Generation schedule along with challenges associated with it.
- (d) **Capital Expenditure Plan:** The Capital Expenditure Plan provides the details of Capex Schemes proposed for the Control Period along with phasing of Capex and Capitalization for each year of the Control Period. In addition to it, the Petitioner also submitted the estimated decapitalization plan against the replacement schemes.
- (e) **O&M Expenses Plan:** The O&M Expenses Plan provides the details of O&M Expenses for the Control Period under following heads:
  - i. Expenses which are allowed on normative basis covering Employee Expenses excluding terminal liabilities, Repairs & Maintenance Expenses and Administrative & General Expenses.
  - ii. Expenses which are allowed on actual basis covering Raw Water Charges including water tax, Ash Disposal expenses, Terminal Liabilities and Application fees and Publication expenses.

7.6 The Commission has approved the Business plan for the MYT control period from FY 2021-22 to FY 2025-26, in line with the relevant Regulations specified above.

7.7 The component-wise description of the Petitioner's submission and the Commission's analysis thereof is provided hereunder.

### Operational Plan

7.8 The Petitioner submitted that, they have been supplying reliable and quality power to Tata Steel Limited, Distribution Licensee over the past years to cater to their distribution consumers in Jamshedpur city. The actual performance parameters of Unit-II and Unit-III for the last five years as submitted by the petition is as below.

**Table 56: Operational Performance for past years as submitted by the Petitioner**

Particulars	UoM	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
<b>Unit-II</b>						
Plant Availability	%	99.96	93.49	96.87	92.90	98.35
Auxiliary Consumption	%	9.13	9.03	8.79	9.11	9.47
Gross Generation	MU	848	788	815	768	743
Plant Load Factor	%	80.49	74.98	77.57	73.08	70.51



Particulars	UoM	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Station Heat Rate	kCal/kWh	2548	2542	2543	2538	2544
<b>Unit-III</b>						
Plant Availability	%	95.86	91.39	97.77	93.97	96.75
Auxiliary Consumption	%	9.25	8.80	8.84	9.26	9.64
Gross Generation	MU	792	775	803	775	721
Plant Load Factor	%	75.09	73.74	76.39	73.68	68.43
Station Heat Rate	kCal/kWh	2557	2541	2552	2542	2546

- 7.9 The Petitioner further submitted that they were able to perform par excellence than normative norms during the last Control Period and one of the major reasons, other than better O&M practices, was procurement of better-quality washed/imported coal with low ash and high GCV value during this period due to shortage of coal from regular supplies which were comparatively of inferior quality than Washed Coal and Imported Coal.
- 7.10 However, after having linkage coal under SHAKTI Scheme for Unit-II and Unit-III in FY 2019-20 and FY 2020-21, about 70-75 % of the coal requirement will be met from mines of Coal Indian Limited (CIL) which is comparatively of inferior quality than washed coal/imported coal. With deterioration in coal quality more quantity of coal will be required to be charged in the boiler, which will further increase the heat losses and impact boiler efficiency. Consequently, this will impact the present operational performance level and same is for the reasons which is not within the control of the Petitioner.
- 7.11 Since, by the end of the third Control Period, both the Units will nearly reach ~25 years of operation i.e. Useful life as per Regulations, 2020, it will be difficult for the Petitioner to maintain the desired level of performance, and hence, it will be a nearly impossible task to achieve the stipulated progressive reduction in Station Heat Rate from present normative level of 2567 kCal/kWh for Unit-II and 2577 kCal/kWh for Unit-III to 2550 kCal/kWh in first two years and thereafter to 2525 kCal/kWh for both the Units in last three years of the Control Period and further reduction in auxiliary power consumption from normative level of 10.00% to 9.00% for the both the Units.
- 7.12 The Petitioner further submitted that natural wear and tear along with suboptimal quality of coal is further going to adversely impact the efficiency of Boiler and Turbine, thereby impacting the Station Heat Rate, auxiliary power consumption and other operational parameters. In view of the above mentioned reasons, the Petitioner has sought liberty to approach the Commission for any adverse impact on business on account of lower actual performance compared to norms specified in Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.



### ***Plant Availability Factor (PAF)***

#### ***Petitioner's Submission***

- 7.13 Based on the past performance and annual shut down plan of the generating stations, the Petitioner had projected the Plant Availability Factor more than normative value as mentioned in Regulations 2020.

**Table 57: Plant availability as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
NAPAF	%	85.00	85.00	85.00	85.00	85.00
Projected Plant Availability	%	89.66	95.11	91.55	99.25	91.55
<b>Unit-III</b>						
NAPAF	%	85.00	85.00	85.00	85.00	85.00
Projected Plant Availability	%	95.16	90.91	99.22	91.62	99.22

#### ***Commission's Analysis***

- 7.14 The Commission has scrutinized the submission made by the Petitioner and observed that the Petitioner has projected the availability higher than normative value of 85% as per Regulations.
- 7.15 The Commission approves the normative availability (NAPAF) as 85% for each financial year of the Control Period and provisionally approves the projected Plant Availability Factor as mentioned below for the Control Period from FY 2021-22 to FY 2025-26.

**Table 58: Plant availability as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
NAPAF	%	85.00	85.00	85.00	85.00	85.00
Projected Plant Availability	%	89.66	95.11	91.55	99.25	91.55
<b>Unit-III</b>						
NAPAF	%	85.00	85.00	85.00	85.00	85.00
Projected Plant Availability	%	95.16	90.91	99.22	91.62	99.22

### ***Auxiliary Consumption***

#### ***Petitioner's Submission***

- 7.16 The Petitioner had estimated the Auxiliary Consumption at 9.00% for both the Units in accordance to the Regulation 2020. However, the Petitioner seeks the liberty of the Commission to re-approach the Commission for any adverse impact on business on account of lower actual performance compared to norms specified in Jharkhand State Electricity



Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

**Table 59: Auxiliary Consumption as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Normative Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
Projected Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
<b>Unit-III</b>						
Normative Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
Projected Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00

### **Commission's Analysis**

7.17 The Commission observes that the Petitioner has projected auxiliary consumption in line with MYT Regulations, 2020. The Commission therefore approves auxiliary consumption at 9.00% for each Unit for each financial year of the Control period as defined in the Regulations, 2020.

**Table 60: Auxiliary Consumption as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Normative Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
Projected Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
<b>Unit-III</b>						
Normative Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00
Projected Auxiliary Consumption	%	9.00	9.00	9.00	9.00	9.00

### **Plant Load Factor and Generation**

#### **Petitioner's Submission**

7.18 The Petitioner has estimated the Gross Generation of both the Units and the resultant Plant Load Factor taking into account the demand of the Tata Steel Limited, Distribution Licensee (Beneficiary).

**Table 61: Plant Load Factor and Gross Generation as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Gross Generation	MU	848.23	893.85	873.74	925.14	871.35
Plant Load Factor	%	80.69	85.03	82.89	88.01	82.89
<b>Unit-III</b>						
Gross Generation	MU	852.53	868.81	937.11	872.50	929.67
Plant Load Factor	%	81.10	82.65	88.90	83.00	88.15



**Commission's Analysis**

- 7.19 The Commission observed that the Petitioner has deviated from the normative Plant Load Factor norms specified in Regulation 16.1 of the Regulations, 2020. The Commission in its MYT Regulations has specified the norms for Normative Plant Load Factor as 85% for both the Units. Thus, the Commission has approved the Gross Generation and corresponding Plant Load Factor on normative basis for each year of the Control Period i.e. from FY 2021-22 to FY 2025-26. Any deviation in the Plant Load Factor may be considered at the time of True-up/APR Petition, subject to prudence check.

**Table 62: Plant Load Factor and Gross Generation as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Gross Generation	MU	893.52	893.52	895.97	893.52	893.52
Plant Load Factor	%	85.00	85.00	85.00	85.00	85.00
<b>Unit-III</b>						
Gross Generation	MU	893.52	893.52	895.97	893.52	893.52
Plant Load Factor	%	85.00	85.00	85.00	85.00	85.00

**Gross Station Heat Rate (GHR)****Petitioner's Submission**

- 7.20 The Petitioner had claimed Gross Station Heat Rate (GHR) as 2550 kCal/kWh for both the Units for first two years of the Control Period and 2525 kCal/kWh for both the Units for the remaining three years of the Control Period inline to Regulations, 2020. However, the Petitioner has sought liberty of the Commission to approach the Commission for any adverse impact on business on account of lower actual performance compared to norms specified in Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020

**Table 63: Gross Station Heat Rate as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Normative Station Heat Rate	kCal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00
<b>Unit-III</b>						
Normative Station Heat Rate	kCal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00

**Commission's Analysis**

- 7.21 The Commission observes that the Petitioner has projected station heat rate in line with MYT Regulation 6.11 of JSERC Generation Tariff Regulations, 2020. Hence, the Commission



approves the GHR at 2550 kCal/kWh for first two years and 2525 kCal/kWh for the remaining three years of the Control period as defined in the Regulations, 2020.

**Table 64: Gross Station Heat Rate as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Normative Station Heat Rate	kCal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00
<b>Unit-III</b>						
Normative Station Heat Rate	kCal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00

### *Specific Fuel Oil Consumption*

#### *Petitioner's Submission*

7.22 The Petitioner submitted the specific fuel oil consumption as 0.50 ml/kWh for both the Units as specified in Clause 16.1 of JSERC Generation Tariff Regulations, 2020.

**Table 65: Specific Fuel Oil Consumption as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
<b>Unit-III</b>						
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50

### *Commission's Analysis*

7.23 The Commission has considered the Specific Fuel Oil Consumption as 0.5 ml/kWh as per JSERC MYT Regulations, 2020 for both Unit-II and Unit-III as shown below.

**Table 66: Specific Fuel Oil Consumption as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
<b>Unit-III</b>						
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50

### *Transit Loss*

#### *Petitioner's Submission*

7.24 The Petitioner has claimed the transit loss as 0.80% for primary fuel sourced from domestic market for both the Units in accordance to Clause 17.11 of JSERC Generation Tariff Regulations, 2020.

**Table 67: Transmit Loss as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Transit Loss	%	0.80	0.80	0.80	0.80	0.80
<b>Unit-III</b>						
Transit Loss	%	0.80	0.80	0.80	0.80	0.80

**Commission's Analysis**

- 7.25 The Commission has scrutinised the detail submitted by the Petitioner and finds it in line with MYT Regulations 2020. Hence, the Commission approves the transit loss at 0.80% for both the Units as shown below.

**Table 68: Transmit Loss as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Transit Loss	%	0.80	0.80	0.80	0.80	0.80
<b>Unit-III</b>						
Transit Loss	%	0.80	0.80	0.80	0.80	0.80

- 7.26 The Commission had approved the Operational parameters on normative basis as per Regulation 16.1 of Regulations 2020, however, the Commission may review the operational parameters on unusual situation as per Regulation 6.4 of Regulations 2020.

**Annual Shutdown Plan****Petitioner's Submission**

- 7.27 The Petitioner has projected the planned Annual Shutdown (ASD) for Jojobera Generating Stations Unit-II & Unit-III in alternate year for each Unit for capital overhauling of the Unit in addition to regular Repair and Maintenance works and forced shutdowns/ breakdowns, taking into the following:
- Scheduled Preventive Maintenance and Operational constraints;
  - Requirements for technological up-gradations;
  - Undertake performance improvement measures;
  - Statutory Compliances;
  - Life sustenance.
- 7.28 The maintenance plan is prepared based on the operational challenges, past operation and maintenance experience, OEM recommendations, Capex Plan and major maintenance

schedules. The projected Annual Shutdown Plan for Jojobera Generating Station Unit-II & Unit-III for the Control Period from FY 2021-22 to FY 2025-26 is shown below.

**Table 69: Annual Shutdown Plan as submitted by the Petitioner**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Unit-II	<b>Oct'20-Nov'20:</b> 35 Days	-	<b>Nov'20:</b> 28 Days	-	<b>Nov'20:</b> 28 Days
Unit-III	-	<b>Oct'20-Nov'20:</b> 35 Days	-	<b>Nov'20:</b> 28 Days	-

- 7.29 The Petitioner submitted that commissioning of Flue Gas Desulphurisation system (FGD) System for Units of Jojobera Power Plant is in progress. The commissioning of FGD system is scheduled in FY 2022-23 for both the Units (Unit-II & Unit-III). However, the integration/connection of FGD System with existing system is planned in two stages. The 1<sup>st</sup> connection of the FGD System will be done in FY 2021-22 itself whereas the final connection and commissioning shall be completed in FY 2022-23. Further, outage of 15 days is estimated at present for each stage. The Petitioner has tried to realign the above outages with the ASD, wherever possible and wherever it is not possible to realign with ASD, it has planned for an outage of 15 days for connection/commissioning of the FGD system. The proposed shutdown plan for installation and commissioning the FGD System for Jojobera Generating Station Unit-II & Unit-III as submitted by the Petitioner is as shown below.

**Table 70: Shutdown Schedule for FGD System as submitted by the Petitioner**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Unit-II	<b>Oct'20-Nov'20:</b> ASD utilized for 1 <sup>st</sup> connection of FGD	<b>Jan'20:</b> 15 days outage for Commissioning of FGD	-	-	-
Unit-III	<b>Dec'20:</b> 15 days outage for 1st Connection of FGD	<b>Nov'20:</b> Commissioning of FGD within ASD	-	-	-

- 7.30 The Petitioner further added that since both the Units have remaining Useful life of ~5 years as per Regulation' 2020, the Commission in its APR Order for FY 2019-20 dated September 09, 2020 directed the Petitioner to conduct Residual Life Study (RLA).
- 7.31 The Petitioner submitted that RLA study requires extensive study of critical equipment and require outage to undertake those studies. Accordingly, the RLA study is envisaged in the next/upcoming Annual Shutdowns of these Units and has sought liberty to approach the Commission with RLA Study and Renovation & Modernisation Plan subsequently.



### Commission's Analysis

- 7.32 The Commission has gone through the submissions of the Petitioner. The Annual Shutdown Plan as approved by the Commission for the Control Period from FY 2021-22 to FY 2025-26 is mentioned below. Further, the Petitioner is directed to communicate the Commission any deviation from the approved Plan with proper reasoning.

**Table 71: Annual Shutdown Plan as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Unit-II	Oct'20-Nov'20: 35 Days	-	Nov'20: 28 Days	-	Nov'20: 28 Days
Unit-III	-	Oct'20-Nov'20: 35 Days	-	Nov'20: 28 Days	-

### Fuel Procurement Plan

#### Petitioner's Submission

- 7.33 The Petitioner submitted that the coal Procurement Plan for Unit-II and Unit-III is based on the power demand of Tata Steel Limited, Distribution Licensee (Beneficiary) for each year of the Control Period from FY 2021-25 to FY 2025-26. The Petitioner submitted that Fuel Supply Agreement (FSA) with various subsidiaries of Coal India Limited i.e. Eastern Coal Field Limited (ECL), Central Coal Field Limited (CCL) and Mahanadi Coalfield Limited (MCL) under SHAKTI Scheme round-II. In SHAKTI round-II, the Petitioner secured allocations of ~4,64,300 Ton/annum of coal (ECL:85500, CCL:193000 & MCL:185800) and in SHAKTI round-III, secured an additional quantum of 5,77,100 Ton/annum from CCL.
- 7.34 The Petitioner further added that the benefits of SHAKTI coal including discount of 4 paise/kWh and 7 paise/kWh on actual coal consumption corresponding to coal from round-II and round-III allocations respectively shall be passed on to the Beneficiary in accordance with SHAKTI Scheme bid document. However, the above quantum is only sufficient for meeting the coal requirement corresponding to PLF of 75%.
- 7.35 The Petitioner submitted that it has relied on coal from washery/E-auction in addition to linkage coal in the past to maintain the reliability and continuous generation of electricity from plant. The rakes booked had been pending for very long periods even after making advance payments. Hence, taking into account the above reasons, the Petitioner has considered 90% of the coal allocations under SHAKTI Scheme for projecting the coal mix. Also, the FSAs under SHAKTI Scheme provides the provision for incentive and penalty on specified off-take of quantity. As per T&C of FSA, off-take lower than 75% attracts penalty whereas off-take higher than 90% comes with incentive.



- 7.36 The Petitioner has projected the normative availability at 85.00% for both the Units in accordance to Regulations, 2020 and proposed to meet the shortfall through Middling Coal from West Bokaro Collieries of Tata Steel Limited.
- 7.37 The Petitioner further submitted that in case of acute shortages/crisis of supply from contracted/linked sources, the Petitioner proposed to procure indigenous Coal through E-Auction/private market/Imported Coal from overseas and has sought liberty of the Commission to update such deviations/shortages/crisis and procurement of alternative coal in the quarterly fuel reports being submitted to the Commission as per directions in the earlier Orders.

**Table 72: Coal Mix for Unit-II as submitted by the Petitioner (%)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	17.67	21.84	19.27	23.71	19.05
ECL [Shakti 2] Coal	6.76	6.42	6.63	6.26	6.65
CCL [Shakti 2] Coal	15.26	14.49	14.96	14.14	15.00
MCL [Shakti 2] Coal	14.69	13.95	14.40	13.61	14.44
CCL [Shakti 3] Coal	45.62	43.31	44.74	42.27	44.86

**Table 73: Coal Mix for Unit-III as submitted by the Petitioner (%)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	18.07	19.59	24.67	19.14	23.83
ECL [Shakti 2] Coal	6.73	6.60	6.18	6.64	6.25
CCL [Shakti 2] Coal	15.18	14.90	13.96	14.98	14.12
MCL [Shakti 2] Coal	14.62	14.35	13.44	14.43	13.59
CCL [Shakti 3] Coal	45.40	44.56	41.74	44.81	42.21

- 7.38 The Petitioner had considered the transit loss on normative basis as 0.80% for computation of coal requirement for the above mentioned sources.
- 7.39 The Gross Calorific Value (GCV) of coal and secondary fuel is taken as the weighted average Calorific value for the month of August, 2020, September, 2020 and October, 2020 as per Regulation 17.10 for Unit-II and Unit-III. The Petitioner further submitted that the supply of CCL Shakti coal under round-III has commenced from month of November, 2020 and are yet to receive the actual bills. Therefore, for the purpose of projection, the Petitioner has considered the GCV of CCL Shakti-III equals to GCV of CCL Shakti coal under round-II in the absence of actual data, subject to true up based on actuals.

**Table 74: GCV of Coal for Unit-II as submitted by the Petitioner (kCal/kg)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	3860.75	3860.75	3860.75	3860.75	3860.75
ECL [Shakti 2] Coal	5109.27	5109.27	5109.27	5109.27	5109.27
CCL [Shakti 2] Coal	3837.53	3837.53	3837.53	3837.53	3837.53



Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
MCL [Shakti 2] Coal	3129.71	3129.71	3129.71	3129.71	3129.71
CCL [Shakti 3] Coal	3837.53	3837.53	3837.53	3837.53	3837.53

**Table 75: GCV of Coal for Unit-III as submitted by the Petitioner (kCal/kg)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	3859.81	3859.81	3859.81	3859.81	3859.81
ECL [Shakti 2] Coal	5000.57	5000.57	5000.57	5000.57	5000.57
CCL [Shakti 2] Coal	3856.28	3856.28	3856.28	3856.28	3856.28
MCL [Shakti 2] Coal	3107.23	3107.23	3107.23	3107.23	3107.23
CCL [Shakti 3] Coal	3856.28	3856.28	3856.28	3856.28	3856.28

**Table 76: Coal Procurement Plan for Unit-II as submitted by the Petitioner (MT)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal Consumption	99800.50	129874.74	110957.89	144517.96	109399.39
ECL [Shakti 2] Coal Consumption	38167.20	38167.20	38167.20	38167.20	38167.20
CCL [Shakti 2] Coal Consumption	86155.20	86155.20	86155.20	86155.20	86155.20
MCL [Shakti 2] Coal Consumption	82941.12	82941.12	82941.12	82941.12	82941.12
CCL [Shakti 3] Coal Consumption	257617.44	257617.44	257617.44	257617.44	257617.44
<b>Net-Coal Consumption</b>	<b>564681.46</b>	<b>594755.70</b>	<b>575838.85</b>	<b>609398.92</b>	<b>574280.35</b>
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%
<b>Coal Procurement Plan</b>	<b>569235.34</b>	<b>599552.12</b>	<b>580482.71</b>	<b>614313.43</b>	<b>578911.64</b>

**Table 77: Coal Procurement Plan for Unit-III as submitted by the Petitioner (MT)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal Consumption	102546.50	113285.39	152255.53	110066.88	145440.05
ECL [Shakti 2] Coal Consumption	38167.20	38167.20	38167.20	38167.20	38167.20
CCL [Shakti 2] Coal Consumption	86155.20	86155.20	86155.20	86155.20	86155.20
MCL [Shakti 2] Coal Consumption	82941.12	82941.12	82941.12	82941.12	82941.12
CCL [Shakti 3] Coal Consumption	257617.44	257617.44	257617.44	257617.44	257617.44
<b>Net-Coal Consumption</b>	<b>567427.46</b>	<b>578166.35</b>	<b>617136.49</b>	<b>574947.84</b>	<b>610321.01</b>
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%
<b>Coal Procurement Plan</b>	<b>572003.48</b>	<b>582828.98</b>	<b>622113.40</b>	<b>579584.51</b>	<b>615242.96</b>

**Commission's Analysis**

- 7.40 The Commission observed that the Petitioner has participated in bid process for coal allocation under Shakti Scheme round-II and round-III and were able to secure coal from ECL, CCL and MCL mines of Coal India Limited. Such steps will not only increase the reliability towards availability of coal but also improve the economics of fuel purchase, which shall lead to decrease in the energy charge rate.
- 7.41 The Commission observed that the Petitioner has proposed 90% of coal allocated under Shakti Scheme for calculating the coal mix taking into accounts the various challenges like delay on CIL side, non-availability of railways wagons/rakes etc. Further, to meet its coal



requirement over and above the allocated coal, the Petitioner proposed to procure middling coal.

- 7.42 The Commission has approved the Plant Load Factor (PLF) on normative basis of 85%. Thus, taking into consideration of Petitioner proposal to consider 90% of coal allocated under Shakti Scheme for calculating the coal mix due to various said reasons, the Commission has considered the remaining requirement to be met with by Middling Coal. However, the Commission directs the Petitioner to ensure that 100% offtake of coal allocated under Shakti Scheme is secured. Further, the Petitioner should take every effort to optimise its fuel procurement cost.
- 7.43 The coal mix as approved by the Commission for the Control Period from FY 2021-22 to FY 2025-26 is mentioned below. Further, the Petitioner is directed to communicate the Commission any deviation from the approved Plan with proper reasoning on Quarterly basis.

**Table 78: Coal Mix for Unit-II as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	21.81%	21.81%	21.25%	21.04%	21.04%
ECL [Shakti 2] Coal	6.42%	6.42%	6.47%	6.48%	6.48%
CCL [Shakti 2] Coal	14.49%	14.49%	14.59%	14.63%	14.63%
MCL [Shakti 2] Coal	13.95%	13.95%	14.05%	14.09%	14.09%
CCL [Shakti 3] Coal	43.33%	43.33%	43.64%	43.76%	43.76%

**Table 79: Coal Mix for Unit-III as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	21.80%	21.80%	21.24%	21.03%	21.03%
ECL [Shakti 2] Coal	6.42%	6.42%	6.47%	6.48%	6.48%
CCL [Shakti 2] Coal	14.49%	14.49%	14.60%	14.64%	14.64%
MCL [Shakti 2] Coal	13.95%	13.95%	14.05%	14.09%	14.09%
CCL [Shakti 3] Coal	43.34%	43.34%	43.64%	43.76%	43.76%

- 7.44 The Commission observed that the Petitioner has projected the GCV of the primary fuel based on the actual value for the period from August 2020 to October 2020. The Commission provisionally approves the GCV as projected by the Petitioner, in accordance to Regulation 17.10 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020, subject to true up based on actual.

**Table 80: GCV of Coal for Unit-II as approved by the Commission (kCal/kg)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	3860.75	3860.75	3860.75	3860.75	3860.75
ECL [Shakti 2] Coal	5109.27	5109.27	5109.27	5109.27	5109.27
CCL [Shakti 2] Coal	3837.53	3837.53	3837.53	3837.53	3837.53
MCL [Shakti 2] Coal	3129.71	3129.71	3129.71	3129.71	3129.71
CCL [Shakti 3] Coal	3837.53	3837.53	3837.53	3837.53	3837.53

**Table 81: GCV of Coal for Unit-III as approved by the Commission (kCal/kg)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	3859.81	3859.81	3859.81	3859.81	3859.81
ECL [Shakti 2] Coal	5000.57	5000.57	5000.57	5000.57	5000.57
CCL [Shakti 2] Coal	3856.28	3856.28	3856.28	3856.28	3856.28
MCL [Shakti 2] Coal	3107.23	3107.23	3107.23	3107.23	3107.23
CCL [Shakti 3] Coal	3856.28	3856.28	3856.28	3856.28	3856.28

7.45 Based on the approved coal mix and GCV, the coal consumption and coal procurement plan for the Control Period from FY 2021-22 to FY 2025-26 is shown below.

**Table 82: Coal Procurement Plan for Unit-II as approved by the Commission (Ton)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal Consumption	129659.54	129659.54	125471.77	123873.62	123873.62
ECL [Shakti 2] Coal Consumption	38167.20	38167.20	38167.20	38167.20	38167.20
CCL [Shakti 2] Coal Consumption	86155.20	86155.20	86155.20	86155.20	86155.20
MCL [Shakti 2] Coal Consumption	82941.12	82941.12	82941.12	82941.12	82941.12
CCL [Shakti 3] Coal Consumption	257617.44	257617.44	257617.44	257617.44	257617.44
<b>Net-Coal Consumption</b>	<b>594540.50</b>	<b>594540.50</b>	<b>590352.73</b>	<b>588754.58</b>	<b>588754.58</b>
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%
<b>Coal Procurement Plan</b>	<b>599335.18</b>	<b>599335.18</b>	<b>595113.64</b>	<b>593502.60</b>	<b>593502.60</b>

**Table 83: Coal Procurement Plan for Unit-III as approved by the Commission (Ton)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal Consumption	129579.71	129579.71	125390.92	123792.38	123792.38
ECL [Shakti 2] Coal Consumption	38167.20	38167.20	38167.20	38167.20	38167.20
CCL [Shakti 2] Coal Consumption	86155.20	86155.20	86155.20	86155.20	86155.20
MCL [Shakti 2] Coal Consumption	82941.12	82941.12	82941.12	82941.12	82941.12
CCL [Shakti 3] Coal Consumption	257617.44	257617.44	257617.44	257617.44	257617.44
<b>Net-Coal Consumption</b>	<b>594460.67</b>	<b>594460.67</b>	<b>590271.88</b>	<b>588673.34</b>	<b>588673.34</b>
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%
<b>Coal Procurement Plan</b>	<b>599254.71</b>	<b>599254.71</b>	<b>595032.13</b>	<b>593420.70</b>	<b>593420.70</b>

## Capital Expenditure Plan

### Petitioner's Submission

7.46 The Petitioner has projected capital expenditure and additional capitalization for each year of the Control Period i.e. from FY 2021-22 to FY 2025-26 in its proposed MYT Business Plan. The proposed Additional Capitalization for Jojobera Unit-II and Unit-III for the Control Period from FY 2021-22 to FY 2025-26 includes the following:

- Additional Capitalization pertaining to Capital Expenditure Schemes carried forward from the 2<sup>nd</sup> Control Period i.e. FY 2016-17 to FY 2020-21;
- Additional Capitalization pertaining to Capital Expenditure Schemes proposed for FY 2021-22 to FY 2025-26 and their capitalization phasing;

- De-Capitalisation Plan for replacement schemes.
- 7.47 The Petitioner submitted that the Commission had approved various additional Capital Expenditure Schemes for capitalization during the Control Period from FY 2016-17 to FY 2020-21 vide its MYT Order dated February 19, 2018. However, few of the above approved Capital Expenditure Schemes could not be completed by the end of the 2<sup>nd</sup> Control Period i.e. March 31, 2021 due to various uncontrollable reasons as listed below:
- Changes in the maintenance plan in view of variation in the operational plan or variations in technical requirements;
  - Changes in the Annual Shutdown Plan or duration of the Annual Outage of the Units due to unavoidable circumstances i.e. high lead time in delivery of the equipment, non-availability of specialized OEM Engineers, etc.;
  - Re-negotiations with the vendors on account of deviations in Cost and Budgeting as planned;
  - Reassessment of necessity/usefulness of Schemes owing to ever-changing scenario;
  - Time Constraint: A significant amount of time is required for planning, obtaining internal approval, engineering, placement of Purchase Orders, delivery of materials and execution of the Projects. Further, the last quarter of FY 2019-20 and current FY 2020-21 have been deeply impacted by COVID 19 pandemic, which has adversely affected the progress of these approved schemes. The execution of such additional Capital Expenditure Schemes shall require some more time for complete execution and capitalization.
- 7.48 In view of above mentioned reasons, the Petitioner requested the Commission to allow capitalization of already approved Capital Expenditure Schemes associated with Hydraulic Auger for CHP and replacement of Dead Tank CT with Live Tank CT pertaining to the 2<sup>nd</sup> Control Period amounting to Rs. 2.76 Crore.
- 7.49 The Petitioner further submitted that Regulation 14.2, 14.3 and 14.4 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 specify various provisions for allowance of additional Capital Expenditure in respect of new project/existing project falling within the Original Scope of work/beyond the Original Scope of work after the cut-off date.
- 7.50 Accordingly, the Petitioner has proposed additional Capital Expenditure Schemes for the Control Period from FY 2021-22 to 2025-26 falling within the Original Scope of work or beyond the Original Scope. Further, the Petitioner vide additional affidavit dated January 15, 2021 submitted the Detailed Project Report (DPR). In DPR, the capital expenditure plan/capitalisation for Workshop machine Tools, Condition Monitoring tools & Mobile

Environmental dust Extractor Turbine Parting Plane Bolts & Coupling Bolts CHP Dozer and Up-gradation of Fans Pneumatic Actuators to Electrical Actuator is revised in the DPR.

7.51 The detailed phasing plan along with Detailed Project Report (DPR) for the proposed Capital Expenditure Schemes as submitted before the Commission is as shown below.

**Table 84: Capital Expenditure Plan as submitted by the Petitioner**

Particulars	Category	Scheme Type	Proposed Cost	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Hydraulic Auger for CHP (Carry Forward)	Tech. Req.	New	4.56	1,2,3,4,5	2.00	-	-	-	-
Replacement of Dead Tank CT with Live Tank CT (Carry forward)	Tech. Req.	Replacement	1.74	1,2,3,4,5	0.12	0.18	0.22	0.25	-
Control Room AC System	Obsolescence	Replacement	3.45	2,3	1.73	1.73	-	-	-
Ash Conveying pipe line	Reliability	Replacement	2.80	2,3	1.00	1.80	-	-	-
Turbine Oil Centrifuge	Obsolescence	Replacement	0.75	2,3	-	0.75	-	-	-
Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor	Reliability	New	2.00	2,3	0.33	0.55	-	-	-
Turbine Parting Plane Bolts & Coupling Bolts	Reliability	Replacement	4.34	2	-	4.34	-	-	-
BFP De-staging	Efficiency Improvement	Technological Up-gradation	2.75	2,3	2.75	-	-	-	-
CHP Dozer	Safety	Replacement	5.40	1,2,3,4,5	2.37	-	-	-	-
New Weigh Bridge for Bulker	Statutory	New	1.12	1,2,3,4,5	0.49	-	-	-	-
Multi-Layered Security System for Jojobera Power Plant.	Security/ Safety	New	2.75	1,2,3,4,5	0.66	0.55	-	-	-
Up-gradation of Fans Pneumatic Actuators to Electrical Actuator	Efficiency Improvement	Replacement	2.40	2,3	2.40	-	-	-	-
<b>Capital Expenditure Plan</b>	-	-	<b>34.06</b>	-	<b>13.84</b>	<b>9.89</b>	<b>0.22</b>	<b>0.25</b>	<b>0.00</b>

**Table 85: Capitalisation Plan as submitted by the Petitioner**

Sr. No.	Project Description	Used in Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
1	Hydraulic Auger for CHP (Carry Forward)	1,2,3,4,5	2.00	0.00	0.00	0.00	0.00
2	Replacement of Dead Tank CT with Live Tank CT (Carry forward)	1,2,3,4,5	0.12	0.18	0.22	0.25	0.00
3	Control Room AC System Unit #2 & 3	2,3	1.73	1.73	0.00	0.00	0.00
4	Ash Conveying pipe line Unit #2 & 3	2,3	1.00	1.80	0.00	0.00	0.00
5	Turbine Oil Centrifuge Unit #2 & 3	2,3	0.00	0.75	0.00	0.00	0.00
6	Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor Unit #2 & 3	2,3	0.33	0.55	0.00	0.00	0.00
7	Turbine Parting Plane Bolts & Coupling Bolts Unit #2.	2	0.00	4.34	0.00	0.00	0.00
8	BFP Destaging	2,3	2.75	0.00	0.00	0.00	0.00
9	CHP Dozer	1,2,3,4,5	2.37	0.00	0.00	0.00	0.00
10	New Weigh Bridge for Bulker	1,2,3,4,5	0.49	0.00	0.00	0.00	0.00
11	Multi-Layered Security System for Jojobera Power Plant.	1,2,3,4,5	0.66	0.55	0.00	0.00	0.00



Sr. No.	Project Description	Used in Units	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
12	Upgradation of Fans Pneumatic Actuators to Electrical Actuator	2,3	2.40	0.00	0.00	0.00	0.00
	<b>Total</b>	-	<b>13.84</b>	<b>9.89</b>	<b>0.22</b>	<b>0.25</b>	<b>0.00</b>

7.52 The Petitioner further submitted that items in Serial no. 3,4,5,7,9 &12 of the above table are schemes involving replacement of asset/equipment within Original Scope of Work where such replacement is necessary during the Control Period either on account of Useful life of the asset not being commensurate with the Useful life of the Project, Force Majeure Conditions, obsolescence of technology and consequent safety concerns for people and property or damage to environment in an event of any eventuality due to breakdown of such deteriorated equipment under Regulation 14.3 read with other relevant provisions of regulations 14.2 and 14.4. In addition to above, items in Serial no. 1 & 2 are carry forward approved schemes and are claimed under specific provisions while items at Serial no. 6 squarely falls within the scope of Regulations 14.4 (d) and lastly the items at Serial no. 8 and 12 are efficiency improvements scheme necessarily required in order to improve the performance parameters in view of the tightened auxiliary norms of 9.00% compared to earlier norms of 10.00%.

7.53 The Petitioner further submitted that some of the schemes are commonly proposed for Unit-II & Unit-III for sake of tracking the Scheme, however, with actual progress on scheme, discussions with vendors regarding supply of material, the availability of outage, actual capitalization/phasing in each Unit may vary. Hence, the Petitioner has sought liberty of the Commission to apprise such inter-se adjustments among Unit-II & Unit-III in the quarterly additional capitalisation reports/during true-up exercise.

7.54 In addition to above, the Petitioner has also proposed the revised de-capitalization vide affidavit dated January 15, 2021 against the proposed Capital Expenditure Schemes involving complete/partial replacement of the assets for the Control Period from FY 2021-22 to FY 2025-26.

**Table 86: De-Capitalisation Plan as submitted by the Petitioner**

Particulars	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Hydraulic Auger for CHP (Carry Forward)	1,2,3,4,5	-	-	-	-	-
Replacement of Dead Tank CT with Live Tank CT (Carry forward)	1,2,3,4,5	0.04	0.06	0.07	0.07	-
Control Room AC System	2,3	0.56	0.54	-	-	-
Ash Conveying pipe line	2,3	0.33	0.56	-	-	-
Turbine Oil Centrifuge	2,3	-	0.24	-	-	-



Particulars	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor	2,3	-	-	-	-	-
Turbine Parting Plane Bolts & Coupling Bolts	2	-	1.36	-	-	-
BFP De-staging	2,3	-	-	-	-	-
CHP Dozer	1,2,3,4,5	0.77	-	-	-	-
New Weigh Bridge for Bulker	1,2,3,4,5	-	-	-	-	-
Multi-Layered Security System for Jojobera Power Plant.	1,2,3,4,5	-	-	-	-	-
Up-gradation of Fans Pneumatic Actuators to Electrical Actuator	2,3	0.08	-	-	-	-
<b>De-capitalisation Schedule</b>	-	<b>1.78</b>	<b>2.76</b>	<b>0.07</b>	<b>0.07</b>	<b>0.00</b>

- 7.55 The Petitioner further submitted that the Commission vide its Order dated September 30, 2020 (Case no. 13 of 2020), has granted in principle approval for installation of FGD System for Unit-II and Unit-III and directed to approach the Commission for determination of tariff after completion of the Project.
- 7.56 The Petitioner has sought liberty of the Commission to file a separate Supplementary tariff Petition before the Commission for approval of additional capital expenditure on account of revised emission standards for the Period from FY 2021-22 to FY 2025-26 based on the actual/projected costs/parameters including O&M Expenses to maintain FGD System and consumables like raw water/reagent and impact on operational parameters for existing facility and any other relevant factor/information at an appropriate stage.
- 7.57 The Petitioner further submitted that in terms of Regulations 14.8 to 14.10, the Petitioner is required to file an application with Detailed Project Report (DPR) inter-alia containing all the information as specified in these Regulations for the purpose of seeking approval of the additional Capital Expenditure required for carrying out Renovation and Modernization of Unit-II & Unit-III for extension of life beyond the Useful life.
- 7.58 The Petitioner submitted that extensive study is required to be performed for each critical equipment during the Residual Life Study to understand the requirement and to prepare the R&M plan in consultation with Beneficiaries, OEMs. Accordingly, the Petitioner has sought liberty of the Commission to come back later on the above requirement after carrying out RLA and obtaining due approval from Management and Beneficiary.

### **Commission's Analysis**

- 7.59 As per Regulation A14 of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020:





**“A 14. Additional Capitalization**

*14.4 The capital expenditure, in respect of existing generating station incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:*

*a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;*

*b) Change in law or compliance of any existing law;*

*c) Force Majeure events;*

*d) 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;*

*e) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;*

*f) Deferred works relating to ash pond or ash handling system in addition to the original scope of work, on case to case basis:*

*Provided also that if any expenditure has been claimed under Renovation and Modernisation or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;*

*g) Usage of water from sewage treatment plant in thermal generating station.*

*.....”*

- 7.60 The Commission has scrutinized the information provided in MYT Business Plan where the Petitioner has provided justifications for the all the schemes proposed including spill over from previous Control Period.
- 7.61 The Commission while scrutinizing the carry forward schemes which were spilled over from previous Control Period and has allowed the capital expenditure schemes and the related capitalization after due prudence check. However, the Commission also directs the Petitioner to strictly ensure that the schedule of Capital Expenditure and Capitalisation should be strictly adhered.
- 7.62 In regards to new schemes, the Commission has scrutinized the Detailed Project Reports (DPR) provided by the Petitioner for the schemes along with detail justification and necessity of the schemes.



7.63 The Commission observes that cost associated with turbine oil replacement are minor and necessarily O&M in nature and therefore should not form part of capex plan and therefore has not considered the same. The Commission has also not considered the de-capitalisation amount proposed against the same.

7.64 The approved Capital Expenditure Plan and Capitalization for each year of the Control Period from FY 2021-22 to FY 2025-26 has been summarized in the tables below.

**Table 87: Capital Expenditure Plan as approved by the Commission**

Particulars	Category	Scheme Type	Proposed Cost	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Hydraulic Auger for CHP (Carry Forward)	Tech. Req.	New	4.56	1,2,3,4,5	2.00	-	-	-	-
Replacement of Dead Tank CT with Live Tank CT (Carry forward)	Tech. Req.	Replacement	1.74	1,2,3,4,5	0.12	0.18	0.22	0.25	-
Control Room AC System	Obsolescence	Replacement	3.45	2,3	1.73	1.73	-	-	-
Ash Conveying pipe line	Reliability	Replacement	2.80	2,3	1.00	1.80	-	-	-
Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor	Reliability	New	2.00	2,3	0.33	0.55	-	-	-
Turbine Parting Plane Bolts & Coupling Bolts	Reliability	Replacement	4.34	2	-	4.34	-	-	-
BFP De-staging	Efficiency Improvement	Technological Up-gradation	2.75	2,3	2.75	-	-	-	-
CHP Dozer	Safety	Replacement	5.40	1,2,3,4,5	2.37	-	-	-	-
New Weigh Bridge for Bulker	Statutory	New	1.12	1,2,3,4,5	0.49	-	-	-	-
Multi-Layered Security System for Jojobera Power Plant.	Security/ Safety	New	2.75	1,2,3,4,5	0.66	0.55	-	-	-
Up-gradation of Fans Pneumatic Actuators to Electrical Actuator	Efficiency Improvement	Replacement	2.40	2,3	2.40	-	-	-	-
<b>Capital Expenditure Plan</b>	-	-	<b>34.06</b>	-	<b>13.84</b>	<b>9.14</b>	<b>0.22</b>	<b>0.25</b>	<b>0.00</b>

7.1

**Table 88: Capitalisation Plan as approved by the Commission**

Particulars	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Hydraulic Auger for CHP (Carry Forward)	1,2,3,4,5	2.00	-	-	-	-
Replacement of Dead Tank CT with Live Tank CT (Carry forward)	1,2,3,4,5	0.12	0.18	0.22	0.25	-
Control Room AC System	2,3	1.73	1.73	-	-	-
Ash Conveying pipe line	2,3	1.00	1.80	-	-	-
Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor	2,3	0.33	0.55	-	-	-
Turbine Parting Plane Bolts & Coupling Bolts	2	-	4.34	-	-	-
BFP De-Staging	2,3	2.75	-	-	-	-



Particulars	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
CHP Dozer	1,2,3,4,5	2.37	-	-	-	-
New Weigh Bridge for Bulker	1,2,3,4,5	0.49	-	-	-	-
Multi-Layered Security System for Jojobera Power Plant.	1,2,3,4,5	0.66	0.55	-	-	-
Up-gradation of Fans Pneumatic Actuators to Electrical Actuator	2,3	2.40	-	-	-	-
<b>Capitalisation Plan</b>	-	<b>13.84</b>	<b>9.14</b>	<b>0.22</b>	<b>0.25</b>	<b>0.00</b>

7.65 The Commission shall review the capital expenditure and capitalization actually done by the Petitioner at the end of each year of the Control Period in accordance with Clause 6.8 to Clause 6.10 of the Generation Tariff Regulations, 2020. The relevant regulations are mentioned below.

*“6.8 During the Annual Performance Review, the Commission shall monitor the yearwise progress of the actual capital expenditure incurred by the Generating Company vis-à-vis the approved capital expenditure. The Generating Company shall submit the actual capital expenditure incurred along with the Annual Performance Review Filing.*

*6.9 The Commission shall review the actual capitalisation at the end of each year of the Control Period vis-à-vis the approved capitalisation schedule and shall true up the ARR based on actual capitalisation for the year for which True up has been filed and also revise the ARR components for the year for which APR and Tariff have been sought.*

*6.10 In case the capital expenditure is required for emergency work, which has not been approved in the Capital Investment Plan, the Generating Company shall submit an application containing all relevant information along with reasons justifying emergency nature of the proposed work seeking approval of the Commission:*

*Provided that in case the capital expenditure is required for emergency work or unforeseen situation to mitigate threat to life and property and if prior intimation thereof to the Commission shall cause any irreparable loss or injury, the Generating Company may undertake such capital expenditure and submit the details for post-facto approval of the Commission along with next Tariff Petition with all relevant details.”*

7.66 The Commission observes that cost associated with turbine oil replacement are minor and necessarily O&M in nature and therefore should not form part of capex plan and therefore has not considered the same. The Commission has also not considered the de-capitalisation amount proposed against the same.



- 7.67 The Commission provisionally approves de-capitalisation plan as projected by the Petitioner. However, the Commission will carry out prudence check at the time up of truing up.

**Table 89: De-Capitalisation Plan as approved by the Commission**

Particulars	Unit	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Hydraulic Auger for CHP (Carry Forward)	1,2,3,4,5	-	-	-	-	-
Replacement of Dead Tank CT with Live Tank CT (Carry forward)	1,2,3,4,5	0.04	0.06	0.07	0.07	-
Control Room AC System	2,3	0.56	0.54	-	-	-
Ash Conveying pipe line	2,3	0.33	0.56	-	-	-
Workshop machine Tools, Condition Monitoring tools & Mobile Environmental dust Extractor	2,3	-	-	-	-	-
Turbine Parting Plane Bolts & Coupling Bolts	2	-	1.36	-	-	-
BFP De-staging	2,3	-	-	-	-	-
CHP Dozer	1,2,3,4,5	0.77	-	-	-	-
New Weigh Bridge for Bulker	1,2,3,4,5	-	-	-	-	-
Multi-Layered Security System for Jojobera Power Plant.	1,2,3,4,5	-	-	-	-	-
Up-gradation of Fans Pneumatic Actuators to Electrical Actuator	2,3	0.08	-	-	-	-
<b>De-capitalisation Schedule</b>	<b>-</b>	<b>1.78</b>	<b>2.52</b>	<b>0.07</b>	<b>0.07</b>	<b>0.00</b>

- 7.68 With regards to Petitioner submission of revised additional capital expenditure/ capitalisation and de-capitalisation for the Control Period from FY 2021-22 to FY 2025-26 before the Commission for approval vide letter dated August 10, 2022. It is observed that the revised additional capital expenditure/capitalisation and de-capitalisation was submitted to the Commission after public notice was published and just before the public hearing. Hence, this additional information was not published for the public consultation and public at large could not respond to the revised numbers which shall have an incremental impact on ARR. Therefore, the Commission in this order has not considered the revised Capex estimate and de-cap schedule of the Petitioner submitted for the Control Period. However, Petitioner is at liberty to file revised Capex estimate and de-cap. in next tariff filing petition.

### ***Financing of Capital Expenditure Plan***

#### ***Petitioner's Submission***

- 7.69 The financing of the proposed Capex schemes is envisaged to be done through internal accrual. Therefore, financing of Additional Capitalization has been considered at Normative Debt: Equity ratio of 70:30.

**Table 90: Financing of Capital Expenditure Plan as submitted by the Petitioner**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Capital Expenditure Plan	13.84	9.89	0.22	0.25	-
Normative Equity	4.15	2.97	0.07	0.07	-
Normative Loan	9.69	6.92	0.15	0.17	-

**Commission's Analysis**

7.70 As per Clause 15.6 & Clause 15.7 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020:

**"Debt-Equity Ratio**

**15.6 Existing Projects:** For existing projects declaring Commercial Operation on or before April 01, 2021, the following Capital Structure is allowed:-

1. Debt-Equity ratio allowed by the Commission for determination of tariff for the period ending March 31, 2021 shall be considered;
2. In case of the generating station declared under commercial operation prior to April 01, 2021, but where debt-equity ratio has not been determined by the Commission for determination of tariff for the period ending March 31, 2021, the Commission shall approve the debt-equity ratio in accordance with Clause 15.7 of these Regulations.
3. Any expenditure incurred or projected to be incurred on or after April 01, 2021, as may be admitted by the Commission as additional capital expenditure for determination of tariff and renovation and modernisation expenditure for life extension shall be serviced in the manner as specified in Clause 15.7 of these Regulations.

**15.7 New Projects:** For new projects, declaring Commercial Operation on or after April 01, 2021, the following Capital Structure is allowed:-

1. Normative debt-equity ratio of 70:30 shall be considered for the purpose of determination of Tariff.
2. In case the actual equity employed is in excess of 30%, the amount of equity for the purpose of tariff determination shall be limited to 30%, and the balance amount shall be considered as normative loan;
3. In case the actual equity employed is less than 30%, the actual debt-equity ratio shall be considered.;"



7.71 The Commission observed that the Petitioner had projected to finance the complete capital expenditure during the Control Period from FY 2021-22 to FY 2025-26 through internal accruals. Thus, in accordance with Regulation 15.7(1) & 15.7(2) of Regulations, 2020, the Commission accordingly approves Normative Equity to the tune of 30% and considered the remaining 70% as Normative Debt. However, the Petitioner is directed to submit the detail of actual equity infusion towards capital assets at the time of True up. The financing of the additional capitalization as approved by the Commission is tabulated below.

**Table 91: Financing of Capital Expenditure Plan as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Capitalisation	13.84	9.14	0.22	0.25	-
Normative Equity	4.15	2.74	0.07	0.07	-
Normative Loan	9.69	6.40	0.15	0.17	-

### Operation & Maintenance Expenses Plan

7.72 The Petitioner has provided the component wise detail of O&M Expenses for the past five years on actual basis. Based on the above, the Petitioner has projected each components of O&M Expenses for the Control Period from FY 2021-22 to FY 2025-26 as detailed below.

### Employee Expenses

#### Petitioner's Submission

7.73 The Petitioner submitted that it had considered the average of actual Employee Expenses (excluding Terminal Benefits) for the past five years i.e. FY 2015-16 to FY 2019-20 and escalated with average inflation factor (3.63%) to derive the value for the Base Year (FY 2020-21). The derived Base value is further escalated with average inflation factor of 3.63% (average for the period from FY 2015-16 to FY 2019-20), to estimate the Employee Expenses (excluding Terminal Benefits) for each Control Period from FY 2021-22 to FY 2025-26.

7.74 The Petitioner has projected the Terminal Benefits as Rs. 0.92 Crore for each financial year of the Control Period based on the actual for FY 2019-20, subject to truing up based on actuals.

**Table 92: Employee Expenses as submitted by the Petitioner**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Employee Expenses	7.57	7.84	8.13	8.42	8.73	9.05
Terminal Benefits	0.92	0.92	0.92	0.92	0.92	0.92
<b>Unit-III</b>						
Employee Expenses	7.57	7.84	8.13	8.42	8.73	9.05



Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Terminal Benefits	0.92	0.92	0.92	0.92	0.92	0.92

### Commission's Analysis

7.75 As per Clause 15.40 to 15.42 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020:

#### “Existing Generating Stations

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

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

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) + \text{Terminal Liabilities}$$

Where,

$R\&M_n$  – Repair and Maintenance Costs of the Generating Company for the  $n^{\text{th}}$  year;

$EMP_n$  – Employee Costs of the Generating Company for the  $n^{\text{th}}$  year excluding terminal liabilities;

$A\&G_n$  – Administrative and General Costs of the Generating Company for the  $n^{\text{th}}$  year.

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

$$a) (\text{Repair \& Maintenance})_n = K * GFA * (INDX_n / INDX_{n-1})$$

Where,

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

‘GFA’ is the opening value of the gross fixed asset of the  $n^{\text{th}}$  year;

$$b) EMP_n + A\&G_n = [(EMP_{n-1}) * (1 + G_n) + (A\&G_{n-1})] * (INDX_n / INDX_{n-1})$$

Where,

*EMP<sub>n-1</sub> – Employee Costs of the Generating Company for the (n-1)<sup>th</sup> year excluding terminal liabilities;*

*A&G<sub>n-1</sub> – Administrative and General Costs of the Generating Company for the (n-1)<sup>th</sup> year excluding legal/litigation expenses;*

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

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

*c)  $INDX_n = 0.55 * CPI_n + 0.45 * WPI_n$ ;*

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

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

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

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





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

7.76 The Commission has computed the O&M expenses considering the methodology specified in the aforesaid Regulation. For approval of Employee Expenses for the Control Period, following approach has been adopted:

- The average of past five years actual audited employee expenses from FY 2015-16 to FY 2019-20 has been considered for deriving normative Employee Expenses for FY 2017-18.
- The average of such expenses has been escalated twice with inflation factor of respective years to arrive at the normative expenses for Base Year i.e., FY 2019-20.
- The Base Year expenses so calculated are then escalated with inflation factor of respective years to arrive at normative Employee expenses for FY 2021-22 and for subsequent years normative Employee expenses has been arrived by escalating with average inflation factor of 3.47% (i.e., Avg. Inflation factor of FY 2015-16 to FY 2019-20) for each year of the control period, subject to truing up based on actual.

7.77 The growth factor is considered as zero, as no additional manpower has been projected by the Petitioner. The Growth factor shall be subject to truing up on the basis of actual nos. of employees. Thus, the Employee expenses approved for the control period is as shown below.

**Table 93: Employee Expenses as approved by the Commission**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Employee Expenses	7.74	8.41	8.70	9.00	9.31	9.63
Terminal Benefits	0.92	0.92	0.92	0.92	0.92	0.92
<b>Unit-III</b>						
Employee Expenses	7.74	8.41	8.70	9.00	9.31	9.63
Terminal Benefits	0.92	0.92	0.92	0.92	0.92	0.92

### ***Administrative & General Expenses***

#### ***Petitioner's Submission***

7.78 The Petitioner submitted that it had considered the average of actual Administrative & General Expenses (excluding Legal Expenses and Application Fees & Publication Expenses) for the past five years i.e. FY 2015-16 to FY 2019-20 and escalated with average inflation factor (3.63%) to derive the value for the Base Year (FY 2020-21). The derived Base value is further escalated with average inflation factor of 3.63% (average for the period from FY



2015-16 to FY 2019-20), to estimate the Administrative & General Expenses (excluding Legal Expenses and Application Fees & Publication Expenses) for each of the Control Period from FY 2021-22 to FY 2025-26.

- 7.79 The Petitioner submitted that the Legal Expenses and Application Fees & Publication Expenses are claimed separately. The Legal Expenses is projected based on the actual for the past five years i.e. i.e. FY 2015-16 to FY 2019-20 and escalated with average inflation factor (3.63%) to derive the value for the Base Year (FY 2020-21). The derived Base value is further escalated with average inflation factor of 3.63% (average for the period from FY 2015-16 to FY 2019-20), to estimate the Legal Expenses, subject to truing up based on actuals.
- 7.80 The Application Fees is estimated by the Petitioner in accordance JSERC (Conduct of Business) Regulations, 2016 wherein the Fees Schedule is mentioned and projected Petition required to be filled before the Commission in each year of the Control Period. The Publication Expenses is projected based on the actuals for FY 2020-21 and escalated with 3.63% for each year of the Control Period. The net Application Fees and Publication Expenses is further divided equally among both the Units.

**Table 94: A&G Expenses as submitted by the Petitioner**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
A&G Expenses (excluding Legal Expenses and Application Fees & Publication Expenses)	5.73	5.94	6.15	6.38	6.61	6.85
Legal Expenses	0.01	0.01	0.01	0.01	0.01	0.01
Application Fees & Publication Expenses	-	0.13	0.13	0.14	0.14	0.19
<b>Unit-III</b>						
A&G Expenses (excluding Legal Expenses and Application Fees & Publication Expenses)	5.37	5.57	5.77	5.98	6.20	6.42
Legal Expenses	0.01	0.01	0.01	0.01	0.01	0.01
Application Fees & Publication Expenses	-	0.13	0.13	0.14	0.14	0.19

### **Commission's Analysis**

- 7.81 As per Clause 15.40 to 15.42 of JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020, the Commission has estimated the Base Year value of Administrative & General Expenses (excluding Legal Expenses and Application Fees & Publication Expenses) as per the following approach.
- The average of past five years actual audited A&G expenses from FY 2015-16 to FY 2019-20 has been considered for deriving normative A&G Expenses for FY 2017-18.



- b) The average of such expenses has been escalated twice with inflation factor of respective years to arrive at the normative expenses for Base Year i.e., FY 2019-20.
- c) The Base Year expenses so calculated are then escalated with inflation factor of respective years to arrive at normative A&G expenses for FY 2021-22 and for subsequent years normative expenses has been arrived by escalating with average inflation factor of 3.47% (i.e., Avg. Inflation factor of FY 2015-16 to FY 2019-20) for each year of the control period which shall be subject to truing up based on actual Inflation rate.

7.82 The Commission has scrutinised the Legal Expenses as submitted by the Petitioner and approves the Legal Expenses based on the average of the past years and actual inflation factor for FY 2021-22, subject to prudence check at the time of truing up.

7.83 The Commission has scrutinised the Application Fees & Publication Expenses claimed by the Petitioner and approves the Application Fees & Publication Expenses as shown below, subject to truing up based on actuals.

**Table 95: A&G Expenses as approved by the Commission**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
A&G Expenses (excluding Legal Expenses and Application Fees & Publication Expenses)	5.85	6.36	6.58	6.81	7.05	7.29
Legal Expenses	0.01	0.01	0.01	0.01	0.01	0.01
Application Fees & Publication Expenses	-	0.13	0.13	0.13	0.14	0.19
<b>Unit-III</b>						
A&G Expenses (excluding Legal Expenses and Application Fees & Publication Expenses)	5.49	5.97	6.17	6.39	6.61	6.84
Legal Expenses	0.01	0.01	0.01	0.01	0.01	0.01
Application Fees & Publication Expenses	-	0.13	0.13	0.13	0.14	0.19

### ***Repair & Maintenance Expenses***

#### ***Petitioner's Submission***

7.84 The Petitioner submitted that Repair & Maintenance Expense of the generating company are highly dependent on requirements of planned and unplanned maintenance activities during planned shutdowns decided in consultation with the Beneficiary or during unplanned outages. While the first activity is planned but sometimes need adjustments based on actual demand of Beneficiary and conditional preventive maintenance activities that may not be planned. The unplanned maintenance on the other hand is totally unpredictable and may



increase or decrease drastically without any particular trend in successive years. However, medium and long term trend of R&M expenses is increasing due to inflation and increased R&M activity due to aging of machines. This may be explained by assuming that there is no change in GFA during the next Control Period and further assuming that R&M activities are on an average at the same level as in the Base Year, same value of 'K' would mean same R&M Expenses approved for each year of the Control Period, which is obviously not correct as although the activities remain at the same level the cost of R&M would increase due to inflation. Further, the proposed formulation for R&Mn captures the K factor for the year immediately preceding the Base Year, which may give distorted relationship between GFA and R&M Expenses if last year expenses have been too low or too high. Therefore, to smoothen the erratic trend of R&M Expenses for past period, it was proposed to compute K factor for the middle year of the five years preceding the Base Year, as an average value of K for these years and to arrive at Base Year K factor by escalating the same with factor  $INDX_n/INDX_{n-1}$  for subsequent years. Similarly, the 'K' factor may be escalated by the same formula for each year of the Control Period.

- 7.85 The Petitioner had proposed to defer the annual shutdown of Unit-III in FY 2019-20 to FY 2020-21 when shutdown of Unit-II was also planned due to proposed commissioning of FGD System in its MTR Petition. However, the Commission in its MTR Order dated February 14, 2020 rejected the Petitioner's proposal for FGD as well as annual shutdown of both Units in FY 2020-21 by considering generation as per MYT Order, which had projected shutdown of one Unit only. Therefore, while there was no annual shutdown during FY 2019-20, there was only one annual shutdown in FY 2020-21. As a matter of practice, the Petitioner has been taking annual shutdown of Unit-II and Unit-III in alternate years. However, due to forced deferment of shutdown in FY 2019-20, there was an abnormal saving in shutdown Repair & Maintenance Expenses in this year that varies of Rs. 7-8 Crore, which would not be there in any of the succeeding years in the Third Control Period. Accordingly, an abnormal expense of Rs. 7.00 Crore has been added with the actual R&M expenses for FY 2019-20 for Unit-III to arrive at Normalised R&M Expenses for each year.
- 7.86 Further, in accordance with annual shutdown plan, the Petitioner has considered annual shutdown of Units in alternate year and hence, the uniform R&M Expenses in each Unit would not reflect the actual case. Ideally, in the year in which unit shutdown is taken, the R&M expenses would be higher because of expenses incurred in capital overhauling of the machines during the shutdown compared to the Other unit where such expenses have not been incurred barring exceptional expenses if any. Therefore, in Order to remove such difficulty and to realign the R&M projection as per shutdown plan, the Petitioner has



considered the average shutdown cost of about Rs 3.5 Crore in FY 2019-20 escalated it twice with inflation to arrive at the average shutdown costs for FY 2021-22. This escalated shutdown cost is removed from the Unit in which no annual shutdown is planned and is added to the Unit in which annual shutdown is planned. Similarly, the escalated cost in next year is added in Unit where shutdown is planned and removed from Other unit and the same approach is being followed for each year of the Control Period.

**Table 96: R&M Expenses as submitted by the Petitioner**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
R&M Expenses (Unit-II)	16.41	20.91	14.08	22.82	15.29	24.52
R&M Expenses (Unit-III)	16.61	13.60	22.09	14.98	23.89	16.09

### **Commission's Analysis**

7.87 The Commission is aware that the R&M Expenses for a generating station may vary from year to year depending upon the maintenance activities carried out during the year and therefore Regulation 15.42(a) talks about determining R&M expenses based on preceding years and not on the basis of single year. The Commission has accordingly determined the K factor based on the last five years which more or less also covers the expenses towards planned shutdown and therefore do not merit separate consideration. Accordingly, in line with MYT Tariff Regulation, 2020, the Commission has taken into account both the 'K' factor and inflation factor while deriving the R&M Expenses. Based on the actual percentage of R&M Expenses with approved GFA for the past five years i.e. FY 2015-16 to FY 2019-20, the Commission approves the 'K' factor for the third control period for Unit-2 as 3.04% and for Unit-3 as 2.90%.

7.88 The actual inflation factor for FY 2021-22 is considered for escalation for FY 2021-22 thereafter average inflation factor of 3.47% (i.e., Avg. Inflation factor of FY 2015-16 to FY 2019-20) has been considered for each year of the control period which shall be subject to truing up based on actual.

7.89 The R&M Expenses as approved by the Commission for the Control Period from FY 2021-22 to FY 2025-26 has been tabulated below.

**Table 97: R&M Expenses as approved by the Commission**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
R&M Expenses (Unit-II)	14.70	16.32	17.09	17.86	18.48	19.12
R&M Expenses (Unit-III)	14.02	15.21	15.94	16.55	17.13	17.72

## Head Office Expenses

### Petitioner's Submission

- 7.90 The Petitioner submitted that it had considered the average of actual Head Office (HO) Expenses for the past five years i.e. FY 2015-16 to FY 2019-20 and escalated with average inflation factor (3.63%) to derive the value for the Base Year (FY 2020-21). The derived Base value is further escalated with average inflation factor of 3.63% (average for the period from FY 2015-16 to FY 2019-20), to estimate the HO Expenses for each of the Control Period from FY 2021-22 to FY 2025-26.

**Table 98: HO Expenses as submitted by the Petitioner**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
HO Expenses (Unit-II)	13.03	13.50	13.99	14.50	15.02	15.27
HO Expenses (Unit-III)	12.99	13.46	13.95	14.46	14.98	15.53

### Commission's Analysis

- 7.91 The Commission has gone through the submissions of the Petitioner and observes that the HO Expenses projected by the Petitioner is exorbitantly high and almost double the employee expenses projected. The Commission also sought the detailed break up of actual employee expenses however no break up of HO expenses were submitted. The Commission as of now has provisionally considered the average of actual HO expenses for the past five year as base year HO Expenses and has projected the same with inflation rate to arrive at the provisional approved HO expenses for the rest of the control period as shown below.

**Table 99: HO Expenses as approved by the Commission**

Particulars	FY 2020-21 (Base Year)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
HO Expenses (Unit-II)	11.70	12.72	13.16	13.62	14.09	14.58
HO Expenses (Unit-III)	11.67	12.68	13.12	13.58	14.05	14.54

- 7.92 The Commission however directs the Petitioner to submit the detail break-up of HO Expenses, its approach and methodology for allocating such expenses to Unit 2 and 3 from FY 2015-16 to FY 2019-20 with supporting documents along with next tariff filing based on which the Commission shall finalise the said expenses.

## Raw Water Expenses

### Petitioner's Submission





7.93 The Petitioner submitted that the Raw Water Expenses had increased drastically in the past due to following reasons:

- Revision in Base Charges from Rs. 4.53/kL to Rs. 8.54/kL with effect from September 01, 2015 by Tata Steel Corporate Services, in light of considerable increase in production cost of clarified water with an annual escalation of 7.50%;
- Revision in Water Tax by Government of Jharkhand (GoJ) from Rs. 0.99/kL to Rs. 5.81/kL with effect from April 01, 2011 with an annual escalation of 7.50%.

7.94 The Petitioner Submitted that the issue under consideration of Hon'ble High Court is relates to only water tax component, hence the Petitioner requested the Commission to consider 100% of Base Water charge and 52% of water tax to be allowed in the Control Period.

7.95 The Petitioner submitted that the Raw Water Expenses depend on the Gross Generation during the financial year and the specific Raw Water consumption. The Petitioner has considered the Specific Raw Water Consumption as average for the last five years i.e. FY 2015-16 to FY 2019-20, which works out to 2.89 m<sup>3</sup>/MWh for Jojobera Unit-II and 2.87 m<sup>3</sup>/MWh for Unit-III. Based on the projected Gross Generation and Specific Raw Water Consumption, the Petitioner has projected the Raw Water Expenses for the Control Period FY 2021-22 to FY 2025-26 as shown below.

**Table 100: Raw Water Expenses for Unit-II as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Gross Generation	MU	848.23	893.85	873.74	925.14	871.35
Specific Raw Water Cons.	m <sup>3</sup> /MWh	2.89	2.89	2.89	2.89	2.89
Raw Water Consumption	m <sup>3</sup>	2447570	2579190	2521162	2669494	2514273
Raw Water Charge	Rs./m <sup>3</sup>	13.18	14.17	15.23	16.37	17.60
Water Tax	Rs./m <sup>3</sup>	11.98	12.87	13.84	14.88	15.99
Base Raw Water Charge	Rs. Cr.	3.23	3.65	3.84	4.37	4.43
Water Tax (52%)	Rs. Cr.	2.93	3.32	3.49	3.97	4.02
Raw Water Expenses	Rs. Cr.	<b>6.16</b>	<b>6.97</b>	<b>7.33</b>	<b>8.34</b>	<b>8.45</b>

**Table 101: Raw Water Expenses for Unit-III as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Gross Generation	MU	852.53	868.81	937.11	872.50	926.67
Specific Raw Water Cons.	m <sup>3</sup> /MWh	2.87	2.87	2.87	2.87	2.87
Raw Water Consumption	m <sup>3</sup>	2445029	2491731	2687603	2502310	2657670
Raw Water Charge	Rs./m <sup>3</sup>	13.18	14.17	15.23	16.37	17.60
Water Tax	Rs./m <sup>3</sup>	11.98	12.87	13.84	14.88	15.99
Base Raw Water Charge	Rs. Cr.	3.22	3.53	4.09	4.10	4.68
Water Tax (52%)	Rs. Cr.	2.93	3.21	3.72	3.72	4.25
Raw Water Expenses	Rs. Cr.	<b>6.15</b>	<b>6.74</b>	<b>7.81</b>	<b>7.82</b>	<b>8.93</b>





### Commission's Analysis

- 7.96 The Commission projected the Raw Water Expenses for third Control Period i.e. FY 2021-22 to FY 2025-26 based on the projected Gross Generation during the year and estimated Specific Raw Water Consumption for each Unit. The Specific Raw Water Consumption has been computed by taking the weighted average of the actual specific Raw Water Consumption for the past five years i.e. FY 2015-16 to FY 2019-20, which comes out to 2.89 m<sup>3</sup>/MWh.
- 7.97 Further, to compute the Raw Water Expenses, the revised rate of Raw Water Charge of Tata Steel Corporate Services for rendering their services and revised rate Water Tax to be paid to Government of Jharkhand (GoJ) is considered as shown below.
- 7.98 Additionally, as per the Petitioner submission the Commission projected the Raw water expense considering 100% of Base Water Charges and 52% of Water tax for the third control period from FY 2021-22 to FY 2025-26.

**Table 102: Raw Water Expenses for Unit-II as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Gross Generation	MU	893.52	893.52	895.97	893.52	893.52
Specific Raw Water Cons.	m <sup>3</sup> /MWh	2.89	2.89	2.89	2.89	2.89
Raw Water Consumption	m <sup>3</sup>	2578248	2578248	2585312	2578248	2578248
Raw Water Charge	Rs./m <sup>3</sup>	13.18	14.17	15.23	16.37	17.60
Water Tax	Rs./m <sup>3</sup>	11.98	12.87	13.84	14.88	15.99
Base Raw Water Charge	Rs. Cr.	3.40	3.65	3.94	4.22	4.54
Water Tax	Rs. Cr.	3.09	3.32	3.58	3.84	4.12
Raw Water Expenses	Rs.Cr.	6.49	6.97	7.52	8.06	8.66
<b>Net Raw Water Expenses</b>	<b>Rs. Cr.</b>	<b>5.00</b>	<b>5.38</b>	<b>5.80</b>	<b>6.22</b>	<b>6.68</b>

**Table 103: Raw Water Expenses for Unit-III as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Gross Generation	MU	893.52	893.52	895.97	893.52	893.52
Specific Raw Water Cons.	m <sup>3</sup> /MWh	2.87	2.87	2.87	2.87	2.87
Raw Water Consumption	m <sup>3</sup>	2562593	2562593	2569614	2562593	2562593
Raw Water Charge	Rs./m <sup>3</sup>	13.18	14.17	15.23	16.37	17.60
Water Tax	Rs./m <sup>3</sup>	11.98	12.87	13.84	14.88	15.99
Base Raw Water Charge	Rs. Cr.	3.38	3.63	3.91	4.20	4.51
Water Tax	Rs. Cr.	3.07	3.30	3.56	3.81	4.10
Raw Water Expenses	Rs. Cr.	6.45	6.93	7.47	8.01	8.61
<b>Net Raw Water Expenses</b>	<b>Rs. Cr.</b>	<b>4.97</b>	<b>5.35</b>	<b>5.76</b>	<b>6.18</b>	<b>6.64</b>

## Ash Disposal Expenses

### Petitioner's Submission

- 7.99 The Petitioner submitted that due to low PLF and its efforts they have been able to reduce cost of Ash Disposal Expenses in recent years, which may not be possible in future, due to increase in ash generation because of higher PLF, increase in Transportation and Handling Charges and increase in Ash Disposal distances in compliance with “Consent to Operate” issued by JSPCB and also the notification of Ministry of Environment and Forests ("MoEF"), which states that the utilization of both Fly Ash and Pond Ash should be maximized especially through the construction of roads and pavements within 45 Km radius of the Thermal Power Plant which had increased the transportation charges.
- 7.100 Further, the Hon'ble Tribunal in its Judgment dated August 10, 2016 in Appeal no. 195 of 2015 has also directed allowance of Ash Disposal Expenses on actual basis. Therefore, the Petitioner has considered best estimates of Ash Disposal Expenses for 3<sup>rd</sup> Control Period, subject to truing up based on actuals.

**Table 104: Ash Disposal Expenses as submitted by the Petitioner**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Ash Disposal Expenses (Unit-II)	4.16	4.56	4.59	5.05	4.95
Ash Disposal Expenses (Unit-III)	4.18	4.43	4.92	4.76	5.26

### Commission's Analysis

- 7.101 The Petitioner in its MYT Business Plan submitted that there may be an increase in Ash Disposal Expenses during third Control Period i.e. FY 2021-22 to FY 2025-26 due to higher PLF leading to higher ash generation, increase in Transportation and Handling Charges and increase in Ash Disposal distances in compliance with “Consent to Operate” issued by JSPCB and stringent norms of MoEF related to ash disposal.
- 7.102 The Commission after scrutinizing the above documents, and keeping in view the judgement and directive of the Hon'ble Tribunal dated August 10, 2016 approves the Ash Disposal Expenses as shown below, subject to truing up after prudence check.

**Table 105: Ash Disposal Expenses as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Ash Disposal Expenses (Unit-II)	4.16	4.56	4.59	5.05	4.95
Ash Disposal Expenses (Unit-III)	4.18	4.43	4.92	4.76	5.26

- 7.103 The summary of approved O&M Expenses for the Control Period from FY 2021-22 to FY 2025-26 is shown below.

**Table 106: O&M Expenses for Unit-II as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Employee Salaries	8.41	8.70	9.00	9.31	9.63
R&M Expenses	16.32	17.09	17.86	18.48	19.12
A&G Expenses	6.36	6.58	6.81	7.05	7.29
HO Expenses	12.72	13.16	13.62	14.09	14.58
Terminal Benefits	0.92	0.92	0.92	0.92	0.92
Ash Disposal	4.16	4.56	4.59	5.05	4.95
Raw Water	5.00	5.38	5.80	6.22	6.68
Application & Publication fee	0.13	0.13	0.13	0.14	0.19
Legal Expenses	0.01	0.01	0.01	0.01	0.01
<b>O&amp;M Expenses</b>	<b>54.03</b>	<b>56.53</b>	<b>58.73</b>	<b>61.25</b>	<b>63.37</b>

**Table 107: O&M Expenses for Unit-III as approved by the Commission**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Employee Salaries	8.41	8.70	9.00	9.31	9.63
R&M Expenses	15.21	15.94	16.55	17.13	17.72
A&G Expenses	5.97	6.17	6.39	6.61	6.84
HO Expenses	12.68	13.12	13.58	14.05	14.54
Terminal Benefits	0.92	0.92	0.92	0.92	0.92
Ash Disposal	4.18	4.43	4.92	4.76	5.26
Raw Water	4.97	5.35	5.76	6.18	6.64
Application & Publication fee	0.13	0.13	0.13	0.14	0.19
Legal Expenses	0.01	0.01	0.01	0.01	0.01
<b>O&amp;M Expenses</b>	<b>52.48</b>	<b>54.77</b>	<b>57.26</b>	<b>59.10</b>	<b>61.75</b>



## **A 8: DETERMINATION OF TARIFF FOR THE MYT CONTROL PERIOD FROM FY 2021-22 TO FY 2025-26**

8.1 The Petitioner, in the current Petition has outlined the Operational and financial projections for Jojobera Unit-II and Unit-III and has computed each element of ARR for the 3<sup>rd</sup> Control Period i.e. FY 2021-22 to FY 2025-26, taking into the following consideration:

- Norms and Principles outlined in the Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations 2020;
- Multi Year Tariff Business Plan covering Operational and Financial Plan submitted for the Control Period from FY 2021-22 to FY 2025-26;
- Actual Operational and Financial Performance of the last Control Period i.e. FY 2015-16 to FY 2019-20 along with the performance parameters to be used for the Base Year i.e. FY 2020-21;
- Demand projection of Tata Steel for the 3<sup>rd</sup> Control Period i.e. FY 2021-22 to 2024-25 and Petitioner's estimation for FY 2025-26;
- Expected changes in each element of cost for the 3<sup>rd</sup> Control Period.

8.2 The Commission has scrutinized the Petition filed by the Petitioner for determination of Generation Tariff for the MYT Control Period i.e. FY 2021-22 to 2025-26, in accordance with JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020. The component-wise description of the Petitioner's submission and the Commission's analysis thereon is given below.

### **Operational Performance**

#### ***Petitioner's Submission***

8.3 The Petitioner had projected the Operational Performance Parameters in its MYT Business Plan for FY 2021-22 to FY 2025-26 based on past financial years actual performance and in accordance with JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020.

#### ***Commission's Analysis***

8.4 The Commission has scrutinized the Operational Performance Parameters submitted by the Petitioner in its MYT Business Plan. The Commission after prudence check approves the Operational Performance Parameters for Jojobera Generating Stations Unit-II and Unit-III as detailed in Section: A7, Sub-Section: Operational Plan of this Order.

## **Fuel Cost Parameters**

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

#### ***Petitioner's Submission***

- 8.5 The Petitioner had projected the Coal Mix and Gross Calorific Value (GCV) of primary fuel in Fuel Procurement Plan submitted along with MYT Business Plan for FY 2021-22 to FY 2025-26 based on the FSA signed with CIL and in accordance with JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020.

#### ***Commission's Analysis***

- 8.6 The Commission has scrutinized the Fuel Procurement Plan submitted by the Petitioner in its MYT Business Plan. The Commission after prudence check approves the Coal Mix and GCV of primary fuel for Jojobera Generating Stations Unit-II and Unit-III as detailed in Section:A7, Sub-Section: Fuel Procurement Plan of this Order.

## ***Transit Loss***

#### ***Petitioner's Submission***

- 8.7 The Petitioner had projected the transit loss on normative basis for each source of coal in line to JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020.

#### ***Commission's Analysis***

- 8.8 The Commission approves the transit loss on normative basis in line to JSERC Generation Tariff Regulations, 2020 while approving the Business Plan as discussed in Section:A7, Sub-Section: Fuel Procurement Plan of this Order.

## ***Landed Cost of Coal***

#### ***Petitioner's Submission***

- 8.9 The Petitioner in its petition had projected landed price of coal from each source for the Control Period i.e. FY 2021-22 to FY 2025-26 based on actual for the period from August, 2020 to October, 2020. The landed price was calculated considering the transit loss on normative value for each source as per JSERC Generation Tariff Regulations, 2020.

#### ***Commission's Analysis***

- 8.10 The Commission has scrutinised the detail along with bills of primary fuel submitted by the Petitioner. The Commission in this MYT Order provisionally approves the landed price of



primary fuel as mentioned below, subject to truing up based on the actuals as per audited accounts.

**Table 108: Landed Price of Coal for Unit-II as approved by the Commission (Rs./Ton)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	4222.58	4222.58	4222.58	4222.58	4222.58
ECL [Shakti 2] Coal	5328.00	5328.00	5328.00	5328.00	5328.00
CCL [Shakti 2] Coal	3653.69	3653.69	3653.69	3653.69	3653.69
MCL [Shakti 2] Coal	2506.65	2506.65	2506.65	2506.65	2506.65
CCL [Shakti 3] Coal	3653.69	3653.69	3653.69	3653.69	3653.69
<b>Landed Price of Primary Fuel</b>	<b>3725.22</b>	<b>3725.22</b>	<b>3721.69</b>	<b>3720.33</b>	<b>3720.33</b>

**Table 109: Landed Price of Coal for Unit-III as approved by the Commission (Rs./Ton)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Middling Coal	4222.98	4222.98	4222.98	4222.98	4222.98
ECL [Shakti 2] Coal	5347.64	5347.64	5347.64	5347.64	5347.64
CCL [Shakti 2] Coal	3820.04	3820.04	3820.04	3820.04	3820.04
MCL [Shakti 2] Coal	2518.83	2518.83	2518.83	2518.83	2518.83
CCL [Shakti 3] Coal	3820.04	3820.04	3820.04	3820.04	3820.04
<b>Landed Price of Primary Fuel</b>	<b>3824.40</b>	<b>3824.40</b>	<b>3821.57</b>	<b>3820.48</b>	<b>3820.48</b>

### *Calorific value and Cost of Secondary Fuel*

#### *Petitioner's Submission*

- 8.11 The Petitioner has submitted the weighted average calorific value and landed price as 9100 kCal/L and Rs. 45197.95 per litre for Unit-II based on actual for the period from August, 2020 to October, 2020. Similarly, for Unit-III, the estimated weighted average calorific value and landed price is 9100 kCal/L and Rs. 45195.83 per litre respectively.

#### *Commission's Analysis*

- 8.12 The Commission in this Order has provisionally approved the calorific value and landed price of Secondary Fuel as submitted by the Petitioner and directed the Petitioner to submit the actual values along with auditor's certificate at the time of true up.

**Table 110: Calorific value of Secondary fuel as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
<b>Unit-II</b>						
Calorific Value	kCal/L	9100	9100	9100	9100	9100
Landed Price	Rs./kL	45197.95	45197.95	45197.95	45197.95	45197.95
<b>Unit-III</b>						
Calorific Value	kCal/L	9100	9100	9100	9100	9100
Landed Price	Rs./kL	45195.83	45195.83	45195.83	45195.83	45195.83



## Energy Charge Rate (ECR)

### Petitioner's Submission

- 8.13 Based on the projected coal mix, GCV and landed price, the Petitioner has projected the Energy Charge Rate (ECR) for the Control Period from FY 2021-22 to FY 2025-26 for Unit-II and Unit-III as shown below, subjected to truing up based on actuals.

**Table 111: ECR as submitted by the Petitioner**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
ECR (Unit-II)	Rs./kWh	2.731	2.749	2.711	2.730	2.710
ECR (Unit-III)	Rs./kWh	2.808	2.813	2.803	2.784	2.800

### Commission's Analysis

- 8.14 As per Clause 8.17 of JSERC Generation Tariff Regulation, 2020, 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).
- 8.15 The formula for calculation of energy charge payable to a Generating Company is specified in Clause 17.7 and Clause 17.8 of JSERC Generation Tariff Regulation, 2020 as quoted below.

*"17.7 The energy (variable) charge shall cover primary fuel and secondary fuel costs and limestone consumption cost (where applicable) and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment and limestone adjustment). The total energy charge payable to the Generating Company for a month shall be:*

***Energy Charges = Energy Charge Rate (in Rs./kWh) x Scheduled Energy (Ex-Bus) for the Month (in kWh)***

*17.8 Energy Charge Rate (in Rs./kWh) on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:*

*For coal-based stations and lignite fired stations:*

***Energy Charge Rate (ECR) = {(SHR - SFC x CVSF) x LPPF/CVPPF + SFC x LPSFi + LCx LPL} / (1 - Aux)***



Where,

AUX - Normative auxiliary energy consumption in percentage;

CVPF: (a) Weighted Average Gross calorific value of coal as received, in kcal per kg for coal based stations;

(b) Weighted Average Gross calorific value of primary fuel as received in kcal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations;

(c) 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.

SHR - 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

- 8.16 The Commission had scrutinized the submission of the Petitioner and has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2020 and approved parameters in this Order. The table below detailed the ECR for Unit-II and Unit-III as approved by the Commission, subject to truing up based on actuals.

**Table 112: Energy Charge Rate (ECR) for Unit-II as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Net Generation	MU	813.10	813.10	815.33	813.10	813.10
Auxiliary Consumption	%	9.00%	9.00%	9.00%	9.00%	9.00%
Gross Station Heat Rate	kcal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00
Specific Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
Calorific Value of Oil	kcal/mL	9.10	9.10	9.10	9.10	9.10
GCV of Primary Fuel	kcal/kg	3825.49	3825.49	3825.24	3825.15	3825.15
Landed Price of Primary Fuel	Rs./Ton	3725.22	3725.22	3721.69	3720.33	3720.33
Landed Price of Secondary Fuel	Rs./kL	45197.95	45197.95	45197.95	45197.95	45197.95
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>2.749</b>	<b>2.749</b>	<b>2.720</b>	<b>2.719</b>	<b>2.719</b>

**Table 113: Energy Charge Rate (ECR) for Unit-III as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Net Generation	MU	813.10	813.10	815.33	813.10	813.10
Auxiliary Consumption	%	9.00%	9.00%	9.00%	9.00%	9.00%
Gross Station Heat Rate	kcal/kWh	2550.00	2550.00	2525.00	2525.00	2525.00
Specific Oil Consumption	ml/kWh	0.50	0.50	0.50	0.50	0.50
Calorific Value of Oil	kcal/mL	9.10	9.10	9.10	9.10	9.10
GCV of Primary Fuel	kcal/kg	3826.01	3826.01	3825.77	3825.67	3825.67
Landed Price of Primary Fuel	Rs./Ton	3824.40	3824.40	3821.57	3820.48	3820.48
Landed Price of Secondary Fuel	Rs./kL	45195.83	45195.83	45195.83	45195.83	45195.83
<b>Energy Charge Rate (ECR)</b>	<b>Rs/kWh</b>	<b>2.821</b>	<b>2.821</b>	<b>2.792</b>	<b>2.791</b>	<b>2.791</b>

**Summary of Fuel Cost**

8.17 The table below provides the summary of Fuel Cost as approved by the Commission for the Control Period from FY 2021-22 to FY 2025-26.

**Table 114: Fuel Cost for Unit-II as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost of Primary Fuel	Rs. Cr.	221.48	221.48	219.71	219.04	219.04
Cost of Secondary Fuel	Rs. Cr.	2.02	2.02	2.02	2.02	2.02
<b>Energy Cost</b>	<b>Rs. Cr.</b>	<b>223.50</b>	<b>223.50</b>	<b>221.74</b>	<b>221.06</b>	<b>221.06</b>

**Table 115: Fuel Cost for Unit-III as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost of Primary Fuel	Rs. Cr.	227.35	227.35	225.58	224.90	224.90
Cost of Secondary Fuel	Rs. Cr.	2.02	2.02	2.02	2.02	2.02
<b>Energy Cost</b>	<b>Rs. Cr.</b>	<b>229.36</b>	<b>229.36</b>	<b>227.60</b>	<b>226.92</b>	<b>226.92</b>

## Determination of Fixed Cost

### Additional Capitalization

#### Petitioner's Submission

- 8.18 The Petitioner had projected the additional capitalisation in its MYT Business Plan for FY 2021-22 to FY 2025-26 in accordance with JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020.

#### Commission's Analysis

- 8.19 The Commission has scrutinized the additional capitalisation submitted by the Petitioner in its MYT Business Plan along with Detail Project Report (DPR) submitted vide affidavit dated January 15, 2021. The Commission after prudence check approves the additional capitalisation for Jojobera Generating Stations Unit-II and Unit-III as detailed in Section: A7, Sub-Section: Capital Expenditure Plan of this Order.
- 8.20 In accordance to the approved Capital Expenditure Plan, the Gross Fixed Assets as approved by the Commission for the Control Period is shown below.

**Table 116: Gross Fixed Assets (GFA) for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening GFA	493.93	499.96	504.75	504.83	504.92
Capitalization	6.92	6.74	0.11	0.12	0.00
Decapitalization	0.89	1.94	0.03	0.04	0.00
Closing GFA	499.96	504.75	504.83	504.92	504.92

**Table 117: Gross Fixed Assets (GFA) for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening GFA	482.62	488.65	490.47	490.54	490.63
Capitalization	6.92	2.40	0.11	0.12	0.00
Decapitalization	0.89	0.58	0.03	0.04	0.00
Closing GFA	488.65	490.47	490.54	490.63	490.63

## Depreciation

#### Petitioner's Submission

- 8.21 The Petitioner submitted that the cumulative depreciation of total assets (Original Project Cost including additional capitalization) up to FY 2017-18 has crossed 70% for both the Units and therefore as per Regulation 7.32 read with Regulation 2.1(58) and 2.1(27) of JSERC Generation MYT Regulations, 2020, the remaining depreciable amount is spread



over the balance Useful life (25 years) of the generating station. The Petitioner further added that such approach shall be in consonance with approach settled by CERC and in accordance with true essence of Regulations 7.32 read with other applicable Regulations of JSERC Generation MYT 2015 and in true spirit of the Electricity Act.

- 8.22 In view of the above said submissions, the Petitioner prayed to approve the depreciation as proposed in the Petition.

**Table 118: Depreciation as submitted by the Petitioner (Rs. Crore)**

Depreciation	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Unit-II	12.34	13.64	14.70	14.75	14.82
Unit-III	12.77	13.65	14.08	14.11	14.15

### Commission's Analysis

- 8.23 The JSERC Generation Tariff Regulation, 2020 has specified the following methodology for the calculation of depreciation expense for existing generating station

*“15.30 Depreciation shall be calculated annually, based on ‘Straight Line Method’ at rates specified in Appendix-I. The base value for the purpose of depreciation shall be original cost of the asset:*

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

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

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

- 8.24 The Commission has scrutinised the detail submitted by the Petitioner, observes that the Plant is in its fag life and overall depreciation of the generating stations had reached 70% for both the Units. Hence, in accordance with proviso of Regulations 15.30, the Commission has computed the depreciation for the Control Period from FY 2021-22 to FY 2025-26.
- 8.25 As per Regulation the Useful life of the generating station is 25 years, however, the Petitioner had executed the Power Purchase Agreement (PPA) with the Beneficiary for 30 years. Such

signing of PPA, clearly infer that both the Petitioner and Beneficiary are aware that the existing plant is able to stand even after 25 years. Further, depreciating the legitimate depreciable amount in 25 years will defeat the purpose of reliability and economical power which is the attribute of long term PPA.

- 8.26 Hence, the Commission in view of PPA tenure, has spread the remaining depreciable amount in PPA life (30 years) which shall economise the power cost, and has approved the depreciation taking into PPA life instead of Useful life.

**Table 119: Depreciation as approved by the Commission (Rs. Crore)**

Depreciation	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Unit-II	7.47	8.09	8.53	8.54	8.56
Unit-III	8.43	8.85	9.01	9.02	9.03

### ***Operation & Maintenance Expenses***

#### ***Petitioner's Submission***

- 8.27 The Petitioner had projected the Operation & Maintenance Expenses in its MYT Business Plan for FY 2021-22 to FY 2025-26 based on the past performance and in accordance with JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations 2020.

#### ***Commission's Analysis***

- 8.28 The Commission has scrutinized the Operation & Maintenance Expenses submitted by the Petitioner in its MYT Business Plan. The Commission after prudence check approves the Operation & Maintenance Expenses for Jojobera Generating Stations Unit-II and Unit-III as detailed in Section: A7, Sub-Section: Operation & Maintenance Expenses Plan of this Order.

### ***Interest on Loan***

#### ***Petitioner's Submission***

- 8.29 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.
- 8.30 The Petitioner has further submitted that the entire additional capitalisation proposed for the Control Period will be funded from internal accruals and therefore in line with the MYT Order dated February 19, 2018, the Petitioner had considered 70% of the projected capitalization as Normative Loan with interest rate of 9.75% for both the Units.
- 8.31 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 120: Interest on Loan for Unit-II as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Loan	24.74	20.75	14.71	3.94	-
Deemed Loan Addition	4.62	3.94	0.08	0.09	-
Deemed Loan Repayment	8.61	9.98	10.84	4.03	-
Closing Loan	20.75	14.71	3.94	-	-
Interest Rate	9.75%	9.75%	9.75%	9.75%	9.75%
<b>Interest on Loan</b>	<b>2.22</b>	<b>1.73</b>	<b>0.91</b>	<b>0.19</b>	<b>-</b>

**Table 121: Interest on Loan for Unit-III as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Loan	26.06	23.36	17.34	8.86	0.35
Deemed Loan Addition	4.62	2.19	0.08	0.09	-
Deemed Loan Repayment	7.32	8.20	8.56	8.60	0.35
Closing Loan	23.36	17.34	8.86	0.35	-
Interest Rate	9.75%	9.75%	9.75%	9.75%	9.75%
<b>Interest on Loan</b>	<b>2.41</b>	<b>1.98</b>	<b>1.28</b>	<b>0.45</b>	<b>0.02</b>

### Commission's Analysis

- 8.32 The Commission has scrutinised the additional capitalisation as proposed by the Petitioner in its MYT Petition and additional submission made by the Petitioner. The Commission after prudence check approves the additional capitalisation and normative loan addition for the Control Period from FY 2021-22 to FY 2025-26.
- 8.33 The Commission has considered the deemed loan repayment equal to depreciation as approved by the Commission.
- 8.34 In accordance to Clause 15.18 of JSERC Generation Tariff Regulations, 2020, the Commission approves the interest rate as 9.00% (SBI MCLR as on 01.04.2021 plus 200 bp) for both the Units as shown below.

**Table 122: Interest on Loan for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Loan	30.45	27.82	24.44	15.99	7.53
Deemed Loan Addition	4.84	4.72	0.08	0.09	0.00
Deemed Loan Repayment	7.47	8.09	8.53	8.54	8.56
Closing Loan	27.82	24.44	15.99	7.53	0.00
Interest Rate	9.00%	9.00%	9.00%	9.00%	9.00%
<b>Interest on Loan</b>	<b>2.62</b>	<b>2.35</b>	<b>1.82</b>	<b>1.06</b>	<b>0.34</b>

**Table 123: Interest on Loan for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Loan	28.51	24.92	17.75	8.81	0.00
Deemed Loan Addition	4.84	1.68	0.08	0.09	0.00
Deemed Loan Repayment	8.43	8.85	9.01	9.02	9.03
Closing Loan	24.92	17.75	8.81	0.00	0.00
Interest Rate	9.00%	9.00%	9.00%	9.00%	9.00%
<b>Interest on Loan</b>	<b>2.40</b>	<b>1.92</b>	<b>1.20</b>	<b>0.40</b>	<b>0.00</b>

**Interest on Working Capital (IOWC)****Petitioner's Submission**

8.35 The Petitioner in line with Clause 15.23, 15.26 & 15.27 of the JSERC Generation Tariff Regulations, 2020 had estimated the Interest on Working Capital (IOWC) as shown below.

**Table 124: IOWC for Unit-II as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost towards Coal Stock (20 Days)	30.14	30.34	29.92	30.13	29.91
Cost towards Coal for Generation (30 Days)					
Cost of Oil for Generation (2 months)	0.34	0.34	0.34	0.34	0.34
Maintenance Spares (20% O&M)	11.32	10.32	12.32	11.22	13.29
O&M Expenses (1 month)	4.72	4.30	5.13	4.68	5.54
Receivables (45 Days)	40.68	40.35	41.26	40.70	41.81
Total Working Capital	87.19	85.65	88.96	87.07	90.89
Interest Rate	10.50%	10.50%	10.50%	10.50%	10.50%
<b>Interest on Working Capital</b>	<b>9.16</b>	<b>8.99</b>	<b>9.34</b>	<b>9.14</b>	<b>9.54</b>

**Table 125: IOWC for Unit-III as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost towards Coal Stock (20 Days)	31.00	31.06	30.95	30.74	30.91
Cost towards Coal for Generation (30 Days)					
Cost of Oil for Generation (2 months)	0.34	0.34	0.34	0.34	0.34
Maintenance Spares (20% O&M)	9.78	11.79	10.78	12.74	11.62
O&M Expenses (1 month)	4.08	4.91	4.49	5.31	4.84
Receivables (45 Days)	41.47	41.47	41.47	41.47	41.47
Total Working Capital	85.65	89.98	87.62	91.20	89.18
Interest Rate	10.50%	10.50%	10.50%	10.50%	10.50%
<b>Interest on Working Capital</b>	<b>8.99</b>	<b>9.45</b>	<b>9.20</b>	<b>9.58</b>	<b>9.36</b>

**Commission's Analysis**

8.36 The Commission has computed the Interest on Working Capital (IOWC) for both the Units as per Clause 15.23, 15.26 and 15.27 of JSERC Generation Tariff Regulations, 2020 as reproduced below:





*“7.34 The Commission shall determine the Working Capital requirement on normative basis for coal-based generating stations, which shall comprise the following components:*

- 1. Cost of coal or lignite and limestone towards stock, if applicable, for 10 days for pit-head generating stations and 20 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;*
- 2. Cost of coal or lignite and limestone for 30 days for generation corresponding to normative annual plant availability factor;*
- 3. Cost of secondary fuel oil for two months for generation corresponding to the Normative Annual Plant Availability Factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
- 4. Operation and Maintenance expenses, including water charge and security expenses for one month;*
- 5. Maintenance spares @ 20% of Operation and Maintenance Expenses;*
- 6. Receivables equivalent to 45 days of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor;*

*Provided that the cost of primary fuel shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the generating station and gross calorific value of the fuel on ‘as received basis’ as per actual weighted average for three months preceding the first month for which tariff is to be determined:*

*Provided further that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.*

.....

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

*Provided that the rate of interest on working capital shall be true up on the basis of Bank Rate plus 350 basis points as applicable on April 01, of the respective financial year at the time of true up.*

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



- 8.37 The SBI MCLR plus 350 bp as on September 30, 2020 has been considered for the purpose of computation of Interest on Working Capital (IOWC) as per Clause 15.26 of JSERC Generation Tariff Regulation, 2020. The Interest on Working Capital (IOWC) as approved by the Commission is summarized in the following table.

**Table 126: IOWC for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost towards Coal Stock (20 Days)	12.14	12.14	12.01	12.00	12.00
Cost towards Coal for Generation (30 Days)	18.20	18.20	18.01	18.00	18.00
Cost of Oil for Generation (2 months)	0.34	0.34	0.34	0.34	0.34
Maintenance Spares (20% O&M)	10.81	11.31	11.75	12.25	12.67
O&M Expenses (1 month)	4.50	4.71	4.89	5.10	5.28
Receivables (45 Days)	37.41	37.78	37.73	37.98	38.16
Total Working Capital	83.39	84.47	84.72	85.67	86.46
Interest Rate	10.50%	10.50%	10.50%	10.50%	10.50%
<b>Interest on Working Capital</b>	<b>9.03</b>	<b>9.15</b>	<b>9.17</b>	<b>9.27</b>	<b>9.36</b>

**Table 127: IOWC for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost towards Coal Stock (20 Days)	12.46	12.46	12.33	12.32	12.32
Cost towards Coal for Generation (30 Days)	18.69	18.69	18.49	18.49	18.49
Cost of Oil for Generation (2 months)	0.34	0.34	0.34	0.34	0.34
Maintenance Spares (20% O&M)	10.50	10.95	11.45	11.82	12.35
O&M Expenses (1 month)	4.37	4.56	4.77	4.92	5.15
Receivables (45 Days)	38.02	38.31	38.24	38.40	38.69
Total Working Capital	84.37	85.31	85.61	86.28	87.33
Interest Rate	10.50%	10.50%	10.50%	10.50%	10.50%
<b>Interest on Working Capital</b>	<b>9.13</b>	<b>9.23</b>	<b>9.26</b>	<b>9.33</b>	<b>9.44</b>

### *Return on Equity*

#### *Petitioner's Submission*

- 8.38 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 each year of the Control Period. Further, the Petitioner has grossed up the return on equity by provisional tax rate of 25.17% (i.e. Corporate tax) to arrive at the pre-tax return on equity.

**Table 128: Return on Equity for Unit-II as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Equity	146.54	148.27	149.51	149.53	149.56
Addition	1.73	1.24	0.02	0.03	0.00
Closing Equity	148.267	149.510	149.533	149.559	149.559
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%
MAT	25.168%	25.168%	25.168%	25.168%	25.168%
<b>ROE (Pre-Tax)</b>	<b>27.58</b>	<b>27.85</b>	<b>27.97</b>	<b>27.98</b>	<b>27.98</b>

**Table 129: Return on Equity for Unit-III as submitted by the Petitioner (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Equity	142.01	143.73	144.46	144.48	144.51
Addition	1.73	0.73	0.02	0.03	0.00
Closing Equity	143.73	144.46	144.48	144.51	144.51
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%
MAT	25.168%	25.168%	25.168%	25.168%	25.168%
<b>ROE (Pre-Tax)</b>	<b>26.73</b>	<b>26.96</b>	<b>27.03</b>	<b>27.03</b>	<b>27.04</b>

**Commission's Analysis**

- 8.39 The Commission has scrutinised the additional capitalisation as proposed by the Petitioner in its MYT Petition. The Commission after prudence check approves the additional capitalisation and normative equity addition for the Control Period from FY 2021-22 to FY 2025-26.
- 8.40 In accordance with Clause 15.9 and Clause 15.10 of the JSERC Generation Tariff Regulations, 2020, the Commission has approved the Return on Equity at 14.00% which is grossed up provisionally applicable rate of 25.17% as projected by the Petitioner, subject to truing up based on actuals.

**Table 130: Return on Equity for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Equity	148.18	149.99	151.43	151.45	151.48
Addition	1.81	1.44	0.02	0.03	0.00
Closing Equity	149.99	151.43	151.45	151.48	151.48
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%
ROE (Post-Tax)	20.87	21.10	21.20	21.20	21.21
ROE after MAT	18.71%	18.71%	18.71%	18.71%	18.71%
<b>Return on Equity</b>	<b>27.89</b>	<b>28.20</b>	<b>28.33</b>	<b>28.34</b>	<b>28.34</b>

**Table 131: Return on Equity for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Opening Equity	144.79	146.60	147.14	147.16	147.19
Addition	1.81	0.55	0.02	0.03	0.00
Closing Equity	146.60	147.14	147.16	147.19	147.19
Rate of Return	14.00%	14.00%	14.00%	14.00%	14.00%
ROE (Post-Tax)	20.40	20.56	20.60	20.60	20.61
ROE after MAT	18.71%	18.71%	18.71%	18.71%	18.71%
<b>Return on Equity</b>	<b>27.26</b>	<b>27.48</b>	<b>27.53</b>	<b>27.53</b>	<b>27.54</b>

**Incentive for reaching Normative PLF****Petitioner's Submission**

8.41 The Petitioner has claimed the incentive for scheduling power more than the Normative PLF as shown below.

**Table 132: Incentive for Unit-II as submitted by Petitioner (Rs. Cr.)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Ex-Bus Generation at NAPLF	813.10	813.10	815.33	813.1	813.10
Projected Ex-Bus Generation	771.89	813.40	795.10	841.88	792.93
Excess Generation Corresponding to NAPLF	-	0.30	-	28.78	-
Rate of Incentive	0.50	0.50	0.50	0.50	0.50
<b>Incentive</b>	-	<b>0.01</b>	-	<b>1.44</b>	-

**Table 133: Incentive for Unit-III as submitted by Petitioner (Rs. Cr.)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Ex-Bus Generation at NAPLF	813.10	813.10	815.33	813.1	813.10
Projected Ex-Bus Generation	775.80	790.62	852.77	793.98	843.27
Excess Generation Corresponding to NAPLF	-	-	37.44	-	30.17
Rate of Incentive	0.50	0.50	0.50	0.50	0.50
<b>Incentive</b>	-	-	<b>1.87</b>	-	<b>1.51</b>

### *Commission's Analysis*

8.42 The Commission is of the view that since the Petitioner's claim of incentive 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.

### *Shakti Scheme Discount*

#### *Petitioner's Submission*

8.43 Based on the allocation of primary fuel under Shakti Scheme and actual coal consumption, the Petitioner has calculated the energy generated from Shakti coal. The Petitioner has calculated the discount rate at Rs. 0.04/kWh for the coal procured under round-II and Rs. 0.07/kWh for coal produced and consumed under round-III bidding.

**Table 134: Shakti Scheme Discount for Unit-II as submitted by Petitioner (Rs. Crore)**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sales due to ECL Coal (Round-II)	MU	69.59	69.59	70.28	70.28	70.28
Sales due to CCL Coal (Round-II)	MU	117.99	117.99	119.16	119.16	119.16
Sales due to MCL Coal (Round-II)	MU	92.64	92.64	93.55	93.55	93.55
Sales due to CCL Coal (Round-III)	MU	352.80	352.80	356.29	356.29	356.29
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>3.59</b>	<b>3.59</b>	<b>3.63</b>	<b>3.63</b>	<b>3.63</b>

**Table 135: Shakti Scheme Discount for Unit-III as submitted by Petitioner (Rs. Crore)**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sales due to ECL Coal (Round-II)	MU	68.11	68.11	68.78	68.78	68.78
Sales due to CCL Coal (Round-II)	MU	118.56	118.56	119.74	119.74	119.74
Sales due to MCL Coal (Round-II)	MU	91.97	91.97	92.88	92.88	92.88
Sales due to CCL Coal (Round-III)	MU	354.52	354.52	358.03	358.03	358.03
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>3.60</b>	<b>3.60</b>	<b>3.63</b>	<b>3.63</b>	<b>3.63</b>

**Commission's Analysis**

8.44 The Commission has scrutinized the detail projected by the Petitioner and further in line to FSA and PPA approval from the Commission. The Commission provisionally approves the discount amount due to Shakti Scheme coal as mentioned below, subject to truing up.

**Table 136: Shakti Scheme Discount for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sales due to ECL Coal (Round-II)	MU	69.59	69.59	70.28	70.28	70.28
Sales due to CCL Coal (Round-II)	MU	117.99	117.99	119.16	119.16	119.16
Sales due to MCL Coal (Round-II)	MU	92.64	92.64	93.55	93.55	93.55
Sales due to CCL Coal (Round-III)	MU	352.80	352.80	356.29	356.29	356.29
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>3.59</b>	<b>3.59</b>	<b>3.63</b>	<b>3.63</b>	<b>3.63</b>

**Table 137: Shakti Scheme Discount for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Sales due to ECL Coal (Round-II)	MU	68.11	68.11	68.78	68.78	68.78
Sales due to CCL Coal (Round-II)	MU	118.56	118.56	119.74	119.74	119.74
Sales due to MCL Coal (Round-II)	MU	91.97	91.97	92.88	92.88	92.88
Sales due to CCL Coal (Round-III)	MU	354.52	354.52	358.03	358.03	358.03
<b>Discount Amount</b>	<b>Rs. Cr.</b>	<b>3.60</b>	<b>3.60</b>	<b>3.63</b>	<b>3.63</b>	<b>3.63</b>

**Summary of Annual Revenue Requirement****Commission's Analysis**

8.45 The summary of Annual Fixed Charge (AFC) for the Control Period from FY 2021-22 to FY 2025-26 as approved by the Commission is shown below.

**Table 138: Annual Fixed Cost for Unit-II as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
O&M Expenses	54.03	56.53	58.73	61.25	63.37
Depreciation	7.47	8.09	8.53	8.54	8.56
Interest on Loan	2.62	2.35	1.82	1.06	0.34
Interest on Working Capital	9.03	9.15	9.17	9.27	9.36
Return on Equity	27.89	28.20	28.33	28.34	28.34
<b>Annual Fixed Cost</b>	<b>101.04</b>	<b>104.32</b>	<b>106.59</b>	<b>108.47</b>	<b>109.96</b>

**Table 139: Annual Fixed Cost for Unit-III as approved by the Commission (Rs. Crore)**

Particulars	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
O&M Expenses	52.48	54.77	57.26	59.10	61.75
Depreciation	8.43	8.85	9.01	9.02	9.03
Interest on Loan	2.40	1.92	1.20	0.40	0.00
Interest on Working Capital	9.13	9.23	9.26	9.33	9.44
Return on Equity	27.26	27.48	27.53	27.53	27.54
<b>Annual Fixed Cost</b>	<b>99.69</b>	<b>102.24</b>	<b>104.26</b>	<b>105.38</b>	<b>107.76</b>

8.46 The summary of Energy Charge Rate (ECR) for the Control Period from FY 2021-22 to FY 2025-26 as approved by the Commission is shown below.

**Table 140: Energy Cost for Unit-II as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost of Primary Fuel	Rs. Cr.	221.48	221.48	219.71	219.04	219.04
Cost of Secondary Fuel	Rs. Cr.	2.02	2.02	2.02	2.02	2.02
Energy Cost	Rs. Cr.	223.50	223.50	221.74	221.06	221.06
Shakti Scheme Discount	Rs. Cr.	3.59	3.59	3.63	3.63	3.63
Energy Charge Rate (ECR)	Rs./kWh	2.749	2.749	2.720	2.719	2.719
ECR after Shakti Scheme	Rs./kWh	2.705	2.705	2.675	2.674	2.674

**Table 141: Energy Cost for Unit-III as approved by the Commission**

Particulars	UoM	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26
Cost of Primary Fuel	Rs. Cr.	227.35	227.35	225.58	224.90	224.90
Cost of Secondary Fuel	Rs. Cr.	2.02	2.02	2.02	2.02	2.02
Energy Cost	Rs. Cr.	229.36	229.36	227.60	226.92	226.92
Shakti Scheme Discount	Rs. Cr.	3.60	3.60	3.63	3.63	3.63
Energy Charge Rate (ECR)	Rs./kWh	2.821	2.821	2.792	2.791	2.791
ECR after Shakti Scheme	Rs./kWh	2.777	2.777	2.747	2.746	2.746



## A 9: STATUS OF EARLIER DIRECTIVES

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

Directive	Status	Remarks
<b>Transit loss</b> “The Commission directs the Petitioner to devise ways to control the expenses and maintain transit loss at the levels specified as per Generation Tariff Regulations 2015”	Washery Coal consists higher transit loss. Since quantity of washery Coal is getting lower in current financial year and same is projected for next control period, this issue will have much lower impact. Although this issue is mainly due to loss of moisture and weight loss in Railway transportation, the Petitioner has no control on such factors. Nevertheless, Tata Power is exploring the possibility of reducing it and shall update Hon'ble Commission on the same subsequently.	The Commission directs to complete task on exploring the possibility of reducing the transit loss and update the Commission as soon as possible
<b>Start Ups</b> The Petitioner is directed to submit monthly details of a number of unit-wise start-ups taken after shutdown. Also, details should include the monthly quantity of secondary fuel consumed during plant start up and flame support if required. The same should be submitted with subsequent APR and True-up Petitions.”	Submitted in instant petition as <b>ANNEXURE P32</b> .	Commission has noted the compliance. The Petitioner to continue submitting the same.
<b>Fuel Mix Report</b> The commission has observed that due to various reasons, the Petitioner has procured coal from sources other than what had been approved. Such variations lead to a change in the fuel mix and the landed cost. The Petitioner is directed to bring to the notice of the commission any such changes with regard to coal mix with proper justification on Quarterly Basis. Further the petitioner is directed to carry out techno-commercial audit	For FY 2019-20 & for Q1 FY 2020-21, Fuel Mix report has been submitted on 30.06.2020 and 30.09.2020. Techno Commercial Audit Report was submitted on 14.08.2020. Q2 Report on Fuel Mix will be submitted shortly.	The Petitioner shall continue the practice to submit the Fuel Mix Report quarterly basis.





Directive	Status	Remarks
to identify the reasons for high energy charge and submit the report within six months of issuance of this order.”		
<b>DPR of Scheme</b> The Petitioner has submitted DPR of schemes that have been proposed along with the petition. In the DPRs the Petitioner has submitted details about the project along with costs and have also worked out the impact of such schemes. The Commission has observed that such analysis and costs have not been supported by rate reasonability and should have the approval of the competent authority of Tata Power. The petitioner should provide supporting documents in the form of ordered rates, order for work carried out previously, quotations etc. The Petitioner is directed to ensure the compliance.”	This directive is compiled in instant petition wherein capitalisation plan for Third Control Period has been given. Detailed DPRs shall be submitted shortly.	The Petitioner shall continue with this practice whenever they submit the DPR of the Scheme for the approval.
<b>Notice to the Commission</b> The Petitioner is hereby directed that during the execution of work pertaining to any preapproved schemes, any increase in the scope of work, procurement, services, price/cost etc. should be brought to the notice of commission immediately.”	For FY 2019-20 & for Q1 FY 2020-21, a report on Additional Capitalization has been submitted on 30.06.2020 and 30.09.2020 respectively. Q2 Report will be submitted shortly.	The Petitioner shall continue with the Practice in the future also.
The Petitioner is directed to submit status report of actions taken for disposal of ashes generated from the plant as per the statutory guidelines specified by MoEF and JSPCB and submit quarterly reports to the Commission. Such reports should also form part of the subsequent APR and True-up Petitions."	For FY 2019-20, Report has been submitted on 30.10.2020. Q1 & Q2 Report has been submitted on 06.11.2020	The Petitioner shall continue with the Practice in the future also



Directive	Status	Remarks
<b>Energy Charge Optimisation</b> 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 optimize its energy charge.	Fuel Mix Plan has been submitted alongwith the instant Petition.	The Petitioner shall continue with the Practice in the future also
<b>Capex Planning</b> 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.	Revised Phasing of Capex has been submitted in instant Petition.	The Petitioner shall continue with the Practice in the future also
<b>Residual Life Study</b> The Commission observed that both the Units (Unit-II & Unit-III) have a remaining useful life of less than ten years as per regulations. The Petitioner is required to carry out residual life study before any additional capitalization in the plant and justify its operational and financial benefits.	Currently, Tata power is Planning for this activity in compliance to this directive in the upcoming annual shutdowns, Petitioner shall intimate Hon'ble Commission as soon as it will be finalized.	As per Regulation remaining useful for both units have around Five Years The Petitioner should carry out a residual life study as soon as possible before any additional capitalization in the plant and justify its operational and financial benefits. However, before undertaking this study, the Petitioner to submit the complete scope of work to be carried under RLA for Commission's approval.



## A 10: DIRECTIVES

### Residual Life Study

- 9.1 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 residual life study before any additional capitalization in the plant and justify its operational and financial benefits. However, before undertaking this study, the Petitioner to submit the complete scope of work to be carried under RLA for Commission's approval.

### Notice to the Commission

- 9.2 The Petitioner is hereby directed that during the execution of work pertaining to any preapproved schemes, any increase in the scope of work, procurement, services, price/cost etc. should be brought to the notice of commission immediately.

### Transit Loss

- 9.3 The Commission directs the Petitioner to devise ways to control the expenses and maintain transit loss at the levels specified as per Generation Tariff Regulations 2015

### Compliance of directives issued in earlier Orders

- 9.4 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 November 04, 2022.

**Date: 04.11.2022**

**Place: Ranchi**

**Sd/-**  
**(Atul Kumar)**  
**Member (Technical)**

**Sd/-**  
**(Mahendra Prasad)**  
**Member (Law)**



## ANNEXURE

### Annexure-1: List of participating members of the Public in the Public Hearing though Video Conferencing

Sl. No.	Name S/Shri	Address / Organisation if any
1	Gaurav Bawase	Tata Power, Jamshedpur
2	Sunil Kumar	Bagbera Colony, Jamshedpur
3	Amitava Das	Tata Power, Jamshedpur
4	Pintu Kumar shrivastava	Tata Power, Jamshedpur
5	randhir Kumar	Tata Power, Jamshedpur
6	Manish Tiwari	Tata Power, Jamshedpur
7	Mukul Kumar Singh	Jojobera Power Plant, TPCL, Jamshedpur
8	Rakesh Singh Bhadosia	Jojobera Power Plant, TPCL, Jamshedpur
9	Pankaj Kumar Roy	Jojobera Power Plant, TPCL, Jamshedpur
10	Satyajeet singh Choudhary	Jojobera Power Plant, TPCL, Jamshedpur
11	Golak B Sohan	Jojobera Power Plant, TPCL, Jamshedpur
12	Rakesh Kumar	Hindustan
13	V. S. Mishra	Jojobera Power Plant, TPCL, Jamshedpur
14	Prabhakar Kumar	Jojobera Power Plant, TPCL, Jamshedpur
15	U R Prabhakar Roy	Tata Power, Jamshedpur
16	Rakesh Ranjan	Tata Power, Jamshedpur
17	Chandrashekhar Singh	Tata Power, Jamshedpur
18	B Hansdah	Tata Power, Jamshedpur
19	Sharad Kumar	Tata Steel Ltd.
20	V. B. Srivastava	Tata Power, Jamshedpur
21	Anshuk De	Tata Power, Jamshedpur
22	Lalit Dubey	Dainik Bhaskar
23	V P Singh	Tata Steel UISL
24	N. Leena	Tata Steel UISL



<b>Sl. No.</b>	<b>Name S/Shri</b>	<b>Address / Organisation if any</b>
25	Dipak Kumar Singh	Tata Power, Jamshedpur
26	Shraddha Singhanian	Tata Power, Jamshedpur
27	Subhangi Banka	Tata Power, Jamshedpur
28	Garenaa Parihar	Tata Power, Jamshedpur
29	Tusar Raj	Tata Steel UISL
30	Suman Mandal	Tata Steel UISL
31	Harsh Lunia	Mango, Jamshedpur
32	Avik Gupta	Sakchi, Durga Puja Maidan
33	Pankaj Prakash	Head-regulatory (ER), Tata Power Co. Ltd.
34	Suvojit Maity	L-Regulatory (ER), TPCL
35	Nirmal Prasad	Dainik Jagran
36	Rajesh Kumar	Sonari
37	Soumya Bandyopadhyay	Deloitte LLP, Kolkata
38	Trinath Koganti	Feedback Infra Pvt. Ltd., Mumbai
39	Shreyansh Kumar	Sonari
40	Sorjan Kumar Sinha	Press