Jharkhand State Electricity Regulatory Commission

Order on

True-up for FY 2016-17 and FY 2017-18

for

Inland Power Limited (IPL)

Ranchi

October 01, 2019

CONTENTS

List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
ARR	Aggregate Revenue Requirement
CEA	Central Electricity Authority
COD	Commercial Operation Date
CFBC	Circulating Fluidized Bed Combustion
CCL	Central Coalfield Limited
CIL	Coal India Limited
ECR	Energy Charge Rate
FY	Financial Year
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GHR	Gross Station Heat Rate
GoI	Government of India
GoJ	Government of Jharkhand
IoWC	Interest on Working Capital
IPL	Inland Power Limited
JBVNL	Jharkhand Bijli Vitran Nigam Limited
JSEB	Jharkhand State Electricity Board
JSERC	Jharkhand State Electricity Regulatory Commission
JUVNL	Jharkhand Urja Vikas Nigam Limited
kCal	Kilocalorie
kg	Kilogram
kWh	Kilowatt-hour
MAT	Minimum Alternative Tax
ML	Millilitre
MOU	Memorandum of Understanding
MT	Million Tonnes
MU	Million Units
MW	Megawatt
MYT	Multi-Year Tariff
NAPAF	Normative Annual Plant Availability Factor
O&M	Operations and Maintenance
PAF	Plant Availability Factor
PLF	Plant Load Factor
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RoE	Return on Equity
Rs.	Rupees
SBI	State Bank of India
SERC	State Electricity Regulatory Commission
SLDC	State Load Dispatch Centre
SLM	Straight Line Method

List of Tables

BEFORE

Jharkhand State Electricity Regulatory Commission, Ranchi

Case (Tariff) No.: 04 of 2018

In the matter of:

Petition for

True-up for FY 2016-17 and FY 2017-18

In the matter:

Inland Power Limited (IPL)
3A Aukland Place, Suite No. 5A, 5th Floor, Kolkata- 700017………….. **Petitioner**

PRESENT

Hon'ble Dr. Arbind Prasad	Chairperson
Hon'ble Mr. R.N. Singh	Member (Engg.)
Hon'ble Mr. P.K. Singh	Member (Legal)

Order dated October 01, 2019

In this Petition, Inland Power Limited (hereinafter referred to as IPL or the Petitioner) has prayed for Truing up for FY 2016-17 and FY 2017-18.

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, had defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely:

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

1.3 After the Electricity Act, 2003 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 as brought out by GoI 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.

Inland Power Limited (IPL)

1.8 Inland Power Limited (hereinafter referred to as IPL or the Petitioner) is a company incorporated under the provisions of the Indian Companies Act, 1956. IPL was originally incorporated on June 22, 1993 as a Private Limited Company and was subsequently converted to a Public Limited Company on April 03, 2008.

1.9 The Petitioner signed a Memorandum of Understanding (hereinafter referred to as the MoU) with Government of Jharkhand to develop a 126 MW (+20%) (2x63 MW) thermal power plant based on CFBC technology in two stages in Gola, District Ramgarh, Jharkhand in October 2011. The Petitioner commissioned its 1st Unit (1x63MW) on May 21, 2014.

1.10 As per the provisions of the MOU, the Government of Jharkhand (GoJ) or Distribution Licensees authorized by it will have the first right of claim on a purchase up to 25% of the power delivered to the system by the proposed power plant. Further, the MoU stipulates that out of the 25% under the first right of refusal to the State, the rate of 12% share will be on variable cost. Pursuant to the MoU signed between GoJ and IPL, IPL signed a Power Purchase Agreement (hereinafter also referred to as the PPA) with Jharkhand State Electricity Board (now Jharkhand Urja Vikas Nigam Limited or JUVNL) on February 23, 2012 for supplying 35 MW of 63 MW from 1st Unit of the project on long term basis. Subsequently, IPL signed a supplementary PPA with JSEB (now JUVNL) on April 22, 2013 for purchase and sale of the entire quantity of 63 MW power from the 1st Unit of 63 MW inclusive of quantity mentioned in earlier Principal PPA.

The Petitioner's Prayers

1.11 The Petitioner in this Petition has prayed before the Commission:

- Condone the delay in filing of True-up Petition for FY 2016-17
- Accept the petition for True-up of FY 2016-17 and FY 2017-18
- Approve the numbers for the True-up of FY 2016-17 and FY 2017-18 as discussed in this Petition.

- Condone any inadvertent omissions/ errors/ rounding off differences/ shortcomings and permit IPL to add/ change/ modify this filing and make a further submission as may be at a future date; and
- Pass such further and other Orders, as the Commission may deem fit and proper, keeping in view the facts and circumstances of the case.

Scope of the Present Order

1.12 The Commission in this Order has approved the True-up for FY 2016-17 and FY 2017-18.

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

a) Material placed on record by the Petitioner

b) Provisions of the Electricity Act, 2003

c) Principles laid down in the National Electricity Policy

d) Principles laid down in the National Tariff Policy

e) Provisions of the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2015 (hereinafter referred to as JSERC Generation Tariff Regulations, 2015 or the Regulations).

1.14 Accordingly, the Commission has scrutinized the Petition in detail and hereby issues the Order on Truing-up for FY 2016-17 and FY 2017-18.

A 2: PROCEDURAL HISTORY

Background

2.1 The Commission had approved the provisional tariff for FY 2014-15 to FY 2015-16 in MYT Order dated May 27, 2014 based on submission of the anticipated date of COD of the plant as May 2014.

2.2 Subsequently, the Commission on May 16, 2017 issued a Tariff Order on Approval of Capital cost of Unit-1 (1x63MW), True-up for FY 2014-15, Annual Performance Review for the year FY 2015-16 and Tariff for the 2nd control period.

2.3 The Commission had issued the true-up Order for FY 2015-16 for Unit-1 (1x63MW) on March 19, 2018 based on Audited Annual Accounts submitted by the Petitioner.

2.4 Later, the Petitioner had filed the review petition on true-up Order for FY 2015-16 which was disposed off by the Commission on May 13, 2019.

2.5 The Petitioner has now sought approval from the Commission on True-up petition for FY 2016-17 and FY 2017-18.

Condonation of Delay in Filing of the Petition by the Petitioner

2.6 The Commission via Order dated March 19, 2018 had directed the Petitioner to file the True-up petition for FY 2016-17 and FY 2017-18 within three months from the date of issuance of the Order. In view of the above direction, the Petitioner had submitted a prayer for extension of time of three months for filing of the Petition vide letter dated June 5, 2018 citing the reason as delay in finalizing the financial statement of FY 2017-18 due to complexities involved in GST compliance.

2.7 The Petitioner has filed the petition for true-up for FY 2016-17 and FY 2017-18 on September 11, 2018 and has prayed to the Commission to condone the delay in filing the True-up petition under Power of Relaxation under JSERC Generation Tariff Regulations, 2015 and other inherent powers of the Commission under the Electricity Act, 2003.

Information Gaps in the Petitions

2.8 As part of tariff determination exercise, several deficiencies/ information gaps were observed in the Petition submitted by the Petitioner. The information gaps were pointed out and communicated to the Petitioner vide letter no. JSERC/Case (Tariff) no. 04 of 2018/438 dated November 19, 2018.

2.9 The Petitioner submitted its response to the aforesaid letter and furnished additional data/information vide letter dated December 20, 2018.

2.10 The Commission scrutinized the additional data/ information submitted and considered the same while passing this Order on the Petition filed by the Petitioner. The Commission has also examined the replies and supporting documents as supplied by the Petitioner on the discrepancies pointed out to it only on material already on record in the Petition filed by the Petitioner.

Inviting Public Comments/Suggestions

2.11 The Commission 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 2016-17 and FY 2017-18.

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

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

Newspaper	Date of Publication
Hindustan	01.03.2019 & 02.03.2019
The Pioneer	01.03.2019 & 02.03.2019
Sanmarg	01.03.2019 & 02.03.2019
Morning India	01.03.2019 & 02.03.2019

2.13 Subsequently, the Commission also issued a notice on its website www.jserc.org and various newspapers for conducting the public hearing on the Petition. The details of the newspapers publishing the notice by the Commission are as under:

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

Newspaper	Date of Publication
Hindustan	31.05.2019
Dainik Jagran	31.05.2019
Morning India	31.05.2019
The Pioneer	31.05.2019
Dainik Bhaskar	13.06.2019
Prabhat Khabar	13.06.2019
The Times of India	13.06.2019
The Hindustan Times	13.06.2019

Submission of Comments/Suggestions and Conduct of Public Hearing

2.14 In order to provide adequate opportunities to all stakeholders and general public, as mandated under Section 64 (3) of the Electricity Act 2003 and in relevant provisions of Regulation(s) framed by the Commission and in order to ensure transparency in the process of tariff determination, the Commission held public hearing on June 14, 2019 at Ranchi.

2.15 Numerous 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

3.1 The following sub-section presents a summary of True-up for FY 2016-17 and FY 2017-18 as filed by the Petitioner.

Truing up for FY 2016-17 and FY 2017-18

Operational Parameters of Plant

3.2 The summary of operational parameters approved by the Commission in the MYT Order dated May 16, 2017 vis-à-vis as submitted by the Petitioner for FY 2016-17 and FY 2017-18 is provided in the table below.

Table 3: Operational Parameters as submitted by the Petitioner

Particulars	UoM	FY 2016-17		FY 2017-18	
		MYT Order	Petition	MYT Order	Petition
Annual Plant Availability Factor	%	82.50	83.79	82.50	82.89
Auxiliary Energy Consumption	%	10.50	11.26	10.50	10.95
Gross Station Heat Rate	kcal/kWh	2902	2902	2902	2902
Secondary fuel oil Consumption	mL/kWh	1.00	1.00	1.00	1.00

Aggregate Revenue Requirement (ARR)

3.3 The summary of Annual Revenue Requirement (ARR) as submitted by the Petitioner for FY 2016-17 and FY 2017-18 vis-à-vis as approved by the Commission in MYT Order dated May 16, 2017 is tabulated below.

Table 4: Annual Revenue Requirement as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Depreciation	15.60	15.63	15.60	15.65
Interest on Loan	24.98	26.44	23.08	22.68
Return on Equity	19.30	15.37	19.84	15.79
Income Tax		1.98		5.83
Interest on Working Capital	5.99	7.54	6.02	8.89
O&M Expenses	17.01	20.61	18.08	21.90
Water Charges	-	0.69	-	1.39
ARR Publication & Fee Expenses	-	0.16	-	-
Annual Fixed Cost	82.88	88.42	82.62	92.13
Annual Variable Charge	84.99	77.37	84.99	71.90
Aggregate Revenue Requirement	167.87	165.78	167.61	164.01

Gap/(Surplus)

3.4 Based on the Annual Revenue Requirement (ARR) and revenue, the Petitioner has estimated the revenue gap for the FY 2016-17 and FY 2017-18 as summarized below.

Table 5: Revenue Gap as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Annual Revenue Requirement	167.87	165.78	167.61	164.01
Revenue	-	152.40	-	154.15
Gap	-	13.38	-	9.86
Bank Rate for Carrying Cost	-	12.60%	-	13.35%
Carrying Cost	-	1.69	-	1.32
Total Gap including Carrying Cost	-	15.07*	-	11.17*

** In reply to Discrepancy Note-1 of the Commission*

A 4: PUBLIC CONSULTATION PROCESS

4.1 The Public Hearing was held on June 14, 2019 at Ranchi to ensure the maximum public participation and transparency wherein stakeholders put forth their comments and suggestions before the Commission in the presence of the Petitioner. The list of the attendees is attached as **Annexure-1** to this Order.

4.2 In course of public hearing, the Commission also allowed persons/representatives of entities who had not submitted prior written representations but attended the public hearing to express their views, in person, regarding the Petition filed by the Petitioner and also about ways and means to improve the services rendered by the Petitioner.

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

Secondary Fuel Oil Consumption

Public Comments/Suggestions

4.4 The Objector enquired about the treatment of secondary fuel oil consumption in case where the actual oil consumption is less than the normative value.

Petitioner's response

4.5 The Petitioner replied that they have already submitted the actual monthly secondary fuel oil consumption and considered the normative value for calculation of cost of secondary fuel.

Views of the Commission

4.6 The Commission has dealt with the issue in Chapter A.5 of the order.

Gap between the PLF and PAF

Public Comments/Suggestions

4.7 The Beneficiary (JBVNL) pointed out that during the FY 2016-17 and FY 2017-18, JBVNL has given the full schedule to the Petitioner. Under such condition, both the PAF and PLF parameters should be nearly same. However, based on the submission of the Petitioner there is huge gap between PAF and PLF.

Petitioner's response

4.8 The Petitioner submitted that the final schedule is prepared based on the requisition made by JBVNL and no revision in schedule is done from the Petitioner's side.

Views of the Commission

4.9 The Commission has dealt with the issue in Chapter A.5 of the order.

A 5: TRUE-UP FOR FY 2016-17 AND FY 2017-18

5.1 The Petitioner has submitted the True-up petition for FY 2016-17 and FY 2017-18 based on the Audited Accounts taking into consideration the provisions of the Tariff Regulations, 2015 and the methodology adopted by the Commission in the earlier Orders.

5.2 The Commission has now carried out the True-up for FY 2016-17 and FY 2017-18 taking into consideration:

a) Audited (Statutory) accounts for the FY 2016-17 and FY 2017-18

b) JSERC Generation Tariff Regulations, 2015

c) Methodology adopted by the Commission in its earlier Orders.

Operational Performance

Plant Availability Factor (PAF)

Petitioner's Submission

5.3 The Petitioner has submitted the actual plant availability of Unit-1 as 83.79% for FY 2016-17 after considering only eleven months excluding September 2016 for FY 2016-17 and 82.89% for FY 2017-18.

5.4 The Petitioner has further submitted that due to Force Majeure condition in September 2016 as there were civil commotion and riot outside the plant area, no power generation could be undertaken as the intake water pipelines, generator etc. were damaged by miscreants due to civil commotion and riot. The Petitioner stated that they had intimated about the same to JBVNL and State Load Dispatch Centre (SLDC) via email dated August 30, 2016. The Petitioner has also intimated JBVNL about the same vide letter dated August 31, 2016 as per Article 9 of the Power Purchase Agreement (PPA) executed between the Petitioner and JBVNL. Copies of the FIR report and newspaper articles about the civil commotion and riot were also submitted to the Commission along with the Tariff Petition.

5.5 In view of the above, the Petitioner requested the State Load Dispatch Centre (SLDC) via its letter Ref no. IPL/SLDC/2017-18/188 dated August 22, 2017 to provide deemed availability for the month of September 2016 equal to the average availability achieved in eleven months (excluding September 2016) for FY 2016-17, which is equal to 83.79%. However, SLDC had failed to respond to the email or the letter submitted by the Petitioner and had issued availability certificate for FY 2016-17 as 76.90% after considering zero availability during September 2016 and 82.89% for FY 2017-18.

5.6 The Petitioner has requested to consider the above disruption under Force Majeure as uncontrollable and consider plant availability for eleven months for true-up of FY 2016-17.

Commission's Analysis

5.7 The Commission in the MYT Order dated May 16, 2017 had approved the Normative Annual Plant Availability Factor (NAPAF) as 82.50% based on the MYT Petition submitted by the Petitioner.

5.8 Further, in the True-up Order for FY 2015-16 dated March 16, 2018, the Commission after scrutinising the data submitted by the Petitioner revised the existing norms from 75% to 85%.

5.9 Based on the above methodology adopted by the Commission in its previous Order dated March 16, 2018 and inline to MYT Regulations, 2015, the Commission has revised the normative plant availability of Unit-1 as 85% for True-up for FY 2016-17 and FY 2017-18.

5.10 The Commission has examined the submission made by the Petitioner and material placed on record the Commission is of the view that non-availability of generating plant in the month of September 2016 was on account of Force Majeure and has therefore considered the plant availability as 83.79% for FY 2016-17 considering only 11 months except the month of September 2016. With regard to FY 2017-18, the Commission has considered the PAF of 82.89% as certified by SLDC.

5.11 The Plant Availability as approved by the Commission in the MYT Order dated May 16, 2017, as submitted by the Petitioner and approved now by the Commission for FY 2016-17 and FY 2017-18 is summarised below.

Table 6: Plant availability as approved by the Commission

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Actual Plant Availability	82.50%	83.79%	83.79%	82.50%	82.89%	82.89%

5.12 The Commission in accordance with the above approved availability has reduced fixed charges of the Petitioner for FY 2016-17 and FY 2017-18 as the actual availability achieved is lower than the normative availability.

Auxiliary Consumption

Petitioner's Submission

5.13 The Petitioner has submitted the actual auxiliary consumption for FY 2016-17 and FY 2017-18 as 11.26% and 10.95% respectively against 10.50% as approved in the MYT Order dated May 16, 2017.

5.14 The reasons cited by the Petitioner for the increase in auxiliary consumption compared to the normative approved by the Commission pertains to high ash production, transmission losses from plant ex-bus to delivery point etc.

5.15 The Petitioner substantiated the claim of higher auxiliary consumption by reproducing the recommendations of CEA report titled Recommendations on Operation Norms for Thermal Power Stations for Tariff Period beginning April 01, 2009 as mentioned below.

> *"14.6 The CFBC boilers involve higher auxiliary consumption due to higher pressure drops and consequently higher fan power as compared to the pulverized fuel fired units. Also, these units involve additional power consumption for lime stone handling, crushing and firing for control of SOx emissions. However, CFBC units do not require pulverizers as the fuel is fed in crushed form and thus there is a corresponding saving in the power consumption in pulverizers as compared to the pulverized fuel technology.*
>
> *14.7 NLC has asked for an additional AEC of 1% on account of CFBC boiler technology and additional 0.5% on account of uncertainty etc that may be faced as the CFBC units are being implemented by them for the first time and past operation data is not available. Thus they have asked for an AEC of 11% for TPS Expn II and 12% for Barsingsar TPS on account of additional AEC of 0.67% for cooling water pumping from a distant source (60 kms).*
>
> *An assessment of incremental auxiliary consumption for CFBC units has been made and it is found that the CFBC units entail higher auxiliary energy consumption of 0.7% to 1%. However, in the present case of NLC stations, the limestone is being procured in the powder form and consequently the power consumption for limestone crushing is eliminated and thus the incremental consumption should be on the lower side. Thus, an additional auxiliary energy consumption of 1.0% may be allowed to NLC stations with CFBC boilers."*

5.16 Additionally, the Petitioner highlighted that State Electricity Regulatory Commission (SERC) in other States have allowed higher auxiliary consumption for plants operating on Circulating Fluidized-bed Combustion Technology (CFBC) as shown below.

i. In the case of Rajasthan West Power Limited, Rajasthan Electricity Regulatory Commission has allowed the auxiliary consumption as 11.5%.

ii. In the case of Gujarat Industries Power Company Limited, Gujarat Electricity Regulatory Commission has allowed an auxiliary consumption of 12.5% for 3 years and 11.5% from the 4th year onwards.

iii. In the case of Bajaj Energy Pvt. Limited, Uttar Pradesh Electricity Regulatory Commission has allowed an auxiliary consumption of 11.5% during stabilization and 11% post stabilization period.

Commission's Analysis

5.17 The Commission while dealing with the matter of approving the auxiliary consumption in the MYT Order dated May 27, 2014 for the first control period i.e. from FY 2010-11 to FY 2015-16 had relied on the technology specific norms as specified in CERC Tariff Regulations 2014 and the recommendations of CEA and accordingly approved Normative Auxiliary Consumption as 10.50%.

5.18 The Commission in the second control period i.e. from FY 2016-17 to FY 2020-21 had retained the auxiliary consumption as 10.50% in the MYT Order dated May 16, 2017.

5.19 Later, during True-up exercise for FY 2015-16, the Commission had scrutinized the Detailed Project Report (DPR) of the plant submitted by the Petitioner and accordingly approved the auxiliary consumption as 10.00% in Tariff Order dated March 19, 2018.

5.20 The Commission has therefore adopted the same methodology as specified by it in True-up for FY 2015-16 and has approved the auxiliary consumption as 10% for FY 2016-17 and FY 2017-18.

Table 7: Auxiliary Consumption as approved by the Commission

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Auxiliary Consumption	10.50%	11.26%	10.00%	10.50%	10.95%	10.00%

Plant Load Factor and Generation

Petitioner's Submission

5.21 The Petitioner has submitted the actual Plant Load Factor (PLF) as 74.37% and 74.15% for FY 2016-17 and FY 2017-18 respectively against the normative value of 82.50% approved by the Commission in the MYT Order dated May 16, 2017.

5.22 The Petitioner has further submitted that the actual gross generation of Unit-1 as 410.38 MU for FY 2016-17 and 409.21 MU for FY 2017-18 respectively which is lower than that approved value in the MYT Order dated May 16, 2017.

Commission's Analysis

5.23 The Commission has scrutinized the detail submitted along with Petition and approves the actual Plant Load Factor and Gross Generation as submitted by the Petitioner for FY 2016-17 and FY 2017-18.

5.24 The Plant Load Factor, Gross Generation as approved by the Commission in the MYT Order, as submitted by the Petitioner and as approved now by the Commission has been summarized in the table below.

Table 8: Plant Load Factor and Generation as approved by the Commission

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Plant Load Factor	%	82.50	74.37	74.37	82.50	74.15	74.15
Gross Generation	MU	455.30	410.38	410.38	455.30	409.21	409.21

Gross Station Heat Rate (GHR)

Petitioner's Submission

5.25 The Petitioner has claimed the Gross Station Heat Rate (GHR) for both the FY 2016-17 and FY 2017-18 as 2902 kcal/kWh in line with the approved value in the MYT Order dated May 16, 2017.

Commission's Analysis

5.26 The Commission in its True-up Order dated March 19, 2018 for FY 2015-16 has approved the Gross Station Heat Rate (GHR) as 2765 kcal/kWh based on the Detailed Project Report (DPR) of the plant as submitted by the Petitioner.

5.27 The Commission has therefore adopted the same heat rate as specified by it in True-up for FY 2015-16 and has approved the Gross Station Heat as 2765 kcal/kWh for FY 2016-17 and FY 2017-18.

5.28 Considering the above, the Gross Station Heat Rate as approved by the Commission in the MYT Order, as submitted by the Petitioner and as approved by the Commission is summarized in the table below.

Table 9: Gross Station Heat Rate (GHR) as approved by the Commission

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Gross Station Heat Rate	kcal/kWh	2902	2902	2765	2902	2902	2765

Specific Fuel Oil Consumption

Petitioner's Submission

5.29 The Petitioner has submitted the specific fuel oil consumption as 1.00 mL/kWh in line with JSERC Generation Tariff Regulations, 2015 for both the FY 2016-17 and FY 2017-18 respectively.

Commission's Analysis

5.30 The Commission has examined and found that the submission made by the Petitioner is in line with the MYT Order dated May 16, 2017 and Generation Tariff Regulations, 2015. Hence, the Commission approves the secondary fuel oil consumption as submitted by the Petitioner for FY 2016-17 and FY 2017-18 as shown below.

Table 10: Specific Fuel Oil Consumption as approved by the Commission

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Secondary Fuel Oil Consumption	mL/kWh	1.00	1.00	1.00	1.00	1.00	1.00

Fuel Cost Parameters

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

Petitioner's Submission

5.31 The Petitioner has submitted that due to no fuel linkage, coal is procured from various sources as mentioned below.

(i) E-Auction of CIL coal

(ii) Coal from Forward Auctions

(iii) Washery rejects of CCL

(iv) Rejects from Tata Steel

(v) Dolochar from the Open Market

5.32 The Petitioner has further submitted that based on the availability of coal input, the blending ratio of coal, dolochar and coal rejects deviates from the norms approved by the Commission.

5.33 The Petitioner emphasised that the change in the fuel mix is due to the delay in payment of dues by JBVNL. Due to delay in payment, the Petitioner could not procure the desired quantity of Coal from Coal India Limited (CIL), as the payment to CIL has to be made in advance and coal is supplied after 1-2 months. In order to continue the operation of the plant, IPL is forced to procure an extra quantity of coal rejects having the option for post-payment.

5.34 The Petitioner further stated that it strives hard to ensure that the fuel mix is economical and within the price level as fixed by the Commission.

Commission's Analysis

5.35 The Commission vide letter dated November 19, 2018 directed the Petitioner to provide the statutory audited details of month wise opening stock, fuel procured during the month, utilised and balance stock at the end of each month for primary fuel for FY 2016-17 and FY 2017-18. The Petitioner vide letter dated December 20, 2018 replied to the discrepancy by submitting the audited month wise detail of coal stock for FY 2016-17 and FY 2017-18.

5.36 The Commission has observed that there has been significant deviation in the blending ratio, GCV of primary fuel-mix and its price as compared to the approved values by the Commission. The decrease in GCV leads to an increase in consumption of primary fuel and production of higher ash content.

5.37 The Commission in the MYT Order dated May 16, 2017 and also in Tariff Order dated March 19, 2018 had directed the Petitioner to prioritize the procurement of primary fuel from the least cost source. The Commission reiterates that the Petitioner should develop a fuel procurement plan and explore options with its suppliers in order to reduce the cost of coal.

5.38 For the purpose of truing-up, the Commission has considered the submission made by the Petitioner including supporting documents certified by the statutory auditor. The

Commission computed the GCV for each type of primary fuel by considering the actual GCV for FY 2016-17 and FY 2017-18 after scrutinizing the actual monthly GCV submitted by the Petitioner duly certified by an auditor.

5.39 The following table summarize the fuel mix and weighted average GCV as submitted by the Petitioner and approved by the Commission for Unit-1.

Table 11: Coal Mix and GCV as approved by the Commission

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Coal	54%	34.81%	34.81%	54%	31.39%	31.39%
Coal Rejects	43%	63.94%	63.94%	43%	66.94%	66.94%
Dolochar	3%	1.26%	1.26%	3%	1.67%	1.67%
GCV of Coal	4078.68	3964.96	3964.96	4078.68	3984.79	3984.79
GCV of Coal Reject	1937.31	1976.83	1976.83	1937.31	2099.07	2099.07
GCV of Dolochar	855.39	900	900	855.39	979.03	979.03
GCV of Primary Fuel	**3061.19**	**2655.36**	**2655.36**	**3061.19**	**2672.35**	**2672.35**

Transit Loss

Petitioner's Submission

5.40 The Petitioner has submitted the actual transit loss from each source of coal duly certified by the statutory auditor. The Petitioner submits the actual transit loss of 0.73% and 0.76% for FY 2016-17 and FY 2017-18 respectively.

5.41 However, for True-up for FY 2016-17 and FY 2017-18, the Petitioner has considered the normative transit loss 0.8% as approved in the MYT Order dated May 16, 2017.

Commission's Analysis

5.42 In compliance to the directives of the Commission in MYT Order dated May 16, 2017 to record and maintain data of fuel source wise transit loss on an actual basis, the Petitioner has implemented a process for maintaining the transit loss data and submitted the actual transmit loss duly certified by statutory auditor along with the petition.

5.43 The Commission approves the transit loss at normative value of 0.80% as per Clause 8.21 of the JSERC Generation Tariff Regulations, 2015.

Table 12: Transit Loss as approved by the Commission

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%

Landed Cost of Coal

Petitioner's Submission

5.44 The Petitioner has submitted the landed cost of primary fuel consumed from different source for Unit-1 supported by an auditor certified true copy. The Petitioner submits that the landed price of fuel includes base price of coal, royalty, taxes and duties, transport cost, Clean Energy Cess and transit loss.

Commission's Analysis

5.45 As per Clause 8.21 of the JSERC Generation Tariff Regulations, 2015:

> *"8.21 The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing stations and immediately preceding three months in case of new generating stations shall be taken into account.*
>
> *The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means, and, for the purpose of computation of energy charge, and in case of coal/lignite shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:*
>
> *Pithead generating stations: 0.2%*
> *Non-pithead generating stations: 0.8%*
>
> *Provided that in case of pit head stations if coal or lignite is procured from sources other than the pit head mines which is transported to the station through rail, transit loss of 0.8% shall be applicable:*
>
> *Provided further that in case of imported coal, the transit and handling losses shall be 0.2%.*

5.46 The Commission vide its discrepancy letter dated November 19, 2018 directed the Petitioner to furnish the copies of bills on a sample basis for coal purchased during the

FY 2016-17 and FY 2017-18. The Petitioner has provided the copy of sample bills along with month wise fuel purchased and the rate of primary fuel duly certified by an auditor.

5.47 The Commission had directed in its earlier Orders to develop a fuel procurement plan and explore options with its suppliers in order to have firm tie-up of coal source and reduce the ambiguity of the fuel cost. The Commission found that even after the direction, the Petitioner failed to provide the firm plan and schedule for sourcing the coal to ensure the reliability and avoid any price surge. **The Commission directs the Petitioner to develop a fuel procurement plan and explore options with its suppliers in order to reduce the cost of coal. The Petitioner should prioritize the procurement of primary fuel from the least cost source.**

5.48 Considering, the Petitioner's submission and after due prudence check, the Commission approves the landed cost of coal as given in the table below.

Table 13: Weighted Average Landed Price of Coal as approved by the Commission (Rs./Ton)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Price of Coal	2830.32	2793.23	2793.23	2830.32	2615.59	2615.59
Price of Coal Reject	851.02	1067.57	1067.57	851.02	1080.28	1080.28
Price of Dolochar	543.40	770.18	770.18	543.40	618.62	618.62
Transit Loss	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
Price of Primary Fuel	1926.02	1678.06	1677.94	1926.02	1567.08	1567.08

Calorific value and Landed price of Secondary Fuel

Petitioner's Submission

5.49 The Petitioner has submitted the true copy duly certified by the statutory auditor for secondary fuel purchased and consumed for the FY 2016-17 and FY 2017-18.

Commission's Analysis

5.50 In reply to the Commission discrepancy letter dated November 19, 2018, the Petitioner has provided the statutory audited details of month wise opening stock, closing stock, utilisation during the month and price of secondary fuel for FY 2016-17 and FY 2017-18.

5.51 The Commission has scrutinized the quantity of secondary fuel consumed and the price of secondary fuel submitted by the Petitioner duly certified by an auditor.

5.52 The Commission has worked out the weighted average landed price of secondary fuel based on the details of month-wise data duly certified by the auditor and specific fuel consumption as 1.00 mL/kWh as per Clause 8.6 of JSERC Generation Tariff Regulation, 2015 and approved in this Order. The detail of the approved value and submitted is shown below.

Table 14: Calorific value and Landed price of Secondary fuel as approved by the Commission

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Calorific Value	kcal/L	10000	10000	10000	10000	10000	10000
Landed Price	Rs./kL	47472.00	57491.01	57491.01	47472.00	61237.37	61237.37

Energy Charge Rate (ECR)

Petitioner's Submission

5.53 The Petitioner has submitted the energy charge rate as Rs. 2.12/kWh for FY 2016-17 and Rs. 1.97/kWh for FY 2017-18 against the approved value of Rs. 2.09/kWh for both the FY 2016-17 and FY 2017-18.

Commission's Analysis

5.54 As per JSERC Generation Tariff Regulation, 2015 the energy (variable) charge shall cover primary fuel and secondary fuel costs and limestone consumption cost (where applicable), shall be payable by every beneficiary for the total 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 and limestone adjustment).

5.55 The formula for calculation of energy charge payable to a Generating Company is specified in JSERC Generation Tariff Regulation, 2015 as quoted below:

> *"8.17 The energy (variable) charge shall cover primary fuel and secondary fuel costs and limestone consumption cost (where applicable), 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).*
>
> *"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.}*

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

8.21 The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period for existing stations and immediately preceding three months in case of new generating stations shall be taken into account.

The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means, and, for the purpose of *computation of energy charge, and in case of coal/lignite shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:*

Pithead generating stations: 0.2%
Non-pithead generating stations: 0.8%

Provided that in case of pit head stations if coal or lignite is procured from sources other than the pit head mines which is transported to the station through rail, transit loss of 0.8% shall be applicable:

Provided further that in case of imported coal, the transit and handling losses shall be 0.2%.

5.56 Accordingly, the Commission has calculated the Energy Charge Rate (ECR) to be charged by the Petitioner as per the formula specified in JSERC Generation Tariff Regulations, 2015. The table below detail the ECR and Fuel Cost for truing up of FY 2016-17 and FY 2017-18 as submitted by the Petitioner and as approved by the Commission.

Table 15: Energy Charge Rate (ECR) as approved by the Commission

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Net Generation	MU	407.50	364.33	364.29	407.50	364.62	363.51
Auxiliary Consumption	%	10.50	11.26	10.00	10.50	10.95	10.00
Gross Station Heat Rate	kcal/kWh	2902	2902	2765	2902	2902	2765
Specific Oil Consumption	mL/kWh	1.00	1.00	1.00	1.00	1.00	1.00
Calorific Value of Oil	kcal/mL	10	10	10	10	10	10
GCV of Primary Fuel	kcal/kg	3061.19	2655.36	2655.36	3061.19	2672.35	2672.35
Landed Price of Primary Fuel	Rs./Ton	1926.02	1678.06	1677.94	1926.02	1567.08	1567.08
Landed Price of Secondary Fuel	Rs./kL	47472	57491.01	57491.01	47472	61237.37	61237.37
Energy Charge Rate (ECR)	**Rs//kWh**	**2.09**	**2.12**	**1.998**	**2.09**	**1.97**	**1.863**
Primary Fuel Cost	**Rs. Cr.**	**82.85**	**75.01**	**70.47**	**82.85**	**69.40**	**65.25**
Secondary Fuel Cost	**Rs. Cr.**	**2.16**	**2.36**	**2.33**	**2.16**	**2.51**	**2.47**

Determination of Fixed Cost

Capital Cost

5.57 The Commission in its Order dated May 16, 2017 determined the final capital cost of Unit 1 as Rs. 341.24 Crore. The Commission in its Order dated May 16, 2017 and March 19, 2018 directed the Petitioner to conduct a techno-commercial study from an Independent Consultant to identify and segregate the costs for the Common facilities of proposed Unit

2 that has been created for the plant e.g. administrative building, cooling system along with chimney, ash disposal system, coal feeding system, roads, boundary wall, water intake pipe and land corridor etc. A mechanism should also be developed to segregate the common costs between the units and propose allocation to Unit 1.

5.58 Even after repetitive directives, the Petitioner fails to submit the techno-commercial study detailing the segregation of common cost associated to proposed Unit 2.

5.59 Later with the True-up petition for FY 2016-17 and FY 2017-18, the Petitioner has submitted the techno-commercial report stating that Rs. 8.57 Crore as common asset of proposed Unit 2 was included in the hard cost of Unit 1. The Commission has scrutinised the detail submitted by the Petitioner and found out the common asset linked to Unit 2 amounted to Rs. 8.57 Crore. The same has been deducted from the opening of the Gross Asset of FY 2016-17 for the computation of fixed cost for FY 2016-17 and FY 2017-18.

Additional Capitalization

Petitioner's Submission

5.60 The Petitioner has submitted that it has incurred an additional capitalization of Rs. 0.58 Crore and Rs. 0.36 Crore for FY 2016-17 and FY 2017-18 respectively after Commercial Operation Date (COD).

5.61 The Petitioner has submitted the details of additional capitalisation incurred in FY 2016-17 and FY 2017-18 as per the table below:

Table 16: Asset wise details of the Capitalization as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Plant & Machinery	-	0.36	-	-
Land	-	0.042	-	-
Office Equipments	-	0.0093	-	0.023
Computer & Data Processing Units	-	0.01	-	0.014
Vehicle	-	0.11	-	0.30
Electrical Installation & Equipments	-	0.051	-	
Furniture & Fixtures	-	-	-	0.022
Total	**-**	**0.58**	**-**	**0.36**

5.62 In support of capitalization, the Petitioner has further submitted that work is necessary for the efficient and successful operation of the generating station and sourced by the internal fund. The details of the additional capitalization are given in the following table.

Table 17: Details of the Additional Capitalization as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Capitalization	-	0.58	-	0.36

Commission's Analysis

5.63 The Commission has outlined the provisions for the approval of any additional capitalization, for a generating station in Clause 7.5 and Clause 7.6 of the JSERC Generation Tariff Regulation, 2015. The relevant clauses are outlined below:

"Additional Capitalization

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 recognized to be payable at a future date;

(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 and 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 asset wise/work wise 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."

5.64 The Commission vide its discrepancy note dated November 19, 2018 had directed the Petitioner to substantiate the additional capitalization incurred by the Petitioner as per JSERC Generation Tariff Regulations 2015.

5.65 The Petitioner vide its letter dated December 20, 2018 submitted its reply to the Commission detailing the breakup of capitalization of asset year wise, nature, asset value and put to use date.

5.66 The Commission had approved the Capital cost of the plant in MYT Order dated May 16, 2017 after detailed review and prudence check of the costs incurred by the Petitioner after the Commercial Operation Date (COD). Also, the Petitioner had not projected any additional capitalization in their MYT Petition for 2nd control period.

5.67 Based on the data submitted and prudence check carried out, the Commission is of the view that the expenses incurred were essential for smooth operation of the plant and has therefore approved one-time additional capitalization as shown below. However, the Commission directs the Petitioner to submit such deviation from MYT Order dated May 16, 2017 to the notice of the Commission. Such instance in the future may be treated as non-compliance to the direction of the Commission and will be dealt as per Law.

5.68 The additional capitalization as approved by the Commission in the previous MYT Order, as submitted by the Petitioner and as approved now by the Commission has been summarized in the table below.

Table 18: Details of the Additional Capitalization as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Capitalization	-	0.58	0.58	-	0.36	0.36

Depreciation

Petitioner's Submission

5.69 The Petitioner has submitted that depreciation has been calculated as per the depreciation rates provided in the Appendix-I of the JSERC Generation Tariff Regulations 2015.

5.70 The Petitioner has further submitted that the additional capitalization of Rs. 0.58 Crore for FY 2016-17 and Rs. 0.36 Crore for FY 2017-18 is also taken into account for the calculation of depreciation. The depreciation as submitted by the Petitioner is given in the table below.

Table 19: Depreciation as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Depreciation	15.60	15.63	15.60	15.65

Commission's Analysis

5.71 The provisions laid out in the JSERC Generation Tariff Regulations, 2015 for approval of depreciation is reproduced below.

"7.28 Depreciation shall be calculated for each year of the tariff period, on the amount of Capital Cost of the assets admitted by the Commission;

Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant

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

………

7.31 Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in Appendix-I to these Regulations for the assets of the generating station:

Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

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

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

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

5.72 The Commission has computed depreciation in accordance with the above regulations considering the capital cost of Unit 1 after excluding common cost of Rs. 8.57 Crore associated with Unit 2. The following table shows the depreciation calculated by the Commission against that submitted by the Petitioner.

Table 20: Depreciation as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Depreciation	15.60	15.63	17.10	15.60	15.65	17.13

Operation & Maintenance Expenses

Petitioner's Submission

5.73 The Petitioner has submitted the actual O&M expenses had varied from the expenses as approved by the Commission in the MYT Order dated May 16, 2017.

5.74 The Petitioner has mentioned that the variation in the O&M expense is due to an increase in handling charges for fuel and ash produced due to low GCV of primary fuel sourced for generation. The lower GCV of fuel leads to hiring of extra vehicles and manpower for evacuation and transportation of extra ash produced.

5.75 To substantiate the expense of ash disposal, the Petitioner has further submitted that it is statutorily mandatory to dispose of ash produced as per NOC issued by the Jharkhand State Pollution Control Board dated September 22, 2010. Further, the Petitioner quoted that JSERC vide its Order on APR Petition for FY 2012-13 (including truing-up for FY 2011-12) for Tata Power Company Limited (TPCL) in April 2014, had allowed ash disposal expenses over and above the normative O&M expenses and prayed to the Commission to ensure the same treatment to the Petitioner.

5.76 The Petitioner has also quoted para no. 22 from Hon'ble APTEL Judgment in Appeal No. 244 of 2012 between DPSCL vs WBERC and Others, regarding the allowance of ash disposal expenses due to uncontrolled increase in the ash content and on any increase in the haulage of ash to the disposal area. The para 22 of the Appeal No. 244 of 2012 of the APTEL is reproduced below.

"22. As far as Ash Handling expenses are concerned, the same are dependent mainly upon the quantity of ash handled which in turn is dependent upon actual quantity of coal consumption and ash content of coal and the distance of ash disposal area from the main plant. Therefore, while computing the Ash Handling charges, these factors have to be considered. Thus, while examining the Ash Handling expenses in APR/true up the State Commission can consider the actual quantity of coal vis-à-vis the estimated quantity of coal based on the target generation, any abnormal increase in the ash content of coal and any increase in haulage of ash to the disposal area due to change in disposal area during the year in question and accordingly allow variation in Ash Handling charges if deemed necessary."

5.77 The Petitioner has also pointed out that due to delay in payment of dues by Jharkhand Bijli Vitran Nigam Limited (JBVNL), the Petitioner could not procure the desired quantity of superior coal from Coal India Limited (CIL), as payment is to be made in advance against coal purchase. Hence, in order to continue the operation, the Petitioner was forced to procure an extra quantity of coal rejects having the option for post-payment.

5.78 The Petitioner has claimed water charges separately on actuals as paid to the Water Resources Department, Government of Jharkhand for utilisation of water for the plant operation.

5.79 In view of the reasons stated above, the Petitioner has prayed to the Commission to allow the increase in the O&M expenses. The details as submitted are given in the following table.

Table 21: O&M Expenses as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
O&M Expenses	17.01	17.01	18.08	18.08
Ash Handling & Disposal Expenses	-	3.60	-	3.82
Water Charges	-	0.69	-	1.39
Net- O&M Expenses	17.01	21.30	18.08	23.29

Commission's Analysis

5.80 The provisions laid out in the JSERC Generation Tariff Regulations, 2015 for approval of O&M expenses are as under:

> *"7.40 Operation and Maintenance (O&M) expenses shall comprise of the following:*
>
> *Salaries, wages, pension contribution and other employee costs;*
> *Administrative and General costs;*
> *Repairs and maintenance expenses; and*
> *Other miscellaneous expenses statutory levies and taxes (except corporate income tax).*
>
> *...............................*
>
> *7.46 The Water Charges and capital spares for thermal generating stations shall be allowed separately:*
>
> *Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:*
>
> *Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Clause 7.47 of the Regulation or special allowance as per Clause 7.10 and 7.11 of the Regulation or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.*

5.81 Since, the JSERC Generation Tariff Regulations, 2015 do not specify norms specifically for 63 MW sets based on CFBC technology, the Commission had considered the O&M norms for 200/210/250 MW capacity CFBC Technology based thermal plants in the MYT Order dated May 16, 2017. Accordingly, the Commission had approved the O&M expenses based on the norms specified for 200/210/250 MW sets for MYT period FY 2016-17 to FY 2020-21.

5.82 As per Clause 6.14.(b) laid out in the JSERC Generation Tariff Regulations, 2015, any surplus and deficit on account of O&M expenses shall be on the account of Generator and shall not be trued up in ARR.

5.83 The treatment of water charges and capital spares for thermal generation stations is governed by the Clause 7.46 as stated above.

5.84 The Commission has noted the submissions of the Petitioner regarding the increase in the O&M costs and is of the opinion that the primary reason for the increase is the change in the fuel mix of the primary fuel which has resulted in lowering of overall GCV, increase in ash output and subsequently led to increased ash handling expenses including vehicles and manpower.

5.85 The Commission is of the view that ensuring reliable coal source at an economical price is the prime responsibility of Generator and even after repetitive directions to the Petitioner, no substantial progress or effort is seen in this regard. The Commission is of the view that the procurement of fuel is the responsibility of the Petitioner and therefore no commercial impact on account of any inefficiency in procurement of fuel can be passed on to consumers.

5.86 The Commission has scrutinized the detail submitted by the Petitioner and approved the water charges as per audited accounts for FY 2016-17 and FY 2017-18.

5.87 Considering the above facts and norms specified in the JSERC Generation Tariff Regulations, 2015, the Commission approves the O&M expenses as shown below.

Table 22: O&M Expenses as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
O&M Expenses	17.01	17.01	17.01	18.08	18.08	18.08
Ash Handling & Disposal Expenses	-	3.60	-	-	3.82	-
Water Charges	-	0.69	0.27	-	1.39	1.39
Net- O&M Expenses	17.01	21.30	17.28	18.08	23.29	19.47

Interest on Loan

Petitioner's Submission

5.88 The Petitioner has considered the actual loan portfolio and repayment equal to the actual repayment by the Petitioner for calculation of interest and financing charges on loan for FY 2016-17 and FY 2017-18.

5.89 The Petitioner has submitted that a vehicle loan of Rs. 0.10 Crore was taken in FY 2016-17 to purchase a minibus for staff to accommodate from home to plant. Similarly, a vehicle loan of Rs. 0.08 Crore in FY 2017-18 for commuting of senior personnel from Head Quarter (HQ) to plant site. The Petitioner has also considered the interest expenses towards above loan as a part of interest expenses for FY 2016-17 and FY 2017-18 which is as shown in the following table.

5.90 The Petitioner has submitted that they had borrowed additional fund for working capital from banks for which finance charges of Rs. 0.81 Crore and Rs. 0.72 Crore is paid to banks for FY 2016-17 and FY 2017-18 respectively.

Table 23: Interest on Loan as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Opening Debt Balance	213.06	231.33	197.46	207.28
Net Additions	0.00	0.10	0.00	0.08
Repayment	15.60	24.15	15.60	30.06
Closing Debt Balance	197.46	207.28	181.86	177.30
Average	205.26	219.31	189.66	192.29
Rate of Interest (%)	12.17%	12.06%	12.17%	11.79%
Interest on Debt	24.98	25.63	23.08	21.96
Finance Charges	-	0.81	-	0.72
Interest & Finance Charges	24.98	26.44	23.08	22.68

Commission's Analysis

5.91 The Commission has calculated the gross normative loan for FY 2016-17 and FY 2017-18 as per JSERC Generation Tariff Regulation, 2015 as quoted below.

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

During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2017 shall be considered for determination of tariff.

7.14 For the project declared under commercial operation on or after 1.04.2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

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

Explanation: -

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

ii. Provided, further that any consumer contribution, deposit work and grant obtained for the execution of the project shall not be considered as part of the capital structure for the purpose of computation of normative debt: equity.
iii. Any expenditure incurred or projected to be incurred on or after 1st April 2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."
……….
"7.19 The loans arrived at in the manner indicated in clause 7.13 and 7.14 of these Regulations shall be considered as gross normative loan for calculation of interest on loan.

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

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

7.22 Notwithstanding any moratorium period availed by the Generating Company, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

7.23 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the Project:

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

Provided further that if the generating station does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered

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

5.92 The Commission vide letter dated November 19, 2018 directed the Petitioner to submit the copy of loan agreements to ascertain the actual loan amount and rate of interest paid. In compliance with the Commission letter, the Petitioner has submitted the copy of term loans agreement.

5.93 The Commission has calculated the opening balance of normative debt for FY 2016-17 based on the closing balance for FY 2015-16 as per the True-up in Order dated March 19, 2018 after deducting the loan corresponding to common cost of Unit-2 based on the actual Debt: Equity ratio of 72.92:27.08.

5.94 The Commission observed that the Petitioner has considered the actual repayment against the approved norms equal to depreciation allowed for that respective financial year for computing interest on loan. The Commission has approved the repayment as approved depreciation in line with the methodology specified in JSERC Generation Tariff Regulations, 2015 to arrive at the closing balance of normative debt component.

5.95 Apart from vehicle loan of Rs. 0.10 Crore for FY 2016-17 to purchase a minibus and Rs. 0.08 Crore in FY 2017-18 for commuting of senior personnel, rest of the additional capitalization is divided into normative ratio between the equity and loan.

5.96 The Commission has considered the weighted average rate of interest calculated based on the actual loan portfolio as per the submission made by the Petitioner.

Table 24: Interest on Loan as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Opening Debt Balance	213.06	231.33	213.54	197.46	207.28	196.88
Net Additions	0.00	0.10	0.44	0.00	0.08	0.27
Repayment	15.60	24.15	17.10	15.60	30.06	17.13
Closing Debt Balance	197.46	207.28	196.88	181.86	177.30	180.02
Average	205.26	219.31	205.21	189.66	192.29	188.45
Rate of Interest (%)	12.17%	12.06%	11.69%	12.17%	11.79%	11.42%
Interest on Debt	24.98	25.63	23.98	23.08	21.96	21.52
Finance Charges	-	0.81	0.81	-	0.72	0.72
Interest & Finance Charges	24.98	26.44	24.79	23.08	22.68	22.24

Interest on Working Capital (IoWC)

Petitioner's Submission

5.97 The Petitioner has submitted the actual interest on working capital is more than the approved value, as JBVNL has failed to clear the dues of the Petitioner in spite of Orders by the Commission (Case No. 26 of 2014), the APTEL (I.A. Nos. 710, 708 & 709 of 2016 dated July 4, 2014) and the Supreme Court of India (M.A. No. 1528 of 2017 in C.A. No. 11105 of 2017 dated March 12, 2018).

5.98 In order to ride over the crisis of non-payment of due by the JBVNL, the Petitioner had to borrow Rs. 11.47 Crore in FY 2016-17 and further Rs. 0.21 Crore in FY 2017-18 to ensure power supply to JBVNL.

5.99 In light of the above, the Petitioner has claimed actual interest on working capital as shown below.

Table 25: IoWC as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Coal Cost for 2 Months	13.62		13.62	
Cost of Secondary Fuel for 2 Months	0.36		0.36	
O&M Expenses for 1 month	1.42		1.51	
Maintenance Spares (20% of O&M)	3.40		3.62	
Receivables for 2 months	27.98		27.94	
Total Working Capital	46.78		47.05	
Rate of Interest	12.80%		12.80%	
Interest on Working Capital	5.99	7.54	6.02	8.86

Commission's Analysis

5.100 The Commission has computed the interest on working capital as per 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."

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

Provided that the rate of interest on working capital shall be trued up on the basis of actual bank rate as on 1st April of the respective year at the time of true up for that year.

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

5.101 The Commission vide letter dated November 19, 2018 directed the Petitioner to revise its calculation of interest on working capital as per the principles stipulated in the regulations. In compliance with the Commission letter, the Petitioner has submitted that because of delay in payment by JBVNL, the Petitioner is required to borrow loan. However, the Commission is of the view that the calculation of interest on working capital is not as per

Regulations and also the same is an inter-se commercial dispute whose impact cannot be passed on to the consumers.

5.102 The Commission also directs the Petitioner to submit the components of Annual Revenue Requirement as per JSERC Distribution Tariff Regulations, 2015 and any deviation from Regulations in submission of the petition in the future may leads to non-admissibility of the petition.

5.103 Accordingly, the Commission has calculated the interest on working capital on the rates as per JSERC Generation Tariff Regulations, 2015. The detailed calculation made by the Commission is shown in the tables below.

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

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Coal Cost for 2 Months	13.62		13.61	13.62		12.63
Cost of Secondary Fuel for 2 Months	0.36		0.45	0.36		0.48
O&M Expenses for 1 month	1.42		1.44	1.51		1.62
Maintenance Spares (20% of O&M)	3.40		3.40	3.62		3.62
Receivables for 2 months	27.98		25.63	27.94		24.85
Total Working Capital	46.78		44.53	47.05		43.20
Rate of Interest	12.80%		12.80%	12.80%		12.60%
Interest on Working Capital	5.99	7.54	5.70	6.02	8.86	5.44

Return on Equity

Petitioner's Submission

5.104 The Petitioner has raised the equity component in Unit-1 by Rs. 9.50 Crore from July 16, 2016 totalling to Rs. 101.90 Crore supported by a copy of Board of Resolution.

5.105 In view of the above, the Petitioner has submitted that equity base of Rs. 92.40 Crore has been considered up to July 15, 2016 and equity base of Rs. 101.90 Crore from July 16, 2016 for computing RoE considering a pre-tax return of 15.50% as per JSERC Generation Tariff Regulations, 2015.

5.106 The Petitioner has further submitted that actual tax paid is added separately to ROE and requested the Commission to approve the same.

5.107 The Return on Equity (RoE) including tax as submitted by the Petitioner has been tabulated below.

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

	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Opening Equity	92.40	92.40	101.90	101.90
Addition during the Year	9.50	9.50	-	-
Closing Equity	101.90	101.90	101.90	101.90
Average Equity	99.13	99.14	101.90	101.90
Rate of ROE	15.50%	15.50%	15.50%	15.50%
Return on Equity (ROE)	15.37	15.37	15.79	15.79
Income Tax	3.94	1.98	4.05	5.83
Net- Return on Equity (ROE)	19.30	17.35	19.84	21.62

Commission's Analysis

5.108 The Commission has calculated the gross normative equity for FY 2016-17 as per Clause 7.13 and 7.14 of the JSERC Generation Tariff Regulations, 2015.

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

During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31st March 2017 shall be considered for determination of tariff.

7.14 For the project declared under commercial operation on or after 1.04.2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

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

Explanation: -

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

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

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

5.109 The Commission has observed that the Petitioner vide its reply dated December 20, 2018 to Commission letter dated November 19, 2018 has submitted that equity was infused to repay the principal loan amount as the actual principal repayment is higher than the value approved by the Commission. The Commission finds no merit in the reply submitted by the Petitioner and disallows the equity infusion of Rs. 9.50 Crore as proposed by the Petitioner as the Commission approves the principal repayment in accordance with the JSERC Generation Tariff Regulations, 2015.

5.110 The Commission has calculated the opening balance of normative equity for FY 2016-17 based on the closing balance for FY 2015-16 as per the True-up Order dated March 19, 2018 after deducting the equity amounting to Rs. 8.57 Crore corresponding to common cost of Unit-2 based on the actual Debt: Equity ratio of 72.92:27.08.

5.111 With regard to income tax, the Commission sought documentary evidence for the payment of tax to the Central Government. In reply to above, the Petitioner has provided the Income Tax Return (ITR) Acknowledgment as documentary evidence for FY 2016-17 and FY 2017-18. The Commission has scrutinised the data submitted as well as audited annual accounts for the Petitioner.

5.112 With regard to FY 2017-18, the Commission observes that the amount of Rs. 5.83 Crore was paid as tax on a profit before tax amount of Rs. 26.26 Crore. It is observed that the actual ROE accrued to the Petitioner for FY 2017-18 is Rs. 13.99 Crore only and any tax which is to be passed on to the consumers should be on the RoE that has been allowed to the Petitioner.

5.113 The Commission has therefore approved tax on pro-rata basis corresponding to RoE approved for FY 2017-18.

5.114 In accordance with Clause 7.16, Clause 7.17 and Clause 7.18 of the JSERC Generation Tariff Regulations, 2015, the Commission has approved the rate of return on equity at the rate of 15.50% and corresponding income tax as shown below.

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

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Opening Equity	92.40	92.40	90.08	101.90	101.90	90.22
Addition during the Year	9.50	9.50	0.14	0.00	0.00	0.08
Closing Equity	101.90	101.90	90.22	101.90	101.90	90.31
Average Equity	99.13	99.14	90.15	101.90	101.90	90.27
Rate of ROE	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Return on Equity (ROE)	15.37	15.37	13.97	15.79	15.79	13.99
Income Tax	3.94	1.98	1.98	4.05	5.83	3.11
Net- Return on Equity (ROE)	19.30	17.35	15.95	19.84	21.62	17.10

ARR Publication & Fee Expenses

Petitioner's Submission

5.115 The Petitioner submits that they have incurred an expense of Rs. 0.16 Crore for FY 2016-17 towards filing fee of MYT Petition for 2nd control period and submitted the original receipt.

Table 29: ARR Publication & Fee Expenses as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
ARR Publication & Fee Expenses	-	0.16	-	-

Commission's Analysis

5.116 The Commission has after due prudence approves the filing fee as tabulated below.

Table 30: ARR Publication & Fee Expenses as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
ARR Publication & Fee Expenses	-	0.16	0.16	-	-	-

Annual Fixed Charge

Petitioner's Submission

5.117 The summary of Annual Fixed Charge (AFC) as submitted by the Petitioner is shown below.

Table 31: Annual Fixed Charge as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
O&M Expenses	17.01	21.30	18.08	23.29
Depreciation	15.60	15.63	15.60	15.65
Interest on Loan	24.98	26.44	23.08	22.68
Return on Equity	19.30	17.35	19.84	21.62
Interest on Working Capital	5.99	7.54	6.02	8.86
ARR Publication & Fee Expenses	0.00	0.16	0.00	0.00
Annual Fixed Cost	**82.88**	**88.42**	**82.62**	**92.10**

Commission's Analysis

5.118 Clause 8.2 of the Generation Tariff Regulations, 2015 states that the Annual Fixed Cost (AFC) of a thermal generating station shall consist of the following components:

(a) Return on Equity;

(b) Interest and Financing Charges on Loan Capital;

(c) Depreciation;

(d) Operation and Maintenance Expenses;

(e) Interest Charges on Working Capital; and

(f) Special allowance in lieu of R&M or separate compensation allowance, wherever applicable;

5.119 The Annual Fixed Cost (AFC) as submitted by the Petitioner and approved by the Commission has been tabulated below.

Table 32: Annual Fixed Charge as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
O&M Expenses	17.01	21.30	17.28	18.08	23.29	19.47
Depreciation	15.60	15.63	17.10	15.60	15.65	17.13
Interest on Loan	24.98	26.44	24.79	23.08	22.68	22.24
Return on Equity	19.30	17.35	15.95	19.84	21.62	17.10
Interest on Working Capital	5.99	7.54	5.70	6.02	8.86	5.44
ARR Publication & Fee Expenses	0.00	0.16	0.16	0.00	0.00	0.00
Annual Fixed Cost	**82.88**	**88.42**	**80.98**	**82.62**	**92.10**	**81.38**

Capacity Charge after PAF Adjustment

Petitioner's Submission

5.120 The Petitioner has submitted that the recovery of fixed charges is calculated as per Clause 8.10 to 8.12 of the JSERC Generation Tariff Regulations, 2015 and requested the Commission to approve the same as per the table below.

Table 33: Capacity charges as submitted by the Petitioner after PAF adjustment (Rs. Crore)

Particulars	FY 2016-17		FY 2017-18	
	MYT Order	Petition	MYT Order	Petition
Fixed Cost	82.88	88.42	82.62	92.10
Plant Availability Factor	82.50%	83.79%	82.50%	82.89%
Fixed Cost after PAF adjustment	82.88	88.42	82.62	92.10

Commission's Analysis

5.121 The provisions laid out in the JSERC Generation Tariff Regulations, 2015 for approval of recovery of fixed charges are as under:

"8.10 The fixed cost of a thermal generating station shall be computed on annual basis, based on norms specified under these Regulations, and recovered o monthly basis under capacity charge. The total capacity charge payable for a generating station shall be shared by its Beneficiaries as per their respective percentage share/ allocation in the capacity of the generating station.

8.11 Full Capacity Charges shall be recoverable at Normative Annual Plant Availability Factor (NAPAF) specified in clause 8.4 and 8.6 of these Regulations. Recovery of Capacity Charges below the level of Normative Annual Plant Availability Factor (NAPAF) will be on a pro-rata basis. At zero availability, no Capacity Charges shall be payable.

8.12 The capacity charge payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae:

CC1= (AFC/12)(PAF1/NAPAF) subject to ceiling of (AFC/12)
CC2 = ((AFC/6)(PAF2/NAPAF) subject to ceiling of (AFC/6)) – CC1
CC3 = ((AFC/4)(PAF3/NAPAF) subject to ceiling of (AFC/4)) – (CC1+CC2)
CC4 = ((AFC/3)(PAF4/NAPAF) subject to ceiling of (AFC/3)) – (CC1+CC2+CC3)

CC5 = ((AFC x 5/12)(PAF5/NAPAF) subject to ceiling of (AFC x 5/12)) – (CC1+CC2 +CC3 +CC4)
CC6 = ((AFC/2)(PAF6/NAPAF) subject to ceiling of (AFC/2)) – (CC1+CC2+CC3+CC4 + CC5)
CC7= ((AFC x 7/12)(PAF7/NAPAF) subject to ceiling of (AFC x 7/12)) – (CC1+CC2 +CC3 +CC4 + CC5 + CC6)
CC8 = ((AFC x 2/3)(PAF8/NAPAF) subject to ceiling of (AFC x 2/3)) – (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7)
....

8.15 Incentive to a generating station or unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF)".

5.122 The Commission observed that the Petitioner achieved lower Plant Availability Factor for both FY 2016-17 and FY 2017-18 than the normative value as approved by the Commission.

5.123 The Commission has approved the actual plant availability for Unit-1 as 83.79% and 82.89% for FY 2016-17 and FY 2017-18 respectively against NAPAF of 85% as approved in this Order. Based on the adjustment of plant availability factor, the recovery of capacity charge is shown below.

Table 34: Capacity Charges after PAF adjustment as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17			FY 2017-18		
	MYT Order	Petition	Approved	MYT Order	Petition	Approved
Fixed Cost	82.88	88.42	80.98	82.62	92.10	81.38
Plant Availability Factor	82.5%	83.79%	83.79%	82.5%	82.89%	82.89%
Fixed Cost after PAF adjustment	82.88	88.42	79.83	82.62	92.10	79.36

Recovery Mechanism

Commission's Analysis

5.124 The Government of Jharkhand and Inland Power Limited had executed the MoU to set up 126MW (+/- 20MW) power project in the State of Jharkhand. The relevant clause relate to sale of power is reproduced below:

"10.0 Sale of Power

10.1 The Government of Jharkhand or distribution licensees authorized by it will have the first right of claim on purchase up to 25% of power delivered to the system by the proposed power plant under terms of a Power Purchase Agreement to be mutually agreed on the basis of existing laws and regulations in force and the tariff for such power purchase will be determined by the appropriate Regulatory Commission.

10.2 Out of 25% under the first right of refusal of the State, the rate of 13% share will be as approved by JSERC and 12% share will be on variable cost by M/s. Inland Power Limited."

5.125 In terms of the above, IPL will supply 12% of power at variable cost and rest 13% at the tariff approved by JSERC.

5.126 Subsequently to above, IPL had signed a PPA for 35MW with Jharkhand State Electricity Board (JSEB) on February 23, 2012 with tariff as mentioned below:

"The generation Tariff of Seller which is payable by the Buyer shall be as determined by Jharkhand State Electricity Regulatory Commission (JSERC). Out of 25% of 63MW i.e. 15.75MW, Board will purchase 12% of 63MW i.e. 7.56MW at variable cost only and balance at the tariff determined by Hon'ble JSERC.

"8.8 Tariff at Delivery Point

8.8.1 Subject to the provisions of this Agreement, Seller shall supply the Contracted Capacity and the Energy Output at the delivery Point on scheduled basis and Buyer shall pay to Seller for the Scheduled Energy as per joint reading done by both Parties. Tariff for such sale of Energy Output by Seller to Buyer at the Delivery Point shall be determined by JSERC"

11.14 Approval of the Agreement
This power purchase agreement is subject to approval of JSERC, with or without modification"

5.127 Later, on April 22, 2013, Supplementary Agreement was executed between IPL and JSEB for the remaining Capacity of 28WM from Unit-1. The supplementary PPA specified as follows:

" ………….. WHEREAS the Buyer" Jharkhand State Electricity Board" and the Seller "Inland Power Ltd" are mutually agreed for purchase and sale of entire quantity of power

to be generated from the 1st Unit of 63MW inclusive of quantity mentioned in earlier Principle PPA.

WHEREAS parties are mutually agreed that all the terms and condition will remain the same as on the Principle PPA."

5.128 The Commission in its Order dated May 28, 2019 had approved the PPA as follows:

"25. Hence, it derives from the above observations that the tariff applicable for the supplementary PPA, which is for entire quantity of power to be generated from the 1st unit of 63 MW will be same as of the levelised tariff of the Principal PPA i.e. weighted average of 12% power procured at variable cost only and 13% power procured at the tariff approved by the JSERC."

5.129 Inland Power Limited has filed an Appeal before the Hon'ble APTEL (Appel no. 209 of 2019), in which the Hon'ble APTEL on July 17, 2019 passed as Order as:

"We stay the operations of paragraph of the impugned order and make it clear that the power generated from Unti-1 of the 63MW will be in terms of principle PPA, i.e. weighted average of 12% power procured at variable cost and 88% of power procured at the tariff approved by the Commission"

5.130 The Commission, in view of the Stay by the Hon'ble APTEL, allows recovery of 88% of fixed charges approved by the Commission and entire variable charges corresponding to power supplied to JBVNL, subject to the final Order by the Hon'ble APTEL as shown in the following table:

Table 35: Annual Revenue Requirement (ARR) as approved by the Commission (Rs. Crore)

Particulars	UoM	FY 2016-17			FY 2017-18		
		MYT Order	Petition	Approved	MYT Order	Petition	Approved
Fixed Cost after PAF adjustment	Cr	82.88	88.42	79.83	82.62	92.10	79.36
88% of Fixed Cost (Entitlement of Inland Power Limited)	Cr	-	-	70.25	-	-	69.84
Energy Cost	Cr		77.37	72.79		71.90	67.73
Energy Charge Rate (ECR)	Rs./kWh	2.09	2.12	1.998	2.09	1.97	1.863

Revenue

Petitioner's Submission

5.131 The Petitioner has submitted that the amount billed to JBVNL was Rs. 152.40 Crore which includes capacity charge and energy charges and fuel cost adjustment bill. It further submitted that delay payment surcharge received from JBVNL is considered under other Non-Tariff Income. The other Non-Tariff income includes income from interest on fixed deposit, revenue from the surcharge for late payment raised to JBVNL etc.

5.132 The detail of revenue from the sale of power to JBVNL is shown below.

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

Particulars	FY 2016-17	FY 2017-18
	Petition	Petition
Revenue from Sale of Power	152.40	154.15

Commission's Analysis

5.133 The Commission observed that the Petitioner has not considered the income from the sale of fly ash bricks under revenue for operations, even though the brick plant was part of Gross Fixed Asset (GFA).

5.134 The Commission after due prudence check of the auditor certificate approved the revenue from sale of power and income for sale of fly ash bricks as tabulated below.

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

Particulars	FY 2016-17		FY 2017-18	
	Petition	Approved	Petition	Approved
Revenue from Sale of Power	152.40	152.40	154.15	154.53
Revenue from Sale of Fly Ash Bricks	-	0.13	-	0.61
Revenue from Operations	152.40	152.53	154.15	155.13

Gap/ Surplus for FY 2016-17 and FY 2017-18

Petitioner's Submission

5.135 The Petitioner has submitted that the tariff already recovered from JBVNL is less than the tariff approved by the Commission vide its order in Case No. 06 and 11 of 2016 dated May 16, 2017. In view of the above, the Petitioner is entitled to recover the under-recovered amount from JBVNL as per Regulation 6.17 & 6.18 of the JSERC tariff regulations, 2015.

5.136 The Petitioner further requests the Commission to approve the recovery from JBVNL as per regulation 6.18 of JSERC Distribution Tariff Regulations, 2015 as shown in the table below:

Table 38: Gap/(Surplus) as submitted by the Petitioner (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18
	Petition	Petition
Fixed Charge	86.28	86.27
Energy Charge	77.37	71.90
Other Expenses	2.14	5.80
Net Annual Revenue Requirement	165.78	164.01
Revenue	152.40	154.15
Gap/(Surplus)	13.38	9.86
Interest Rate	12.60%	13.35%
Carrying Cost	1.69	1.32
Gap including Carrying Cost	15.07	11.17

Revised in reply to JSERC query dated November 19, 2018

Commission's Analysis

5.137 The JSERC Generation Tariff Regulations, 2015, states that:

> *"6.16 Where after the truing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company shall refund to the beneficiaries as the case may be, the excess amount so recovered shall be as specified in the Clause 6.18 of this regulation."*
>
> *"6.17 Where after the truing up, the tariff recovered is less than the tariff approved by the Commission under these regulations; the generating company licensee shall recover from the beneficiaries the under-recovered amount shall be as specified in the Clause 6.18 of this regulation.*
>
> *6.18 The amount under-recovered or over-recovered, along with simple interest at the rate equal to the bank rate as on 1st April of the respective year, shall be recovered or refunded by the generating company in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission".*

5.138 Based on the approved Annual Revenue Requirement (ARR) and revenue, the Commission has approved the surplus for FY 2016-17 and FY 2017-18 as shown below.

Table 39: Gap/(Surplus) as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18
	Approved	Approved
Annual Revenue Requirement	143.04	137.56
Revenue	152.53	155.13
Gap/(Surplus)	(9.49)	(17.57)

5.139 The Commission has approved the cumulative surplus for FY 2016-17 and FY 2017-18 along with carrying cost till FY 2018-19 as shown below.

Table 40: Surplus including Carrying Cost as approved by the Commission (Rs. Crore)

Particulars	FY 2016-17 Approved	FY 2017-18 Approved	FY 2018-19 Approved
Opening Surplus	-	(10.10)	(30.05)
Addition during the Year	(9.49)	(17.57)	-
Closing Surplus	(9.49)	(27.67)	(30.05)
Carrying Cost Rate	12.80%	12.60%	12.20%
Carrying Cost on Revenue Surplus	(0.61)	(2.38)	(3.36)
Surplus including Carrying Cost	**(10.10)**	**(30.05)**	**(33.41)**

5.140 The Commission has carried out the True-up for FY 2016-17 and FY 2017-18 and directs the Petitioner to refund the above surplus to its Beneficiary.

5.141 As per the Hon'ble APTEL Interim Order in Appeal no. 209 of 2019 quoted in para 5.129, the Beneficiary is required to reassess the Annual Revenue Requirement (ARR) for FY 2014-15 and FY 2015-16 and adjust any gap/(surplus) along with interest as per terms and conditions of Power Purchase Agreement (PPA) with the Petitioner.

A 6: STATUS OF EARLIER DIRECTIVES

The Commission has time and again issued various directives in order to improve the functioning of the Petitioner. The status of compliance to the directives is as shown in the table below. The Commission directs the Petitioner to comply with the directives with utmost sincerity failing which penal action may be taken.

Directives	Status	Views of the Commission
Directives issued by the Commission in its Tariff Order dated May 16, 2017 & March 19, 2018		
Report on Operational Performance Parameters		
The Commission directs to submit the report of operational performance parameters along with the actual transit loss with the next tariff petition.	The Petitioner submitted a report on operational performance parameters on an actual basis.	The Commission takes note of the compliance of the directive.
Techno-Commercial Study		
The Commission directs the Petitioner to conduct a techno-commercial study from an Independent consultant for achieving the following objectives • To identify & ascertain the common facilities created for Unit-1 and Unit-2. • To ascertain & segregate the common costs to the Units & propose allocation to Unit-1.	The Petitioner has submitted the techno-commercial study from an independent consultant to provide the percentage allocation of all common costs associated with the capital cost of Unit-1.	The Commission takes note of the compliance of the directive.
Fuel Procurement Plan		
The Petitioner is directed to develop a fuel procurement plan and explore options with its suppliers in order to reduce the cost of coal. The Petitioner should prioritize the procurement of primary fuel from the least cost source	The Petitioner submits that under the SHAKTI coal procurement scheme of the Govt. of India, the Petitioner has won a bid for supply of coal. It is expected that from FY 2018-19, the Petitioner expects to receive 67,400 MT of coal from CCL coalfields of CIL. Copy of LOI issued is attached for reference.	The Commission takes note of the compliance of the directive.

Directives	Status	Views of the Commission
Fuel Source wise Transit Loss		
The Commission directs the Petitioner to immediately implement processes to record & maintain data on fuel source wise transit loss on actual basis and supply the same to the Commission along with the next tariff petition. The Petitioner is required to comply with the directive failing which the Commission may disallow a portion of the variable costs incurred by the Petitioner.	The Petitioner submitted the details for fuel source wise transit loss.	The Commission takes note of the compliance of the directive.
True-up petition for FY 2016-17 & APR Petition for FY 2017-18		
The Petitioner is directed to submit True-up Petition for the FY 2016-17 and APR Petition for FY 2017-18 within three months from the date of issuance of this Order.	The Petitioner has submitted the True-up petition for FY 2016-17 & FY 2017-18 and requested the Commission to consider the filed petitions.	The Commission takes note of the compliance of the directive. **The Commission further directs the Petitioner to ensure to file the True-up along with APR petition in time as specified in JSERC Generation Tariff Regulations, 2015, failing to which may attract penalty as determined by the Commission.**
Data adequacy in the next Petition		
The Commission observes with concern that the Petitioner has not submitted the required data and proofs in support of its claims made in the current Petition. The submissions were made only after the discrepancies were raised by the Commission. The Petitioner is hereby directed to remove all the discrepancies which were highlighted throughout the tariff order and provide all data and proofs along with next the Petition.	The Petitioner submits that it ensures that all required data and proofs in support of its claims are made a part of the Petition.	The Commission takes note of the compliance of the directive. **However, the Commission directs the Petitioner to provide all the supporting documents and proofs along with its future tariff filings.**

A 7: NEW DIRECTIVES

Timely filing of APR Petition and Data adequacy

7.1 The Commission directs the Petitioner to submit the APR petition as per timelines of JSERC Generation Regulations before the Commission for timely disposal. The Petitioner should adhere to the timelines as provided in the JSERC Generation tariff Regulations 2015. The Commission has also raised its concern that the Petitioner had not submitted the required data and proofs in support of its claims made in the current Petition. The submissions were made only after the discrepancies were raised by the Commission. The Petitioner is hereby directed to minimise discrepancies in its future filings.

Development of a Fuel Procurement Plan

7.2 The Petitioner is directed to develop a Fuel Procurement Plan and explore options with its suppliers in order to reduce the cost of coal. The Petitioner should prioritize the procurement of primary fuel from the least cost source.

Fuel mix

7.3 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 on quarterly basis any such changes and consolidated report during petition filed by the Petitioner.

Specific Fuel Consumption

7.4 The Petitioner is directed to submit monthly details of number of 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.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on October 01, 2019.

Date: 01.10.2019
Place: Ranchi

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

ANNEXURE

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

Sr. No.	Name	Address/Organization
Venue: Hotel Maple Wood, Ranchi		**Date & Time: 14.06.2019 & 2:30 PM**
1	Anita Prasad	Jharkhand Bijli Vitran Nigam Limited
2	Ujjwala K Guria	Jharkhand Bijli Vitran Nigam Limited
3	Eshan Singh	Adhunik Power and Natural Resources Limited (APNRL), Ranchi
4	Kaushikeya Jeta	Jharkhand Bijli Vitran Nigam Limited
5	M.L. Khetan	Inland Power Ltd., Director Finance & Corporate Affairs
6	Ravishankar Kumar	Jharkhand Bijli Vitran Nigam Limited
7	S. N. Sinha	C/218, Road No.-2, Ashok Nagar, Ranchi