CHHATTISGARH STATE ELECTRICITY REGULATORY COMMISSION

RAIPUR

Jindal Steel & Power Limited (JSPL)...	Petition No. 47 of 2015 & Suo-Motu Petition No. 60 of 2022

Present: **Hemant Verma, Chairman**
Vinod Deshmukh, Member (Judicial)
Pramod Kumar Gupta, Member

In the matter of –

1. Determination of Cost of Power Generation for Dongamahua Captive Power Plant (DCPP) of Jindal Steel and Power Limited (JSPL) from FY 2011-12 till FY 2015-16;
2. Suo-motu Determination of Generation Tariff for DCPP for the period from FY 2016-17 to FY 2020-21.

ORDER

(Passed on 28/11/2022)

This Order is passed in respect of the Petition filed by (i) JSPL for determination of cost of power generation for DCPP from FY 2011-12 to FY 2015-16, and (ii) Suo-motu Determination of Generation Tariff for DCPP for the period from FY 2016-17 to FY 2020-21, under the provisions of Section 62 read with Section 86(1) of the Act. The Commission, before passing the combined Order on the above Petitions, has considered the documents filed along with the Petitions, supplementary information obtained by the Commission, and comments and suggestions filed by stakeholders before and during the Public Hearing.

2. JSPL has filed a Petition for determination of generation tariff for DCPP for the period from FY 2011-12 to FY 2015-16 as Petition No. 47/2015. JSPL has not filed any Petition for True-up for DCPP for the period from FY 2016-17 to FY 2020-21. Hence, the Commission initiated a suo-motu tariff determination process for DCPP for the period from FY 2016-17 to FY 2020-21, which has been numbered as Petition No. 60/2022. The Petition was made available on the Commission's website. The Commission published a notice for inviting objections/suggestions on draft assumptions for determination of Generation Tariff for DCPP vide Notice dated 21/09/2022. The draft assumptions were made available on the Commission's website. Only JSPL has submitted certain comments and suggestions on the assumptions to be considered for DCPP for the period from FY 2016-17 to FY 2018-19, which have been summarised at the relevant places in this Order. A Public Hearing was conducted in physical as well as video conferencing mode on the Petitions in the Commission's Court room at Raipur on October 12, 2022.

3. The Commission has determined the tariff for DCPP for each year for the period from FY 2011-12 to FY 2020-21 in accordance with the following applicable Tariff Regulations.

   a) CSERC (Terms and Conditions of determination of tariff according to Multi-Year tariff Principles) Regulations, 2010 **("CSERC Tariff Regulations, 2010")** applicable for the period from FY 2010-11 to FY 2012-13;

   b) CSERC (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2012 **("CSERC Tariff Regulations, 2012")**, applicable for the period from FY 2013-14 to FY 2015-16;

c) Chhattisgarh State Electricity Regulatory Commission (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2015 **("CSERC Tariff Regulations, 2015")**, applicable for determination of tariff for the Generating Company, Licensees, and CSLDC for the period from FY 2016-17 to FY 2020-21.

Sd/-	Sd/-	Sd/-
(PRAMOD KUMAR GUPTA)	**(VINOD DESHMUKH)**	**(HEMANT VERMA)**
MEMBER	**MEMBER (JUDICIAL)**	**CHAIRMAN**

LIST OF ABBREVIATIONS

Abbreviation	Description
A&G	Administrative and General
ARR	Aggregate Revenue Requirement
CERC	Central Electricity Regulatory Commission
COD	Date of Commercial Operation
CPI	Consumer Price Index
CPP	Captive Power Plant
CSERC	Chhattisgarh State Electricity Regulatory Commission
CSLDC	Chhattisgarh State Load Despatch Centre
CSPGCL	Chhattisgarh State Power Generation Company Limited
DCPP	Dongamahua Captive Power Plant
FY	Financial Year
GFA	Gross Fixed Assets
GoI	Government of India
IoWC	Interest on Working Capital
JSPL	Jindal Steel and Power Limited
JSPL-D	Jindal Steel and Power Limited – Distribution
Km	Kilometre
kV	kilo Volt
kWh	kilo Watt-hour
MAT	Minimum Alternative Tax
MCLR	Marginal Cost of Funds based Lending Rate
MU	Million Units
MYT	Multi Year Tariff
NAPAF	Normative Plant Availability Factor
NPV	Net Present Value
NTI	Non-Tariff Income
O&M	Operation and Maintenance
PLR	Prime Lending Rate
RCPP	Raigarh Captive Power Plant
R&M	Repair and Maintenance
RoE	Return on Equity

Abbreviation	**Description**
Rs.	Rupees
SERC	State Electricity Regulatory Commission
SLDC	State Load Despatch Centre
WPI	Wholesale Price Index

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1 BACKGROUND AND BRIEF HISTORY

1.1 Background

Jindal Steel and Power Limited **("JSPL") has been issued** a Distribution Licence, under Section 14 of the Electricity Act, 2003 in the area of O.P.Jindal Industrial Park **("JIP"),** Tumdih and Punjipathra villages of Gharghoda Tahsil of Raigarh District in the State of Chhattisgarh.

JSPL has set-up Captive Power Plant (CPP) units in Patrapali, Raigarh **("Raigarh CPP" or "RCPP")** and Dongamahua **("Dongamahua CPP"** or **"DCPP").**

This Order is issued by the Commission on the post-facto determination of Generation Tariff for DCPP for the period from FY 2011-12 to FY 2020-21, in accordance with the directions of the Hon'ble Appellate Tribunal for Electricity ("**APTEL**") given vide its Judgment dated May 06, 2022 in Appeal No. 72 of 2016 and 100 of 2016.

1.2 The Electricity Act, 2003, Tariff Policy and Regulations

Section 61 of the Electricity Act, 2003 (herein after referred as 'the EA, 2003' or 'the Act') stipulates the guiding principles for determination of tariff by the Commission and mandates that the tariff should progressively reflect the cost of supply of electricity, reduce cross subsidy, safeguard consumers interest and recover the cost of electricity in a reasonable manner. This Section also stipulates that the Commission while framing the Tariff Regulations shall be guided by the principles and methodologies specified by the Central Electricity Regulatory Commission for determination of the tariff applicable to generating companies and transmission licensees.

Section 62 of the Act stipulates that the Commission shall determine the tariff for:

- Supply of electricity by a Generating Company to a Distribution Licensee;
- Transmission of electricity;
- Wheeling of electricity; and
- Retail sale of electricity.

The Tariff Policy notified by the Government of India in January 2006, as well as the amended Tariff Policy notified in January 2016, provides the framework to balance the conflicting objectives of attracting investments to ensure availability of quality power and protecting the interest of consumers by ensuring that the electricity tariffs are affordable.

As per provisions of the Act and the Tariff Policy, the Commission notified the following Regulations:

d) CSERC (Terms and Conditions of determination of tariff according to Multi-Year tariff Principles) Regulations, 2010 **("CSERC Tariff Regulations, 2010")** applicable for the period from FY 2010-11 to FY 2012-13;

e) CSERC (Terms and Conditions for determination of tariff according to Multi- Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2012 **("CSERC Tariff Regulations, 2012")**, applicable for the period from FY 2013-14 to FY 2015-16;

f) Chhattisgarh State Electricity Regulatory Commission (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2015 **("CSERC Tariff Regulations, 2015")**, applicable for determination of tariff for the Generating Company, Licensees, and CSLDC for the period from FY 2016-17 to FY 2020-21.

1.3 Procedural History

JSPL submitted the Petition for determination of the Generation Cost/Tariff for DCPP for the period from FY 2011-12 to FY 2015-16 in Petition No. 47 of 2015. Vide its Order on Admission dated 27th August 2015, the Commission directed JSPL to file the complete Petition for determination of generation tariff for all the CPPs located at Raigarh (RCPP) and Dongamahua (DCPP). However, JSPL did not file the requisite data and complete Petitions despite several reminders. Hence, vide its Order dated 21st January 2016, the Commission dismissed the Petition No. 47 of 2015.

Hon'ble APTEL passed its Judgment dated May 06, 2022 in Appeal No. 72 of 2016 and 100 of 2016 filed by JSPL, setting aside certain Orders of the Commission, and issued certain directions to the Commission as reproduced below:

"76. We are of the firm opinion that the Appellant is bound by the provisions of the Act 2003 and the conditions of the Licence as granted by the State Commission. Any provision of the MoU, if it is inconsistent with the provisions of the Act 2003 and the

Licencing conditions stands annulled. Therefore, the Appellant shall supply the surplus power from the Raigarh CPP to the extent it is available and is firm power.

…

80. In case of failure of the Appellant, the State Commission can always discover the tariff under its regulatory powers by examining the technology, cost of equipment, life of the plants etc and declaring the normative costs to arrive at the most optimised solution which could have been in the benefit of the consumers...

…

*88. **We are of the firm opinion that the State Commission should immediately determine the tariff of both the captive plants i.e. Raigarh CPP and Dongamahua CPP either through the information furnished by the Appellant or through the methodology adopted for deciding the Generic Tariff in case of failure of the Appellant in furnishing the information**.*

*89. **At the same time, in the process of determination of tariff, the State Commission shall endeavour to ensure safeguarding of consumers' interest and at the same time, recovery of the cost of electricity in a reasonable manner**.*

…

100. We are again directing the State Commission to determine the surplus capacity as available from the Appellant's CPP in a real time mode along with its pattern immediately and analyse it whether it can be supplied to the industrial consumers.

…

106. The State Commission is directed to immediately:

i. determine the available surplus capacity and its pattern;

ii. carry out technical analysis for supply of surplus power for the distribution business from the Raigarh CPP and Dongamahua CPP;

iii. allow JSPL to procure required quantum of electricity through competitive bidding for long term;

*iv. determine the tariff for the Distribution Licensee i.e. JSPL from the FY 2011-12, on the basis of already available data and data further furnished by JSPL or otherwise gathered suo moto by the Commission."(**emphasis added**)*

Subsequent to the above-said Judgment of the Hon'ble APTEL, on 27th May 2022, JSPL filed an Interlocutory Application (IA) for determination of generation cost of DCPP from FY 2011-12 till FY 2015-16 based on the Petition filed by JSPL in Petition No. 47 of 2015.

In accordance with the above-said Judgment of the Hon'ble APTEL, in case surplus quantum is arrived at from RCPP and/or DCPP for any of the years under consideration, the generation tariff for RCPP and DCPP have to be determined, for consideration towards the power purchase cost of JSPL-D. Further, the IA filed by JSPL was not as per the direction of Hon'ble APTEL. Hence, vide its letter dated 16th June 2022 and Reminder dated 4th July 2022, JSPL was directed to file the Truing up Petitions with all supporting data for DCPP and RCPP for the period from FY 2011-12 to FY 2020-21, in accordance with the Judgment of the Hon'ble APTEL dated 6th May 2022. JSPL was also directed to file the Petitions for determination of Tariff for DCPP and RCPP for the MYT Control Period from FY 2022-23 to FY 2024-25.

However, JSPL did not file any further Petition or submit any additional data to facilitate determination of Generation Tariff for the past period and future MYT period. During the Hearing held on September 06, 2022, JSPL submitted that it has already submitted all the available information to the Commission in Petition No. 46 of 2022. JSPL added that the Commission may proceed for tariff determination based on the information available with it.

Hence, in order to comply with the aforesaid Hon'ble APTEL Judgment, the Commission decided to take suo-motu initiative to determine the generation tariff of DCPP, and registered a suo-motu Petition No. 60 of 2022 for determination of generation cost of DCPP from FY 2022-23 to FY 2024-25 along with true-up from FY 2011-12 to FY 2020-21.

In the absence of any other reference data for the period from FY 2011-12 to FY 2015-16, the Commission has considered the Petition filed by JSPL for determination of Generation Tariff for DCPP for the period from FY 2011-12 to FY 2015-16 in Petition

No. 47 of 2015, for the purpose of prudence check and determination of Generation Tariff for the period from FY 2011-12 to FY 2015-16.

In the Petition filed by JSPL-D for true-up of ARR for FY 2016-17 (Petition No. 62 of 2018), JSPL-D has provided its assumptions for computing the tariff of DCPP, as it has considered entire power purchase from DCPP for FY 2016-17. Though this is strictly not a Petition filed by the Generator, i.e., DCPP, for the purpose of this Suo-motu Petition, the Commission has relied on the values as submitted by JSPL-D, wherever appropriate, for determination of Generation Tariff for FY 2016-17.

For the period from FY 2016-17 to FY 2020-21, the Commission published the draft assumptions for determination of Generation Tariff for DCPP vide Notice dated 21/09/2022 and invited comments and suggestions from the stakeholders on the same. Only JSPL has submitted certain comments and suggestions on the assumptions to be considered for DCPP for the period from FY 2016-17 to FY 2018-19, which have been summarised at the relevant places in this Order.

In this instant Order, the post-facto determination of Generation Tariff for DCPP for FY 2011-12 to FY 2015-16 and Suo-Motu determination of the Generation Tariff of DCPP for the period from FY 2016-17 to FY 2020-21, has been done in accordance with the applicable CSERC Tariff Regulations.

1.4 Admission of the Petition and Hearing Process

The Suo-motu Petition has been registered as Petition No. 60 of 2022 on 17/08/2022 for determination of Generation Tariff for DCPP for the period from FY 2016-17 to FY 2020-21. In this suo-motu, Petition No. 47 of 2015 filed by JSPL for determination of Generation Tariff for DCPP filed for the period from FY 2011-12 to FY 2015-16 has been merged.

The Suo-motu Petition No. 60 of 2022 and all related documents were made available on the website of the Commission. The Public Notice was issued on 21/09/2022 in the leading newspapers of the State inviting suggestions/comments/objections from the stakeholders on the above Suo-motu Petition.

A period of twenty-one (21) days was given for submission of written objections and suggestions by the public.

The hearing was scheduled on October 12, 2022 and Public Notice in this regard was also published. Only JSPL has submitted certain comments and suggestions on the assumptions to be considered for DCPP for the period from FY 2016-17 to FY 2018-19, which have been summarised at the relevant places in this Order.

1.5 Organization of the Order

This Order includes the following Chapters:

Chapter 1: Background and brief history (present Chapter) – provides a brief background of the regulatory process undertaken by the Commission.

Chapter 2: Hearing Process, including the comments made by various stakeholders and views of the Commission

Chapter 3: Determination of Generation Tariff for FY 2011-12 to FY 2015-16 – deals with determination of Generation Tariff for FY 2011-12 to FY 2015-16 for DCPP. The power generation tariff for DCPP has been determined in accordance with the provisions under the CSERC Tariff Regulations, 2010 for FY 2011-12 to FY 2012-13 and CSERC Tariff Regulations, 2012 for FY 2013-14 to FY 2015-16.

Chapter 4: Determination of Generation Tariff of DCPP for FY 2016-17 to FY 2020-21 – deals with determination of Generation Tariff for DCPP for FY 2016-17 to FY 2020-21 in accordance with CSERC Tariff Regulations, 2015.

Chapter 5: Determination of Generation Tariff of DCPP for FY 2022-23 to FY 2024-25 – deals with determination of Generation Tariff for DCPP for the period from FY 2022-23 to FY 2024-25 in accordance with CSERC Tariff Regulations, 2021.

Chapter 6: Directives – discusses the directives issued to JSPL.

2 HEARING PROCESS, INCLUDING THE COMMENTS MADE BY VARIOUS STAKEHOLDERS, AND VIEWS OF THE COMMISSION

The hearing was scheduled on October 12, 2022 and Public Notice in this regard was also published. However, only JSPL has submitted certain comments and suggestions on the assumptions to be considered for DCPP for the period from FY 2016-17 to FY 2018-19, which have been summarised issue-wise below. **Apart from these specific comments and suggestions, JSPL has not submitted any comments on the approach adopted by the Commission in the suo-motu tariff determination process**.

2.1 Segregated Accounts

JSPL's Submission

JSPL submitted that the segregated accounts of DCPP are not audited separately. However, in case the Commission requires any specific supporting document for substantiating the submissions, the same may be provided.

Commission's View

JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, any of JSPL's submissions regarding 'actual' expenses cannot be verified under prudence check.

The Commission has given ample opportunities to JSPL to submit its Petition for determination of Generation Tariff for DCPP, with all supporting documents. In the absence of the same, the Commission has proceeded with the suo-motu tariff determination for DCPP based on the available data and certain appropriate assumptions.

2.2 Gross Fixed Assets

JSPL's Submission

JSPL submitted that the actual GFA addition for DCPP during FY 2016-17 to FY 2018-19 are as shown in the following Table:

Table 2-1: Actual GFA as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Opening GFA	2148.65	2149.24	2151.89
Addition during the year	0.59	2.65	3.18
Closing GFA	2149.24	2151.89	2155.07

JSPL submitted the details of the assets added during the respective years, as shown in the following Table:

Table 2-2: Details of assets added during FY 2016-17 to FY 2018-19 as submitted by JSPL (Rs. Crore)

Sl.	Particulars	FY 2016-17	FY 2017-18	FY 2018-19
1	Buildings/Civil Works	0.32	1.60	1.19
2	Plant, Machinery & Equipment	0.12	0.46	1.56
3	Furniture & Fixtures	-	0.07	-
4	Office Equipment	0.03	0.09	0.43
5	Vehicles	0.11	0.43	-
6	**TOTAL**	**0.59**	**2.65**	**3.18**

Commission's View

As stated earlier, JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, JSPL's submissions regarding 'actual' assets added during FY 2016-17 to FY 2018-19 cannot be verified under prudence check. Furthermore, this period is much after the cut-off period of 2 years after Commercial Operation Date (COD) of the Units of DCPP, hence, capitalisation cannot be allowed in the absence of detailed justification to be submitted by JSPL and the Commission's prior approval for the same. Though JSPL has provided some details of the assets added, no justification has been submitted. Also, the bulk of the asset addition is shown under Buildings/Civil Works, which may or may not be related to DCPP's generation capacity.

Hence, no addition to the GFA has been considered during FY 2016-17 to FY 2018-19 in the suo-motu tariff determination process for DCPP.

2.3 Actual O&M Expenses

JSPL's Submission

JSPL submitted that the actual O&M expenses for DCPP during FY 2016-17 to FY 2018-19 are as shown in the following Table:

Table 2-3: Actual O&M Expenses as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Actual O&M Expenses	178.37	232.67	312.16

Commission's View

If the actual O&M expenses were known and could be verified, then the difference between the normative and actual O&M expenses could have been passed through under the mechanism of sharing of efficiency gains/losses. As stated earlier, JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, JSPL's submissions regarding 'actual' O&M expenses during FY 2016-17 to FY 2018-19 cannot be verified under prudence check. Hence, the O&M expenses have been approved on normative basis and no sharing of gains/losses has been done in the tariff determination process for DCPP for the period from FY 2011-12 to FY 2020-21.

2.4 Non-Tariff Income

JSPL's Submission

JSPL submitted that the actual Non-Tariff Income earned by DCPP during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 2-4: Actual Non-Tariff Income as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Misc. Sales (Store items, Scrap, etc.)	4.39	2.64	1.50
Sundry/Misc. balance written back	-	-	0.66
Insurance claim receipts	-	0.50	1.10
Other Income	0.02	0.01	0.02
Total	**4.41**	**3.16**	**3.27**

Commission's View

JSPL has not considered any Non-Tariff Income in its Petition No. 47 of 2015 for the period from FY 2011-12 to FY 2015-16. In the suo-motu tariff determination, the Non-Tariff Income had been estimated for the period from FY 2016-17 to FY 2020-21 based on the pattern of Non-Tariff Income observed in the case of Chhattisgarh State Power Generation Company Limited (CSPGCL), as some amount of Non-Tariff Income is inevitable while generating power.

JSPL has now submitted that it has earned Non-Tariff Income during the period from FY 2016-17 to FY 2018-19. JSPL has not made any submissions regarding the Non-Tariff Income earned in other years. However, it cannot be that DCPP has earned Non-Tariff Income only during the period from FY 2016-17 to FY 2018-19 and has not earned Non-Tariff Income in the other years for which Generation Tariff is being determined.

Hence, the Non-Tariff Income for the period from FY 2016-17 to FY 2018-19 has been considered as submitted by JSPL, and this pattern of Non-Tariff Income for DCPP has been adopted for estimating the Non-Tariff Income for the remaining years, i.e., FY 2011-12 to FY 2015-16, and FY 2019-20 to FY 2020-21.

2.5 Normative Auxiliary Consumption

JSPL's Submission

JSPL submitted that DCPP is a Captive Power Plant whose load keeps on fluctuating across a wide range. The power generated is mainly used for production of steel and for maintaining the captive status. Therefore, normative auxiliary consumption of 11.50% applicable for other generating stations (IPPs) is not suitable for DCPP. JSPL submitted the actual auxiliary consumption as shown in the following Table, and requested the Commission to consider the same:

Table 2-5: Actual Auxiliary Consumption as submitted by JSPL for FY 2016-17 to FY 2018-19 (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Auxiliary Consumption	12.79%	14.26%	15.75%

Commission's View

The Commission's views on the Normative Auxiliary Consumption for DCPP are elaborated in the Chapters on Determination of Generation Tariff for the respective years, subsequently in this Order.

2.6 Normative Station Heat Rate

JSPL's Submission

JSPL submitted that DCPP is a Captive Power Plant whose load keeps on fluctuating across a wide range. The power generated is mainly used for production of steel and for maintaining the captive status. Therefore, normative Station Heat Rate of 2450 kcal/kWh applicable for other generating stations (IPPs) is not suitable for DCPP. JSPL submitted the actual Station Heat Rate as shown in the following Table, and requested the Commission to consider the same:

Table 2-6: Actual Station Heat Rate as submitted by JSPL for FY 2016-17 to FY 2018-19 (kcal/kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Actual Station Heat Rate	2521	2497	2503

Commission's View

The Commission's views on the Normative Station Heat Rate for DCPP are elaborated in the Chapters on Determination of Generation Tariff for the respective years, subsequently in this Order.

2.7 Gross Calorific Value (GCV) of Coal

JSPL's Submission

JSPL submitted that the actual GCV of coal used by DCPP during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 2-7: Actual GCV of Coal as submitted by JSPL for FY 2016-17 to FY 2018-19 (kcal/kg)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
GCV of Coal	2403	2818	2742

JSPL submitted 4 sample bills to support its contentions of actual GCV of coal.

Commission's View

It is observed that JSPL has submitted only 3 legible sample bills for the months of May 2016, January 2017 and October 2017 and the data submitted does not justify the submissions made by JSPL. For instance, the GCV mentioned in one bill is 2403 kcal/kg, another bill shows GCV from 3491 – 3700 kcal/kg, and another bill shows the GCV as 4001 – 4300 kcal/kg, which are far higher than the GCV claimed by JSPL.

The Commission's views on the GCV of Coal for DCPP are elaborated in the Chapters on Determination of Generation Tariff for the respective years, subsequently in this Order.

2.8 Price of Coal

JSPL's Submission

JSPL submitted that the actual price of coal used by DCPP during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 2-8: Actual Price of Coal as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs/MT)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Price of Coal	2022	2228	2926

JSPL submitted 4 sample bills to support its contentions of actual price of coal.

Commission's View

It is observed that JSPL has submitted only 3 legible sample bills for the months of May 2016, January 2017 and October 2017 and the data submitted does not justify the submissions made by JSPL. For instance, the Price mentioned in one bill is 2022 Rs/MT, second bill shows the Price as 4150 Rs/MT, and another bill shows the Price as 4150 Rs/MT, which are different from the Price of coal claimed by JSPL.

The Commission's views on the Price of Coal for DCPP are elaborated in the Chapters on Determination of Generation Tariff for the respective years, subsequently in this Order.

3 DETERMINATION OF GENERATION TARIFF FOR DCPP FOR FY 2011-12 TO FY 2015-16

3.1 Background

The Commission notified the CSERC Tariff Regulations, 2010 for the period from FY 2010-11 till FY 2012-13 and the CSERC Tariff Regulations, 2012 for the period from FY 2013-14 till FY 2015-16. The Commission has determined the Generation Tariff for JSPL's Dongamahua CPP from FY 2011-12 till FY 2015-16 in accordance with the above-said Regulations for the applicable periods.

For past periods, the Commission normally undertakes true-up based on audited accounts vis-à-vis the expenses and revenue approved in the Tariff Order for the respective year. However, in case of DCPP, the Commission has not issued any Tariff Order till date, and neither has JSPL submitted Audited Accounts to enable prudence check of the actual expenses.

Hence, in the present Chapter, the Generation Tariff for FY 2011-12 to FY 2015-16 has been determined based on normative parameters on a post-facto basis and considering available data, in accordance with the Judgment of the Hon'ble APTEL.

3.2 Gross Fixed Assets

JSPL's Submission

JSPL submitted the Gross Fixed Assets (GFA) for FY 2011-12 to FY 2015-16, as shown in the following Table:

Table 3-1: Gross Fixed Assets as submitted by JSPL for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
GFA	1977.64	2087.63	2119.82	2117.56	2117.56

JSPL submitted that the Capital cost of DCPP per MW of installed capacity is less than Rs. 4 Crore/MW, as shown in the following Table:

Table 3-2: Capital Cost per MW as submitted by JSPL (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Capital Cost/MW	3.66	3.87	3.93	3.92	3.92

JSPL submitted that the capital cost of DCPP are the lowest in its class, based on comparison with selected power plants. JSPL submitted that the consumers benefit directly on account of the lower capital cost of DCPP. Hence, considering the benefit accruing to the consumers on account of lower capital cost, JSPL requested the Commission to consider the actual operating parameters and O&M expenses of the plant.

Commission's View

In the absence of any documentary evidence for the capital cost claimed by JSPL for DCPP, the GFA of DCPP has been approved based on the submissions of JSPL and considering the fact that the per MW capital cost is lower than Rs. 4 Crore, which is reasonable.

The addition to GFA claimed by JSPL for FY 2011-12 has been computed by summing up the addition of debt and equity claimed by JSPL for FY 2011-12. The addition to GFA for FY 2011-12, FY 2012-13, FY 2013-14, and FY 2014-15 have been allowed as claimed by JSPL in its Petition. However, the addition to GFA claimed by JSPL in FY 2015-16 (based on the submissions of JSPL regarding opening GFA for FY 2016-17) have not been allowed, as such capitalization has been claimed more than 2 years after the Date of Commercial Operation (COD) of the Units, and beyond the cut-off date specified in the CSERC Tariff Regulations.

The Opening and Closing Gross Fixed Assets (GFA) for each year from FY 2011-12 to FY 2015-16, have thus, been approved as shown in the following Table:

Table 3-3: Gross Fixed Assets approved for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening GFA	1075.74	1977.64	2087.63	2119.82	2117.56
Addition during the year	901.90	109.99	32.19	-2.26	0.00
Closing GFA	1977.64	2087.63	2119.82	2117.56	2117.56

3.3 Depreciation

JSPL's Submission

JSPL submitted that the depreciation has been charged based on the capital costs and the depreciation rates specified in the relevant CSERC Tariff Regulations. The CSERC Tariff Regulations, 2010 and CSERC Tariff Regulations, 2012 prescribe the same depreciation rates as shown in the following Table:

Table 3-4: Depreciation Rates

Asset Class	Depreciation rate
Land – Ownership	0.00%
Land – Leased	3.34%
Building/Civil works	3.34%
Plant & Machinery	5.28%
Office furniture & equipment	6.33%
Vehicles	9.50%
Others	5.28%

JSPL has computed the Depreciation based on the above specified rates for FY 2011-12 to FY 2015-16, as shown in the Table below:

Table 3-5: Depreciation for FY 2011-12 to FY 2015-16 submitted by JSPL (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation	66.65	107.53	107.92	107.93	107.80

Commission's View

The Depreciation for FY 2011-12 to FY 2014-15 has been approved as claimed by JSPL. For FY 2015-16, as JSPL's submissions were projections rather than 'actuals', the Depreciation has been approved at the average depreciation rate of 5.08% claimed by JSPL for FY 2014-15. The Depreciation allowed for FY 2011-12 to FY 2015-16 is shown in the following Table:

Table 3-6: Depreciation approved for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation	66.65	107.53	107.92	107.93	107.47

3.4 O&M Expenses

JSPL's Submission

JSPL submitted that Regulation 26(A) (3) of the CSERC Tariff Regulations, 2010 allows the Generating Companies to recover O&M expense on the following basis:

"The O&M expenses, for the units/stations coming into commercial operation after 01.04.2005, shall be in accordance with the norms specified in CERC (Terms and Conditions of tariff) Regulations, 2009 as amended from time to time."

Accordingly, JSPL has referred Regulation 19 of the CERC (Terms and Conditions of Tariff) Regulations, 2009 (**"CERC Tariff Regulations, 2009"**) for the determination of normative O&M expenses. The smallest size of sets as per the CERC Tariff Regulations, 2009 is 200/210/250 MW and the norms for the same have been considered pro-rata while calculating the normative O&M expenses, as shown in the following Table:

Table 3-7: CERC Normative O&M expenses for 200/210/250 MW (Rs. Cr/MW)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14
CERC Normative O&M	0.2034	0.2151	0.2274

For the period from FY 2012-13 to FY 2015-16, the CSERC Tariff Regulations, 2012 specify as under regarding recovery of O&M expenses by Generating Companies:

"40.2 The O&M expenses for the base year i.e. FY 2012-13 for the units/stations coming into commercial operation after 01.04.2005, shall be considered as under:

40.2.1 The normative O&M expenses as specified in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulation, 2009 above regulation for the year 2009-10 shall be admissible at the rate of 90% of the value allowed by CERC. Such normative value shall be exclusive of water taxes payable *to the State government which shall be pass through to the beneficiary on actual basis. However, except for pension fund liabilities, normative value, so derived, shall be considered inclusive of all expenses incurred to meet head office or holding company expenses.*

40.2.2 The adjusted value for 2009-10, as arrived above, shall be escalated by the actual inflation at weighted average of 60:40 of CPI:WPI ratio, on year to year basis till 2011-12.

40.2.3 For projecting the normative value for 2012-13 and onwards, average inflation of last three years (i.e. 2009-10, 2010-11, 2011-12) shall be applied.

Provided, at the time of true up, the normative O&M cost shall be readjusted to take into account the effect of actual inflation for that period.

Provided, further that impact of pay revision (including arrears), if any, shall be considered separately during the true-up as per audited /unaudited accounts, subject to prudence check and any other factor considered appropriate by the Commission"

JSPL submitted that it has calculated normative O&M expenses per MW for the period from FY 2012-13 to FY 2015-16, as detailed below:

a) JSPL has computed the O&M expenses for FY 2013-14 to FY 2015-16 by escalating the actual O&M expenses of FY 2012-13 by the weighted average rates of WPI and CPI for FY 2012-13. The weighted average rate of WPI and CPI is computed as shown in the following Table:

Table 3-8: Inflation index calculated for O&M expense escalation

Inflation Index	**FY 2009-10**	**FY 2010-11**	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**
CPI	12%	9%	9%	11%	6%
WPI	6%	7%	9%	10%	4%
40:60	8.40%	7.96%	9.09%	10.10%	4.82%
			Average Rate		**8%**

b) The normalized net present value of actual O&M expenses for FY 2010-11 and FY 2011-12 has been calculated as at the start of FY 2012-13. Then the base value for

FY 2012-13 has been calculated by taking average of the normalised NPV of previous two years' actual O&M expenses;

c) Then the O&M expenses for FY 2013-14 and 2014-15 have been calculated by escalating the O&M expenses for the base year FY 2012-13 on the weighted average WPI and CPI index for the previous year;

d) The O&M expense for FY 2013-14 to FY 2015-16 has been calculated by escalating the O&M expenses for FY 2014-15 on the average of the previous three years' weighted average WPI and CPI index, i.e., 8%.

The normative O&M expenses per MW considered by JSPL for calculating the normative O&M expenses for DCPP is shown in the following Table:

Table 3-9: Normative O&M Expenses per MW for FY 2011-12 to FY 2015-16 as submitted by JSPL (Rs. Lakh/MW)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Normative O&M expenses	20.34	21.51	28.73	30.12	32.53

JSPL has computed the normative O&M expenses by multiplying the per MW normative expenses with the installed capacity of the plant as shown in the Table below:

Table 3-10: Normative O&M expenses submitted by JSPL (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
O&M Expenses	67.33	116.15	155.16	162.64	175.66

JSPL submitted the actual O&M expenses (projected for FY 2015-16 based on the weighted average rate of inflation), as shown in the following Table:

Table 3-11: Actual O&M expenses submitted by JSPL (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16***
Actual O&M Expenses	109.88	148.79	161.96	172.40	178.64

Note: * - estimated

JSPL submitted that its plant has smaller Units (135 MW) as against the 210 MW series (smallest Unit size for which norms are prescribed) given in the CSERC Tariff Regulations and therefore its plant cannot achieve the normative operating efficiency standards. Regulation 68 of the CSERC Tariff Regulations, 2010 and Regulation 77 of the CSERC Tariff Regulations, 2012 provide for relaxation of any provisions of the said Tariff Regulations by the Commission on its own motion or on application. JSPL requested the Commission to relax the normative operating efficiency standards for DCPP. JSPL added that as stated earlier, considering the benefit accruing to the consumers on account of lower capital cost, the Commission is requested to consider the actual O&M expenses of the plant for determination of Generation Tariff.

JSPL submitted that other State Electricity Regulatory Commissions (SERCs) have approved actual O&M expenses in cases where operating norms are not available for smaller capacity plants, as summarised in the following Table:

Table 3-12: O&M expenses approved by other SERCs (Rs. Crore)

O&M Expenses (Rs. Lakh)/MW	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Actual O&M Expenses for DCPP	**34.06**	**27.98**	**30.54**	**32.29**	**34.78**
CSERC norms for 210 MW series	**20.34**	**21.51**	**23.68**	**24.82**	**26.81**
Approved by UPERC for Obra-A (2*50-3*100) MW	35.26	29.01	30.81		
Approved by UPERC for Harduaganj (55+60+105) MW	45.12	39.78	42.27		
Approved by CERC for Talcher (4*60, 2*110)	36.60	38.70	40.91		
Approved by CERC for Tanda (4*110)	29.34	31.02	32.79		
Approved by CERC for Durgapur (DVC) (140+210)	32.69	34.57	36.54		
Approved by TNERC for Ennore TPS (2*60+2*110)	30.80	32.44	36.66		

It can be seen from the above comparison that DCPP's actual O&M expenses are similar to the O&M expenses approved by the other SERCs for plants with Units smaller than generation capacity of 210 MW.

JSPL submitted that DCPP runs on coal rejects and CERC has specific O&M norms for coal reject-based plants, as shown in the Table below:

Table 3-13: CERC Norms for O&M expenses for coal reject-based plants (Rs. Lakh/MW)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
CERC O&M Norms for coal reject-based plants	24.77	26.19	27.69	29.10	30.94

Since, DCPP is a plant with Unit size smaller than 210 MW and runs on coal rejects, JSPL requested the Commission to consider the actual O&M expenses while determining its Generation Tariff. JSPL added that DCPP has CFBC boilers, which have higher O&M cost compared to a PF boiler, on account of lower availability and higher forced outages due to lower grade coal.

JSPL added that its actual O&M expenses include components like Energy Development Cess, Parallel Operation Charges and Electricity Duty (under Section 3 of the Madhya Pradesh Electricity Duty Act, 1949) which are applicable for CPPs. JSPL further added that DCPP is a made in China plant, which requires high maintenance and this increases the O&M costs.

Based on above justification, JSPL requested the Commission to consider the actual O&M expenses while determining the Generation Tariff of DCPP.

Commission's View

As stated in Chapter 2, if the actual O&M expenses were known and could be verified, then the difference between the normative and actual O&M expenses could have been passed through under the mechanism of sharing of efficiency gains/losses. However, JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, JSPL's submissions regarding 'actual' O&M expenses during FY 2011-12 to FY 2015-16 cannot be verified under prudence check. Hence, the O&M expenses have been considered on normative basis and no sharing of gains/losses have been done in the suo-motu tariff determination process for DCPP.

JSPL has submitted certain O&M norms purported to have been approved by the CERC for coal reject-based plants for the period from FY 2011-12 to FY 2015-16. However, the CERC specified separate O&M norms for coal reject-based plants for the first time in the CERC Tariff Regulations, 2014, for the period from FY 2014-15 to FY 2018-19.

The CSERC Tariff Regulations 2010 specify that the O&M norms specified by the

CERC in the CERC Tariff Regulations, 2009 shall be applicable, as reproduced below:

"The O&M expenses, for the units/stations coming into commercial operation after 01.04.2005, shall be in accordance with the norms specified in CERC (Terms and Conditions of tariff) Regulations, 2009 as amended from time to time."

Hence, the normative O&M expenses/MW for FY 2011-12 have been considered in accordance with the applicable CERC Tariff Regulations.

For the period from FY 2012-13 to FY 2015-16, the provisions of the CSERC Tariff Regulations, 2012 are applicable, as reproduced above in JSPL's submission, and have not been restated here.

Accordingly, for FY 2012-13, 90% of the O&M norm specified by CERC for 2009-10 has been escalating with the applicable escalation indices for FY 2010-11 and FY 2011-12, and again escalated by the average escalation index for the last 3 years, to arrive at the O&M norm for FY 2012-13. For FY 2013-14, the O&M norms of FY 2012-13 have been escalated by the average escalation index for the last 3 years.

The CSERC Tariff Regulations have not specified separate O&M norms for coal-reject based plants, however, CERC has specified separate O&M norms for coal-reject based plants for control period FY 2014-15 and onwards, and so CERC norms have been adopted to compute the O&M expenses for DCPP.

The normative O&M expenses per MW considered for the period from FY 2011-12 to FY 2015-16 in accordance with the above approach, are shown in the Table below:

Table 3-14: Normative O&M Expenses per MW considered for FY 2011-12 to FY 2015-16 (Rs. Lakh/MW)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Norms for O&M Expenses	20.34	21.41	23.40	29.10	30.94

The normative O&M expenses have been computed by multiplying the per MW normative expenses with the installed capacity of the plant as shown in the Table below:

Table 3-15: Normative O&M expenses for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative O&M Expenses	67.33	115.60	126.35	157.14	167.08

3.5 Return on Equity

JSPL's Submission

JSPL submitted that the Regulation 17.2 of the CSERC Tariff Regulations, 2012 provides that if the generation units have achieved CoD prior to April 1, 2013, then the debt equity ratio allowed by the Commission for determination of tariff for commercial operation prior to April 1, 2013 will be considered. The DCPP units achieved CoD prior to April 1, 2013. However, in the absence of any previous Tariff Order for these Units, JSPL has relied on the provisions of CSERC Tariff Regulations, 2010 for determination of the debt:equity ratio of DCPP Units, which have achieved the CoD prior to April 1, 2013. It is pertinent to mention that the debt-equity ratio allowed in CSERC Tariff Regulations, 2012 is 70:30, which is same as allowed under CSERC Tariff Regulations, 2010.

Accordingly, JSPL has considered the normative debt:equity ratio as 70:30. The CSERC Tariff Regulations 2010, allows a Generating Company to recover RoE at base rate of 15.5% by grossing up the base rate with the normal tax rate for the relevant year applicable to the concerned Generating Company.

JSPL submitted that CSERC Tariff Regulations, 2012 allows pre-tax RoE of 15.5% grossed up with the normal rate of Income Tax. Therefore, JSPL has claimed RoE for FY 2011-12 to FY 2015-16 as shown in the Table below:

Table 3-16: Return on Equity for FY 2011-12 to FY 2015-16 as submitted by JSPL (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Opening Equity	322.72	593.29	626.29	635.95	635.27
Addition during the year	270.57	33.00	9.66	-	-
Closing Equity	593.29	626.29	635.95	635.27	635.27
Average Balance	458.01	609.79	631.12	635.61	635.27
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%
Tax Rate	25.76%	28.54%	19.29%	20.96%	20.96%
Grossed up rate of return	20.88%	21.69%	19.20%	19.61%	19.61%
Return on Equity	**95.62**	**132.26**	**121.20**	**124.64**	**124.58**

Commission's View

The RoE has been computed in accordance with the CSERC Tariff Regulations, 2010 for FY 2011-12 and FY 2012-13, and in accordance with CSERC MYT Regulations, 2012 for FY 2013-14 to FY 2015-16. The opening equity for FY 2011-12 has been considered as claimed by JSPL, as the same works out to 30% of the opening GFA, in accordance with the normative Debt:Equity ratio of 70:30 specified in the Regulations. The equity addition during the year has been limited to 30% of GFA addition during the year approved in this Order. The rate of return has been considered as 15.50% on average equity for the year. The Tax Rate has been considered zero, as no documentary evidence has been submitted by JSPL to prove that DCPP has actually paid Income Tax. JSPL has also not submitted any comments on this approach in the suo-motu tariff process for FY 2016-17 to FY 2020-21 for DCPP.

Further, Clause 6.3 of the Tariff Policy, 2006 as well as the Tariff Policy, 2016 stipulates as under:

"The prices should be differentiated for peak and off-peak supply and the tariff should include variable cost of generation at actual levels and reasonable compensation for capacity charges."

Hence, reasonable compensation for capacity charges is required to be given. The approach of not allowing grossing up of the RoE, especially in the absence of any documentary evidence for payment of actual Income Tax by DCPP, ensures this objective.

The RoE approved for FY 2011-12 and FY 2015-16 is shown in the following Table:

Table 3-17: Return on Equity Approved for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Opening Equity	322.72	593.29	626.29	635.94	635.94
Addition during the year	270.57	33.00	9.66	-	-
Closing Equity	593.29	626.29	635.94	635.94	635.94
Average Balance	458.01	609.79	631.12	635.94	635.94
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%
Tax Rate	-	-	-	-	-
Grossed up rate of return	-	-	-	-	-
Return on Equity	**71.00**	**94.53**	**97.83**	**98.58**	**98.58**

3.6 Interest on Loan

JSPL's Submission

JSPL submitted that the annual depreciation determined in accordance with the applicable CSERC Tariff Regulations has been considered as the annual repayment of normative loan. The weighted average rate of interest on the outstanding loan portfolio for each year has been considered for the calculation of interest on loans.

JSPL has claimed the interest on loan capital for FY 2011-12 to FY 2015-16 as shown in the following Table:

Table 3-18: Interest on Loan for FY 2011-12 to FY 2015-16 as submitted by JSPL (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Opening Balance	726.45	1291.13	1260.6	1175.20	1067.68
Loan Addition during the year	631.33	76.99	22.53	0.00	0.00
Repayment during the year	66.65	107.53	107.92	107.53	107.80
Closing Balance	1291.13	1260.6	1175.20	1067.68	959.88
Average Balance	**1008.79**	**1275.86**	**1217.90**	**1121.44**	**1013.78**
Interest rate	11.00%	11.55%	11.79%	11.88%	11.88%
Interest on normative debt	**110.95**	**147.40**	**143.62**	**133.15**	**120.20**

Commission's View

The Interest on Loan has been computed in accordance with the CSERC Tariff Regulations, 2010 for FY 2011-12 and FY 2012-13, and in accordance with CSERC MYT Regulations, 2012 for FY 2013-14 to FY 2015-16.

The opening loan for FY 2011-12 as claimed by JSPL has been considered, as the same works out to 70% of the opening GFA, in accordance with the normative Debt:Equity ratio of 70:30 specified in the Regulations. The loan addition during the year has been limited to 70% of GFA addition during the year approved in this Order.

The allowable depreciation for the year has been considered as the normative repayment for the year. The Interest Rate has been considered as approved in the True-up for JSPL-T for the respective years, as there are no separate loans. Interest on loan capital approved for FY 2011-12 to FY 2015-16 is shown in the following Table:

Table 3-19: Interest on Loan Approved for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Opening Balance	726.45	1291.13	1260.59	1175.21	1067.68
Loan Addition during the year	631.33	76.99	22.53	0.00	0.00
Repayment during the year	66.65	107.53	107.92	107.53	107.47
Closing Balance	1291.13	1260.59	1175.21	1067.68	960.20
Average Balance	**1008.79**	**1275.86**	**1217.90**	**1121.44**	**1013.94**
Interest rate	11.00%	11.50%	11.50%	11.50%	11.50%
Interest on normative debt	**110.97**	**146.72**	**140.06**	**128.97**	**116.60**

3.7 Interest on Working Capital

JSPL's Submission

JSPL submitted that it has computed the Interest on Working Capital (IoWC) for FY 2011-12 and FY 2012-13 in accordance with Regulation 25 of the CSERC Tariff Regulations, 2010. Further, the normative rate of interest on working capital has been considered equal to the latest available short-term Prime Lending Rate ("**PLR**") of State Bank of India. The detailed computation of IoWC submitted by JSPL for FY 2011-12 and FY 2012-13 is shown in the following Table:

Table 3-20: Interest on Working Capital for FY 2011-12 and FY 2012-13 as submitted by JSPL (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13
Cost of Coal (1.5 months)	23.00	25.47
Cost of Secondary Fuel (2 months)	5.67	3.26
O&M Expenses (1 month)	16.20	12.40
Maintenance Spares (20% of O&M)	**21.98**	**29.76**
Receivables (2 months)	181.14	134.44
Total Working Capital Requirement	247.99	205.33
Interest on Working Capital	**33.97**	**27.72**

JSPL submitted that it has computed the IoWC for FY 2013-14 to FY 2015-16 in accordance with Regulation 25 of the CSERC Tariff Regulations, 2012. The normative rate of interest on working capital has been considered equal to the Base Rate of State Bank of India as on 30th September of the financial year in which the Petition is filed plus 350 basis points. The detailed computation of IoWC submitted by JSPL for FY 2013-14 to FY 2015-16 is shown in the Table below:

Table 3-21: Interest on Working Capital for FY 2013-14 to FY 2015-16 as submitted by JSPL (Rs. Crore)

Particulars	FY 2013-14	FY 2014-15	FY 2015-16
Cost of Coal (1 month)	21.61	25.31	75.45
Cost of Secondary Fuel (2 months)	1.84	1.60	1.60
O&M Expenses (1 month)	13.50	14.37	14.89
Maintenance Spares (20% of O&M)	**32.39**	**34.48**	**35.73**
Receivables (1 month)	85.64	92.78	158.60
Total Working Capital Requirement	154.98	168.54	286.26
Interest on Working Capital	**20.61**	**22.75**	**38.65**

Commission's View

The normative Interest on Working Capital (IoWC) has been computed in accordance with Regulation 25 of the CSERC Tariff Regulations, 2010 for FY 2011-12 and FY 2012-13. The normative O&M expenses have been considered for computing the working capital requirement. The normative rate of interest on working capital has been considered equal to the short-term Prime Lending Rate ("**PLR**") of State Bank of India. Maintenance Spares have been considered equal to 20% of O&M Expense. The normative IoWC approved for FY 2011-12 and FY 2012-13 is shown in the following Table:

Table 3-22: Interest on Working Capital approved for FY 2011-12 and FY 2012-13 (Rs. Crore)

Particulars	**FY 2011-12**		**FY 2012-13**	
	Petition	**Approved**	**Petition**	**Approved**
Cost of Coal (1.5 months)	23.00	12.89	25.47	22.65
Cost of Secondary Fuel (2 months)	5.67	1.85	3.26	3.15
O&M Expenses (1 month)	16.20	5.61	12.40	9.63
Maintenance Spares (20% of O&M)	21.98	13.47	29.76	23.12
Receivables (2 months)	181.14	49.31	134.44	78.66
Total Working Capital Requirement	**247.99**	**83.13**	**205.33**	**137.21**
Rate of IoWC	14.75%	12.00%	14.45%	13.25%
Interest on Working Capital	**33.97**	**9.98**	**27.72**	**18.18**

The normative IoWC for FY 2013-14 to FY 2015-16 has been computed in accordance with Regulation 25 of CSERC MYT Regulations, 2012. The normative O&M expenses have been considered for computing the working capital requirement. The normative rate of interest on working capital has been considered equal to the Base Rate of State Bank of India for the financial year plus 350 basis points. Maintenance Spares have been considered equal to 20% of O&M Expenses. The normative IoWC approved for FY 2013-14 to FY 2015-16 is shown in the following Table:

Table 3-23: Interest on Working Capital approved for FY 2013-14 and FY 2015-16 (Rs. Crore)

Particulars	FY 2013-14		FY 2014-15		FY 2015-16	
	Petition	Approved	Petition	Approved	Petition	Approved
Cost of Coal (1 month)	21.61	17.82	25.31	21.06	75.45	20.68
Cost of Secondary Fuel (2 months)	1.84	2.52	1.60	2.89	1.60	1.82
O&M Expenses (1 month)	13.50	10.53	14.37	13.10	14.89	13.92
Maintenance Spares (20% of O&M)	32.39	25.27	34.48	31.43	35.73	33.42
Receivables (1 month)	85.64	50.41	92.78	58.76	158.60	57.85
Total Working Capital Requirement	**154.98**	**106.56**	**168.54**	**127.23**	**286.26**	**127.69**
Rate of IoWC	14.75%	13.30%	14.75%	13.50%	14.05%	9.85%
Interest on Working Capital	**20.61**	**14.17**	**22.75**	**17.18**	**38.65**	**12.58**

3.8 Non-Tariff Income (NTI)

Commission's View

JSPL has not considered any NTI for the period from FY 2011-12 to FY 2015-16. However, some amount of NTI is inevitable when operating a Generating Station. JSPL has also submitted details of NTI for the period from FY 2016-17 to FY 2018-19, as detailed in the next Chapter. The NTI earned by DCPP works out to around 0.6% of the revenue of JSPL in the respective years. Hence, the Commission has considered NTI equivalent to 0.6% of the revenue, as shown in the Table below:

Table 3-24: Non-Tariff Income approved by the Commission for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Non-Tariff Income	1.78	2.83	3.63	4.23	4.17

3.9 Annual Fixed Charges (AFC) for FY 2011-12 to FY 2015-16

JSPL's Submission

Based on the above, JSPL has sought approval for AFC for FY 2011-12 to FY 2015-16, as shown in the Table below:

Table 3-25: Annual Fixed Charges for DCPP for FY 2011-12 to FY 2015-16 as submitted by JSPL (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Return on equity	95.62	132.26	121.20	124.64	124.58
Interest on Loan	110.95	147.40	143.62	133.15	120.20
Depreciation	66.65	107.53	107.92	107.93	107.80
Interest on Working Capital	33.97	27.72	20.61	22.75	38.65
O&M Expenses	109.88	148.79	161.96	172.40	178.64
Cost of secondary fuel	19.35	19.59			
Total	**436.42**	**583.29**	**555.31**	**560.87**	**569.86**

Commission's View

The AFC approved for FY 2011-12 to FY 2015-16 is summarised in the Table below:

Table 3-26: Annual Fixed Charges for DCPP approved by the Commission for FY 2011-12 to FY 2015-16 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Return on equity	71.00	94.53	97.83	98.58	98.58
Interest on Loan	110.97	146.72	140.06	128.97	116.60
Depreciation	66.65	107.53	107.92	107.53	107.47
Interest on Working Capital	9.98	18.18	14.17	17.18	12.58
O&M Expenses	67.33	115.60	126.35	157.14	167.08
Cost of secondary fuel	11.13	18.87			
Less: Non-Tariff Income	1.78	2.83	3.63	4.23	4.17
Total	**335.27**	**498.60**	**482.71**	**505.16**	**498.14**

3.10 Installed Capacity and Technical Configuration

JSPL's Submission

JSPL has submitted that DCPP has 4 Units of 135 MW each. The Date of Commercial Operation (COD) of these 4 Units have been submitted by JSPL as shown in the Table below:

Table 3-27: COD of DCPP Generating Units as submitted by JSPL

Sl.	Particulars	Installed Capacity (MW)	COD
1	Unit 1	135 MW	04.09.2010
2	Unit 2	135 MW	14.11.2010
3	Unit 3	135 MW	01.01.2012
4	Unit 4	135 MW	18.01.2012
5	**Total**	**540 MW**	

Commission's View

The Installed Capacity and COD of DCPP Units have been considered as submitted by JSPL. Further, JSPL was asked to clarify the technology/type of boiler used for generation. JSPL, vide its reply dated 18.10.2022, submitted that all the DCPP Units had Circulating Fluidised Bed Combustion (CFBC) boilers. Confirmation has also been received from the Office of the Chief Electrical Inspector (CEE) vide letter dated 18.10.2022, which confirmed the COD and boiler type for DCPP Units, as submitted by JSPL. The same have been considered for the purpose of this Order.

3.11 Gross Generation

JSPL's Submission

JSPL submitted the Gross Generation for DCPP as shown in the Table below:

Table 3-28: Actual Units Generated at DCPP for FY 2011-12 to FY 2015-16 submitted by JSPL (MU)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	1503.42	2506.66	2510.20	3198.16	3198.16

Commission's View

The Gross Generation for DCPP has been considered based on the data submitted by JSPL for determination of the surplus quantum from DCPP, as the same is consistent with the data submitted to the CEI for determination of captive status. The gross generation from DCPP as submitted by JSPL in its Petition does not tally with the gross generation submitted along with the surplus power data for FY 2011-12 and FY 2015-16, and marginally for FY 2014-15. The Gross Generation considered for the purpose of tariff determination is shown in the following Table:

Table 3-29: Actual Units Generated at DCPP for FY 2011-12 to FY 2015-16 (MU)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	1625.10	2506.66	2510.20	3199.66	2724.28

3.12 Plant Availability Factor (PAF)

JSPL's Submission

JSPL submitted the Plant Availability Factor (PAF) for DCPP as shown in the Table below:

Table 3-30: Actual Availability of DCPP for FY 2011-12 to FY 2015-16 as submitted by JSPL (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Average Availability	56%	53%	53%	68%	68%

JSPL submitted that its captive power plant at Dongamahua runs on coal rejects and CERC has special normative PLF ("PAF") for coal reject plants as shown in the Table below:

Table 3-31: CERC availability norms for coal reject plants (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
NAPAF by CERC for coal reject plants	75%	75%	75%	80%	80%

As regards low actual Availability, JSPL submitted that it has the mining permission/consent of 6 Million Tonnes/Annum (MTPA) only from the Chhattisgarh Environment Conservation Board under Section 21 of Air (Prevention and Control of Pollution) Act, 1981 and Section 25/26 of the Water (Prevention and Control of Pollution) Act, 1947. This coal is allocated between JSPL's Raigarh Steel Plant, Raigarh Captive Power Plant (RCPP) and Dongamahua Captive Power Plant (DCPP). As JSPL needs more than 6 Million Tonnes of middling coal to run all its plants at optimal level, hence, based on the middling coal available, it was not possible to run DCPP at more than 60-65% PLF. Due to this reason, the DCPP operates at lower PLF. If at all, DCPP was to be operated at higher PLF, middling coal at market value would have had to be procured, which would have increased the power generation cost. JSPL submitted that this can be seen from the projected Generation Tariff for FY 2015-16, where market purchase of middling coal has been considered as JSPL does not have any captive mines.

Hence, JSPL requested the Commission to consider the actual generation for the purpose of determination of Generation Tariff of DCPP.

Commission's View

JSPL has submitted certain norms of NAPAF as having been specified by CERC for coal-reject based plants. However, there are no such CERC norms of NAPAF for coal-reject based plants. Moreover, the Commission has specified the NAPAF for all thermal generation plants in its respective Tariff Regulations, hence, there is no vacuum, and no need to refer to the CERC Regulations n this regard.

The normative PAF considered are summarised in the Table below:

Table 3-32: Normative Availability for DCPP (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
NAPAF	85%	85%	85%	85%	85%

As regards actual PAF, normally, the Generator is required to produce the certificate for the same from the State Load Despatch Centre (SDLC). However, in this case, no such certificate has been submitted by JSPL. The variation between the normative PAF and actual PAF is relevant, as the recovery of the Annual Fixed Charges (AFC) is linked to the actual PAF vis-à-vis the normative PAF. For the period from FY 2012-13 to FY 2015-16, JSPL in its Petition has considered actual PAF equal to the actual Plant Load

Factor (PLF), presumably on the basis that had the Units been available, they would have generated power, hence, the actual generation is an indicator of the actual availability. However, for FY 2011-12, JSPL has considered slightly higher PAF as compared to the actual PLF.

Further, reasonable compensation for capacity charges is required to be given to CPPs. The approach of sharing the difference in AFC due to actual PAF being lower than normative PAF, ensures this objective.

The Commission has considered the actual PAF equal to the PLF for all years from FY 2011-12 to FY 2015-16, as shown in the Table below:

Table 3-33: Actual Availability of DCPP for FY 2011-12 to FY 2015-16 as approved by Commission (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Average Availability	52%	53%	53%	68%	68%

3.13 Auxiliary Consumption

JSPL's Submission

JSPL has considered the actual auxiliary consumption of DCPP, as shown in the Table below:

Table 3-34: Actual Auxiliary Consumption of DCPP (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Auxiliary Consumption	10.81%	10.00%	10.00%	11.09%	11.09%

JSPL submitted the normative Auxiliary Consumption allowed by CERC for coal reject plants as shown in the Table below:

Table 3-35: Auxiliary Consumption allowed by CERC for coal reject plants (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
CERC Norms for coal reject plants	10.00%	10.00%	10.00%	10.00%	10.00%

JSPL submitted that the actual average auxiliary consumption for DCPP is almost equal to the normative auxiliary consumption allowed by CERC for coal reject plants.

JSPL added that DCPP operates with CFBC boiler and the Auxiliary Consumption of CFBC Boiler is high due to following reasons:

- In CFBC Boiler, furnace is pressurized and creates fluidized bed formation inside first pass, which in tum requires high loading on PA fan.
- The dry ash conveying system in the plant requires large number of compressors, which increases the Auxiliary Power consumption.

Moreover, DCPP uses lower grade middling coal with high ash content, which requires more compressed air for evacuation of ash and results in increased Auxiliary Consumption.

JSPL submitted that CERC has allowed 12% Auxiliary Consumption for 135 MW PF units Chandrapura Plant. CERC in its recommendations for Tariff Period has stated that percentage Auxiliary Consumption for CFBC power plants is 15% more than comparable size PF power plants. JSPL submitted that hence, DCPP should be allowed Auxiliary Consumption up to 13.5%.

JSPL submitted that the actual average Auxiliary Consumption of DCPP is lower than 13.50%, and therefore, requested the Commission to consider the actual Auxiliary Consumption of DCPP, while determining the Generation Tariff.

Commission's View

The normative Auxiliary Consumption for DCPP has been considered as submitted by JSPL, based on CERC norms for coal reject plants, as shown in the Table below:

Table 3-36: Normative Auxiliary Consumption of DCPP approved by the Commission (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative Auxiliary Consumption	10.00%	10.00%	10.00%	10.00%	10.00%

The Commission has computed the actual Auxiliary Consumption for DCPP based on the data submitted by JSPL for determination of the surplus quantum from DCPP, as the same is consistent with the data submitted to the CEE for determination of captive status. The actual Auxiliary Consumption for DCPP for the period from FY 2011-12 to

FY 2015-16 is shown in the Table below:

Table 3-37: Actual Auxiliary Consumption of DCPP approved by the Commission (%)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Actual Auxiliary Consumption	10.00%	10.00%	10.00%	11.14%	14.21%

As the actual Auxiliary Consumption of DCPP is verifiable based on JSPL's submissions to the Chief Electrical Inspector, the Commission has undertaken the sharing of efficiency gains/losses based on the difference between the normative values and actual values, in accordance with the approach adopted for other regulated entities in the State of Chhattisgarh. The net generation computed on normative basis, based on actual generation and normative Auxiliary Consumption, is shown in the Table below:

Table 3-38: Net Generation from DCPP for FY 2011-12 to FY 2015-16 (MU)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	1625.10	2506.66	2510.20	3199.66	2724.28
Aux. Consumption (%)	10.00%	10.00%	10.00%	10.00%	10.00%
Aux. Consumption	162.51	250.67	251.02	319.97	272.43
Net Generation	**1462.59**	**2255.99**	**2259.18**	**2879.69**	**2451.85**

3.14 Station Heat Rate

JSPL's Submission

JSPL submitted the comparison of the normative Station Heat Rate (SHR) as specified in Regulation 33.2. B of the CSERC Tariff Regulations, 2010 and Regulation 39.2. B of the CSERC Tariff Regulations, 2012, respectively, and the actual gross SHR, as shown in the Table below:

Table 3-39: Station Heat Rate (kcal/kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative SHR	2300	2300	2300	2300	2300
Actual SHR	2696.16	2562.01	2515.89	2497.06	2497.06

JSPL submitted that during initial years, the DCPP Units were under commissioning and running in under-loaded condition. Moreover, there were too many forced outages leading to more start/stop of the Units.

DCPP runs on CFBC boiler and has Unit size of 135 MW. Plants with CFBC technology have longer stabilization period than PF based boiler technology. CERC has also approved higher SHR for plants comparable to DCPP in terms of Unit size.

Commission's View

The Normative SHR of 2300 kcal/kWh has been considered as submitted by DCPP for FY 2011-12 to FY 2015-16, as shown in the following Table:

Table 3-40: Approved Station Heat Rate (kcal/kWh) for FY 2011-12 to FY 2015-16

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative SHR	2300	2300	2300	2300	2300

As regards the actual SHR of DCPP, no documentary evidence has been submitted for the same. Further, as stated earlier, the actual data has not been used for any of the computations, and the sharing of efficiency gains/losses based on the difference between the normative values and actual values has not been computed in the absence of audited data regarding the actuals. Hence, all computations have been done on normative basis.

3.15 Specific Fuel Consumption (SFC)

JSPL's Submission

JSPL submitted the comparison of actual Secondary Fuel Consumption (SFC) per kWh and the normative SFC specified as per Regulation 33.3 of the CSERC Tariff Regulations, 2010 and Regulation 39.3 of the CSERC Tariff Regulations, 2012 respectively, as shown in the Table below:

Table 3-41: Specific Fuel Consumption submitted by JSPL (ml/kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative SFC	1.50	1.50	1.00	1.00	1.00
Actual SFC	2.26	1.10	0.62	0.47	0.47

JSPL submitted that the deviation in actual SFC from the normative limits in the initial years is due to the high boiler tube leakage and more maintenance work. The boiler tube leakage and the maintenance work reduced gradually thus, reducing the actual SFC.

Commission's View

The Normative SFC has been considered in accordance with the Regulation 33.3 of the CSERC Tariff Regulations, 2010 and Regulation 39.3 of the CSERC Tariff Regulations, 2012, as shown in the Table below:

Table 3-42: Approved Specific Fuel Consumption for FY 2011-12 to FY 2015-16 (ml/kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative SFC	1.50	1.50	1.00	1.00	1.00

As regards the actual SFC of DCPP, no documentary evidence has been submitted for the same. Further, as stated earlier, the actual data has not been used for any of the computations, and the sharing of efficiency gains/losses based on the difference between the normative values and actual values has not been computed in the absence of audited data regarding the actuals. Hence, all computations have been done on normative basis.

3.16 Landed Price for Primary Fuel (LPPF)

JSPL's Submission

JSPL submitted that DCPP runs primarily on middling coal and washed coal fines. The weighted average price of the different coal varieties used for generation is taken as the landed price of primary fuel. However, vide Order dated August 25, 2014, JSPL's captive coal mines were cancelled and from April 1, 2015, JSPL does not have any captive coal mines. Hence, for the purposes of power generation cost for FY 2015-16, market value of coal of equivalent grade has been considered. JSPL has submitted the LPPF as shown in the Table below:

Table 3-43: Landed Price of Primary Fuel (LPPF) as submitted by JSPL (Rs/MT)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Weighted avg. LPPF	660	710	820	860	2560

Commission's View

JSPL has not submitted any documentary evidence or audited data for the actual price of coal claimed in the Petition. However, for the period from FY 2011-12 to FY 2014-15, the actual price of coal as submitted by JSPL have been considered, as the same are consistent with the Landed Price of Primary Fuel based on average heat value of CSPGCL for the same period. For FY 2015-16, JSPL had estimated a much higher price of coal in its Petition, and the same were not actual cost incurred by JSPL. Hence, for FY 2015-16, the Landed Price of Primary Fuel based on average heat value of CSPGCL for the same period has been considered.

The Landed Price of Primary Fuel for DCPP for the period from FY 2011-12 to FY 2015-16 has been considered as shown in the Table below:

Table 3-44: Approved Landed Price of Primary Fuel (LPPF) (Rs/MT)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Weighted avg. LPPF	660	710	820	860	928

3.17 Landed Price of Secondary Fuel (LPSF)

JSPL's Submission

JSPL submitted that the actual prices of secondary fuel incurred by JSPL for power generation have been considered, as shown in the Table below:

Table 3-45: Landed Price of Secondary Fuel (LPSF) as submitted by JSPL (Rs/kL)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
LPSF in Rs/kL	60,000	80,000	80,000	70,000	70,000

Commission's View

JSPL has not submitted any documentary evidence or audited data for the actual price of secondary fuel claimed in the Petition. Hence, for the period from FY 2011-12 to FY 2015-16, the actual price of secondary fuel as submitted by the State Generating Company, viz., CSPGCL based on its audited accounts, have been considered. Further, the highest of the LPSF for CSPGCL's different plants have been considered.

The Landed Price of Secondary Fuel for DCPP for the period from FY 2011-12 to FY 2015-16 has been considered as shown in the Table below:

Table 3-46: Approved Landed Price of Secondary Fuel (LPSFi) (Rs/ml)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
LPSF in Rs/kL	45,655	50,195	60,353	54,171	40,027

3.18 Calorific value of Primary Fuel (CVPF) and Calorific value of Secondary Fuel (CVSF)

JSPL's Submission

JSPL submitted the weighted average Gross Calorific Value (GCV) of the respective coal grades and the normative GCV of secondary fuel specified in the respective Regulations as shown in the Table below:

Table 3-47: Gross Calorific Value of Fuels as submitted by JSPL

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
GCV of Primary Fuel (CVPF) (kcal/kg)	2152.50	2033.42	1992.32	2253.69	2253.69
GCV of Secondary Fuel (CVSF) (kcal/ml)	10.00	10.00	10.00	10.00	10.00

Commission's View

JSPL has not submitted any documentary evidence or audited data for the GCV of primary fuel and secondary fuel claimed in the Petition. However, for the period from FY 2011-12 to FY 2014-15, the actual GCV of primary fuel and secondary fuel as submitted by JSPL have been considered, as the same are found reasonable. For FY 2015-16, JSPL had estimated the GCV of primary fuel and secondary fuel in its

Petition, and the same were not actuals. Hence, for FY 2015-16, the GCV of primary fuel and secondary fuel have been considered based on average GCV of primary fuel and secondary fuel as claimed by JSPL for the previous 4 years.

The GCV of fuel is relevant for determination of the fuel cost in terms of heat value, i.e., Rs/kcal. In the present case, the Commission has already considered the coal cost based on the comparable cost in terms of heat value, and the secondary fuel cost as submitted by JSPL, hence, the fuel cost will be adjusted based on the GCV considered.

The GCV of coal and secondary fuel considered for DCPP for the period from FY 2011-12 to FY 2015-16, is shown in the Table below:

Table 3-48: Approved Gross Calorific Value of Fuels

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
GCV of Primary Fuel (CVPF) (kcal/kg)	2152.50	2033.42	1992.32	2253.69	2107.98
GCV of Secondary Fuel (CVSF) (kcal/ml)	10.00	10.00	10.00	10.00	10.00

3.19 Energy Charges

JSPL's Submission

JSPL submitted that it has computed the Energy Charges for FY 2011-12 and FY 2012-13 in accordance with the CSERC Tariff Regulations, 2010. The Energy Charge for FY 2011-12 and FY 2012-13 does not include the cost of secondary fuel, since, this cost is considered under Fixed cost for these two years according to the CSERC Tariff Regulations, 2010. JSPL submitted that it has computed the Energy Charges for FY 2013-14 to FY 2015-16 in accordance with the CSERC Tariff Regulations, 2012. From FY 2013-14 to FY 2015-16, the Energy Charge includes the cost of secondary fuel as per CSERC Tariff Regulations, 2012.

JSPL submitted that it has considered the normative Transit Loss of 0.3% on coal as per the Regulation 28.6 of the CSERC Tariff Regulations, 2010 and Regulation 39.6 of the CSERC Tariff Regulations, 2012.

JSPL added that an additional levy of Rs. 295/MT has been considered in the cost of coal, in accordance with the Hon'ble Supreme Court Judgment dated 24th September

2014 in Writ Petition No. 120 of 2012 with Writ Petition Nos. 463, 515 of 2012 and 283 of 2013.

Accordingly, the Energy Charge Rate (ECR) computed by JSPL for DCPP is as shown in the Table below:

Table 3-49: Energy Charge Rate for DCPP as submitted by JSPL (Rs/kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Energy Charges (ECR)	0.92	0.99	1.20	1.10	3.31

Commission's View

The Energy Charge Rate (ECR) has been computed in accordance with CSERC Tariff Regulations, 2010 for FY 2011-12 to FY 2012-13 and CSERC Tariff Regulations, 2012 for FY 2013-14 to FY 2015-16, as shown in the following Table:

Table 3-50: Approved Energy Charge Rate for DCPP (Rs/kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Energy Charge Rate (ECR)	0.70	0.80	0.94	0.87	1.01

The total fuel costs have thus, been approved for the period from FY 2011-12 to FY 2015-16, as shown in the Table below:

Table 3-51: Approved Total Fuel Cost for DCPP (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Net Generation (MU)	1462.59	2255.99	2259.18	2879.69	2451.85
ECR (Rs/kWh)	0.70*	0.80*	0.94	0.87	1.01
Total Fuel Costs	**91.34**	**161.12**	**212.93**	**251.64**	**247.05**

Note: * - The ECR shown above for FY 2011-12 and FY 2012-13 includes the ECR on account of LPSF; however, as cost of secondary fuel has been considered under Fixed Charges, the same have been deducted from the fuel costs for FY 2011-12 and FY 2012-13

3.20 Total Generation Tariff

JSPL's Submission

JSPL has computed the Generation Tariff for DCPP as shown in the Table below:

Table 3-52: Generation Tariff for DCPP as claimed by JSPL (Rs./kWh)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Generation Tariff	4.17	3.58	3.65	3.07	5.32

Commission's View

The AFC for DCPP has been determined in the previous Sections. For FY 2011-12 and FY 2012-13, the CSERC Tariff Regulations, 2010 specify that 1/3rd of the gains shall be retained by the Generator and the entire losses shall be borne by the Generator. Hence, the entire disallowance due to PAF being lower than NAPAF for FY 2011-12 and FY 2012-13 has to be borne by DCPP.

From FY 2013-14 onwards, in accordance with the applicable CSERC MYT Regulations, the entire AFC is recoverable on achievement of the normative PAF, and in case the actual PAF is lower than the normative PAF, then the difference between the total AFC and AFC recoverable in proportion to the PAF, is shared between the Generator and the Beneficiary in the ratio of 50:50. The AFC recoverable in case of DCPP for the period from FY 2011-12 to FY 2015-16 is shown in the Table below:

Table 3-53: AFC Recoverable for DCPP (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Annual Fixed Charges	335.27	498.60	482.71	505.16	498.14
Normative PAF (%)	85%	85%	85%	85%	85%
Actual PAF (%)	52%	53%	53%	68%	68%
AFC Reduction due to lower PAF	130.76	187.77	90.68	51.68	50.96
AFC Recoverable	**204.52**	**310.84**	**392.03**	**453.48**	**447.18**

Normally, for generating stations, the AFC is recoverable separately in Rs. Crore/month from the beneficiaries, in proportion to their contracted capacity as a percentage of the total generation capacity. However, in the present case, there is no such contracted capacity, and the Generation Tariff is being determined for DCPP for the purpose of consideration towards meeting JSPL-D's power purchase requirement in case of surplus power availability, in accordance with the Judgment of the Hon'ble APTEL. Hence, in the present case, the AFC has to also be computed in terms of per unit charges, as shown in the Table below:

Table 3-54: AFC for DCPP (Rs./kWh)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
AFC Recoverable	204.52	310.84	392.03	453.48	447.18
Net Generation (MU)	1462.59	2255.99	2259.18	2879.69	2451.85
Per Unit AFC	**1.40**	**1.38**	**1.74**	**1.57**	**1.82**

The total Generation Tariff for DCPP is the summation of the AFC per unit and the ECR. The Generation Tariff approved for FY 2011-12 to FY 2015-16 is shown in the following Table:

Table 3-55: Approved Generation Tariff for DCPP (Rs./kWh)

Particulars	**FY 2011-12**	**FY 2012-13**	**FY 2013-14**	**FY 2014-15**	**FY 2015-16**
Per Unit AFC	1.40	1.38	1.74	1.57	1.82
ECR	0.62	0.71	0.94	0.87	1.01
Generation Tariff	**2.02**	**2.09**	**2.68**	**2.45**	**2.83**

4 DETERMINATION OF GENERATION TARIFF FOR DCPP FROM FY 2016-17 TO FY 2020-21

4.1 Background

The Commission notified the CSERC Tariff Regulations, 2015 for the third MYT Control Period from FY 2016-17 to FY 2020-21 on September 9, 2015. Subsequently, the Commission notified the First Amendment to CSERC Tariff Regulations on June 16, 2017.

As stated in the previous Chapter, for past periods, the Commission normally undertakes true-up based on audited accounts vis-à-vis the expenses and revenue approved in the Tariff Order for the respective year. However, in case of DCPP, the Commission has not issued any Tariff Order till date, and neither has JSPL submitted Audited Accounts to enable prudence check of the actual expenses.

For the period from FY 2016-17 to FY 2020-21, JSPL did not file any Petition for determination of Generation Tariff, even though as per JSPL's own submission, the source of power purchase for JSPL-D was DCPP for FY 2016-17 and FY 2017-18 and 2 months of FY 2018-19.

Hence, in the present Chapter, the Generation Tariff has been determined for FY 2016-17 to FY 2020-21 based on normative parameters on a post-facto basis and available data, in accordance with the Judgment of the Hon'ble APTEL. The Commission has suo-motu determined the Generation Tariff of DCPP for the period from FY 2016-17 to FY 2020-21, in accordance with the CSERC Tariff Regulations, 2015 and based on available data and appropriate assumptions wherever necessary.

In the Petition filed by JSPL-D for true-up of ARR for FY 2016-17 (Petition No. 62 of 2018), JSPL-D has provided its assumptions for computing the tariff of DCPP, as it has considered entire power purchase from DCPP for FY 2016-17. Though this is strictly not a Petition filed by the Generator, i.e., DCPP, for the purpose of this Suo-motu Petition, the values as submitted by JSPL-D have been relied upon, wherever appropriate, for determination of Generation Tariff for FY 2016-17.

For the period from FY 2016-17 to FY 2020-21, the Commission published the draft assumptions for determination of Generation Tariff for DCPP vide Notice dated

21/09/2022, and invited comments and suggestions from the stakeholders on the same. Only JSPL has submitted certain comments and suggestions on some of the assumptions to be considered for DCPP for the period from FY 2016-17 to FY 2018-19, which have been summarised at the relevant places in this Order.

4.2 Gross Fixed Assets

The GFA for FY 2016-17 has been submitted by JSPL-D (in its Petition No. 62 of 2018), as Rs. 2148.65 Crore. JSPL-D has not submitted any supporting data for this claim of GFA of Rs. 2148.65 Crore, which translates to capital cost of Rs. 3.98 Crore per MW. For the period from FY 2017-18 to FY 2020-21, in the Suo-motu Petition, the Commission had proposed has proposed the GFA to remain at the same level, i.e., Rs. 2148.65 Crore, as shown in the following Table:

Table 4-1: Gross Fixed Assets for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
GFA	2148.65	2148.65	2148.65	2148.65	2148.65

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that the actual GFA addition during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 4-2: Actual GFA as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Opening GFA	2148.65	2149.24	2151.89
Addition during the year	0.59	2.65	3.18
Closing GFA	2149.24	2151.89	2155.07

JSPL also submitted the details of the assets added during the respective years, as elaborated in Chapter 2 of this Order.

Commission's View

JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, JSPL's submissions regarding 'actual' assets added during FY 2016-17 to FY 2018-19 cannot be verified under prudence check. Furthermore, this period is much after the cut-off period of 2 years after COD of the Units of DCPP, hence, capitalisation cannot be allowed in the absence of detailed justification to be submitted by JSPL and the Commission's prior approval for the same. Though JSPL has provided some details of the assets added, no justification has been submitted. Also, the bulk of the asset addition is shown under Buildings/Civil Works, which may or may not be related to DCPP's generation capacity.

Hence, no addition to the GFA has been considered during FY 2016-17 to FY 2018-19 in the suo-motu tariff determination process for DCPP.

The GFA for FY 2016-17 to FY 2020-21 has been considered as shown in the following Table:

Table 4-3: Gross Fixed Assets approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Opening GFA	2117.56	2117.56	2117.56	2117.56	2117.56
Addition during the year	0.00	0.00	0.00	0.00	0.00
Closing GFA	2117.56	2117.56	2117.56	2117.56	2117.56

4.3 Depreciation

In the Suo-motu Petition, the Commission has proposed the Depreciation for FY 2016-17 as Rs. 110.34 Crore, as submitted by JSPL-D in its Petition No. 62 of 2018. The average depreciation rate of 5.10% from FY 2013-14 to FY 2016-17 as proposed by JSPL was used to estimate the depreciation for FY 2017-18 to FY 2020-21, which works out to Rs. 109.58 Crore.

Accordingly, the Depreciation computed for FY 2016-17 to FY 2020-21 in the Suo-motu Petition is as shown in the Table below:

Table 4-4: Depreciation for FY 2016-17 to FY 2020-21 proposed in Suo-motu Petition (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Depreciation	110.34	109.58	109.58	109.58	109.58

Commission's View

As the GFA for each year from FY 2016-17 to FY 2020-21 is the same as the GFA for FY 2015-16, the depreciation for each year has been considered at the same average rate of depreciation, i.e., 5.08%. The Depreciation approved for FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-5: Depreciation approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation	107.47	107.47	107.47	107.47	107.47

4.4 O&M Expenses

In the Suo-motu Petition, the Commission had proposed normative O&M expenses for FY 2016-17 as Rs. 32.88 lakh/MW as claimed by JSPL-D in its Petition No. 62 of 2018.

The O&M norms for FY 2017-18 to FY 2018-19 were derived by escalating the O&M norm for FY 2016-17 by the applicable Consumer Price Index (CPI) and Wholesale Price Index (WPI) in the ratio of 60:40, in accordance with the CSERC MYT Regulations, 2015. The weighted average rate is computed as shown in the following Table:

Table 4-6: Inflation index calculated for O&M expense escalation

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	Average of 5 years increase
CPI-IW (%)	4.12%	3.08%	5.45%	7.53%	5.02%	5.04%
WPI-AC (%)	1.73%	2.92%	4.27%	1.68%	1.27%	2.38%
CPI:WPI @60:40	3.94%	3.03%	4.98%	5.19%	3.53%	

The normative O&M expenses per MW considered in the Suo-motu Petition for calculating the normative O&M expenses for DCPP are as shown in the following Table:

Table 4-7: Normative O&M Expenses proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (Rs. Lakh/MW)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative O&M expenses	32.88	34.34	35.63	37.03	38.56

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that the actual O&M expenses during FY 2016-17 to FY 2018-19 are as shown in the following Table:

Table 4-8: Actual O&M Expenses as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
O&M Expenses	178.37	232.67	312.16

Commission's View

If the actual O&M expenses were known and could be verified, then the difference between the normative and actual O&M expenses could have been passed through under the mechanism of sharing of efficiency gains/losses. However, JSPL has stated that it does not have segregated audited accounts for DCPP, in the absence of which, JSPL's submissions regarding 'actual' O&M expenses during FY 2016-17 to FY 2018-19 cannot be verified under prudence check. Hence, the O&M expenses have been allowed on normative basis and no sharing of gains/losses has been done in the suo-motu tariff determination process for DCPP.

As elaborated in the earlier Chapter, from FY 2014-15 onwards, the separate O&M norms specified by CERC for coal reject-based plants have been considered. Hence, the O&M norms for DCPP for FY 2016-17 to FY 2018-19 have been considered as specified by CERC for coal reject-based plants in the CERC Tariff Regulations, 2014. The O&M norms for DCPP for FY 2019-20 and FY 2020-21 have been considered as specified by CERC for coal reject-based plants in the CERC Tariff Regulations, 2019.

The normative O&M expenses per MW computed by the Commission in accordance with the applicable CSERC Tariff/MYT Regulations for the period from FY 2016-17 to

FY 2020-21, are shown in the Table below:

Table 4-9: Normative O&M Expenses per MW for FY 2016-17 to FY 2020-21 (Rs. Lakh/MW)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Norms for O&M Expenses	32.88	34.95	37.15	31.15	32.24

The normative O&M expenses have been computed by multiplying the per MW normative expenses with the installed capacity of the plant as shown in the Table below:

Table 4-10: Approved Normative O&M expenses (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative O&M Expenses	177.55	188.73	200.61	168.21	174.10

4.5 Return on Equity

In the Suo-motu Petition, the Commission proposed the opening equity for FY 2016-17 as equal to the closing equity for FY 2015-16, while the equity addition for each year has been proposed as 30% of the addition to GFA for the respective year. The rate of Return on Equity was proposed as 15.5% in accordance with the CSERC MYT Regulations, 2015. The rate of Return on Equity was not grossed up with Income Tax rate, since, there is no documentary evidence that DCPP has paid Income Tax, and for the applicable rate of Income Tax, if any.

Therefore, the parameters for allowing Return on Equity were proposed in the Suo-motu Petition for FY 2016-17 to FY 2020-21 as shown in Table below:

Table 4-11: Return on Equity proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Equity	635.94	645.27	645.27	645.27	645.27
Addition during the year	9.33	0.00	0.00	0.00	0.00
Closing Equity	645.27	645.27	645.27	645.27	645.27
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%

Commission's View

The RoE has been computed in accordance with Regulation 22 of the CSERC MYT Regulations, 2015, which specifies as under:

"22. RETURN ON EQUITY

22.1 Generation, Transmission and SLDC: Return on equity shall be computed in rupee terms on the equity base determined in accordance with Regulations 17. Return on equity shall be computed on pre-tax basis at the base rate of 15.5 % to be grossed up as per Regulation 22.3 of these Regulations.

.....

22.3... In case, no tax is payable during the financial year, the tax rate for the purpose of truing up shall be taken as nil."

For computation of RoE, the closing equity as approved for FY 2015-16 has been considered as opening equity for FY 2016-17 and so on. Equity addition during the year has been considered as 30% of the addition to GFA for the respective year.

The rate of return has been considered as 15.50% in accordance with the CSERC MYT Regulations, 2015. The rate of RoE has not been grossed up with the Income Tax rate, as no documentary evidence has been submitted to prove that Income Tax has actually been paid by DCPP in these years, and in accordance with the rationale elaborated in the previous Chapter. The approved RoE for FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-12: Return on Equity approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Opening Equity	635.94	635.94	635.94	635.94	635.94
Addition during the year	0.00	0.00	0.00	0.00	0.00
Closing Equity	635.94	635.94	635.94	635.94	635.94
Average Equity	635.94	635.94	635.94	635.94	635.94
Rate of Return (%)	15.50%	15.50%	15.50%	15.50%	15.50%
Income Tax Rate (%)	-	-	-	-	-
Grossed up rate of return	-	-	-	-	-
Return on Equity	**98.58**	**98.58**	**98.58**	**98.58**	**98.58**

4.6 Interest on Loan

In the Suo-motu Petition, the Commission proposed the opening loan for FY 2016-17 as equal to the closing loan for FY 2015-16, while the loan addition for each year was proposed as 70% of the addition to GFA for the respective year. The loan repayment for each year was proposed equal to the depreciation for the respective year, in accordance with the CSERC MYT Regulations, 2015. The interest rate for the respective year was proposed same as that considered in the true-up for JSPL-T for the respective years and as submitted by JSPL-T, since the same interest rate is based on interest rates for JSPL as a whole.

The interest on loan capital for FY 2016-17 to FY 2020-21 are shown in the following Table:

Table 4-13: Interest on Loan proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	959.88	871.29	761.71	652.13	542.55
Loan Addition during the year	21.76	0.00	0.00	0.00	0.00
Repayment during the year	109.58	109.58	109.58	109.58	109.58
Closing Balance	871.29	761.71	652.13	542.55	487.76
Interest rate	10.42%	10.42%	10.25%	10.69%	10.30%

Commission's View

The interest on loan capital for FY 2016-17 to FY 2020-21 has been considered as per Regulation 23 of the CSERC MYT Regulations, 2015.

The opening loan for FY 2016-17 has been considered equal to the closing loan for FY 2015-16, while the loan addition for each year has been considered as 70% of the addition to GFA for the respective year. The loan repayment for each year has been considered equal to the depreciation for the respective year, in accordance with the CSERC MYT Regulations, 2015. The interest rate for the respective year has been considered same as that considered in the true-up for JSPL-T for the respective years.

Interest on loan capital approved for FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-14: Interest on Loan approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Opening Balance	960.20	852.73	745.26	637.79	530.31
Loan Addition during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	107.47	107.47	107.47	107.47	107.47
Closing Balance	852.73	745.26	637.79	530.31	422.84
Average Loan	906.47	798.99	691.52	584.05	476.58
Interest rate (%)	11.50%	10.42%	10.25%	10.69%	10.30%
Interest Expenses	**104.24**	**83.26**	**70.88**	**62.43**	**49.09**

4.7 Interest on Working Capital

In the Suo-motu Petition, the Commission proposed the normative IoWC in accordance with the CSERC MYT Regulations, 2015. In the absence of data about Repair & Maintenance (R&M) expenses, Maintenance Spares @40% of R&M expenses were estimated by considering R&M expenses as 20% of normative O&M expenses. The rate of interest on working capital was considered in accordance with the CSERC MYT Regulations, 2015, as shown in the following Table:

Table 4-15: Rate of Interest on Working Capital proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Rate of IoWC	12.80%	12.60%	12.20%	12.55%	11.65%

Commission's View

The normative Interest on Working Capital (IoWC) has been computed in accordance with Regulation 25 of CSERC MYT Regulations, 2015, as shown in the Table below:

Table 4-16: Interest on Working Capital approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Cost of Coal	30.40	24.68	18.65	20.42	20.01
Cost of Secondary Fuel	4.74	4.66	3.67	3.45	4.75
O&M Expenses	14.80	15.73	16.72	14.02	14.51
Maintenance Spares	35.51	37.75	40.12	33.64	34.82
Receivables	65.71	58.41	48.10	48.31	47.03
Total Working Capital Requirement	151.15	141.22	127.26	119.85	121.12
Rate of IoWC (%)	12.80%	12.60%	12.20%	12.55%	11.65%
Interest on Working Capital	**19.35**	**17.79**	**15.53**	**15.04**	**14.11**

4.8 Non-Tariff Income (NTI)

JSPL has not considered any Non-Tariff Income (NTI) for any of the years. However, since, some amount of NTI is inevitable while generating electricity, in the Suo-motu Petition, the Commission proposed the NTI for the period from FY 2016-17 to FY 2020-21 as 0.4% of the revenue, based on the pattern observed in case of the State-owned Generation Company, i.e., Chhattisgarh State Power Generation Company Ltd. (CPSGCL), based on its audited accounts.

Table 4-17: Non-Tariff Income proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Non-Tariff Income	2.91	2.54	1.81	2.00	1.93

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that the actual NTI during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 4-18: Actual Non-Tariff Income as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**
Misc. Sales (Store items, Scrap, etc.)	4.39	2.64	1.50
Sundry/Misc. balance written back	-	-	0.66
Insurance claim receipts	-	0.50	1.10
Other Income	0.02	0.01	0.02
Total	**4.41**	**3.16**	**3.27**

Commission's View

The NTI for FY 2016-17 to FY 2018-19 have been considered as submitted by JSPL in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process. The NTI earned by DCPP works out to around 0.6% of the revenue of JSPL in the respective years. Hence, the NTI equivalent to 0.6% of the revenue has been considered to estimate the NTI for FY 2019-20 and FY 2020-21.

The NTI considered for the period from FY 2016-17 to FY 2020-21 is shown in the Table below:

Table 4-19: Non-Tariff Income approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Non-Tariff Income	4.41	3.16	3.27	3.48	3.39

4.9 Annual Fixed Charges

Commission's View

The AFC approved for FY 2016-17 to FY 2020-21 is summarized in the Table below:

Table 4-20: AFC approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Return on equity	98.58	98.58	98.58	98.58	98.58
Interest on Loan	104.24	83.26	70.88	62.43	49.09
Depreciation	107.47	107.47	107.47	107.47	107.47
Interest on Working Capital	19.35	17.79	15.53	15.04	14.11
O&M Expenses	177.55	188.73	200.61	168.21	174.10
Less: Non-Tariff Income	4.41	3.16	3.27	3.48	3.39
Total	**502.79**	**492.67**	**489.80**	**448.26**	**439.96**

4.10 Installed Capacity

There has been no change in the Installed Capacity of DCPP. The Commission has considered the 4 Units of DCPP of 135 MW each for computation of Generation Tariff for the period from FY 2016-17 to FY 2020-21.

4.11 Gross Generation

In the Suo-motu Petition, the Commission considered the actual generation from DCPP for the period from FY 2016-17 to FY 2020-21 based on the data submitted by JSPL for computation of surplus from Captive Units, as shown in the Table below:

Table 4-21: Actual Units Generated at DCPP for FY 2016-17 to FY 2020-21 (MU)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	2803.75	2626.56	1810.99	2018.56	1942.62

Commission's View

The Gross Generation for DCPP has been considered based on the data submitted by JSPL for determination of the surplus quantum from DCPP, as the same is consistent with the data submitted to the CEE for determination of captive status.

The approved Gross Generation for the period from FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-22: Gross Generation at DCPP approved for FY 2016-17 to FY 2020-21 (MU)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Gross Generation	2803.75	2626.56	1810.99	2018.56	1942.62

4.12 Plant Availability Factor (PAF)

In the Suo-motu Petition, the Commission proposed the NAPAF for FY 2016-17 as submitted by JSPL-D in its Petition in Case No. 62 of 2018, and the same NAPAF was proposed for the period from FY 2017-18 to FY 2020-21.

Table 4-23: Normative Plant Availability Factor proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
NAPAF	80%	80%	80%	80%	80%

In the Suo-motu Petition, the Commission proposed the actual Plant Availability Factor (PAF) for the period from FY 2016-17 to FY 2020-21 equal to the computed Plant Load Factor (PLF) for the respective year, based on the generation data submitted by JSPL, which is also the approach adopted by DCPP in its Petition for the period from FY 2011-12 to FY 2015-16.

Table 4-24: Actual Availability of DCPP proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21 (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Actual Availability (%)	59%	56%	38%	43%	41%

Commission's View

The NAPAF for FY 2016-17 to FY 2020-21 has been considered in accordance with the NAPAF specified in the CSERC MYT Regulations, 2015, as shown in the following Table:

Table 4-25: Normative Plant Availability Factor approved by the Commission for FY 2016-17 to FY 2020-21 (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
NAPAF	85%	85%	85%	85%	85%

As regards actual PAF, normally, the Generator is required to produce the certificate for the same from the State Load Despatch Centre (SDLC). However, in this case, no such certificate has been submitted by JSPL. The variation between the normative PAF and actual PAF is relevant, as the recovery of the Annual Fixed Charges (AFC) shall be allowed proportionate to the actual PAF vis-à-vis the normative PAF. The Commission has considered the actual PAF equal to the PLF for all years from FY 2016-17 to FY 2020-21, as shown in the Table below:

Table 4-26: Actual Availability of DCPP approved for FY 2016-17 to FY 2020-21 (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Actual Availability (%)	59%	56%	38%	43%	41%

4.13 Auxiliary Consumption

In the Suo-motu Petition, the Commission proposed the normative Auxiliary Consumption for FY 2016-17 as 11.50% as claimed by JSPL in its Petition in Case No. 62 of 2018. The same Auxiliary Consumption norms were proposed for FY 2017-18 to FY 2020-21, as shown in the Table below:

Table 4-27: Normative Auxiliary Consumption proposed in Suo-motu Petition for DCPP (%)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative Auxiliary Consumption	11.50%	11.50%	11.50%	11.50%	11.50%

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that DCPP is a Captive Power Plant whose load keeps on fluctuating across a wide range. The power generated is mainly used for production of steel and for maintaining the captive status. Therefore, normative auxiliary consumption of 11.50% applicable for other generating stations (IPPs) is not suitable for DCPP. JSPL submitted the actual auxiliary consumption as shown in the following Table, and requested the Commission to consider the same:

Table 4-28: Actual Auxiliary Consumption as submitted by JSPL for FY 2016-17 to FY 2018-19 (%)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**
Auxiliary Consumption	12.79%	14.26%	15.75%

Commission's View

The Auxiliary Consumption for DCPP has been considered based on CERC norms for coal reject plants for FY 2016-17 to FY 2020-21, as shown in the Table below:

Table 4-29: Normative Auxiliary Consumption approved for DCPP (%)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Normative Auxiliary Consumption	11.50%	11.50%	11.50%	11.50%	11.50%

The actual Auxiliary Consumption for DCPP has been computed based on the data submitted by JSPL for determination of the surplus quantum from DCPP, as the same is consistent with the data submitted to the CEE for determination of captive status. The actual Auxiliary Consumption for DCPP for the period from FY 2016-17 to FY 2020-21 is shown in the Table below:

Table 4-30: Actual Auxiliary Consumption of DCPP approved by the Commission (%)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Actual Auxiliary Consumption	13.68%	15.59%	16.81%	16.54%	14.44%

It is observed that the actual Auxiliary Consumption as submitted in the Surplus Power data is different from that submitted by JSPL in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process. As the actual Auxiliary Consumption of DCPP is verifiable based on JSPL's submissions to the Chief Electrical Inspector, the Commission has undertaken the sharing of efficiency gains/losses based on the difference between the normative values and actual values, in accordance with the approach adopted for other regulated entities in the State of Chhattisgarh. The net generation computed on normative basis, based on actual generation and normative Auxiliary Consumption, is shown in the Table below:

Table 4-31: Net Generation approved for DCPP for FY 2016-17 to FY 2020-21 (MU)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Gross Generation	2803.75	2626.56	1810.99	2018.56	1942.62
Aux. Consumption (%)	11.50%	11.50%	11.50%	11.50%	11.50%
Aux. Consumption	322.43	302.05	208.26	232.13	223.40
Net Generation	**2481.32**	**2324.51**	**1602.73**	**1786.43**	**1719.22**

4.14 Station Heat Rate

In the Suo-motu Petition, the Commission considered the Station Heat Rate as 2450 kcal/kWh in accordance with the CSERC MYT Regulations, 2015, as shown in the following Table:

Table 4-32: Normative Station Heat Rate proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21(kcal/kWh)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Normative SHR	2450	2450	2450	2450	2450

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that DCPP is a Captive Power Plant whose load keeps on fluctuating across a wide range. The power generated is mainly used for production of steel and for maintaining the captive status. Therefore, normative Station Heat Rate of 2450 kcal/kWh applicable for other generating stations (IPPs) is not suitable for DCPP. JSPL submitted the actual Station Heat Rate as shown in the following Table, and requested the Commission to consider the same:

Table 4-33: Actual Station Heat Rate as submitted by JSPL for FY 2016-17 to FY 2018-19 (kcal/kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Actual Station Heat Rate	2521	2497	2503

Commission's View

The Normative SHR has been considered as 2450 kcal/kWh in accordance with CSERC MYT Regulations, 2015, as shown in the following Table:

Table 4-34: Normative Station Heat Rate approved for FY 2016-17 to FY 2020-21(kcal/kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative SHR	2450	2450	2450	2450	2450

As regards the actual SHR of DCPP, no documentary evidence has been submitted for the same. Further, as stated earlier, the actual data has not been used for any of the computations, and no sharing of efficiency gains/losses has been done based on the difference between the normative values and actual values, in the absence of audited data regarding the actuals. Hence, all computations have been done on normative basis.

4.15 Specific Fuel Consumption (SFC)

In the Suo-motu Petition, the Commission proposed the normative SFC for FY 2016-17 as 2 ml/kWh as claimed by JSPL in its Petition in Case No. 62 of 2018. The same SFC norms were proposed for FY 2017-18 to FY 2020-21, as shown in the Table below:

Table 4-35: Specific Fuel Consumption proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21(ml/kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative SFC	2.00	2.00	2.00	2.00	2.00

Commission's View

The Normative SFC for FY 2016-17 to FY 2020-21 has been considered as proposed in the Suo-motu Petition. The normative SFC considered for FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-36: Normative Specific Fuel Consumption approved for FY 2016-17 to FY 2020-21(ml/kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Normative SFC	2.00	2.00	2.00	2.00	2.00

As regards the actual SFC of DCPP, no documentary evidence has been submitted for the same. Further, as stated earlier, the actual data has not been used for any of the computations, and the sharing of efficiency gains/losses based on the difference between the normative values and actual values has not been computed in the absence of audited data regarding the actuals. Hence, all computations have been done on normative basis.

4.16 Landed Price of Primary Fuel and Secondary Fuel

In the Suo-motu Petition, the Commission proposed the price of coal for the period from FY 2016-17 to FY 2020-21 based on the average actual coal price of CSPGCL for the same period in terms of Rs/kcal, so that the GCV of coal does not affect the coal cost. The price of Secondary Oil for the period from FY 2016-17 to FY 2020-21 was proposed based on the average actual price as claimed by DCPP for the period from FY 2011-12 to FY 2015-16 as shown in the Table below:

Table 4-37: Price of Coal and Oil proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Price of Coal (Rs./MT)	1282	1111	1218	1197	1218
Price of Oil (Rs./kL)	72000	72000	72000	72000	72000

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that the actual price of coal used by DCPP during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 4-38: Actual Price of Coal as submitted by JSPL for FY 2016-17 to FY 2018-19 (Rs./MT)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
Price of Coal	2022	2228	2926

Commission's View

It is observed that JSPL has submitted only 3 legible sample bills for the months of May 2016, January 2017 and October 2017 and the data submitted does not justify the submissions made by JSPL. For instance, the Price mentioned in one bill is 2022 Rs/MT, second bill shows the Price as 4150 Rs/MT, and another bill shows the Price as 4150 Rs/MT, which are different from the Price of coal claimed by JSPL. The GCV of coal is also not consistent with the GCV claimed by JSPL for DCPP.

Hence, the Price of Coal has been considered based on average heat value of CSPGCL. The Price of oil has also been considered equal to the highest of the actual oil prices submitted by CSPGCL based on its audited accounts, as shown in the Table below:

Table 4-39: Price of Coal and Oil considered for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Price of Coal (Rs./MT)	1265	1096	1202	1180	1202
Price of Oil (Rs./kL)	50758	53194	60753	51291	73404

4.17 Gross Calorific Value (GCV) of Primary Fuel and Secondary Fuel

In the Suo-motu Petition, the Commission proposed the GCV of Coal and Secondary Oil for the period from FY 2016-17 to FY 2020-21 based on the average GCV claimed by DCPP for the period from FY 2011-12 to FY 2015-16, as shown in the Table below:

Table 4-40: Gross Calorific Value of Primary and Secondary Fuel proposed in Suo-motu Petition for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
GCV of Primary Fuel (CVPF) (kcal/kg)	2137.12	2137.12	2137.12	2137.12	2137.12
GCV of Secondary Fuel (CVSF) (kcal/ml)	10.00	10.00	10.00	10.00	10.00

JSPL, in its comments and suggestions submitted as part of the public process on the suo-motu tariff determination process initiated by the Commission, has submitted that the actual GCV of coal used by DCPP during FY 2016-17 to FY 2018-19 is as shown in the following Table:

Table 4-41: Actual weighted average GCV of coal as submitted by JSPL for FY 2016-17 to FY 2018-19 (kCal/kg)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19
GCV of Coal	2403	2818	2742

Commission's View

JSPL has submitted only 3 legible sample bills for the months of May 2016, January 2017 and October 2017 and the data submitted does not justify the submissions made by JSPL. For instance, the GCV mentioned in one bill is 2403 kcal/kg, another bill shows GCV from 3491 – 3700 kcal/kg, and another bill shows the GCV as 4001 – 4300 kcal/kg, which are far higher than the GCV claimed by JSPL.

The GCV of fuel is relevant for determination of the fuel cost in terms of heat value, i.e., Rs/kcal. In the present case, the coal cost has been considered based on the comparable cost in terms of heat value, and the secondary fuel cost as submitted by JSPL, hence, the fuel cost will be adjusted based on the GCV considered.

The GCV of coal for the period from FY 2016-17 to FY 2020-21 has been considered at the same level as considered for FY 2015-16, in this Order. The GCV of Secondary Fuel has been considered as proposed in the Suo-motu Petition. The GCV considered for the period from FY 2016-17 to FY 2020-21 is shown in the Table below:

Table 4-42: Gross Calorific Value of Primary and Secondary Fuel considered for FY 2016-17 to FY 2020-21

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
GCV of Primary Fuel (CVPF) (kcal/kg)	2107.98	2107.98	2107.98	2107.98	2107.98
GCV of Secondary Fuel (CVSF) (kcal/ml)	10.00	10.00	10.00	10.00	10.00

4.18 Energy Charges

Commission's View

The ECR has been computed in accordance with CSERC MYT Regulations, 2015 for FY 2016-17 to FY 2020-21, as shown in the following Table:

Table 4-43: ECR approved for FY 2016-17 to FY 2020-21 (Rs./kWh)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Energy Charges (ECR)	1.46	1.26	1.39	1.36	1.39

The total fuel costs have thus, been approved for the period from FY 2016-17 to FY 2020-21, as shown in the Table below:

Table 4-44: Total Fuel Cost for DCPP approved for FY 2016-17 to FY 2020-21 (Rs. Crore)

Particulars	**FY 2016-17**	**FY 2017-18**	**FY 2018-19**	**FY 2019-20**	**FY 2020-21**
Net Generation (MU)	2481.32	2324.51	1602.73	1786.43	1719.22
ECR (Rs/kWh)	1.46	1.26	1.39	1.36	1.39
Total Fuel Costs	**361.78**	**293.72**	**221.99**	**243.10**	**238.13**

4.19 Generation Tariff

Commission's View

The AFC for DCPP has been approved in the previous Sections. In accordance with the applicable CSERC MYT Regulations, 2015, the entire AFC is recoverable on achievement of the normative PAF, and in case the actual PAF is lower than the normative PAF, then the difference between the total AFC and AFC recoverable in proportion to the PAF, is shared between the Generator and the Beneficiary. The AFC recoverable in case of DCPP for the period from FY 2016-17 to FY 2020-21 is shown in the Table below:

Table 4-45: AFC Recoverable for DCPP (Rs. Crore)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Fixed Charges	502.79	492.67	489.80	448.26	439.96
Normative PAF (%)	85%	85%	85%	85%	85%
Actual PAF (%)	59%	56%	38%	43%	41%
AFC Reduction due to lower PAF	76.10	85.42	134.60	111.61	113.70
AFC Recoverable	**426.69**	**407.25**	**355.20**	**336.65**	**326.26**

Normally, for generating stations, the AFC is recoverable separately in Rs. Crore/month from the beneficiaries, in proportion to their contracted capacity as a percentage of the total generation capacity. However, in the present case, there is no such contracted capacity, and the Generation Tariff is being determined for DCPP for the purpose of consideration towards meeting JSPL-D's power purchase requirement in case of surplus power availability, in accordance with the Judgment of the Hon'ble APTEL. Hence, in the present case, the AFC has to also be computed in terms of per unit charges, as shown in the Table below:

Table 4-46: AFC for DCPP (Rs./kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
AFC Recoverable	426.69	407.25	355.20	336.65	326.26
Net Generation (MU)	2481.32	2324.51	1602.73	1786.43	1719.22
Per Unit AFC	**1.72**	**1.75**	**2.22**	**1.88**	**1.90**

The total Generation Tariff for DCPP is the summation of the AFC per unit and the ECR. The Generation Tariff approved for DCPP for FY 2016-17 to FY 2020-21 is shown in the following Table:

Table 4-47: Approved Generation Tariff for DCPP (Rs./kWh)

Particulars	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Per Unit AFC	1.72	1.75	2.22	1.88	1.90
ECR	1.46	1.26	1.39	1.36	1.39
Generation Tariff	**3.18**	**3.02**	**3.60**	**3.25**	**3.28**

5 DETERMINATION OF GENERATION TARIFF FOR DCPP FOR FY 2022-23 TO FY 2024-25

5.1 Background

JSPL has submitted that it does not have any coal on account of the prevalent coal shortage in the market, and has hence, not generated any electricity from DCPP for FY 2022-23. For FY 2023-24 and FY 2024-25 also, JSPL has proposed to enter into long-term Power Purchase Agreements (PPAs) to meet the requirement of JSPL-D.

5.2 Suo-motu Generation Tariff for FY 2023-24 to FY 2024-25

DCPP is primarily a captive power plant (CPP), and the need for determination of Generation Tariff for DCPP arises only if any quantum of power generated at DCPP is used for meeting the power purchase requirement of the Distribution Licensee, viz., JSPL-D.

If there is no generation at DCPP as contended by JSPL, then there will be no surplus power for supply to JSPL-D. Hence, the Commission has not determined the Suo-motu generation tariff for DCPP for FY 2023-24 to FY 2024-25 in this Order.

In case there is actual generation at DCPP in this period, and there is surplus power available that can be used to meet the power purchase requirement of JSPL-D, then the Generation Tariff for the surplus power quantum shall be computed at the time of true-up for DCPP for the respective years from FY 2023-24 to FY 2024-25, and the corresponding amount shall be booked while truing up the power purchase cost of JSPL-D for the same period.

Annexure - I

List of persons who submitted written submissions and comments during hearing

S. No.	Name
1.	Jindal Steel & Power Limited