Jharkhand State Electricity Regulatory Commission

Order on

Annual Performance Review Petition

for

FY 2012-13

(including truing-up for FY 2011-12)

for

Tata Power Company Limited

(TPCL)

Ranchi

April 2014

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List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal for Electricity
COD	Date of Commercial Operation
FY	Financial Year
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoI	Government of India
JSERC	Jharkhand State Electricity Regulatory Commission
Kcal	Kilocalorie
Kg	Kilogram
kWh	Kilowatt-hour
MAT	Minimum Alternative Tax
MCL	Mahanadi Coalfields Ltd. (IB Valley Coalfields)
Ml	Millilitre
MT	Million Tonnes
MUs	Million Units
MW	Megawatt
O&M	Operations and Maintenance
PLF	Plant Load Factor
PPA	Power Purchase Agreement
RJC	Reprocessed Jig Coal
R&M	Repair and Maintenance
RoE	Return on Equity
Rs	Rupees
SBI	State Bank of India
SERC	State Electricity Regulatory Commission
SLM	Straight Line Method
TPCL	Tata Power Company Limited
TSL	Tata Steel Limited
WB	West Bokaro

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A1: INTRODUCTION

Jharkhand State Electricity Regulatory Commission

1.1 The Jharkhand State Electricity Regulatory Commission (hereinafter referred to as the “JSERC” or “the Commission”) was established by the Government of Jharkhand under Section 17 of the Electricity Regulatory Commission Act, 1998 on August 22, 2002. The Commission became operational with effect from April 24, 2003. The Electricity Act, 2003 (hereinafter referred to as “the Act” or “EA, 2003”) came into force with effect from June 10, 2003; and the Commission is now deemed to have been constituted and functioning under the provisions of the Act.

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

(a) to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be, in the manner provided in section 29;

(b) to determine the tariff payable for the use of the transmission facilities in the manner provided in section 29;

(c) to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;

(d) to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.

1.3 With the Electricity Act, 2003 being brought into force, the earlier Electricity Regulatory Commission Act of 1998 stands repealed and the functions of JSERC are now defined as per Section 86 of the Act.

1.4 In accordance with the Act, the JSERC discharges the following functions: -

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

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

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

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

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

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

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

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

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

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

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

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

1.5 The Commission advises the State Government on all or any of the following matters, namely :-

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

(b) promotion of investment in electricity industry;

(c) reorganisation and restructuring of electricity industry in the State;

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

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

1.7 In discharge of its functions, the State Commission is guided by the National Tariff Policy as brought out by GoI in compliance to Section 3 of the Act. The objectives of the National Tariff Policy are to:

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

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

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

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

Tata Power Company Limited

1.8 The Tata Power Company Limited (hereinafter referred to as 'TPCL' or the 'Petitioner'), is a company incorporated under the Indian Companies Act, VII of 1913 and is engaged in the generation, transmission and distribution of electricity in the country.

1.9 TPCL operates two units (Unit 2 and Unit 3) of Jojobera Power Plant which are the subject of tariff determination in this Tariff Order. Both Units have a capacity of 120 MW each. Unit 2 commenced its operations on February 1, 2001 and Unit 3 on February 1, 2002.

1.10 Tata Steel Limited (TSL), which is engaged in the production of iron and steel and is also a distribution licensee in Jamshedpur (Jharkhand), obtained permission from the Government of Bihar to establish power plants in Jojobera in 1991 through its subsidiary company named Jamshedpur Power Company Ltd. (JAPCOL) which was subsequently transferred to Tata Power Company Limited. TPCL thereafter Commissioned the two Units of 120MW each at Jojobera for supply of power to TSL.

Scope of the Present Order

1.11 The Petitioner in the Annual Performance Review (APR) petition for FY 2012-13 dated March 28, 2013 has prayed before the Commission:

(a) To approve the proposed Operational and Fuel Parameters, Annual Revenue Requirement and Generation Tariff for Unit 2 and Unit 3 of Jojobera for truing-up for FY 2011-12;

(b) To approve the Revised Estimate of Operational and Fuel Parameters, Additional Capitalization, Annual Revenue Requirement and Generation Tariff for Unit 2 and Unit 3 of Jojobera proposed for Annual Performance Review for FY 2012-13;

(c) To approve the Revise Estimated of Operational and Fuel Parameters, Additional Capitalization, Annual Revenue Requirement and Generation Tariff for Unit 2 and Unit 3 of Jojobera proposed for the rest of the Control Period (FY 2013-14 to FY 2015-16);

1.12 The Petitioner filed for the truing up for FY 2011-12 based on the actual information and audited accounts (including the requisite auditor certifications) for FY 2011-12. The Commission in this order has conducted truing up for FY 2011-12 after thorough scrutiny of the information submitted by the Petitioner.

1.13 While conducting the truing up for FY 2011-12 the Commission has taken into consideration the following:

(a) Provisions of the Electricity Act, 2003,

(b) Provisions of the National Electricity Policy,

(c) Provisions of the Tariff Policy;

(d) Principles laid down in the JSERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2010 (hereinafter referred to as 'Generation Tariff Regulations, 2010').

1.14 The Petitioner filed for revision of additional capitalization, operational and fuel parameters, annual revenue requirement and generation tariff for FY 2012-13 and for FY 2013-14 to FY 2015-16 based on the actual information upto February'2013 and projections for March'2013. Subsequently, the Petitioner also submitted the actual information for the entire year FY 2012-13. Further, the Petitioner has also filed an interlocutory application with the Commission with respect to in principle approval of Additional Capital Expenditure of emergency nature for the 2x120 MW Unit 2 & 3 of Jojobera Power Plant, for the Control Period FY 2012-13 to FY 2015-16.

1.15 As per Clause 15 of Generation Tariff Regulations, 2010 (as quoted below) the Commission is required to carry out periodic reviews of performance of a generation company during the control period.

"Review during Control period

15.1 To ensure smooth implementation of the Multi Year Tariff (MYT) framework, the Commission may undertake periodic reviews of Generating Company's performance during the Control Period, to address any practical issues, concerns or unexpected outcomes that may arise.

15.2 The Generating Company shall submit information as part of annual performance review on actual performance to assess the performance vis-à-vis the targets approved by the Commission at the beginning of the Control Period. This shall include annual statements of its performance and accounts including latest available accounting statements, norms achieved and the tariff worked out in accordance with these Regulations.

15.3 The Commission may also direct any modifications to the forecast of the Generating Company for the remainder of the Control Period, with detailed reasons for the same."

1.16 The Petitioner has not submitted a petition for truing up for FY 2012-13 and the petition for revision of estimates for FY 2013-14 to FY 2015-16 and the annual performance review was submitted on basis of actual information upto February'2013. While the Petitioner subsequently submitted the actual information for FY 2012-13 and audited statements for FY 2012-13 for Tata Power Company Limited as a whole, the unit wise audited Profit & Loss Statements for FY 2012-13 and other requisite certifications of the Statutory Auditors, certifications regarding Availability from the SLDC, etc are not available with the Commission for truing up for FY 2012-13. Further, since FY 2013-14 is already over the Commission does not find it prudent to revise the tariff for the year at this stage. Hence, the Commission directs the Petitioner to submit a petition for truing up of FY 2012-13, annual performance review for FY 2013-14 and the revision of estimates/ tariff for FY 2014-15 to FY 2015-16 within 2 months of this Order.

A2: PROCEDURAL HISTORY

Background

2.1 TISCO, now TSL, was granted sanction under section 28(1) of the Indian Electricity Act 1910 for distribution of electricity in the Jamshedpur township area in 1923. A Government of Bihar notification dated February 5, 1993 permitted the establishment of Jamshedpur Power Generating Co. Ltd (JAPCOL) as proposed by TISCO in order to set up Units 2 and Unit 3 at Jojobera, Jamshedpur.

2.2 The two parties, signed a PPA on September 12, 1997 under which both the parties agreed to set up, in a phased manner, a power plant with a total capacity of up to 500 MW at Jojobera. The PPA contained certain provisions which govern the determination of tariff for power generated at Jojobera power plant and purchased by TSL.

2.3 In April 2000, JAPCOL was amalgamated into TPCL (the Petitioner) as its subsidiary. Currently, the Petitioner operates five units at the Jojobera Power Plant, out of which two Units (Units 2 and Unit 3) have been subject to tariff determination by the Commission. Both Units have a capacity of 120 MW each.

TSL and TPCL's Appeal for treatment of Unit 2 and Unit 3 as captive units and ruling of APTEL

2.4 TSL and the Petitioner jointly filed a petition with the Commission for treatment of Unit2 and Unit 3 at Jojobera power plant as captive units of TSL. The extract of the Appeal is as stated below

"The units 2 & 3 at Jojobera, Jamshedpur with a total installed capacity of 240 MW were conceived to meet the needs of steel works and are essentially captive power plants for steel works and related and associated activities of TSL i.e. steel works. The permission to establish the units 2 & 3 were granted to Jamshedpur Power Generating Co. Ltd. (JAPCOL for short) vide a notification issued by the Government of Bihar dated 05.02.93, subsequently amended on 22.03.96 under section 15-A, 43(A)(1)(C) and 44(1) of the Act of 1948. JAPCOL was later amalgamated into TPC in April 2000. The electricity generated from units 2 & 3 were from the very beginning primarily and essentially used for activities associated with manufacture of steel at TSL and for activities incidental and related thereto such as for supply to residential colonies of steel works. TSL became a sanction holder under section 28(1) of Act of 1910 and the area contiguous to the steel works forming part of the Jamshedpur city was taken over by TSL for electricity distribution. TSL is now distribution licensee in the area of Jamshedpur as an ancillary unit in principal business of production of steel. The electricity distribution and retail supply to consumers was done from the energy available after own consumption for TSL's principal business activity. TSL also purchases electricity from

TPCL's unit 1 at Jojobera for consumers of steel works. It also purchases electricity from the Damodar Valley Corporation (DVC for short) to supplement the electricity generated at TPCL's generating units. The supply of electricity to steel works from units 2 & 3 be not considered as supply of electricity by TSL as distribution licensee and therefore be not made part of annual revenue requirement and tariff proposal of TSL's activity as distribution licensee."

2.5 The Commission, in its order dated November 2, 2007, dismissed the appellants' contention that Units 2 and Unit 3 of the Jojobera plant be treated as captive power plants, on the basis of Section 9 of the Electricity Act 2003 and Rule 3 of the Electricity Rules 2005.

2.6 In response to the Commission's order on the Joint petition filed by TSL and the Petitioner, the two appellants went in to appeal to the Hon'ble ATE, challenging the orders of the Commission.

2.7 The Hon'ble ATE, too, ruled that the generating Units in question could not be treated as CPPs. The two appellants subsequently submitted a petition in the Hon'ble Supreme Court to get a stay on the Hon'ble ATE's Judgment, which was refused by the Hon'ble Court. The matter is currently pending in the Hon'ble Supreme Court.

Filing of ARR and Tariff petition by TPCL and Tariff Order for FY 2009-10

2.8 In view of the Hon'ble ATE's Judgement and in accordance with the JSERC Generation Tariff Regulations, 2004 and its powers under the Section 62 1 (a) of the Act, 2003, the Commission directed the Petitioner to file the ARR and Tariff petition with the Commission for determination of tariff of the two units (Unit 2 and Unit 3) at Jojobera.

2.9 TPCL filed the petition for determination of ARR for FY 2007-08, FY 2008-09 and FY 2009-10. The norms and guiding principles for tariff determination adopted by TPCL were not as per the JSERC Generation Tariff Regulations, 2004 but in accordance with the Power Purchase Agreement of 30 years signed with TISCO/TSL as sanction holder for distribution and generation of electricity at Jamshedpur.

2.10 During the tariff determination exercise for FY 2009-10 the Petitioner submitted that "As the PPA is legally binding on both parties, the Commission is requested to determine generation tariff for sale of power from both the Units, as per the provisions of the existing PPA."

2.11 The Commission accepted TPCL's request and determined the tariff for the FY2009-10 as per the provisions of the PPA between TPCL and TSL. The Commission, however, directed the two parties to re-negotiate the PPA:

"10.1 The Petitioner had signed a Power Purchase Agreement (PPA) with TSL Limited (TSL) on 12th September, 1997 under which the Petitioner and TSL agreed to set up, in a phased manner, a power plant with a total capacity up to 500 MW at Jojobera. The PPA laid down certain provisions governing the determination of tariff for power generated by TPCL's Jojobera Power Plant and purchased by TSL.

10.2 Since the tariff period for FY 2007-08 and FY 2008-09 is effectively over and the tariff period remaining for FY 2009-10 is also not adequate to enforce any changes in the PPA, the Commission has decided to accept the provisions of the PPA for the tariff determination exercise for FY 2007-08, FY 2008-09 & FY 2009-10 for power generated from Unit 2 and Unit 3 of Jojobera Plant.

10.3 Furthermore, since the petition for FY 2010-11 is already due for submission by TPCL, the Commission has decided to continue with the provisions of the PPA for the tariff period FY 2010-11 as well.

10.4 Meanwhile, for future tariff periods, the Commission directs the Petitioner to renegotiate the terms and conditions for the determination of tariff specified in the PPA with TSL within 6 months of the issue of this order and submit the ARR filing for FY 2011-12 as per the new agreement (to be ratified by the Commission). The terms and conditions of the tariff determination in the new agreement between TPCL and TSL should be guided by 'Generation Tariff Regulations, 2004' as amended from time to time."

Tariff Order for FY 2010-11

2.12 During the tariff determination exercise for FY 2010-11 the Petitioner reiterated its request that the Commission determine the generation tariff for sale of power from both the Units (Unit 2 and Unit 3), as per the provisions of the existing PPA.

2.13 The Commission in its previous tariff order of FY 2009-10 had accepted the Petitioner's request and had decided to follow the provisions of PPA for determination of tariff up to the FY 2010-11 for power generated by Unit 2 and Unit 3. Thus the Commission decided to determine the tariff for FY 2010-11 as per the provisions of the PPA.

2.14 However, the Commission reiterated that from FY 2011-12 onwards, the tariff for Unit 2 and Unit 3 must be determined in accordance with the Generation Tariff Regulations 2010 of the Commission. It had stated in the tariff order for FY 2010-11 that

"The Commission is in the process of revising the Generation Regulations and the same would be applicable to all the generation stations."

Tariff Order for FY 2011-12

2.15 The Commission in its previous Tariff Order for FY 2011-12 determined the ARR and generation tariff for Unit 2 and Unit 3 of TPCL for FY 2011-12 in accordance with the provisions and principles laid down in the Generation Tariff Regulations, 2010.

Business Plan and MYT Order for FY 2012-13 to FY 2015-16

2.16 The Petitioner filed the petition for Business Plan, Annual Revenue Requirement and Determination of Generation Tariff for the control period FY 2012-13 to 2015-16 on November 30, 2011.

2.17 The Commission in its order dated May 31, 2012 approved the petition filed by the Petitioner regarding Business Plan, Annual Revenue Requirement and Determination of Generation Tariff for the control period FY 2012-13 to 2015-16, including truing up for FY 2010-11 and provisional truing up for FY 2011-12.

Information Gaps in the APR Petition

2.18 In accordance with Section 64(3) of the Act, the State Electricity Regulatory Commission, within one hundred and twenty days of the filing of application for determination of tariff, is required to either accept it and issue a tariff order or reject the application for reasons to be recorded in writing. The Commission accepted the application submitted by the Petitioner for determination of tariff. As part of tariff determination exercise for the Control Period, several deficiencies/information gaps were observed in the tariff petition submitted by the Petitioner.

2.19 These information gaps were communicated to the Petitioner vide letter no.

(a) JSERC/Legal/32/2012 /173 dated 9th July 2013;

2.20 The Petitioner subsequently submitted its response to the aforesaid letters and provided the requisite additional data/information vide letter no.

(a) JPP /REG/JSERC/120/13 dated 14th August 2013;

The representatives of the Commission also carried out a Technical Validation Session on March 14, 2014 at the office of the Petitioner in Jamshedpur and sought further clarifications from the Petitioner which were also communicated via e-mail to the Petitioner. The Petitioner responded submitted these clarifications vide letters dated March 20, 2014, March 22, 2014 and March 29, 2014.

2.21 The Commission scrutinized the additional data/information and on its validation, has passed this Order on the petition filed by the Petitioner.

Filing of the Petition by the Petitioner and delay in issuance of order

2.22 The Petitioner filed the petition for Annual Performance Review for 2012-13 along with truing Up of FY 2011-12 and revised estimates for FY 2013-14 to 2015-15 on March 28, 2013.

2.23 The Commission was unable to conduct the hearing for the above Petition filed by the Petitioner as the Hon'ble Chairperson of the Commission had retired on 15th December, 2012. Further the Member (Finance) post was vacant since 2008 and the the Commission was functioning with only one Member i.e. Member (Technical).

2.24 As per JSERC (Conduct of Business) Regulations, 2011 the quorum should be two members among the three members for issue of any effective orders, such as issue of tariff orders, issue of judgments for the cases filled in the Commission and for any important policy matters. The extract of the Regulation is as follows:

"Quorum:

For all initial procedural issues, the quorum may be one Member.

Except for initial procedural issues like notices, filing of copies and documents, the quorum of the Commission shall be two among the three Members."

2.25 As there was only one member in the Commission, even though the ARR pertains to all the Distribution licensees and Generators existing in the Jharkhand State were received, the tariff orders could not be finalized due to lack of quorum.

2.26 Subsequently, the Member (Finance) was appointed in February 2014. Also, as per the directions of the APTEL in this regard the Commission has amended the JSERC (Conduct of Business Regulations), 2011 and has modified the quorum to one member which shall facilitate the working of the Commission in the future even in the presence of only a single member.

Inviting Public Comments/Suggestions

2.27 The Commission directed the Petitioner to make available copies of the petition to the members of general public on request, and also issue a public notice inviting comments/ suggestions on the petition for Truing Up for FY 2011-12, APR for FY 2012-13 and revised estimates for FY 2013-14 to FY 2015-16.

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

Table 1: List of newspapers and dates on which the public notice by TPCL appeared

Sl. No.	Newspaper (Jamshedpur edition)	Date of Publication
1	The Telegraph	10.02.2014 & 11.02.2014
2	Hindustan Times	10.02.2014 & 11.02.2014
3	Danik Bhaskar	10.02.2014 & 11.02.2014
4	Hindustan	10.02.2014 & 11.02.2014

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

Table 2: List of newspapers and dates on which the public notice by JSERC appeared

Sl. No.	Newspaper (Jharkhand edition)	Date of Publication
1	Hindustan	13 .03.2014
2	Prabhat Khaber	13 .03.2014
3	Dainik Bhaskar	13 .03.2014
4	The Pioneer	13 .03.2014
5	Farooqui Tanzeem (Urdu Daily)	13 .03.2014
6	Dainik Jagran	14.03.2014
7	Uditvani	14.03.2014
8	Ranchi Express	14.03.2014
9	The Hindustan Times (English)	14.03.2014

Submission of Comments/Suggestions and Conduct of Public Hearing

2.30 A public hearing was held on March 14, 2014 at Jamshedpur and many respondents voiced their views on the ARR and tariff petition filed by the Petitioner. The comments/suggestions voiced by the respondents and the Petitioner’s response thereon along with the Commissions analysis on the response provided by the Petitioner are detailed in the Section A4: of this Order.

A3: SUMMARY OF THE PETITION FOR TRUING UP FOR FY 2011-12, ANNUAL PERFORMANCE REVIEW FOR FY 2012-13 AND REVISED ESTIMATES FOR FY 2013-14 TO FY 2015-16

Overview of the Thermal Stations

3.1 The Petitioner currently operates five units at the Jojobera power plant. Of these, two units i.e. Unit 2 and Unit 3 are the subject of ARR and tariff determination in the petition filed by it. The following table summarizes the information pertaining to both the units.

Table 3: Overview of Unit 2 and Unit 3

S. No.	Unit	Installed Capacity(MW)	Status of Operation	Commercial Date of Operation
1	Unit 2	120	Operational	February 1, 2001
2	Unit 3	120	Operational	February 1, 2002

Truing Up for FY 2011-12

3.2 The Petitioner has requested for true up for FY 2011-12 based on the actual performance of Unit 2 and Unit 3 on various operational and financial related parameters.

3.3 The energy charges and fixed cost as proposed by the Petitioner for FY 2010-11, are summarised in the following table:

Table 4 Submitted Energy Charge for FY 2011-12 (Rs Cr)

Parameters	UoM	Unit 2	Unit 3
Gross Generation	MU	798.55	824.69
Heat Rate	KCal/kWh	2611	2615
Specific Oil Consumption	ml/kWh	1	1
Calorific Value of Oil	KCal/l	9100	9100
Energy Charge Rate	Rs/kWh	1.882	1.876
Fuel Cost	**Rs Cr**	**135.92**	**140.23**

Table 5 Submitted Fixed Charges for FY 2011-12 (Rs Cr)

Parameters	Units	Unit 2	Unit 3
O&M charges	Rs Cr	28.56	25.24
Depreciation	Rs Cr	3.81	5.53
Interest on Loan	Rs Cr	0.37	0.31
Return on Equity	Rs Cr	25.32	24.52
Cost of Secondary Fuel	Rs Cr	4.39	4.29
Interest on Working Capital	Rs Cr	8.02	7.85
Annual Fixed Charges	Rs Cr	70.47	67.74
Energy Charge Rate (ECR)	Rs/kWh	1.882	1.876

Parameters	Units	Unit 2	Unit 3
Fuel Cost	Rs Cr	135.93	140.25
Total Cost	Rs Cr	206.41	208
Incentive	Rs Cr	7.12	4.96
Less: Sharing of gains on LDO Consumption	Rs Cr	1.1	0.34
Add: Tax on the Gain on LDO Consumption retained by Tata Power	Rs Cr	0.28	0.09
Add: tax on Gain on aux. power consumption	Rs Cr	0.15	0.23
Total Cost including incentive & sharing of gains on LDO consumption	**Rs Cr**	**212.86**	**212.94**

Annual Performance Review of FY 2012-13

3.4 In its petition the Petitioner has requested for the Annual performance review of FY 2012-13 based on the actual performance from April 2012 to January 2013 and estimated performance upto March 2013.

3.5 The energy charge and fixed charge submitted by the Petitioner for FY 2012-13 are shown in the table below.

Table 6 Submitted Energy Charges for FY 2012-13 (Rs Cr)

Particulars	Units	Unit 2	Unit 3
Gross Generation	MUs	864.45	907.27
Plant Load Factor	%	82.23%	86.31%
Aux Power Consumption	%	9.51%	9.34%
Ex-Bus Generation	MUs	782.28	822.51
Availability	%	94.04%	98.76%
Gross Heat Rate	kcal/kWh	2592	2598
Normative Sp. LDO Consumption	ml/kWh	1	1
Rate of Energy Charges	**Rs/kWh**	**2.206**	**2.246**
Energy charges	**Rs Cr**	**172.55**	**184.69**

Table 7 Submitted Fixed Charges for FY 2012-13

Particulars	Units	Unit 2	Unit 3
Depreciation	Rs Cr	4.27	5.91
Interest on Loan	Rs Cr	1.07	0.85
O&M Expenses	Rs Cr	32.6	27.9
Return on Equity (Pre-Tax)	Rs Cr	25.80	24.92
Interest on working Capital	Rs Cr	11.03	10.66
Cost of Secondary Fuel Oil	Rs Cr	5.23	5.25
Revenue Gap of FY 2010-11	Rs Cr	5.32	1.38
Annual Fixed Charges	**Rs Cr**	**85.33**	**76.87**

Particulars	Units	Unit 2	Unit 3
Projected Incentive (Pre-tax)	Rs Cr	11.34	15.55
Annual Fixed Charges (including Incentive)	**Rs Cr**	**96.67**	**92.42**

Revised Estimates for FY 2013-14 to FY 2015-16

3.6 In its ARR and tariff petition, the Petitioner has requested for revision of projections for Units 2 and 3 for the remaining Control Period FY 2013-14 to FY 2015-16, which takes into consideration the norms and principles outlined in Generation Tariff Regulations, 2010, MYT Business Plan and MYT Petition filed by the Petitioner for the Control Period FY 2012-13 to FY 2015-16, historical performance and cost trends of Units 2 and 3 in previous financial years and MYT Order for the Control Period.

3.7 The energy charges and fixed cost as submitted by the Petitioner for tariff period FY 2013-14 to FY 2015-16, are summarised in the following tables:

Table 8 Submitted Energy Charges for FY 2013-14 to FY 2015-16

Particulars	Units	Revised Estimate for FY 2013-14		Revised Estimate for FY 2014-15		Revised Estimate for FY 2015-16	
		Unit 2	Unit 3	Unit 2	Unit 3	Unit 2	Unit 3
Gross Generation	MUs	893.52	893.52	893.52	893.52	895.97	895.97
Normative Aux Power Consumption	%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Ex-Bus Generation	MUs	804.17	804.17	804.17	804.17	806.37	806.37
NAPAF	%	85.00%	85.00%	85.00%	85.00%	85.00%	85.00%
Gross heat Rate	kcal/kWh	2592	2598	2592	2598	2592	2598
Normative Sp. LDO Consumption	ml/kWh	1	1	1	1	1	1
Rate of Energy Charges	**Rs/kWh**	**2.461**	**2.474**	**2.461**	**2.474**	**2.461**	**2.474**
Energy charges	**Rs Cr**	**197.88**	**198.94**	**197.88**	**198.94**	**198.42**	**199.49**

Table 9 Submitted Fixed Charges for FY 2013-14 to FY 2015-16

Particulars	Units	Revised Estimate for FY 2013-14		Revised Estimate for FY 2014-15		Revised Estimate for FY 2015-16	
		Unit 2	Unit 3	Unit 2	Unit 3	Unit 2	Unit 3
Depreciation	Rs Cr	4.97	6.51	6.09	7.54	7.12	9.86
Interest on Loan	Rs Cr	2.28	1.86	4.24	3.61	6.26	7.22
O&M Expenses	Rs Cr	37.21	31.42	39.92	33.74	42.89	36.23
Return on Equity (Pre-Tax)	Rs Cr	26.98	25.98	28.41	27.31	29.98	30.06
Interest on working Capital	Rs Cr	13.39	13.06	13.69	13.32	14.03	13.73
LDO Expenses at Normative	Rs Cr	5.18	5.18	5.18	5.18	5.20	5.20

Particulars	Units	Revised Estimate for FY 2013-14		Revised Estimate for FY 2014-15		Revised Estimate for FY 2015-16	
		Unit 2	Unit 3	Unit 2	Unit 3	Unit 2	Unit 3
Availability							
Total Annual Fixed Charges	Rs Cr	90.03	84.01	97.52	90.71	105.47	102.29
Projected Incentive (Pre-tax)	Rs Cr	17.53	7.7	11.83	17.45	20.54	12.26
Annual Fixed Charges (including Incentive)	Rs Cr	**107.56**	**91.71**	**109.35**	**108.16**	**126**	**114.55**

A4: PUBLIC CONSULTATION PROCESS

4.1 The public hearing on the tariff petition filed by the Petitioner was held on March 14, 2014 in Jamshedpur. The list of participants is attached as **Annexure-I**.

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

Capital expenditure plan

Public Comments/Suggestions

4.3 The Petitioner has shown an aggregate of Rs 91.21 Cr and Rs 126.47 Cr as Capital expenditures in Unit 2 and Unit 3 respectively from FY 2011-12 to 2015-16.The objector requested the Petitioner to provide details of major items of Capital Expenditure.

4.4 The objector wanted to know whether the capital outlay will increase the capacity of plant and, if yes, then quantity in terms of MU and in percentage of present capacity.

Petitioner's response

4.5 The proposed additional capital expenditure for Unit 2 and Unit 3 include the capital expenditure schemes as approved by the Hon'ble Commission through the Multi Year Tariff (MYT) order dated May 31, 2012 for the control period from FY 2012-13 to FY 2015-16 for Jojobera Unit 2 and Unit 3. The Hon'ble Commission had in Annexure 2A of the MYT order provided the requisite comment on approval/ disapproval of each capital expenditure scheme. Further in view of some deviations in cost and budgeting inflation changes in necessity/usefulness of scheme, changes in annual shutdown plan and duration, emergency requirement and additional requirement for the upkeep of the unit at optimum reliability and efficiency, the approved capital investment plan in the above order stands revised. The revised Capital expenditure plan has been submitted in the Annexure of the Annual Performance review (APR).

4.6 The Installed capacity of Jojobera Unit 2 and Unit 3 is 240 MW and both the units are more than 10 years old. Capital Investment is required to upkeep the operating conditions of Unit 2 and Unit 3 in view of the vintage of the unit and not to increase the capacity of the units. The capital expenditure schemes have been proposed in view of the requirement of the operation of the above units under optimum reliability, efficiency, safety, economy and in compliance with technical and statutory requirements. The proposed additional capital expenditure has therefore been categorized under the 10 categories as mentioned in the Annexure-13 (Category wise segregation of capital Investment scheme for FY 2012-13) of the Annual Performance Review petition.

Commission's view

4.7 The Commission had approved the capital expenditure and capitalization for FY 2012-13 to FY 2015-16 for the Petitioner in the MYT Order dated May 31, 2012 after thorough scrutiny of the Capital Investment Plan submitted by the Petitioner.

4.8 The capitalisation approved by the Commission in the order dated May 31, 2012 is shown in the following tables:

Table 10 Capitalization approved by the Commission for Unit 2 (Rs lakhs)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Capitalization for Unit 2	825.92	1879.88	269.91	1413.81
Capitalization for Unit 3	435.97	1325.06	44.91	1382.81
Capitalization for Common facilities	896.61	1102.45	84.21	95.43

4.9 The details of the approved capital expenditure schemes can be found in Annexure-2A of the MYT order dated May 31, 2012.

4.10 In accordance with the provisions of the Generation Tariff Regulations, 2010, the Commission shall not revisit the approved Capital Investment Plan during the Control Period and any adjustment to depreciation, interest on working capital and return on equity for the actual capital investment undertaken vis-à-vis approved capital investment shall be done at the end of the Control Period. The Commission is required to carry out a review of the approved Capital Expenditure and Capitalisation Plan at the end of the second year of the Control Period i.e. at the end of FY 2013-14 taking into account the actual cumulative capital expenditure and capitalisation incurred by the Petitioner up to FY 2013-14. Therefore, the Commission has not made any revisions in the Capital Expenditure Plan of the Petitioner in this order. The Petitioner is directed to submit a petition for review of Capital Investment Plan including actual capital expenditure incurred up to FY 2013-14 (along with certifications by Statutory Auditors) and revision of estimates for capital expenditure for FY 2014-15 and 2015-16, if any within two months of this Order.

Financing of capital expenditure

Public Comments/Suggestions

4.11 The objector wanted to know how capital expenditure are proposed to be met and the amount of long term loans for meeting capital expenditure and the amount of equity needed.

4.12 Further, the objector wanted to know the reason the projected interest on capital component in case of Unit 2 has doubled every year from FY 2012-13 onwards.

4.13 The objector has also commented whether the return of equity (pre-tax) has taken into account the proposed capital expenditure.

Petitioner's response

4.14 The Petitioner has proposed to finance the additional capitalisation from internal accruals. No specific Loan has been considered for any capital expenditure scheme incurred till FY 2012-13. The Petitioner, therefore, has considered the financing of additional capitalisation at Normative Debt: Equity ratio 70:30. The Petitioner has further responded that if it is required to meet such expenditure through specific Loans from the banks or the Financial Institutions the same shall be acquired at the above ratio of 70% and the actual rate of Interest on such Loan shall be applicable.

4.15 The Petitioner has proposed the Revised Capital Expenditure Plan along with a projected phasing of infusion of such expenditure during the control period FY 2012-13 to FY 2015-16 in the Annexure 13 of the APR petition dated March 28, 2013 for FY 2012-13. It is to be noted that the proposed Capital Investment Plan of Rs 91.21 Cr in Unit 2 includes the actual capital expenditure of Rs 8.39 Cr during FY 2011-12. The estimated capitalisation phasing for Unit 2 during control period is as follows:

FY 2012-13- Rs 8.31 Cr

FY 2013-14- Rs 21.58 Cr

FY2014-15- 26.89 Cr

FY2015-16- 26.04 Cr

The interest on loan is accounted for tariff purpose only after the capitalisation of the schemes. In view of the capitalisation phasing, the Interest on Loan has been computed as per the methodology set out in Generation Tariff Regulations, 2010 and by the Hon'ble Commission in the MYT order for the control period FY 2012-13 to FY 2015-16 for Unit 2. The gradual increase of such interest on loan is due to the cumulative effect of Additional Capitalisation of previous years during current financial year and so on.

4.16 The return on equity (pre-tax) has been computed based on the proposed capital expenditure and capitalization phasing during FY 2012-13 to FY 2015-16 in line with the methodology prescribed in JSERC Generation Tariff Regulations, 2010 and the MYT Order for the control period FY 2012-13 to FY 2015-16 for Unit 2 and Unit 3.

Commission's view

4.17 The financing of capital expenditure of the Petitioner is approved as per the principles laid down in Clause 7.13 of Generation Tariff Regulations, 2010 as quoted below.

"7.13 In case of the generating station declared under commercial operation prior to 1.4.2011, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2011 shall be considered for determination of tariff for the Transition period.

During the control period, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2012 shall be considered for determination of tariff."

4.18 As per the submission of the Petitioner no specific loan has been taken by it for additional capital expenditure and the entire expenditure is being funded through internal accruals. However, if funding of the entire capital expenditure is considered through internal accruals/ equity and a return of 15.50% is given on the same each year, it would lead to undue burden on the consumers. Thus in order to minimize the burden on consumers, in accordance with the Generation Tariff Regulations, 2010 and principles laid down by the Central Electricity Regulatory Commission (CERC) in this regard, the Commission has approved the Debt: Equity at 70:30 for all additional capitalization projected by the Petitioner. Further details of the computation of interest on loan are given in para 5.78 of this Order.

4.19 The Commission has verified the claim regarding return on equity made by the Petitioner and has approved return on equity @ 15.50%, grossed up by the tax rate, in accordance with the principles laid down in the Generation Tariff Regulation, 2010. The detailed computation of return on equity is given in para 5.78 of this Order.

Average sales price

Public Comments/Suggestions

4.20 The objector has commented that the average sales price per MU by the Petitioner during FY 2011-12 (actual) and FY 2012-13 (estimated) should be provided.

Petitioner's response

4.21 The average sales price per unit for FY 2011-12 (actual) and FY 2012-13 (estimated) for Unit 2 and Unit 3 is based on the annual revenue requirement and the actual ex bus generation as proposed by the Petitioner.

Commission's view

4.22 The average tariff (sales price) approved by the Commission for FY 2011-12 after thorough scrutiny and truing up is Rs/kwh 2.74 for Unit 2 and Rs/kwh 2.70 for Unit 3 against the average tariff of Rs/kwh 2.86 for Unit 2 and Rs/kwh 2.78 for Unit 3 submitted by the Petitioner.

4.23 As mentioned earlier in para 1.16 the Commission has not revised tariff for FY 2012-13 to FY 2015-16 in this Order.

Supply of electricity to areas adjacent to power plant

Public Comments/Suggestions

4.24 The objector has commented that 100% of the electricity generated by the Petitioner is distributed to the affluent areas of Jamshedpur and to the Adityapur Industrial areas. The objector also commented that the areas adjacent to the Power Plant do not get any electricity supply.

4.25 The objector also commented that the Petitioner is interested in providing power to those areas where it can get tariff at a higher rate than the Government decided rate.

Petitioner's response

4.26 The Petitioner is a generating company which supplies its power from Jojobera Unit 2 and Unit 3 to Tata Steel Distribution Licensee which further distributes the power to its licensed area.

4.27 The Tariff of supply of power from above Units is determined by the JSERC under JSERC Generation Tariff Regulations 2010 and hence, the Petitioner cannot sell power from Jojobera Units 2 and 3 at a Tariff higher than that decided by the JSERC. Further, the Petitioner does not have a Distribution License in Jamshedpur and therefore it cannot distribute power in Jamshedpur.

Commission's view

4.28 The Petitioner has an obligation to supply the power generated to Tata Steel Distribution Licensee from the Unit 2 and Unit 3 of the Jojobera power plant under the power purchase agreement between the Petitioner and Tata Steel Distribution. The Petitioner is allowed to charge Tata Steel Distribution only the tariff as determined by the Commission as per the Generation Tariff Regulations, 2010.

4.29 The Petitioner i.e. Tata Power Limited currently has no obligation to supply power to retail consumers.

Pollution, medical camp and lighting at govindpur and adjacent villages to the Petitioner's power plant

Public Comments/Suggestions

4.30 The objector has commented that the ground water at Govindpur area is getting contaminated due to release of polluted water from the Petitioner's power plant to the drains of Govindpur by Tata Power. When the Petitioner did not exist the residents of Bada Govindpur, Domjuri, Bhola Bagan used to utilize that water for the purpose of bathing and irrigation. But now due to release of Ash laden water in the drains and because of the residents of these areas using the same water for bathing and irrigation the agricultural land is getting damaged.

4.31 The objector also commented that the dust particles emanating from the Petitioner's power plant is affecting the health of resident beside plant adversely which has led to prominence of Asthma and TB among them.

4.32 On monthly basis the Petitioner conducts one-day medical camp that too homeopathic. The objector suggested to conduct allopathic medical camp on daily basis and the objector requested the Petitioner to bear the treatment cost of all Asthma and TB patients.

4.33 The objector also commented that the Petitioner should make arrangement for Street Lights for the Main Streets and other localities at Govindpur.

4.34 The objector also commented that there are some grounds in Govindpur which needs to be cleaned by the Petitioner so that the residents of Govindpur can use for Sports and Recreation.

Petitioner's response

4.35 The above queries are beyond the scope of the APR petition dated March 28, 2013 for FY 2012-13 submitted by the Petitioner to the Commission and hence we are unable to provide the response to the same.

Commission's view

4.36 The Commission directs the Petitioner to take the required measures to ensure that the immediate environment is kept free from contamination and report compliance.

A5: TRUING UP FOR FY 2011-12

5.1 The Commission had approved the ARR and generation tariff for FY 2011-12 in its Order dated August 20, 2011 based on the projections for various cost parameters. Further, the Commission in its order dated May 31, 2012 for FY 2012-13 to FY 2015-16 carried out provisional truing up of ARR for FY 2011-12 based on the information provided by the Petitioner regarding the actual performance during the year. The Petitioner has now sought approval from the Commission for truing up of variation in certain elements of the ARR for FY 2011-12 which were earlier provisionally trued up in the said order.

5.2 The Commission has analysed the submission of the Petitioner with respect to the ARR for FY 2011-12, and has undertaken the true up exercise of various components. The component-wise description of the Petitioner's submission and the Commission's analysis thereof is provided hereunder.

Operational Performance

Plant Availability

Petitioner's submission

5.3 The Petitioner submitted month wise actual plant availability of Unit 2 and Unit 3 and has calculated the average annual availability of Unit 2 at 91.87% and that of Unit 3 at 94.96% during FY 2011-12.

Commission's analysis

5.4 The Commission in the Tariff Order for FY 2011-12 had projected the availability for Unit 2 and Unit 3 as equal to the Normative Annual Plant Availability Factor (NAPAF) of 85% as specified in the Generation Tariff Regulation, 2010. Since the actual Availability of Unit 2 and Unit 3 as submitted by the Petitioner was 91.87% and 94.96% respectively which is greater than NAPAF of 85%, the Commission after scrutinising the certifications of SLDC regarding availability accordingly approved the actual Availability at the time of provisional truing up, in its order dated May 31, 2012.

5.5 The Commission further observes that there is no change in the Plant Availability submitted by the Petitioner in the APR petition dated March 28, 2013 with respect to the Plant Availability as earlier approved in the order dated May 31, 2012. Hence the Commission approves the Plant Availability for Unit 2 and Unit 3 at 91.87% and 94.96% respectively for truing up of FY 2011-12.

Auxiliary Consumption

Petitioner's submission

5.6 The Petitioner submitted the auxiliary consumption of Unit 2 and 3 of the Jojobera generating station at 9.55% and 9.35% respectively for FY 2011-12.

Commission's analysis

5.7 In the order dated August 20, 2011, the Commission had considered normative auxiliary consumption at 10% for both Unit 2 and Unit 3 for FY 2011-12 for computing the energy charge rate (ECR) for the year as per Generation Tariff Regulations, 2010.

5.8 The Petitioner submitted that the actual auxiliary consumption for FY 2011-12 for Unit 2 at 9.55% and Unit 3 at 9.35% and the Commission approved the same at the time of provisional truing up for FY 2011-12 in its order dated May 31, 2012.

5.9 The Commission further observes that there is no change in the auxiliary consumption submitted by the Petitioner in the APR petition dated March 28, 2013 with respect to the auxiliary consumption as earlier approved in the order dated May 31, 2012. The Commission approves the auxiliary consumption for Unit 2 and Unit 3 at 9.55% and 9.35% respectively for the computation of net generation as it is lower than the norm for auxiliary consumption as per Generation Tariff Regulations, 2010.

Generation

Petitioner's submission

5.10 The Petitioner submitted that the generation of Unit 2 and Unit 3 of the Jojobera generating station was 798.55 MU and 824.69 MU respectively for FY 2011-12.

Commission's analysis

5.11 The Commission at the time of provisional truing up in its order dated May 31, 2012 had approved the gross generation at 798.55 MU and 824.69 MU and net generation at 722.28 MU and 747.58MU for Unit 2 and Unit 3 respectively.

5.12 The Commission further observes that there is no change in the gross generation and net generation submitted by the Petitioner in the APR petition dated March 28, 2013 with respect to these parameters as earlier approved in the order dated May 31, 2012. The Commission approves the same based on actual generation.

Heat Rate

Petitioner's submission

5.13 The Petitioner submitted that the Heat rate for Unit 2 and Unit 3 at 2611 kCal/kWh and 2615 kCal/Kwh respectively. The Petitioner claimed to achieve a reduction of 33 kCal/kWh and 6 kCal/kWh in Heat rate for Unit 2 and Unit 3 respectively within a span of one year owing to short-term measures like mill fineness optimization, turbine fin replacement and blade roughness reduction during Annual Shutdowns of the Units as recommended by Central Power Research Institute (CPRI), Bangalore during Energy audit. Few other measures were also recommended by the CPRI which are yet to be implemented by the Petitioner as the Petitioner claims it requires Capital Expenditure.

5.14 The Petitioner further submitted that the schemes approved by the Commission in the order dated May 31, 2012 also include certain schemes which fulfil the above requirement and the implementation of the measures has to be performed only during the annual shutdown of the Units and may take a more than a year to put to effect.

5.15 The Petitioner has requested that such a huge reduction of heat rate to the tune of 50 kCal/kWh as envisaged in the above units is an uphill task and requires a certain time period to implement the identified measures. The Petitioner has claimed in the petition that initiatives have been commenced and the Petitioner on 23rd April 2010 made submission to the Commission pertaining to detailed action plan to the Hon'ble Commission in pursuit of improvement of heat rate of the above Units. The Petitioner requested that, the Commission may note the significant reduction in heat rate achieved in FY 2011-12 and FY 2012-13 for the Units 2 and 3. The Petitioner further submitted that such heat rate in Unit 2 and Unit 3 has been achieved even when the above Units have been operated at PLF of only 75.76% for Unit-2 and 78.24% for Unit-3 respectively.

5.16 Hence, the Petitioner requested the Commission to exercise its "Power to remove difficulties" and "Power of Relaxation" as specified in Regulations 17.3 and 17.4 respectively in the Generation Tariff Regulations, 2010 and approve actual heat rate at 2611 kCal/kWh for Unit 2 and 2615 kCal/kWh for Unit 3 for Truing-up of FY 2011-12.

5.17 Further, the Petitioner filed an interlocutory application with the Commission vide letter no. JPP/REG/JSERC/38/14 dated 26.03.2014 citing the following:

(a) The Petitioner pointed out that the vintage of Unit 2 and Unit3 of the Jojobera Power Plant have vintage of more than 12 years which is almost half of their life cycle. Further, the PLF of Unit 2 and Unit 3 are at 75-84% which according to the Petitioner is not a controllable parameter for a generating company.

(b) The Petitioner in its appeal mentioned that the generating companies across the country are facing the problem of frequent load forego done by the long term beneficiaries due to the economic slowdown and various other reasons thereby compelling the generating stations to operate at much lower PLF which effect the operational performance of the units including the heat rate.

(c) The Petitioner owing to above reasons, requested the Commission to specify a trajectory of Normative Heat Rate at different PLF. Further the Petitioner pointed out that the Hon'ble Ministry of Power in the model power supply agreement in the standard bid documents for case-1 projects introduced a provision of sliding heat rate which provides PLF based trajectory for increase in the station heat rate under part load operation of the generating units. The trajectory mentioned by the Petitioner is mentioned below:

Table 11 Increase in Station Heat rate for part load operation in Cas-1 SBD as submitted by the Petitioner

Sl.No.	Dispatch as Proportion of Dedicated Capacity (%)	Increase in SHR(for super critical turbine)	Increase in SHR ((for sub critical turbine)
1	85-100	Nil	Nil
2	75-84.99	1.25	2.25
3	65-74.99	2	4
4	55-64.99	3	6
5	45-54.99	4.5	9
6	35-44.99	7	13.5
7	25-34.99	10.5	21
8	15-24.99	14	30
9	5-14.99	19	40
10	Below 5	25	50

(d) The Petitioner based on the above table calculated the revised normative heat rate as shown in the table below:

Table 12 Revised Normative Heat rate for Unit 2

Revised Normative Heat rate		
Particulars	UoM	Unit 2
Normative Heat rate (A)	Kcal/Kwh	2567
Operating PLF Range	%	75%-84.99%
Applicable increase in Heat Rate	%	2.25%
Revised Normative Heat Rate (B)	Kcal/Kwh	2625
Actual Heat Rate (C)	Kcal/Kwh	2591
Difference between Revised Normative and	Kcal/Kwh	34

Revised Normative Heat rate		
Particulars	UoM	Unit 2
Actual SHR (B-C)		
Difference between Normative & Actual SHR (A-C)	Kcal/Kwh	-24

Table 13 Revised Normative Heat rate for Unit 3

Revised Normative Heat rate		
Particulars	UoM	Unit 3
Normative Heat rate (A)	Kcal/Kwh	2577
Operating PLF Range	%	75%-84.99%
Applicable increase in Heat Rate	%	2.25%
Revised Normative Heat Rate (B)	Kcal/Kwh	2635
Actual Heat Rate (C)	Kcal/Kwh	2601
Difference between Revised Normative and Actual SHR (B-C)	Kcal/Kwh	34
Difference between Normative & Actual SHR (A-C)	Kcal/Kwh	-24

(e) The Petitioner further in the appeal requested the Commission to :

(i) Exercise Regulation 17.4 (Power of Relaxation) and approve the actual Heat Rate achieved by the Units 2 and 3 for FY 2011-12 & FY 2012-13 for truing-up and revised estimate of Heat Rate for FY 2013-14 to FY 2015-16 at the actual Heat Rate achieved in FY 2012-13 subject to Truing-up at actual;

(ii) Exercise Regulation 17.3 (Power to remove difficulties) and specify a trajectory of Normative Heat Rate at different PLF by introducing the concept of Sliding Heat Rate in the Generation Tariff Regulations through suitable amendment(s).

Commission's analysis

5.18 As per the Generation Tariff regulations, 2010 the heat rate for the Petitioner is specified at 2567 kCal/kWh for Unit 2 and 2577 kCal/kWh for Unit 3.

5.19 In the tariff petition submitted by the Petitioner for FY 2011-12, the Petitioner had requested for relaxation of station heat rate approved by the Commission in the Generation Tariff Regulation, 2010. The Commission after considering the submissions made by the Petitioner in detail had however declined to relax the norm for station heat Rate. The relevant portion of the order is quoted below:

"9.15 The Commission specified the norms of operation for the two Units of Jojobera Plant in the Clause 8.4 of the Generation Tariff Regulations, 2010. It is pertinent to mention that the norms of operation were fixed by the Commission after study of the past performance for each plant in the state and as per the data made available by the Generation companies including TPCL for the two units - Unit 2 and Unit 3 of Jojobera Plant. Before finalization of the norms, the Commission had also conducted a public hearing in which all the stakeholders, including TPCL, participated. The Commission after due deliberation finalized the Regulations.

9.16 The Regulations have been notified accordingly and the norms of operation are applicable and binding on each of the generation plants covered under the Regulations. As per the said Regulations, the Station Heat Rate for the two units has been fixed at 2567kCal/kWh and 2577 kCal/kWh respectively.

9.18 The Commission notes with concern that the CPRI Report clearly indicates that principal deviation (274.8 kCal/kWh) is a controllable loss and better SHR than the 2577 kCal/kWh currently allowed is achievable.

9.19 In view of the above observations, the Commission does not find any merit in allowing deviation in the norms fixed for SHR, for Unit 2 at 2567 kCal/kWh and Unit 3 at 2577 kCal/kWh, as per the Generation Tariff Regulations, 2010."

5.20 The Petitioner filed an appeal (Appeal no 189 of 2011) before the Hon'ble APTEL for relaxation of the norm for station heat rate. The Hon'ble APTEL however upheld the decision of the Commission not to relax the norm for station heat rate. The relevant portions of the judgement of the APTEL are quoted below:

"31. The principles laid down in these authorities cited by the Appellant are as follows:

(a) If the Station Heat Rate allowed by the Commission is not achievable, then the same would not be in anybody's interest. The entity would suffer by not recovering its reasonable cost of supply of electricity and consumers would not get right signal about the pricing of the product, they would be using.

(b) The Station Heat Rate is one of the most important factors for the purpose of determination of the cost of generation. If the targets given to the generating company are not achievable, no purpose would be served by setting such targets, because such approach would adversely impact the financial position of the generator.

(c) The reasonable time has to be given for completion of the medium term measures required for the improvement of the Station Heat Rate. In case any Regulation causes hardship to a party or works injustice to him, the Regulation can be relaxed.

(e) The tariff determination shall be consistent with Section 61 of the Act as well as the Government of India guidelines which shall strike a balance between the transparency, fairness, consumer interest and viability.

*32. **On going through all the decisions, we are of the view that the principles which have been laid down by this Tribunal as well as Hon'ble Supreme Court as cited by the State Commission would squarely apply to the present case especially, when impugned order has given proper reasoning for not relaxing the norms**. On the other hand, the reliance placed by the Appellant on 2010 DELR (APTEL) 0189 cited by him has no application to the present case. In that case, the Station Heat Rate was found to be unachievable and in that context the State Commission was not in a position to take a considered view on the subject. **In the present case, the State Commission has fixed the norms of Station Heat Rate after studying in details the past performance for each plant in the State and after considering the data furnished by the Appellant for 2 units i.e. Unit No.2 and Unit No.3 of the Plant.***

*33. In the present case, the State Commission has considered the CPRI report in detail and studied that the major deviation between the design Heat Rate and the Test Heat Rate due to turbine deficiency. Similarly, in other cases also reported in 2011 ELR (APTEL) 1742, i.e. suo-moto action taken by this Tribunal and Essar Power Limited case reported in 2011 Energy Law Journal would not apply to this case since the issue in question has not been decided in those cases. **In the present case, Station Heat Rate norms have been framed under the Regulation after studying the past performance of the Plants. That apart, the State Commission has given a detailed reasoning in the impugned order for not relaxing the norms laid down in the Regulation. Hence, we do not find any infirmity in the finding of the State Commission on this issue**.*

5.21 The Petitioner has again sought relaxation in the heat rate its petition for truing up on the following grounds:

(a) The Petitioner claimed to achieve a reduction of 33 kCal/kWh and 6 kCal/kWh in Heat rate for Unit 2 and Unit 3 respectively within a span of one year owing to short-term measures like mill fineness optimization, turbine fin replacement and blade roughness reduction during Annual Shutdowns of the Units as recommended by Central Power Research Institute (CPRI), Bangalore during Energy audit.

(b) The Petitioner has requested that such a huge reduction of Heat Rate to the tune of 50 kCal/kWh as envisaged in the above units is an uphill task and requires a certain time period to implement the identified measures.

5.22 Further, in the interlocutory application filed by it, the Petitioner has re-iterated that the Commission approve the actual Heat Rate achieved by the Units 2 and 3 for FY 2011-12 & FY 2012-13 for truing-up and revised estimate of Heat Rate for FY 2013-14 to FY 2015-16 at the actual Heat Rate achieved in FY 2012-13 subject to Truing-up at actual.

5.23 As mention earlier, the Commission has fixed the norms of operation for Unit 2 and Unit 3 after study of the past performance for each plant in the state and as per the data made available by the Generation companies including TPCL for the two units - Unit 2 and Unit 3 of Jojobera Plant. Before finalization of the norms, the Commission had also conducted a public hearing in which all the stakeholders, including TPCL, participated. The Commission after due deliberation finalized the Regulations.

5.24 It is to be noted that the Commission in its tariff orders prior to F 2011-12 allowed the Petitioner a higher heat rate for the years FY 2007-08, FY 2008-09, FY 2009-10 and FY 2010-11.

Table 14 Heat rate allowed by the Commission for FY 2007-08, FY 2008-09, FY 2009-10 and FY 2010-11

Financial Year	Heat Rate allowed (kCal/kWh)	
	Unit 2	Unit 3
FY 2007-08	2645	2676
FY 2008-09	2569	2592
FY 2009-10	2632	2648
FY 2010-11	2644	2621

5.25 Simultaneously, however, the Commission also directed the Petitioner in its orders to improve its operational performance. In the 'Tariff Order on ARR for FY 2007-08, 2008-09 & 2009-10 & Determination of Distribution Tariff for FY 2009-10 for TPCL', the Commission observed that "*performance of the two Units of Jojobera plant with respect to some of the operational parameters is worse than other similarly placed plants in the country considering the age profile of the TPCL Units. In particular, the SHR, PLF, normative annual plant availability factor (as per CERC Tariff Regulations, 2009) and the auxiliary consumption can be improved further to the extent of CERC approved operational norms for thermal stations of such nature*".

5.26 Further again in the 'Tariff Order on Annual Revenue Requirement and Determination of Generation Tariff for Financial Year 2010-11 for Tata Power Company Limited (TPCL)' the Commission directed "*that the performance with respect to some of the operational parameters is lower than those of the other similarly placed plants in the country. In particular, the SHR, the PLF, normative annual plant availability factor (as per CERC Tariff Regulations, 2009) and the auxiliary consumption can be improved further to the extent of CERC approved operational norms for thermal stations of such nature.*"

5.27 Further, as pointed out by the Petitioner itself in its APR petition dated March 28, 2013, the capital expenditure schemes approved by the Commission in the order dated May 31, 2012 also included certain schemes for implementation of the measures for improvement of station heat rate. The financing cost and capital expenditure on account of this capital expenditure has already been allowed to the Petitioner in the tariff approved by the Commission.

5.28 In view of the Judgement of APTEL in Appeal No. 189 of 2011, the previous orders of the Commission in this regard and the reasons noted above, the Commission does not deem it appropriate to allow the actual SHR for Unit 2 and Unit 3 as requested by the Petitioner. The Commission therefore approves the station heat rate specified in the Generation Tariff Regulations, 2010 i.e. at 2567 kCal/kWh for Unit 2 and 2577 kCal/kWh for Unit 3.

5.29 In its interlocutory application, the Petitioner has also suggested that the Commission re-determine the trajectory of Normative Heat Rate at different PLFs by introducing the concept of Sliding Heat Rate in the Generation Tariff Regulations, 2010 through suitable amendment(s) in line with the provisions of the model power supply agreement in the standard bid documents for Case-1 projects. The Commission observes that any amendment to the Generation Tariff Regulations, 2010 can only be undertaken after following due procedure of law and soliciting views of the public on the same. As such the request of the Petitioner for amendment of the regulations cannot be considered in this Tariff Order especially given the fact that the Interlocutory Application was filed by the Petitioner on 26th March, 2014 after the public consultation process had already been completed on 14th March 2014. The Commission will discuss the issues and conduct public hearing on the issues raised by the Petitioner in the interlocutory application dated 26th March, 2014 separately after the issue of this Tariff Order.

Operational Parameters Summary

5.30 The tables below show the operational parameters summary for FY 2011-12, in terms of the Petitioner's submission and the Commission's trued up costs for Unit 2 and Unit 3.

Table 15 Approved Operational Parameters for Unit 2 for FY 2011-12

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Gross Generation(MU)	798.55	798.55	798.55
PLF	75.76%	75.76%	75.76%
Aux. Power Consumption	9.55%	9.55%	9.55%
Net Generation(MU)	722.28	722.28	722.28
Heat Rate(kcal/kwh)	2567	2611	2567

Table 16: Approved Operational Parameters for Unit 3 for FY 2011-12

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Gross Generation(MU)	824.69	824.69	824.69
PLF	78.24%	78.24%	78.24%
Aux. Power Consumption	9.35%	9.35%	9.35%
Net Generation(MU)	747.58	747.58	747.58
Heat Rate(kcal/kwh)	2577	2615	2577

Fuel Cost Parameters

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

Petitioner's submission

5.31 The Petitioner submitted that during FY 2011-12 coal was procured from West Bokaro Colliery of Tata Steel (i.e. Middling Coal) and Mahanadi Coalfields, Orissa (i.e. MCL Coal). The proportion of the various types of coal used during FY 2011-12 has been computed as Middling Coal – 65.16%, MCL Coal – 34.84% for Unit 2 and Middling Coal – 64.61%, MCL Coal – 35.39% for Unit 3.

5.32 The Petitioner further submitted the actual weighted average Gross Calorific Value (GCV) for various types of coal consumed in both Units 2 and 3. The Petitioner has mentioned that the GCV of coal used in Unit 2 during FY 2011-12 was 4209 Kcal/kg in respect of Middling Coal and 2848 Kcal/kg in respect of MCL Coal. Whereas for Unit 3, the same was 4214 Kcal/kg in respect of Middling Coal and 2849 Kcal/kg in respect of MCL Coal.

Commission's analysis

5.33 The Commission at the time of provisional truing up in its order dated May 31, 2012 computed the GCV for each type of coal by considering the actual weighted average GCV for FY 2011-12. The Commission observes that there is no change in GCV as approved in the order dated May 31, 2012 and GCV submitted in the APR petition dated March 28, 2013 and approves the GCV of coal as approved earlier.

5.34 The table below summarises the weighted average GCV of coal as submitted by the Petitioner and approved by the Commission for both the Units and the Coal Mix submitted and approved by the Commission for both the units.

Table 17 Approved Coal Mix and GCV for Unit 2 for FY 2011-12

Particulars	Coal Mix(%)			GCV(kCal/kg)		
	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
MCL Coal	34.84%	34.84%	34.84%	2848	2848	2848
Middling Coal	65.16%	65.16%	65.16%	4209	4209	4209

Table 18 Approved Coal Mix and GCV for Unit 3 for FY 2011-12

Particulars	Coal Mix(%)			GCV(kCal/kg)		
	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
MCL Coal	35.39%	35.39%	35.39%	2849	2849	2849
Middling Coal	65.16%	65.16%	65.16%	4214	4214	4214

Transit Loss

Petitioner's submission

5.35 The Petitioner submitted that the Transit Loss of Unit 2 and Unit 3 of the Jojobera generating station are the same as that approved by the Commission at the time of provisional true up in the order dated May 31, 2012.

5.36 In the petition for Order dated May 31, 2012, the Petitioner had submitted the actual transit loss incurred at 1.8% which was rejected by the Commission and further the loss at normative level specified in the Generation Tariff Regulations, 2010 was approved by the Commission at 0.8%. However, owing to adverse financial impact, the Petitioner filed an appeal with the Hon'ble APTEL vide appeal no-147/2012 dated 16.07.2012. Pending this judgement the Petitioner has taken the normative transit loss for calculation purposes.

Commission's analysis

5.37 The Commission in the order dated May 31, 2012 approved Transit Loss at 0.8% for both Unit 2 and Unit 3 for FY 2011-12 as per the norms specified in the Generation Tariff Regulation, 2010.

5.38 Against this order, the Petitioner appealed before Hon'ble APTEL vide appeal no 147/2012. The Hon'ble APTEL in response to the above appeal filed by the Petitioner gave the following judgement:

"The facts of the case before us squarely fit in to the facts of Delhi Case in Appeal No. 26 of 2008. Accordingly, the ratio laid down in Appeal No. 26 of 2008 would be applicable to this case. ***The State Commission is, therefore, directed to reconsider the issue of loss in washed coal transit afresh and issue consequential orders.***

In view our summary of findings above, the impugned order is set aside and the Appeal is allowed. However, there is no order as to costs."

5.39 As per the directions of the Hon'ble APTEL, the Commission has to reconsider the issue of loss to be allowed in washed coal transit afresh. The Commission is thus required to re-determine the norm for transit loss for washed coal for the Petitioner taking into account the actual transit loss incurred by the Petitioner, additional loss on account of washing of coal etc.

5.40 In view of the judgement of the APTEL and the interests of consumers the Commission believes that for reconsideration of the issue of transit loss it is necessary to undertake a detailed Fuel Audit Study of the actual transit loss of the Petitioner. Pending the results of such a study, for the time being, the Commission has considered the transit loss of coal at 0.8% and the Commission shall revise the norm for transit loss after the completion of the Fuel Audit Study.

Landed Cost of Coal

Petitioner's submission

5.41 The Petitioner in the petition for the order dated May 31, 2012 submitted the actual figures of the landed cost of coal consumed in Unit 2 and Unit 3 during FY 2011-12. The landed cost of coal submitted by the Petitioner was higher than that approved by the Commission in the Tariff Order of FY 2011-12. The Petitioner submitted the following reasons for rise in the price of coal.

(a) Increase in base price of middling coal from Rs.2000/ton to Rs.2300/ton from February 28, 2011 and further Rs.2350/ton from April 1, 2011.

(b) Increase in base price of MCL coal from Rs.480/ton to Rs.740/ton from February 28, 2011.

(c) Increase in railway freight charges by 10% from 15th October 2011 onwards.

(d) Inclusion of excise duty w.e.f. FY 2011-12.

5.42 Thus the Petitioner submitted the landed cost of coal for MCL coal at Rs/Ton 1582 and Middling coal at Rs/Ton 2882 for Unit 2 and MCL Coal at Rs/Ton 1571 and Middling Coal at Rs/Ton 2881 for Unit 3.

Commission's analysis

5.43 The Commission in the order dated May 31, 2012 while conducting provisional truing up for FY 2011-12 arrived at the weighted average of the landed cost of coal from April 2011 to March 2012, using the following methodology :

(a) The base price of coal, other charges and tax, transportation and handling charges as submitted by the Petitioner from April 2011 to March 2012.

(b) Actual consumption of various types of coal during April 2011 to March 2012.

(c) Transit loss as approved by the Commission in para 5.40

5.44 However, the Commission directed the Petitioner in the order dated May 31, 2012 to get the month-wise landed cost of coal with respect to Unit 2 and Unit 3 certified by the Statutory Auditor of the Company and submit the same along with the petition for truing up of ARR for FY 2011-12.

5.45 The Commission after due verification of the Certificate of the Auditor of the Petitioner, observes that there is no change in the weighted average landed cost of coal of Unit 2 and 3 of the Jojobera generating station for Middling coal and MCL coal as earlier approved at the time of provisional truing up. Hence the weighted average landed cost of coal of Unit 2 and 3 of the Jojobera generating station for Middling coal and MCL coal considered for True up of FY 2011-12 is approved as shown in the table below:

Table 19 Approved Weighted Average Landed Price of Coal for Unit 2

Particulars	Weighted Average Landed Price of the coal (Rs/ton)		
	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
MCL Coal	1582	1582	1582
Middling Coal	2886	2886	2886

Table 20 Approved Weighted Average Landed Price of Coal for Unit 3

Particulars	Weighted Average Landed Price of the coal (Rs/ton)		
	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
MCL Coal	1571	1571	1571
Middling Coal	2881	2881	2881

Energy Charge Rate (ECR)

Petitioner's submission

5.46 The Petitioner has calculated the energy charge taking into account the actual heat rate. Accordingly, energy charges for FY 2011-12 have been computed considering the actual heat rate of Unit 2 at 2611 kCal/kWh and of Unit 3 at 2615 kCal/Kwh. As per the Petitioner the energy charges for FY 2011-12 work out to Rs 135.92 Cr for Unit 2 and Rs 140.23 Cr for Unit 3.

Commission's analysis

5.47 As per the Generation Tariff Regulation, 2010, the energy (variable) charge shall cover primary fuel costs and shall be payable by every Beneficiary for the total energy scheduled to be supplied to such Beneficiary during the calendar month on ex-power plant basis, at the specified energy charge rate of the month (with fuel price adjustment).

5.48 The formula for calculation of energy charge and energy charge rate (ECR) payable to a Generating Company is specified in Regulation 8.17 and 8.18 of the Generation Tariff Regulation, 2010 as quoted below:

"8.17 Total Energy charge payable to the Generating Company for a month shall be: = (Energy charge rate in Rs. /kWh) x {Scheduled energy (ex-bus) for the month in kWh.}

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

(a) For coal based stations

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

Where, AUX - Normative auxiliary energy consumption in percentage

CVPF - Gross calorific value of primary fuel as fired, in KCal per kg, per litre or per standard cubic metre, as applicable.

CVSF - Calorific value of secondary fuel, in KCal per ml

ECR - Energy charge rate, in Rupees per kWh sent out.

GHR - Gross station heat rate, in KCal per kWh.

LPPF - Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC - Specific fuel oil consumption, in ml per kWh" .

5.49 Accordingly, the Commission has calculated the ECR to be charged by the Petitioner as per the formula stated above and considering the Heat Rate as per the Generation Tariff Regulations, 2010. The Table below contain the ECR and Fuel Cost for Units 2 and 3 for Truing up of FY 2011-12 as submitted by the Petitioner and as approved by the Commission.

Table 21 Approved Energy Charge Rate and Fuel Cost for Unit 2

Parameters	UoM	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Gross Generation	MU	798.54	798.55	798.54
Heat Rate	KCal/kWh	2567	2611	2567
Specific Oil Consumption	ml/kWh	1	1	1
Calorific Value of Oil	KCal/l	9100	9100	9100
Energy Charge Rate	Rs/kWh	1.850	1.882	1.850
Fuel Cost	**Rs Cr**	**133.62**	**135.92**	**133.62**

Table 22 Approved Energy Charge Rate and Fuel Cost for Unit 3

Parameters	UoM	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Gross Generation	MU	824.69	824.69	824.69
Heat Rate	KCal/kWh	2577	2615	2577
Specific Oil Consumption	ml/kWh	1	1	1
Calorific Value of Oil	KCal/l	9100	9100	9100
Energy Charge Rate	Rs/kWh	1.849	1.876	1.849
Fuel Cost	**Rs Cr**	**138.23**	**140.23**	**138.23**

Summary of Fuel Cost

5.50 The following table below provide the summary of Fuel Cost submitted by the Petitioner approved for True up for FY 2011-12

Table 23: Approved Parameters for fuel cost for Unit 2 for FY 2011-12

Particulars	UoM	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
LDO Consumption	Ml/kWh	1	1	1
GCV – LDO	Kcal/Kg	9100	9100	9100
Weighted Average GCV – Middling Coal	Kcal/kWh	2848	2848	2848
Weighted Average GCV –MCL Coal	Kcal/kWh	4209	4209	4209
LDO cost	Rs Cr	4.39	4.39	4.39
Landed Price– Middling Coal	Rs/MT	1582	1582	1582
Landed Price–MCL Coal	Rs/MT	2882	2886	2886
Fuel Cost	Rs Cr	**133.62**	**135.92**	**133.62**

Table 24 : Approved Parameters for fuel cost for Unit 3 for FY 2011-12

Particulars	UoM	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
LDO Consumption	Ml/kWh	1	1	1
GCV – LDO	Kcal/Kg	9100	9100	9100
Weighted Average GCV – Middling Coal	Kcal/kWh	2849	2849	2849
Weighted Average GCV –MCL Coal	Kcal/kWh	4214	4214	4214
LDO cost	Rs Cr	4.29	4.29	4.29
Landed Price– Middling Coal	Rs/MT	1571	1571	1571
Landed Price–MCL Coal	Rs/MT	2881	2881	2881
Fuel Cost (Rs Cr)	Rs Cr	**138.23**	**140.23**	**138.23**

Determination of Fixed Cost

Additional Capitalization

Petitioner's submission

5.51 The Petitioner has submitted that for FY 2011-12 and onwards it has categorized these Additional Capitalisation under two broad categories:

i. Capitalization – Standalone: This category includes the Capitalized Costs incurred for Assets/Schemes exclusively for Unit 2 & 3.

ii. Capitalization – Common Facilities: Unlike the above-mentioned Capitalized Costs incurred for Assets/Schemes exclusively for Unit 2 & 3, this category includes the Capitalized Costs which have been incurred or proposed to be incurred for the whole Station. These Assets/Schemes provide facilities to the whole power station and therefore the Capitalized Cost of such Assets/Schemes must be apportioned to the GFA of Unit 2 & 3 appropriately.

5.52 Further, the Petitioner has worked out the Apportionment Ratio individually as well as the combined ratio for Unit 2 and 3 based on the Installed Capacity of these Units with respect to the Installed Capacity of the Jojobera Power Plant as laid out in the following table

Table 25Apportionment ratio for additional Capitalisation of Common Facilities submitted by Petitioner

Facilities to Unit 2 & 3		
Installed Capacity of Unit1	MW	67.5
Installed Capacity of Unit2	MW	120
Installed Capacity of Unit3	MW	120
Installed Capacity of Unit4	MW	120
Installed Capacity of Jojobera Power Plant	MW	427.5
Contribution of Unit2 in Total Installed Capacity	%	28.07%
Contribution of Unit3 in Total Installed Capacity	%	28.07%
Combined Contribution of Unit 2 & 3 in Total Installed Capacity	%	56.14%

5.53 The Petitioner has accordingly included the Capitalized Costs of the Common Facilities to the GFA of Units 2 & 3 by using the above Apportionment Ratio.

5.54 Using the above methodology the Petitioner arrived at the actual Additional Capitalization of Common Facilities apportioned to Unit 2 & 3 which amounts to Rs 1.83 Cr for each unit for FY 2011-12.

5.55 The total capitalisation details submitted by the Petitioner including the additional capitalisation are shown in the Table Below

Table 26 Total Capitalisation submitted by the Petitioner (Rs Cr)

Asset Class Description	Standalone Capitalisation		Apportioned for Common Facilities		Total Additional Capitalisation	
	Unit 2	Unit 3	Unit 2	Unit 3	Unit 2	Unit 3
Land	0	0	0	0	0	0
Building & Civil Engineering Works	0.18	0	0.78	0.78	0.97	0.78
Transformers & other Fixed Apparatus	0.81	0	0	0	0.81	0
Batteries	0.25	0	0	0	0.25	0
Plant and Machinery in Generating Stations	4.4	3.65	0.75	0.75	5.15	4.4
Switchgear, including Cable Connections	0.15	0	0	0	0.15	0
Air Conditioning Plants(Static)	0	0	0.14	0.14	0.14	0.14
Other Assets-Unclassified	0.58	1.9	0.13	0.13	0.71	2.04
Office Furniture, Furnishings &Office Equipment	0	0	0	0	0	0
Communication Equipment-Telephone Lines and Telephones	0.04	0.06	0	0	0.04	0.06
Self-Propelled Vehicles	0	0	0.02	0.02	0.02	0.02
IT Equipments	0.15	0	0	0	0.15	0
Total	**6.55**	**5.61**	**1.83**	**1.83**	**8.39**	**7.45**

Commission's analysis

5.56 The Commission has outlined the provisions for approval of any additional capitalization, for a generating station in clause 7.5 of the Generation Tariff Regulation, 2010. The clause is outlined below

Additional Capitalisation

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

(i) Undischarged liabilities;

(ii) Works deferred for execution;

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

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

(v) Change in law.

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

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

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

(ii) Change in law;

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

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

5.57 In the order dated May 31, 2012 the Commission has scrutinized the information provided by the Petitioner and has provisionally approved the capital expenditure schemes and the related capitalization as proposed by the Petitioner. The Commission further directed the Petitioner to furnish an auditor's certificate certifying the additional capitalization for Unit 2 and Unit 3 for FY 2011-12.

5.58 On verification of the information submitted by the Petitioner the Commission noted that some of the assets submitted as a part of additional capitalization were not covered under the Asset register certified by the Statutory Auditors. In this regard the Petitioner, vide its letter dated March 22, 2014, clarified that *"However, the 'ISAS System' bearing the Asset No. 536000078 is a Scheme capitalized in Unit 3 as per the Asset Register. Hence, we request the Hon'ble Commission to consider the same as a part of Capitalization in Unit 3 instead of Unit 2. We further request the Hon'ble Commission may not consider the other 3 assets for truing-up exercise for FY 2011-12."*. The Commission has therefore considered ISAS system in the additional capitalization of Unit 3 and has not considered any additional capitalization on account of the following schemes – Pager, Earthpit for Instrumentation Panel and Valve with Actuator.

5.59 After the adjustments to the additional capitalization as noted above, the Commission approves the additional capitalisation as shown in the following table:

Table 27 Approved Additional Capitalisation for Unit 2 (Rs Cr)

Particulars	Additional Capitalisation during FY 11-12		
Asset Class Description	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Building & Civil Engineering Works	0.95	0.97	0.95
Transformers & other Fixed Apparatus	0.9	0.81	0.9
Batteries	0.122	0.25	0.122
Plant and Machinery in Generating Stations	5.072	5.15	5.062
Switchgear, including Cable Connections	0.057	0.15	0.057
Air Conditioning Plants (Static)	0	0.14	0
Other Assets - Unclassified	0.916	0.71	0.916
Office Furniture, Furnishings & Office Equipment	0	0	0
Communication Equipment - Telephone Lines and Telephones	0.043	0.04	0.043
Self-Propelled Vehicles	0.02	0.02	0.02
IT Equipments	0.152	0.15	0.152
Total Additional Capitalisation	**8.23**	**8.39**	**8.22**

Table 28 Approved Additional Capitalisation for Unit 3 (Rs Cr)

Particulars	Additional Capitalisation during FY 11-12		
Asset Class Description	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Building & Civil Engineering Works	0.767	0.78	0.767
Transformers & other Fixed Apparatus	0	0	0
Batteries	0	0	0
Plant and Machinery in Generating Stations	4.344	4.4	4.45
Switchgear, including Cable Connections	0	0	0
Air Conditioning Plants (Static)	0	0.14	0
Other Assets - Unclassified	2.114	2.04	2.114
Office Furniture, Furnishings & Office Equipment	0	0	0
Communication Equipment – Telephone Lines and Telephones	0.043	0.06	0.043
Self-Propelled Vehicles	0.02	0.02	0.02
IT Equipments	0	0	0
Total Additional Capitalisation	**7.29**	**7.45**	**7.39**

Depreciation

Petitioner's submission

5.60 The Petitioner submitted that the depreciation on additional capitalization calculation was made as per the depreciation Rates of various classes of assets as prescribed in Appendix–I of Generation Tariff Regulations, 2010. The submission made by the Petitioner for total depreciation for Units 2 and Unit 3 has been provided in the following Table.

Table 29 Submitted Depreciation on Additional Capitalisation for Unit 2 for FY 2011-12 (Rs Cr)

Asset Class Description	Additional Capitalisation during FY 12	Depreciation in FY 12 on Additional Capitalisation of FY 12
Total Depreciation on Additional Capitalisation	8.39	0.22

Table 30 Submitted Depreciation on Additional Capitalisation for Unit 2 for FY 2011-12 (Rs Cr)

Asset Class Description	Additional Capitalisation during FY 12	Depreciation in FY 12 on Additional Capitalisation of FY 12
Total Depreciation on Additional Capitalisation	7.45	0.19

Commission's analysis

5.61 The Generation Tariff Regulation, 2010 have specified the following methodology for the calculation of depreciation expense for existing generating stations:

(a) Depreciation shall be allowed upto a maximum of 90% of the capital cost of the asset and the salvage value of the asset shall be considered as 10%.

(b) Depreciation shall be calculated annually as per the straight line method and at the rates specified in the Appendix-I of the said Regulations.

(c) In case of existing generating stations, during the transition period, the balance depreciable value as on April 1, 2011 shall be worked out by deducting the cumulative depreciation including AAD as admitted by the Commission upto March 31, 2011 from the gross depreciable value of the assets.

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

5.62 The Commission in the order dated May 31, 2012 approved depreciation on original cost of power plant at Rs 3.59 Cr for Unit 2 and Rs 5.34 Cr for Unit 3. The Commission approves the same in this Order.

5.63 The Commission also approves depreciation of Rs 0.22 Cr and Rs 0.19 Cr on additional capitalisation based on the additional capitalisation approved after verification in this Order.

Table 31 Approved Depreciation for FY 2011-12 of Unit 2 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Depreciation on Original Cost of Capital	3.59	3.59	3.59
Depreciation on Additional Capitalisation	0.22	0.22	0.22
Total Depreciation	**3.81**	**3.81**	**3.81**

Table 32 Approved Depreciation for FY 2011-12 of Unit 3 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Depreciation on Original Cost of Capital	5.34	5.34	5.34
Depreciation on Additional Capitalisation	0.19	0.19	0.19
Total Depreciation	**5.53**	**5.53**	**5.53**

Normative Operation & Maintenance Expenses

Petitioner's submission

5.64 The Petitioner has submitted O&M Expenses for FY 2011-12 at Rs 28.56 Cr for Unit 2 and at Rs 25.25 Cr for Unit 3.

5.65 The Petitioner has allocated its Head Office (HO) expenses towards the Shared Services ("SS") provided from Corporate Office to Unit 2 and Unit 3. The common head office and shared services of the Petitioner is located in Mumbai. The Petitioner has submitted that there are certain departments in the Petitioner's Head Office which render support services to all Divisions of Tata Power and accordingly the costs pertaining to those Departments are allocated to all the Divisions. Hence it becomes essential to utilize such services from the Head Office at the time of requirement.

5.66 The Petitioner's basis of allocation is shown below

(a) Allocation of Head Office and management expenses=Head office and management expenses allocable to cost of generation*Generation expenses of Unit/Total generation expenses (excluding cost of power purchase, depreciation, borrowing costs, exchange loss/gain, non recurring onetime expenses, fuel(including related exchange loss/gain),etc).

(b) Head office and Management expenses allocable to cost of generation = Head office and management expenses* Total generation expenses (excluding cost of power purchase, depreciation, borrowing costs, exchange loss/gain, non recurring onetime expenses, fuel(including related exchange loss/gain),etc)/{Total generation expenses(excluding cost of power purchase, depreciation, borrowing costs, exchange loss/gain, non recurring onetime expenses, fuel(including related exchange loss/gain),etc) + Total distribution, transmission expenses and expenses related to other business (excluding wheeling/transmission charges, depreciation, exchange loss/gain and borrowing costs, components consumed, non recurring one time expenses, etc.)}

5.67 The Petitioner submitted the ash disposal expenses at Rs 2.30 Cr for Unit-2 and Rs 2.38 Cr for Unit-3. Further the Petitioner also submitted the ash disposal expenses certified by the Statutory Auditors.

5.68 The Petitioner submitted the ARR publication and fee expenses for Unit-2 and Unit-3 at Rs 0.10 Cr each

5.69 Using the above methodology the Petitioner has submitted the details as shown on the table below.

Table 33 Summary of O&M Expenses (Rs Cr)

Particulars	Unit 2	Unit 3
Normative O&M Expenses on Original Capital Cost		
Opening GFA	431.34	418.14
Normative O&M expenses on Original Capital Cost	20.47	18.72
Additional Capitalization for FY 12	8.39	7.29
Normative O&M expenses as % of Additional GFA as per JSERCTariffRegulations2004	2.50%	2.50%
Normative O&M expenses on Additional Capitalization	0.10	0.09
Total Normative O&M Expenses	**20.58**	**18.81**
Ash Disposal Expenses	2.30	2.38
ARR Publication and Fee Expenses	0.10	0.1
HO Allocation	5.58	3.95
Total O&M Expenses	**28.56**	**25.25**

Commission's analysis

5.70 As per Regulation 7.41 of the Generation Tariff Regulation, 2010, for the Existing Thermal Generating Stations, the O&M expenses for the Transition Period i.e. FY 2011-12 shall be as per the JSERC (Terms and Conditions of Determination of Generation Tariff) Regulations, 2004. The said Regulations lay down the following norm for O&M expenses:

"21 (iv) Operation and Maintenance expenses

(i) The Operation and Maintenance expenses (hereinafter referred to as O&M expenses) shall include the following:

- Consumption of Stores and Spares

- Administration expenses

- Repair and Maintenance

- Employee cost

- Corporate Office Expenses allocated proportionately

- Insurance

(ii) ... The O&M expenses will be limited to 2.5 % of Capital Cost (for plants set up prior to 1.04.2004.) escalated at 6% per annum from the year of Commissioning".

5.71 In accordance with the Clause 21(iv) of the Generation Tariff Regulations, 2004, as quoted above, the Commission has approved the normative O&M expenses for FY 2011-12, by providing an escalation of 6% p.a. from the year of Commissioning till FY 2011-12 on 2.5% of the approved Original Capital Cost.

5.72 It is clear from the Clause 21(iv) of the Generation Tariff Regulations, 2004 that the O&M expenses are to be allowed to the Petitioner on a normative basis. Further the O&M expenses allowed on the normative basis includes any "Corporate Office Expenses allocated proportionately". The Commission has therefore not allowed any additional expenses on account of HO as claimed by the Petitioner as the same are already included in the normative O&M expenses allowed to the Petitioner.

5.73 Ash Disposal Expenses: The Commission had provisionally approved ash disposal expenses FY 2011-12 in the order dated May 31, 2012, and directed the Petitioner to submit the Statutory Auditor's certificate regarding the same. The Petitioner has submitted a certificate by the Statutory Auditor with this tariff Petition. The Commission therefore approves the Ash Disposal expenses submitted by the Petitioner at Rs 2.30 Cr for Unit 2 and Rs 2.38 Cr for Unit 3.

5.74 ARR Publication and Fee Expenses: The Commission approves Rs 0.10 Cr for Unit 2 and Unit 3 for truing up of FY 2011-12

5.75 Hence the O&M expenses approved for True up of FY 2011-12 and that submitted by the Petitioner are shown in the table below:

Table 34 O&M expenses of Unit 2 approved for True Up for FY 2011-12 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Normative O&M Expenses	20.57	20.58	20.57
Ash Disposal Expenses	2.30	2.30	2.30
ARR Publication and Fee Expenses	0.10	0.10	0.10
HO Allocation	0.00	5.58	0.00
Total O&M Expenses	**22.98**	**28.56**	**22.98**

Table 35 O&M expenses of Unit 3 approved for True Up for FY 2011-12 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Normative O&M Expenses	18.81	18.81	18.81
Ash Disposal Expenses	2.38	2.38	2.38
ARR Publication and Fee Expenses	0.10	0.10	0.10
HO Allocation	**0.00**	3.95	**0.00**
Total O&M Expenses	**21.29**	**25.25**	**21.29**

Return on Equity (RoE)

Petitioner's submission

5.76 The Petitioner has submitted the RoE at 15.50% which is same as that approved by the Commission at the time of provisional true up FY 2011-12 in the order dated May 31, 2012.The details are shown in the table below.

Table 36 Return on Equity submitted by the Petitioner (Rs Cr)

Particulars	Unit 2	Unit 3
Computation of Regulatory Equity		
Opening GFA (Original Project Cost)	431.34	418.14
Opening Equity	129.4	125.44
Additional Capitalization during FY12	8.39	7.45
Additions (Additional Equity of FY12)	2.52	2.23
Closing Equity	131.92	127.68
Computation of Return on Equity		
Rate of Return on Equity Component of Original Capital	15.50%	15.50%

Particulars	Unit 2	Unit 3
Cost (%)		
Rate of Return on Equity Component of Additional Capitalization (%) after 1st April 2011	15.50%	15.50%
Return on Equity Component of Original Capital Cost (Post-Tax)	20.06	19.44
Return on Equity Component of Additional Capitalization (Post-Tax)	0.2	0.17
Total Return on Equity (Post-Tax)	20.25	19.62
Applicable Tax MAT	MAT	MAT
Applicable Tax Rate	20.01%	20.01%
Total Return on Equity (Pre-Tax) for FY 2011-12	**25.32**	**24.52**

Commission's analysis

5.77 The Commission has worked out the gross normative equity for FY 2011-12 as per Regulation 7.13 and 7.14 of the Generation Tariff Regulation, 2010. The Commission has considered the return on equity at 15.50% which after grossing up with the MAT rate applicable for the year comes out to 20.01% for FY 2011-12.

5.78 The Commission approves the return of equity approved by the Commission and the calculation of the same is shown in the table below.

Table 37 Return on Equity approved for Unit 2 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Opening Equity on Original Capital Cost	129.4	129.4	129.4
Opening Equity for FY 2011-12	129.4	129.4	129.4
Additions during FY 2011-12	2.47	2.52	2.47
Closing Equity for FY 2011-12	131.87	131.92	131.87
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	15.50%	15.50%	15.50%
Tax Rate	20.01%	20.01%	20.01%
Return on Equity	**25.31**	**25.32**	**25.31**

Table 38 Approved Return on Equity for Unit 3 (Rs Cr)

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Opening Equity on Original Capital Cost	125.44	125.44	125.44

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Opening Equity for FY 2011-12	125.44	125.44	125.44
Additions during FY 2011-12	2.19	2.23	2.19
Closing Equity for FY 2011-12	127.63	127.68	127.63
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	15.50%	15.50%	15.50%
Tax Rate	20.01%	20.01%	20.01%
Return on Equity	**24.52**	**24.52**	**24.52**

Interest on Loan

Petitioner's submission

5.79 The Petitioner has considered rate of interest of loan at 13.02% for Unit 2 and 12.33% for Unit 3 which is equal to the rate of interest approved by the Commission at the time of provisional true up for FY 2011-12 in the order dated May 31, 2012 as shown in the table below

Table 39 Interest on Loan of Unit 2 and Unit 3 submitted by the Petitioner for FY 2011-12 (Rs Cr)

Particulars	Unit 2	Unit 3
Loan Balance Movement		
Opening GFA (Original Project Cost)	431.34	418.14
Opening Loan Balance on above (=70%ofGFA)	-	
Additional Capitalization during FY12	8.39	7.45
Opening Loan Balance (on Additional Capitalization for FY12)	5.87	5.21
Deemed Repayment (=Depreciation)	0.22	0.19
Closing Loan Balance	5.65	5.02
Average Loan Balance during the year	2.83	2.51
Computation of Interest on Loan		
Rate Of Interest (%)	13.02%	12.33%
Interest on Loan for FY 2011-12	**0.37**	**0.31**

Commission's analysis

5.80 The Commission has worked out gross normative loan for FY 2011-12 as per Regulation 7.13 and 7.14 of the Generation Tariff Regulation, 2010 as quoted below

"7.13 In case of the generating station declared under commercial operation prior to 1.4.2011, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2011 shall be considered for determination of tariff for the Transition period.

7.14 For the project declared under commercial operation on or after 1.04.2011, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Explanation:- Any expenditure incurred or projected to be incurred on or after 1.04.2011 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 7.14 of this Regulation."

5.81 The rate of interest on the approved normative debt has been worked out for Unit 2 and Unit 3 as 13.02% and 12.33% respectively and the interest on loan amount at Rs 0.37 Cr for Unit 2 and Rs 0.31 Cr for Unit 3.

Interest on Working Capital

Petitioner's submission

5.82 The Petitioner while computing the working capital and Interest thereon as per the Generation Tariff Regulations, 2010 has considered the working capital as the sum of the following:

(a) Cost of Coal for two months for generation corresponding to the Normative Annual Plant Availability Factor;

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

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

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

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

5.83 The rate of interest for calculating the interest on working capital is taken at the prevalent SBI PLR rate of 2011 i.e. @ 13%The details are shown in the table below:

Table 40 Interest on Working Capital for FY 2011-12 of Unit 2 and Unit 3 submitted by the Petitioner (Rs Cr)

Particulars	Unit 2	Unit 3
Computation of Cost Elements at Normative Availability		
Ex-Bus Generation at Normative Availability & Aux Power (i) (MUs)	806.37	806.37
Approved Rate of Energy Charges for FY 2011-12 (ii) (Rs/Kwh)	1.532	1.535
Coal Cost at Normative Availability [=(i)x(ii)]	123.54	123.78
LDO Cost at Normative Availability	3.95	3.99
Annual Fixed Charges (excluding Incentive) at Normative Availability	70.46	67.75
O&M Expenses	28.56	25.25
Maintenance Spares	5.71	5.05
Elements of Working Capital		
Working Capital as Coal Cost for 2 months	20.59	20.63
Working Capital as LDO Cost for 2 months	0.66	0.67
Working Capital as Receivables for 2 months	32.33	31.92
Working Capital as O&M Expenses for 1 month	2.38	2.1
Working Capital as Maintenance Spares (at 20% of O&M Expenses)	5.71	5.05
Total Working Capital	61.67	60.37
Computation of Interest on Working Capital		
SBI PLR as on 1st April 2011 (%)	13.00%	13.00%
Interest on working Capital	**8.02**	**7.85**

Commission's analysis

5.84 The Commission has computed the interest on working capital for FY 2011-12 for both Units 2 and 3 by considering values of related components. The working capital requirement for the Petitioner has been determined by considering the following components as per Regulation 7.34 of the Generation Tariff Regulation, 2010:

(a) Cost of Coal for two months for generation corresponding to the Normative Annual Plant Availability Factor;

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

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

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

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

5.85 Further Regulation 7.37 states that for calculation of working capital no fuel price escalation shall be provided during the tariff period.

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

5.86 The rate of interest on working capital has been taken as 13.00% i.e. the short-term Prime Lending Rate of State Bank of India as on April 1, 2011.

5.87 Accordingly, the Commission has trued up the interest on working capital for Unit 2 and Unit 3 for FY 2011-12 as shown in the tables below.

Table 41 Interest on Working Capital approved by the Commission for FY 2011-12 (Rs Cr)

Particulars	Approved by JSERC in provisional true up		Submitted by Petitioner in true up Petition		Approved by JSERC in this order	
	Unit 2	Unit 3	Unit 2	Unit 3	Unit 2	Unit 3
Coal Cost for 2 months	20.59	20.63	20.59	20.63	20.59	20.63
LDO Cost for 2 months	0.66	0.67	0.66	0.67	0.66	0.67
Receivables for 2 months	31.35	31.22	32.33	31.92	31.35	31.22
O&M Expenses for 1 month	1.92	1.77	2.38	2.1	1.92	1.77
Maintenance Spares (@ 20% of O&M Expenses)	4.6	4.26	5.71	5.05	4.6	4.26
Total Working Capital	**59.11**	**58.55**	**61.67**	**60.37**	**59.11**	**58.55**
Interest on Working Capital	**7.68**	**7.61**	**8.02**	**7.85**	**7.68**	**7.61**

Cost of Secondary Fuel

Petitioner's submission

5.88 The Petitioner submitted that cost of secondary fuel at Rs 4.39 Cr and Rs 4.29 Cr for Unit 2 and Unit 3 respectively.

Commission's analysis

5.89 The Commission has approved the cost of secondary fuel oil (LDO in case of the Petitioner) in accordance with Regulation 7.49 of the Generation Tariff Regulations, 2010 as quoted below:

"7.49 Expenses on secondary fuel oil in Rupees shall be computed corresponding to normative secondary fuel oil consumption (SFC) specified in clause 8.4, 8.6 of these Regulations, in accordance with the following formula:

= SFC x LPSFi x NAPAF x 24 x NDY x IC x 10

Where, SFC – Normative Specific Fuel Oil consumption in ml/kWh
LPSFi – Weighted Average Landed Price of Secondary Fuel in Rs./ml considered initially
NAPAF – Normative Annual Plant Availability Factor in percentage
NDY – Number of days in a year
IC - Installed Capacity in MW

7.50 Initially, the landed cost incurred by the Generating Company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the year."

5.90 Accordingly, the consumption of LDO has been calculated considering the gross generation corresponding to the NAPAF (i.e. 85%) and Specific Normative Fuel Oil Consumption (i.e. 1ml/kWh) and the landed price of LDO has been computed considering the weighted average cost of LDO from April 2011 to March 2012. Accordingly the Commission approves the LDO cost at Rs 4.39 Cr and Rs 4.29 Cr for Unit 2 and Unit 3 respectively.

Summary of Fixed Cost Determinants and Generation Tariff

5.91 Regulation 8.2 of the Generation Tariff Regulations, 2010 states that the annual fixed cost of a thermal generating station shall consist of the following

(a) Return on Equity;

(b) Interest and Financing Charges on Loan Capital;

(c) Depreciation;

(d) Operation and Maintenance Expenses;

(e) Interest Charges on Working Capital; and

(f) Cost of Secondary Fuel Oil.

5.92 The tables below show the fixed cost determinants and energy cost for FY 2011-12, in terms of the Petitioner's submission and the Commission's trued up costs for Unit 2 and Unit 3.

Table 42 Summary of Annual Fixed Cost and Generation Tariff for Unit 2 for FY 2011-12

Parameters	Units	Unit 2		
		Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
O&M charges	Rs Cr	22.98	28.56	22.98
Depreciation	Rs Cr	3.81	3.81	3.81
Interest on Loan	Rs Cr	0.36	0.37	0.37
Return on Equity	Rs Cr	25.31	25.32	25.31
Cost of Secondary Fuel	Rs Cr	4.39	4.39	4.39
Interest on Working Capital	Rs Cr	7.68	8.02	7.68
Annual Fixed Charges	Rs Cr	**64.54**	**70.46**	**64.54**
Energy Charge Rate (ECR)	Rs/kWh	**1.850**	**1.882**	**1.850**
Fuel Cost	Rs Cr	**133.62**	**135.92**	**133.62**
Total Cost	Rs Cr	**198.16**	**206.38**	**198.16**
Average Tariff	Rs/kWh	**2.74**	**2.86**	**2.74**

Table 43 Summary of Annual Fixed Cost and Generation Tariff for Unit 3 for FY 2011-12

Parameters	Units	Unit 3		
		Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
O&M charges	Rs Cr	21.29	25.24	21.29
Depreciation	Rs Cr	5.53	5.53	5.53
Interest on Loan	Rs Cr	0.30	0.31	0.31
Return on Equity	Rs Cr	24.52	24.52	24.52
Cost of Secondary Fuel	Rs Cr	4.29	4.29	4.29
Interest on Working Capital	Rs Cr	7.61	7.85	7.61
Annual Fixed Charges	Rs Cr	**63.54**	**67.75**	**63.55**
Energy Charge Rate (ECR)	Rs/kWh	**1.849**	**1.876**	**1.849**
Fuel Cost	Rs Cr	**138.23**	**140.23**	**138.23**
Total Cost	Rs Cr	**201.77**	**208.00**	**201.78**
Average Tariff	Rs/kWh	**2.70**	**2.78**	**2.70**

Incentive

Petitioner's submission

5.93 The Petitioner based on the provisions of Generation Tariff Regulations, 2010 computed Incentive for Truing-up of FY 2011-12 which works out to Rs 7.12 Cr for Unit 2 and Rs 4.96 Cr for Unit 3. The detailed computation of pre-tax Incentive is shown in the following Tables.

Table 44 Incentive submitted by the Petitioner for FY 2011-12 for Unit 2 and Unit 3

Particulars	UoM	FY 2011-12	
		Unit 2	Unit 3
Actual Plant Availability	%	91.87	94.96
Normative Plant Availability	%	85	85
Annual Fixed Charges without Incentive	Rs Cr	70.46	67.75
Annual Fixed Charges with Incentive	Rs Cr	76.16	71.72
Computation of Incentive			
Incentive(Post-Tax)	Rs Cr	5.69	3.97
MAT Rate	%	20.01	20.01
Incentive(Pre-Tax) for FY 2011-12	Rs Cr	7.12	4.96

Commission's analysis

5.94 As per regulation 8.12 of Generation Tariff Regulations, 2010,

"8.12 The capacity charge (inclusive of incentive) payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae :

(a) Generating stations in commercial operation for less than ten (10) years on 1st April of the financial year:

= (AFC x (NDM / NDY) x (0.5 + 0.5 x PAFM / NAPAF) (in Rupees);

Provided that in case the plant availability factor achieved during a financial year (PAFY) is less than 70%, the total capacity charge for the year shall be restricted to: =AFC x (0.5 + 35 / NAPAF) x (PAFY / 70) (in Rupees)

(b) For generating stations in commercial operation for ten (10) years or more on 1st April of the year:

= (AFC x NDM / NDY) x (PAFM / NAPAF) (in Rupees)

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

NAPAF - Normative annual plant availability factor in percentage;

NDM - Number of days in the month;

NDY - Number of days in the year;

PAFM - Plant availability factor achieved during the month, in percent;

PAFY - Plant availability factor achieved during the year, in percent"

5.95 Accordingly the Commission calculated the Incentives and after due verification of SLDC certified availability, the Commission hereby approves the Incentives at Rs 6.52 Cr for Unit 2 and 4.65 Cr for Unit 3.

Sharing of Gains on Secondary Fuel Oil Consumption

Petitioner's submission

5.96 The Petitioner has stated that the Regulation 7.52 of the Generation Tariff Regulations 2010 stipulate the sharing of gains with beneficiaries on account of secondary fuel oil consumption.

5.97 The Petitioner has further submitted that they envisage savings in LDO consumption as compared to normative LDO consumption stipulated in Generation Tariff Regulations, 2010 for Units 2 and 3 during FY 2011-12. Accordingly, the Petitioner has made a submission regarding the computation of sharing of such gains.

Commission's View

5.98 The Commission computed the gains on account of secondary fuel consumption by comparing the cost of secondary fuel consumption on normative and actual basis in accordance with Regulation 7.52 of the Generation Tariff Regulations, 2010. The said regulation is quoted below:

"7.52 The savings on account of secondary fuel oil consumption in relation to norms specified in clause 8.4, 8.6 of these Regulations, shall be shared with Beneficiaries in the ratio of 50:50, in accordance with the following formula at the end of the year:

= (SFC x NAPAF x 24 x NDY x IC x 10 -ACsfoy) x LPSFy x 0.5

Where,

ACsfoy = Actual consumption of secondary fuel oil during the year in ml."

5.99 The Commission approves the gains on secondary fuel consumption and computation of the same is summarized in the table below.

Table 45: Computation of Sharing of gains on LDO consumption for FY 2011-12 (Rs Cr)

Particulars	UoM	Unit 2		Unit 3	
		Submitted by TPCL	Approved by JSERC in this TO	Submitted by TPCL	Approved by JSERC in this TO
Normative Gross Generation	MU	895.97	895.97	895.97	895.97
Normative Specific LDO Consumption	ml/kWh	1.00	1.00	1.00	1.00
LDO Consumption at NAPAF	kL	895.97	895.97	895.97	895.97
Projected LDO Consumption	kL	401.50	-	684.20	-
Actual LDO Consumption	kL		397		693.20
Difference in LDO Consumption (Consumption at NAPAF - Projected/Actual Consumption)	kL	494.47	498.97	211.77	202.77
LDO Landed price	Rs/kL	46479	48986	45765	47889
Gain/(Loss) on LDO Consumption	Rs Cr	2.298	2.21	0.969	0.68
Sharing of Gain/(Loss) with Beneficiary (TSL)	Rs Cr	1.15	1.10	0.48	0.34
Gain/(Loss) to be retained by TPCL	Rs Cr	**1.15**	**1.10**	**0.48**	**0.34**

Tax Liability on gain on secondary fuel oil consumption

Petitioner's submission

5.100 The Petitioner submitted that the tax liability to be borne by the Petitioner on such gains on account of lower LDO Consumption is recoverable from the beneficiaries as per Regulation 7.48 of the Generation Tariff Regulations, 2010:

"7.48 Tax on the income streams of the Generating Company shall not be recovered from the Beneficiaries.

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2011 whenever it materializes, shall be recoverable directly from the beneficiaries and the long-term customers;

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

5.101 The details of computation on tax liability on gains on secondary fuel oil consumption made by the Petitioner are shown in the table below:

Table 46 Tax Liability on gain in secondary oil Consumption submitted by the Petitioner

Particulars	UoM	Derivation	Unit 2	Unit 3
Normative Gross Generation	MU	a	895.97	895.97
Actual Gross Generation	MU	b	798.55	824.69
Normative Sp. LDO Consumption	ml/kWh	c	1	1
LDO Consumption at Normative Plant Availability	KL	d=axb	895.97	895.97
Actual LDO Consumption for the year	KL	e	397	693.2
Equivalent Actual LDO Consumption at Normative Generation	KL	f=exa/b	445.43	753.12
Difference in LDO Consumption	KL	g=d-f	450.54	142.85
LDO Landed Price (Approved by the Hon'ble Commission)	Rs/KL	h	48986	47889
Gain/(Loss) on LDO Consumption			2.21	0.68
Gain on LDO Consumption to be retained by Petitioner (Post-Tax)	Rs Cr	j = i x 50%	1.10	0.34
Gain on LDO Consumption to be retained by Petitioner (Pre-Tax)	Rs Cr	k=0.5*i/(1-MAT)	1.38	0.43
Tax Liability to be recovered by the Petitioner	Rs Cr	i=k-j	0.28	0.09

Commission's analysis

5.102 As per Regulation 7.48 of the Generation Tariff Regulations, 2010:

"7.48 Tax on the income streams of the Generating Company shall not be recovered from the Beneficiaries.

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2011 whenever it materializes, shall be recoverable directly from the beneficiaries and the long-term customers;

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

5.103 The Commission accordingly after calculating the Tax liability on gain in secondary oil consumption approves the same at Rs 0.28 Cr for Unit 2 and Rs 0.09 Cr for Unit 3.

Tax on gain in Auxiliary Power Consumption

Petitioner's submission

5.104 The Petitioner submitted that the tax liability to be borne on the gain on account of lower auxiliary power consumption is recoverable from the beneficiaries as per Regulation 7.48 of the Generation Tariff Regulations, 2010 as stated in para 5.102 above. The Petitioner calculated the tax liability on gain on auxiliary consumption at Rs 0.15 Cr for Unit 2 and Rs 0.23 Cr for Unit 3 for FY 2011-12. Detailed computation on Tax liability on Gain on Auxiliary Power Consumption is shown in the following Table.

Table 47 Tax Liability on Gain in Auxiliary Power Consumption submitted by the Petitioner for FY 2011-12

Particulars	UoM	Unit 2	Unit 3
Energy Charges	Rs Cr	135.92	140.23
Net Gain due to lower Auxiliary Power Consumption	Rs Cr	0.61	0.92
MAT Rate	%	20.01%	20.01%
Tax Liability due to Gain in Auxiliary Consumption	**Rs Cr**	**0.15**	**0.23**

5.105 The Petitioner further submitted correction in the calculation vide a corrigendum dated March 22, 2014 to the Commission as shown in the following table:

Table 48 Correction of Tax on Auxiliary Consumption filed by the Petitioner

Particulars	UoM	Unit 2	Unit 3
Energy Charges	Rs Cr	135.92	140.23
Net Gain due to lower Auxiliary Power Consumption	Rs Cr	0.67	1.01
MAT Rate	%	20.01%	20.01%
Tax Liability due to Gain in Auxiliary Consumption	**Rs Cr**	**0.17**	**0.25**

Commission's analysis

5.106 As per Regulation 7.48 of the Generation Tariff Regulations, 2010:

"7.48 Tax on the income streams of the Generating Company shall not be recovered from the Beneficiaries.

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2011 whenever it materializes, shall be recoverable directly from the beneficiaries and the long-term customers;

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

5.107 The Commission calculated the tax on the gain in auxiliary consumption of the Petitioner as shown in the table below

Table 49 Calculation of gain on Auxiliary Consumption for FY 2011-12

Particulars	Unit-2	Unit-3
Energy Charge rate (at SHR specified in Generation Tariff regulations, 2010) (Rs/kWh)		
- As per actual auxiliary Consumption	1.841	1.835
- As per Normative auxiliary Consumption	1.850	1.849
Difference in actual and normative auxiliary consumption (Rs/kWh)	0.009	0.014
Net generation (MU)	722.28	747.58
Net Gain on Auxiliary Consumption (Rs Cr)	**0.65**	**1.04**

5.108 The Commission calculated the tax liability on gain in auxiliary consumption as shown in the tables below for Unit-2 and Unit-3

Table 50 Tax Liability on Auxiliary Consumption Calculation for FY 2011-12 (Rs Cr)

Particulars	Unit-2	Unit-3
Gain on Auxiliary Consumption	0.65	1.05
Tax Rate (MAT)	20.01%	20.01%
Pre-Tax Gain	0.81	1.31
Tax allowable to the Petitioner	**0.17**	**0.25**

5.109 Hence, the Commission approves the tax on auxiliary consumption for Unit-2 at Rs 0.17 Cr and Unit-3 at Rs 0.25 Cr.

Total cost

5.110 The tables below show the total cost recoverable by the Petitioner for Unit 2 and Unit 3 inclusive of incentive and sharing of gains on operational parameters.

Table 51 Cost recoverable by Petitioner for Unit 2 for FY 2011-12

Parameters	Units	Unit 2		
		Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Annual Fixed Charges	Rs Cr	64.54	70.46	64.54
Fuel Cost	Rs Cr	133.62	135.92	133.62
Total Cost	Rs Cr	198.16	206.38	198.16
Incentive	Rs Cr	6.52	7.12	6.52

Parameters	Units	Unit 2		
		Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Less: Sharing of gains on LDO Consumption	Rs Cr	1.10	1.10	1.10
Add: Tax on the Gain on LDO Consumption retained by Tata Power	Rs Cr	0	0.28	0.28
Add: tax on Gain on aux. power consumption	Rs Cr	0	0.17	0.17
Total Cost including incentive & sharing of gains on LDO consumption	**Rs Cr**	**203.57**	**212.85**	**204.03**

Table 52 Cost recoverable by Petitioner for Unit 3 for FY 2011-12

Parameters	Units	Unit 3		
		Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Annual Fixed Charges	Rs Cr	63.54	67.75	63.55
Fuel Cost	Rs Cr	138.23	140.23	138.23
Total Cost	Rs Cr	201.77	208.00	201.78
Incentive	Rs Cr	4.65	4.96	4.65
Less: Sharing of gains on LDO Consumption	Rs Cr	0.34	0.34	0.34
Add: Tax on the Gain on LDO Consumption retained by Tata Power	Rs Cr	-	0.09	0.09
Add: Tax on Gain on aux. power consumption	Rs Cr	-	0.25	0.25
Total Cost including incentive & sharing of gains on LDO consumption	**Rs Cr**	**206.08**	**212.94**	**206.43**

Gap/Surplus for FY 2011-12

5.111 The Commission has calculated the gap taking into account the carrying cost for the period April 1, 2011 to April 1, 2014 i.e for 37 months and accordingly approved revenue gap/surplus for FY 2011-12 in table below. In accordance with Clause 6.18 of 'Generation Tariff Regulations, 2010' the Petitioner may recover the gap in 6 equal monthly instalments from the beneficiary starting within three months from the date of the tariff order issued by the Commission.

Table 53 Gap/Surplus for FY 2011-12 of Unit-2

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Total Cost including incentive & sharing of gains on LDO consumption	203.57	212.86	204.02
Revenue Recovered during the year	202.38	202.38	202.38
Gap/(Surplus)	1.19	10.48	1.64
Carrying Cost	0	2.72	0.71
Gap to be recovered	**1.19**	**13.21**	**2.35**

Table 54 Gap/Surplus for FY 2011-12 of Unit-3

Particulars	Approved by JSERC in provisional true up	Submitted by Petitioner in true up Petition	Approved by JSERC in this order
Total Cost including incentive & sharing of gains on LDO consumption	206.08	212.94	206.43
Revenue Recovered during the year	206.05	206.05	206.05
Gap/(Surplus)	0.03	6.89	0.38
Carrying Cost	0	1.79	0.17
Gap to be recovered	**0.03**	**8.68**	**0.55**

A6: ADDITIONAL CAPITAL EXPENDITURE FOR FY 2012-13 TO FY 2014-15

Petitioner's submission

6.1 The Petitioner, in its Annual Performance Review Petition, has submitted the following schemes over and above the original plan approved by the Commission for the period FY 2012-13 to FY 2015-16:

(a) Extension of existing Loco Shed for DE Locomotive maintenance.

(b) ABT metering system

(c) Flow Meters for CW System

(d) PNLD for Air Receiver

(e) Procurement of Industrial Grade PC/Printers DCS/ Offsite System

(f) Installation of Side Stream Filtration System of Unit 2

(g) Self Propelled Aerial Work Platform

(h) Light Commercial Vehicle Tata 207 DI for CHP

(i) Indigo car for administration

(j) Purchase of Skid Steer Loader / Excavator

(k) Tata Sumo / 207DI Crew cab for Trolley Mounted fire Pump

(l) Furnishing of Trainee Hostel

(m) Refurbishment of existing ESP

(n) Housing colony at Jojobera to accommodate 200 employees*

(o) Replacement of Battery Chargers for Unit 2

(p) Replacement of Battery Chargers for Unit 3

(q) Renovation of Main store

(r) Kardex shuttle storage system

(s) Mobile Shelving System for Jojobera main stores

(t) ISAS System Up gradation

(u) Procurement of Economiser Coils for Unit 2

(v) Procurement of LTSH Coils for Unit 2

Interlocutory Appeal on the Emergency Additional Capex of the ETP Pond

6.2 The Petitioner had constructed an Effluent Treatment Plant Pond (ETP) within the Jojobera Power Plant for the treatment of the plant effluents and recycling of waste water. Around 80% of the Plant effluents consist of ash slurry water. The effluent water collected through various drain points within the plant is channelized through a 1500 metre long drain network to a settling pond before the ETP. The purpose of the Settling Pond is to separate the solid effluent and water from the slurry thereby reducing the turbidity of the water before the water is supplied to the ETP for further treatment.

6.3 The settling pond was constructed at the time of inception of Jojobera Power Plant in 1996. The pond was constructed by means of boulders and bricks. In due course of time, several voids and cracks have developed in the pond wall due to loosening of the materials. As a result of these developments, the ash slurry water in the pond has started to percolate through the ground to the nearby Chhota Govindpur community located adjacent to the plant boundary wall.

6.4 The Petitioner has submitted that the Jharkhand State Pollution Control Board ("JSPCB") has through its Letter No. 4749 dated 28.02.2013 issued a notice to the Petitioner directing to comply with the provisions of the Air & Water (Prevention & Control of Pollution) Act, 1981 & 1974 in the above matter with further caution that failure to comply with the norms in the above Acts may result in rejection of 'Consent to Operate' for the Jojobera Power Plant. In view of the above letter from JSPCB, it has become urgent & mandatory to refurbish the ETP pond wall for strengthening and prevention of leakages. Initially, efforts were made to attend the pond wall leakages by application of cement mortar, but during the execution, several new channels have developed due to shifting of pressure towards the weak spots in the pond wall. Therefore, it is required to construct a new reinforced cement concrete wall around the entire pond in order to prevent further leakages and fulfil the requirement for compliance to environmental norms.

6.5 In view of the Notification received from JSPCB and urgent/emergency nature of work, the Petitioner submitted that the proposed Additional Capex Scheme qualifies under the category of "Emergency" nature under the following provisions of JSERC Generation Tariff Regulations 2010.

6.6 The Petitioner has submitted that, the cost of the proposed additional capex scheme/project for the strengthening of ETP Pond is estimated about Rs 2 Crores. The Capitalization of the project is expected in FY 2013-14 by 31.12.2013. The proposed project is a part of the common facilities, and therefore, the apportionment of the project cost for Unit 2 & Unit 3 has been worked out at Rs 1.12 Cr.

Commission's analysis

6.7 Clause 6.8 - 6.11 of Generation Tariff Regulations, 2010 (as quoted below) lay down the principles for revision of Capital Investment Plan for a generation company during the Control Period.

"6.8 The Commission shall review the actual capital investment at the end of each year of the Control Period as a part of the Annual Performance Review of the Generating Company. The Generating Company shall submit the actual capital expenditure incurred along with the Annual Performance Review Filing,

6.9 The Commission shall not revisit the approved Capital Investment Plan during the Control Period and any adjustment to depreciation, interest on working capital and return on equity for the actual capital investment undertaken vis-à-vis approved capital investment shall be done at the end of the Control Period.

6.10 The Commission shall also conduct a mid-term review at the end of second year of the Control Period. In case, the cumulative incurred capital expenditure and/or capitalisation deviates from the approved capital expenditure / capitalisation by more than 20% (cumulative), the Commission will make necessary changes to capital investment plan for the Control Period after consultation with Generation Company and adjust depreciation and financing cost, which includes cost of debt (interest), working capital interest, cost of equity (return) based on the actual capital expenditure and/or capitalisation vis-à-vis approved capital expenditure / capitalisation;

"6.11 In case the capital expenditure is required for emergency work which has not been approved in the Capital Investment Plan, the Generation Company shall submit an application (containing all relevant information along with reasons justifying emergency nature of the proposed work seeking approval by the Commission). The Licensee shall take up the work prior to the approval of the Commission provided that the emergency nature of the scheme has been certified by the Board of Directors.

Provided that for the purpose of the clause 6.11 above, such approved capital expenditure shall be treated as a part of actual capital expenditure incurred to the Generation Company as well as the approved capital expenditure by the Commission."

6.8 As mentioned in the Interlocutory Application filed by the Petitioner relating to the emergency capital expenditure relating to ETP Pond, the Commissions notes that the Petitioner has already taken up the work for the project. Further, in compliance with the above Regulations, the Applicant has furnished the requisite approval from the Executive Director (Operations) of Tata Power who is the member of Board of Directors (BoD) of the Applicant, alongwith the Detailed Project Report ("DPR") of the proposed Additional Capex Scheme. Noting the emergency nature of the work, the Commission approves the scheme 'in principle'. However, since Clause 6.9 of the Generation Tariff Regulations, 2010, states that the Commission shall not revisit the approved Capital Investment Plan during the Control Period and any adjustment to depreciation, interest on working capital and return on equity for the actual capital investment undertaken vis-à-vis approved capital investment shall be done at the end of the Control Period. Further, as per Clause 6.10 of the said regulations, the Commission is required to carry out a review of the approved Capital Investment Plan at the end of the second year of the Control Period i.e. at the end of FY 2013-14 taking into account the actual cumulative capital expenditure and capitalisation incurred by the Petitioner up to FY 2013-14.

6.9 Considering the provisions of the said regulations, the Commission has not made any revisions in the Capital Investment Plan of the Petitioner in this order. The Petitioner is directed to submit a petition for review of Capital Investment Plan including actual capital expenditure incurred up to FY 2013-14 (along with certifications by Statutory Auditors) and revised estimates for capital expenditure for FY 2014-15 and 2015-16, if any, along with the truing up petition for FY 2012-13.

A7: STATUS OF EARLIER DIRECTIVES

Directives as per MYT Order dated May 31, 2012	Status	Views of the Commission
Auditor's certificate for additional capitalization With regards to the Additional Capitalization from FY 2011-12 claimed by the Petitioner, the Petitioner is directed get the Certificate of Completion and the listing of the Fixed Assets Register, as submitted by it, certified by the Statutory Auditors of the Company and submit the same to the Commission with the next tariff petition	The Certificates of Completion of the additional capitalized assets and listing of the Fixed Asset register for FY 2011-12 certified by the Statutory Auditors of the company are submitted with APR petition dated March 28, 2013 for FY 2012-13.	The directive has been complied. Further, with regards to the Additional Capitalization from FY 2012-13 and FY 2013-14 the Petitioner is directed get the Certificate of Completion and the listing of the Fixed Assets Register certified by the Statutory Auditors of the Company and submit the same to the Commission with the next tariff petition.
Competitive Procurement The Commission has approved capital expenditure for FY 2012-13 to FY 2015-16 for various schemes to be taken up during the Control Period. The projected cost of the schemes has also been approved in line with the cost of each scheme estimated by the Petitioner. The Commission however directs the Petitioner to procure equipment and services through competitive bidding process and minimize the cost of each scheme. The Commission shall also review the competitive processes followed by the Petitioner while reviewing the capital expenditure and capitalization at the end of each year of the Control Period.	The details of the Competitive Bidding of the approved schemes in the order dated May 31, 2012, the bidding for which have been completed are submitted as Annexure 16 of the APR petition dated March 28, 2013 for FY 2012-13	The directive has been complied. Further the Commission directs the Petitioner to submit the details of procurement process followed for each year of the Control Period.

Directives as per MYT Order dated May 31, 2012	Status	Views of the Commission
Off take of Power from Unit 2 and Unit 3 With regards to the projected Plant Load Factor (PLF), the Commission has observed that the Petitioner has been submitting availability of 90% or more, while the projected PLF is lower. The Petitioner submitted that the PLF of Unit 2 and Unit 3 is entirely subject to Tata Steel Distribution which is evident from the monthly Availability of Unit 2 and Unit 3 duly certified by Tata Steel Load Dispatch Centre. According to the Petitioner, the PLF of Unit 2 and Unit 3 is an uncontrollable factor for Tata Power Jojobera. On the other hand the Commission finds that, the distribution licensee, Tata Steel Limited in its ARR and Tariff Petition for FY 2012-13 has sought approval from the Commission for additional procurement of power from DVC to meet requirement of the licensed area. The Commission finds that the position taken by the aforesaid companies is contradictory. The lower off take from Unit 2 and Unit 3 is detrimental to interest of the beneficiaries, the consumers and the Petitioner itself. The Commission directs the Petitioner to take up the matter with Tata Steel Limited in right earnest.	The Petitioner has submitted the report to the Commission through letter dated August 31, 2012	The Petitioner has explained that the PLF of Unit 2 and Unit 3 has been low in the past on account of lower than expected load growth in Tata Steel Distribution area but is expected to increase in future years. However, the Petitioner expects that the PLF of Unit 2 and Unit 3 would remain around 85% only. The Commission is of the view that Unit-2 and Unit-3 at Jojobera should be used to meet the base load demand of Tata Steel Distribution and Tata Steel Distribution should only draw the expensive power from DVC to meet the peak demand which is not met by supply from Unit-2 and Unit-3. The Commission therefore directs the Petitioner to take up the matter with Tata Steel Limited and make all attempts to achieve a PLF of at least 90%.
Landed Cost of Coal While approving the fuel cost for FY 2011-12, the Commission has considered the weighted average of the landed cost of coal from April 2011 to March 2012, as submitted by the Petitioner. However, the Commission directs the Petitioner to	The Petitioner has submitted the Certified Statutory Auditor statement for the Landed Price of Coal for FY 2011-12 for Unit 2 and Unit 3.	The directive has been complied. Further, the Commission directs the Petitioner to get the month-wise landed cost of coal separately showing Base cost of coal; Royalty; Taxes and duties; Transport cost by rail / ocean / road / pipeline or any other means; and Clean energy cess

Directives as per MYT Order dated May 31, 2012	Status	Views of the Commission
get the month-wise landed cost of coal with respect to Unit 2 and Unit 3 certified by the Statutory Auditor of the Company and submit the same along with the petition for truing up of ARR for FY 2011-12.		as per Ministry of Coal, Govt. of India Notification with respect to Unit 2 and Unit 3 certified by the Statutory Auditor of the Company and submit the same along with the petition for truing up for FY 2012-13.
Data adequacy in next Tariff petition and timelines The Commission directs the Petitioner to come up with the next tariff petition for FY 2013-14 removing the various data deficiencies highlighted throughout the tariff order along with the unit-wise audited accounts for FY 2011-12 and latest actual figures of FY 2012-13.	The Petitioner in the APR petition dated March 28, 2013 submitted that the detailed computation of all Operational, Fuel & Financial parameters along with adequate justification through the MYT Business Plan & Petition. Further, adequate data has been provided through additional submissions as required by the Commission. The Petitioner has submitted the unit-wise Audited Accounts of FY2011-12 and the latest actual figures of FY 2012-13 (upto February 2013) as Annexure 6 and Annexure 7 of the APR petition dated March 28, 2013	The directive has been complied.

A8: DIRECTIVES

Auditor's certificate for additional capitalization

8.1 With regards to the Additional Capitalization from FY 2012-13 and FY 2013-14 the Petitioner is directed get the Certificate of Completion and the listing of the Fixed Assets Register certified by the Statutory Auditors of the Company and submit the same to the Commission with the next tariff petition.

Competitive Procurement

8.2 The Commission has approved capital expenditure for various schemes to be taken up during the Control Period. The projected cost of the schemes has also been approved in line with the cost of each scheme estimated by the Petitioner. The Commission however directs the Petitioner to procure equipment and services through competitive bidding process and minimize the cost of each scheme. The Commission shall also review the competitive processes followed by the Petitioner while reviewing the capital expenditure and capitalization at the end of each year of the Control Period.

Off take of Power from Unit 2 and Unit 3

8.3 The Petitioner has explained that the PLF of Unit 2 and Unit 3 has been low in the past on account of lower than expected load growth in Tata Steel Distribution area but is expected to increase in future years. However, the Petitioner expects that the PLF of Unit 2 and Unit 3 would remain around 85% only. The Commission is of the view that Unit-2 and Unit-3 at Jojobera should be used to meet the base load demand of Tata Steel Distribution and Tata Steel Distribution should only draw the expensive power from DVC to meet the peak demand which is not met by supply from Unit-2 and Unit-3. The Commission therefore directs the Petitioner to take up the matter with Tata Steel Limited and make all attempts to achieve a PLF of at least 90%.

Landed Cost of Coal

8.4 The Commission directs the Petitioner to get the month-wise landed cost of coal separately showing Base cost of coal; Royalty; Taxes and duties; Transport cost by rail / ocean / road / pipeline or any other means; and Clean energy cess as per Ministry of Coal, Govt. of India Notification with respect to Unit 2 and Unit 3 certified by the Statutory Auditor of the Company and submit the same along with the petition for truing up of ARR for FY 2012-13.

Concerns regarding environmental degradation around the plant

8.5 During the public hearing conducted by the Commission on March 14, 2014, the public raised various issues relating to health hazards caused by the Jojobera Power Plant of the Petitioner as mentioned in para 4.30 to 4.36. The Commission directs the Petitioner should take the required measures to ensure that the immediate environment is kept free from contamination and report compliance.

Filing of True Up Petition for FY 2012-13, APR for FY 2013-14 and Revised Estimates for2 FY 2014-15 to FY 2015-16

8.6 The Commission directs the Petitioner to submit a petition for truing up of FY 2012-13, annual performance review for FY 2013-14 and the revision of estimates/ tariff for FY 2014-15 to FY 2015-16 within 2 months of this Order.

Data adequacy in next Tariff petition and timelines

8.7 The Commission directs the Petitioner to come up with the next tariff petition for FY 2014-15 removing the various data deficiencies highlighted throughout the tariff order along with the unit-wise audited accounts for FY 2012-13 and latest actual figures of FY 2013-14.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on this the 28th of April, 2014.

Date: 28th of April, 2014
Place: Ranchi

Sd/-	Sd/-
(T.MUNIKRISHNAIAH)	(SUNIL VERMA)
MEMBER (E)	MEMBER (F)

A9: ANNEXURES

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

Sl No.	Name	Address/ Organisation if any
1	Aveek Chatterjee	Tata Power, Jojobera
2	Ashok Lodh	Tata Power, Jojobera
3	Shubhayu Sanyal	Tata Power, Jojobera
4	Cosmi Singh	Tata Power, Jojobera
5	S.K.Srivastave	Tata Power, Jojobera
6	Bishwajeet	Tata Power
7	Roni	Tata Power
8	Dhananjay	Tata Power
9	S.D. Bhattacharjee	Tata Power
10	R. Biswas	Tata Power
11	Supratik Mukherji	Tata Power
12	Durgesh Sharma	Tata Power
13	Dinesh Kudalkar	Tata Power
14	Arun Shrivastava	Tata Power
15	S.P. Tason	Tata Power
16	S. Deny	Tata Power
17	Arun Prakash	Tata Power Co. Ltd.
18	Satish Kr.	Tata Power Co. Ltd.
19	V.P.Singh	JUSCO
20	A.K. Singh	TSL
21	S.S. Chatterjee	Tata Power Co. Ltd.
22	Kush Kumar	TSL
23	O.P.Gupta	Tata Power Co. Ltd.
24	V.Singh	Tata Power Co. Ltd.
25	Rajesh Sharma	Tata Power Co. Ltd.
26	J.N. Jha	Tata Power Co. Ltd.
27	Archana Sharma	Tata Power Co. Ltd.
28	Sony Jha	Tata Power Co. Ltd.
29	Nayan MModak	Tata Power Co. Ltd.
30	S. Kundan	Tata Power Co. Ltd.
31	D. Acharya	Tata Power Co. Ltd.
32	D.K. Singh	Tata Power Co. Ltd.
33	A.K. Agarwal	TSL
34	Rajesh Kr.	Sonari
35	D.M. Choudhary	TSL
36	Yugal Kishor	Prabhat

Sl No.	Name	Address/ Organisation if any
37	Sheln Mouluyn	Mayo
38	Desahatu Pati	Baridih
39	R.K. Sinha	Golmuri
40	Bimal Kumar	Adityapur
41	K.C.Jha	JUSCO
42	A.N.Choudhary	JUSCO
43	Brajesh Singh	Prabhat Khabar
44	A.K. Ranjan	Kadma
45	Sunita Shah(Jila Parshad)	Chhota Gobindpur
46	Satbir Singh (Ward Member)	Chhota Gobindpur
47	Shila Devi	Chhota Gobindpur
48	Saldev Shah	Chhota Gobindpur
49	Ramesh Agnihotri	Chhota Gobindpur
50	Ashok Kr. (Dy. Mukhiya)	Chhota Gobindpur
51	Anirudh Bisoc	Telegraph
52	Animesh Sen Gupta	Telegraph
53	B.K. Goswami	Dainik Bhaskar

Annexure 2: Details of Capitalisation Approved by the Commission

a. Approved Standalone Capitalisation for Unit-2

Sl. No.	Asset No.	Scheme Name as Listed in Assest Register	Scheme Name as provided in our ARR Submission	Apportioned Value for Unit 2	Certified By Statutory Auditors and Approved by the Commission	Commissions Observation
1	31100003 6	Switchyard Paving	Paving of 132 KV Switch Yard	1,823,349	1,823,349	
2	52500003 6	Auto Rescue System	Electrical Safety Appliances	936,704	936,704	
3	51600001 1	Battery	Scaffolding with accessories/Locking and tagging	1,251,301	1,251,301	
5	51000001 1	M-Pack Breaker 415 V	Retroffting of 415V AHP Switchgear	566,253	566,253	
6	51600001 1	Battery	Battery Bank	1,216,861	1,216,861	
7	51000000 20	415 V M-Pact Braker	440 V GE Breakers	921,965	921,965	
8	51000001 8	MCC-Ash Plant	Ash Plant ABB MNS MNC Upgradation	6,599,848	6,599,848	
9	53600007 8	ISAS System	ISAS System Upgradtion	1,028,402		The ISAS system was certified by the Auditors in Unit-3. Therefore for the purpose of additional Capitalisation, the Commission considers the ISAS system amounting to Rs. 0.10 Cr in Unit-3
11	70400002 8	Pager	New Telephone Sets, PA System Hand Sets & Other Equipments	395,472		Not Certified by Statutory Auditor and hence not considered for approval of additional capitalisation
12	31100003 4	Eathpit for Instrumentation Panel	New Instrumentation Panel/Signal Grounding Earth , Pits	198,540		Not Certified by Statutory Auditor and hence not considered for approval of additional capitalisation
13	55500014	Microprocessor Control	Microprocessor Control Feeder	1,272,263	1,272,263	

Sl. No.	Asset No.	Scheme Name as Listed in Assest Register	Scheme Name as provided in our ARR Submission	Apportioned Value for Unit 2	Certified By Statutory Auditors and Approved by the Commission	Commissions Observation
	2	Panel	Panel			
14	55500014 6	Pneumatic Actuator	Modification of pneumatic actuators	2,348,879	2,348,879	
15	55500014 9	Water Spray Valve	HBBYPASS INSURANCE PANES	4,905,514	4,905,514	
16	70500000 1	Admin Building Networking	IT Hardware for JoJobera	1,259,493	1,259,493	
17	53600007 9	IT-Server	IT Hardware for JoJobera	260,000	260,000	
18	55500011 5	Economiser Coil Assembly	Economiser Coil Assembly (Upper Bank & Lower Bank)- 25 %	9,200,522	9,200,522	
19	55500011 5	LTSH Coil Assembly	LTSH Coil Assembly (Upper Bank & Lower Bank)- 25 %	9,272,520	9,272,520	
20	53300002 1	Lifting Tools	Tools & Lifting Equipments	913,997	913,997	
21	55500012 1	Motorised Hoist	Motorised Hoist for CW Pump Suction Strainer	1,664,867	1,664,867	
22	50600000 7	CW Pump Bowl Assembly	CW Pump Bowl Assembly	7,047,931	7,047,931	
23	52100000 3	Ash line Extension	Upgradtion of Wet System & Line Replacement	9,116,272	9,116,272	
24	55500011 2	Thyristor Controlling	Thyristor controlled BFP Scoop	1,023,805	1,023,805	
25	51000001 9	6.6 KV Breaker-CHP	Retroffting of 6.6 KV ABB VCP	1,475,842	1,475,842	
26	55500011 2	Upgradtion of Pro Control System	Pro-Control System/Server with accessories	644,372	644,372	
27	53600007 7	VSE Computer		184,950	184,950	
		Total		**65,529,922**	**63,907,508**	

b. Approved Standalone Capitalisation for Unit-3

Sl. No.	Asset No.	Scheme Name as Listed in Assest Register	Scheme Name as provided in our ARR Submission	Apportioned Value for Unit 2	Certified By Statutory Auditors Approved by the Commission	Commissions Observation
1	55500011 6	Valve with Actuator	Procurement of Spare Actuators	882,452		Not Certified by Statutory Auditor and hence not considered for approval of additional capitalisation
2	55500013 9	6.6 KV Mill Motor	6.6 KV HT Motor for Coal Mill	2,189,398	2,189,398	
3	30900001 3	Mill Motor Store		671,407	671,407	
4	70400002 8	Pager	New Telephone Sets, PA System Hand Sets, PA System Hand Sets & Other Equipments	395,472		Not Certified by Statutory Auditor and hence not considered for approval of additional capitalisation
5	31100003 4	Eathpit for Instrumentation Panel	New Instrumentation Panel/Signal Grounding Earth Pits	198,540		Not Certified by Statutory Auditor and hence not considered for approval of additional capitalisation
6	55500014 6	Pneumatic Actuator	Spares for actuators for Fans Mills	2,439,567	2,439,567	
7	55500014 8	IR Compressor CMC Controller	IR Compressor CMC Controller	1,997,277	1,997,277	
8	55500012 8	Sox Nox Analyser	SOX/NOX/CO Analysers	1,225,172	1,225,172	
9	51800000 9	Vibration System Back & Module	Renovation of Unit 3 Vibration System	1,542,584	1,542,584	
10	52100000 3	MP Pipelines	Fly Ash Line Upgradation	9,597,573	9,597,573	
11	55500013 7	HPMS for Coal Mill	Coal Mill Upgradation to HPMS	4,462,861	4,462,861	
12	55500014 4	Worm Shaft for Coal Mill Gear Box	Coal Mill insurance Spares	12,208,339	12,208,339	
13	3090	Safety	Permanent Safety	811,882	811,882	

Sl. No.	Asset No.	Scheme Name as Listed in Assest Register	Scheme Name as provided in our ARR Submission	Apportioned Value for Unit 2	Certified By Statutory Auditors Approved by the Commission	Commissions Observation
	00014	Equipment Store Room	Walk-way & Scffolding			
14	532000002	Scaffoding Cuplok System		6,291,568	6,291,568	
15	311000024	Safety Walkaway Platform Coal Mill		2,842,140	2,842,140	
16	506000006	Cooling Tower Fill Upgradation	Retrofitting Cooling Tower Fills	2,125,964	2,125,964	
17	506000008	CT Fan Blade		1,985,275	1,985,275	
18	5550000112	Upgradtion for Pro Control System	Pro-Control System/Server with acessories	644,372	644,372	
19	536000077	VSE Computer		184,950	184,950	
20	525000031	GPS based Vehicle Tracking Sytem Fixed	Procurement of Tools & Instruments	205,355	205,355	
21	555000112	Thyristor Controller	Thyristor Controlled BFP Scoop	1,023,805	1,023,805	
22	555000151	TG Control Valve	Insurance Spares	1,768,611	1,768,611	
23	555000126	Critical Spares for TG	Procurement of Critical TG Spares	423,015	423,015	
24	536000078	ISAS System	ISAS System Upgradtion	1,028,402	1,028,402	The ISAS system was certified by the Auditors in Unit-3. Therefore for the purpose of additional Capitalisation, the Commission considers the ISAS system amounting to Rs. 0.10 Cr in Unit-3
		Total		**56117577**	**55,669,517**	

c. Common Facilities for Unit-2 and Unit-3

Sl. No.	Asset No.	Scheme Name as Listed in Assest Register	Scheme Name as provided in our ARR Submission	Apportioned Value for Unit 2	Certified By Statutory Auditors Approved by the Commission
1	401000004	Ring Road at CHP	Cuntruction of Road at CHP	1,107,680	1,107,680
2	311000022	Boundary Wall Extension	Retaining/Boundry Wall	1,685,085	1,685,085
3	801000026	Tata Sumo JH05AM3186	Vehicle	392,982	392,982
4	311000035	Civil Others-Engineers Hall	Renovation of Employee Hostel	1,340,043	1,340,043
5	522000005	AC System for New Admin Building	Misc Civil Work (Interiours of Admin Building)	2,894,057	2,894,057
6	309000015	Admin Building 2nd Floor Extension	Renovation of Service Building	2,699,146	2,699,146
7	309000015	Admin Building 1st Floor Extension	Effuen Treatment Plant	2,851,137	2,851,137
8	309000015	Admin Building 3rd Floor Extension	Motor Point lock	6,004,739	6,004,739
9	555000140	ETP-Water Supply	Crane in loco	8,396,323	8,396,323
10	555000153	Motor Point Locking	Permanent Magnetic Separator for Conveyor	1,363,616	1,363,616
11	532000003	crane in Dozer	Dust Suppression System for Wagon Tippler	261,917	261,917
12	555000086	Magnetic Separator for Conveyor	Centralised greasing forWagon Tipplers	1,061,347	1,061,347
13	805000001	Dust Suppression Equipment for Wagon	Drinking water facility	858,993	858,993
14	555000152	Centralised Geasing System for WT	Tools and Tackles	461,791	461,791
15	555000130	Drinking Water Facility		2,580,393	2,580,393
16	704000010	Polyster Slings		13,699	13,699
17	704000010	Industrial Vacumme Cleaner		38,961	38,961
18	704000011	MODULLER TROLLY		39,296	39,296
19	704000012	CAMERA DIGITAL		7,545	7,545
20	404000002	Cross Over Track Line	Crossover Track line between Wagon Tippler 1 & Wagon Tippler 2	2,639,887	2,639,887
	Total			**36,698,637**	**36,698,637**