Jharkhand State Electricity Regulatory Commission

MYT Order
on
Business Plan
and
Annual Revenue Requirement
and
Determination of Generation Tariff
for
First control period
of
FY 2012-13 to 2015-16
for
Tata Power Company Limited
(TPCL)

Ranchi

May 2012

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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

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 22.08.2002 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 related activities in Jamshedpur (Jharkhand) since 1907, 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 This Order relates to the Business Plan and the MYT Tariff petition filed by the Petitioner before the Commission for approval of :

(a) Truing-up of ARR for FY 2010-11;

(b) Revision of ARR for FY 2011-12;

(c) Approval of Business Plan for the first MYT Control Period (FY 2012-13 to FY 2015-16);

(d) Determination of ARR and tariff for the first MYT Control Period (FY 2012-13 to FY 2015-16)

in accordance with Sections 61, 62, 64 and 86 of the Act and provisions of the JSERC (Terms and Conditions for Thermal Generation Tariff) Regulation, 2004 (hereinafter referred to as ‘Generation Tariff Regulations, 2004’) and provisions of the JSERC (Terms and Conditions for Thermal Generation Tariff) Regulation, 2010 (hereinafter referred to as ‘Generation Tariff Regulations, 2010’).

1.12 While conducting the true up for FY 2010-11 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) Power purchase agreement (PPA) between TPCL and TSL; and

(e) Principles laid down in the ‘Generation Tariff Regulations, 2004’.

1.13 For revision of tariff for FY 2011-12, approval of Business Plan and determination of tariff for the first MYT Control Period, 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 ‘Generation Tariff Regulations, 2004’; and

(e) Principles laid down in the ‘Generation Tariff Regulations, 2010’.

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 ATE

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 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 Petition for the Control Period

2.16 The Generation Tariff Regulations, 2010 require the Petitioner to file before the Commission a Business Plan for the Control Period by June 1, 2011 and the subsequent MYT Petition by November 1, 2011. However, in view of the delay in filing of the petition and subsequent passing of the Tariff Order for FY 2011-12 for the Petitioner, the Commission, in its previous Tariff Order for FY 2011-12, directed the Petitioner to file the MYT Petition along-with the Business Plan for the Control Period as per the MYT Framework by November 1, 2011.

2.17 The Petitioner vide its letter dated October 27, 2011 requested the Commission to extend the date for filing of the Business Plan and MYT Petition for the Control Period. The Commission considering plea of the Petitioner asked the Petitioner to submit the Business Plan and the MYT Petition by November 30, 2011 and December 31, 2011 respectively.

2.18 The Petitioner filed the Business Plan for the Control Period on November 30, 2011. In view of the delay in filing of the Business Plan and to prevent further delay in the tariff determination process, the Commission again directed the Petitioner to submit the MYT Petition for the MYT Control Period without any further delay and without waiting for the approval of the Business Plan. The Petitioner was directed to submit the MYT Petition on the basis of the values submitted by it in the Business Plan. Subsequently the Petitioner filed the MYT Petition for the Control Period on January 11, 2012.

Information Gaps in the MYT Tariff Petition

2.19 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.

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

(a) JSERC/Legal/38/2011 /701 dt. 5th January 2012;

(b) JSERC/ Legal/38/2011/863 dt. 13th March 2012;

(c) JSERC/ Legal/38/2011/33 dt. 13th April 2012;

(d) JSERC/Legal/38 of 2011/150 dt. 16th May 2012;

(e) JSERC/Legal/38 of 2011/153 dt. 16th May 2012;

(f) JSERC/Legal/38 of 2011/196 dt. 28th May 2012;

(g) JSERC/Legal/38 of 2011/206 dt. 29th May 2012.

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

(a) JPP/JSERC/REG/33/12 dt. 1st March 2012;

(b) JPP/JSERC/REG/37/12 dt. 13th March 2012;

(c) REG/JSERC/47/12 dt. 6th April 2012;

(d) JPP/REG/JSERC/50/12 dt. 19th April 2012;

(e) JPP/REG/JSERC/66/12 dt. 8th May 2012;

(f) JPP/REG/JSERC/74/12 dt. 15th May 2012;

(g) JPP/REG/JSERC/75/12 dt. 15th May 2012;

(h) JPP/REG/JSERC/77/12 dt. 19th May 2012;

(i) JPP/REG/JSERC/90/12 dt. 28th May 2012;

(j) JPP/REG/JSERC/91/12 dt. 29th May 2012.

2.22 The Commission scrutinized the additional data/information and on its validation, has passed this Order on the Business Plan and MYT Petition filed by the Petitioner.

Inviting Public Comments/Suggestions

2.23 After the acceptance of the Business Plan and MYT Petition filed by the Petitioner, the Commission directed the Petitioner to make available copies of the same to the members of general public on request, and also issue a public notice inviting comments/ suggestions on the Business Plan and the MYT Petition.

2.24 The aforesaid public notice was issued by the Petitioner in various newspapers and a period of thirty (30) 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

Newspaper	Date
The Hindustan Times (English)	06.03.2012 & 07.03.2012
Telegraph (English)	06.03.2012 & 07.03.2012
Hindustan (Hindi)	06.03.2012 & 07.03.2012
Dainik Jagran (Hindi)	06.03.2012 & 07.03.2012

2.25 Subsequently, the Commission also issued a notice on its website www.jserc.org and various newspapers for conducting the public hearing on the Business Plan and the MYT Petition filed by TPCL. 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

Newspaper	Date
Hindustan (Hindi)	10.04.2012 & 14.04.2012
Prabhat Khabar	10.04.2012 & 14.04.2012
The Pioneer	10.04.2012 & 14.04.2012
Farooqui Tanzeem (Urdu Daily)	10.04.2012 & 14.04.2012
Sanmarg	14.04.2012
Dainik Jagran	11.14.2012 & 14.04.2012
UditVani	11.14.2012 & 14.04.2012
Ranchi Express	11.14.2012 & 14.04.2012

Submission of Comments/Suggestions and Conduct of Public Hearing

2.26 A public hearing was held on April 14, 2012 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 BUSINESS PLAN AND MYT PETITION FILED BY THE PETITIONER

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: 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

Summary of the Business Plan for MYT Control Period (FY 2012-13 to FY 2015-16)

3.2 The Petitioner has broadly submitted its MYT Business Plan for the Control Period under two heads, namely Business Plan and Financial Projections.

3.3 The Business Plan submitted by the Petitioner covers aspects such as

(a) Generation plan;

(b) Annual outage plan and availability;

(c) Operational performance plan;

(d) Fuel procurement plan;

(e) Ash management plan; and

(f) Raw water consumption plan.

3.4 The Financial Projections includes the Capital Expenditure Plan and Operation and Maintenance Expenses Plan.

3.5 Under the Capital Expenditure Plan, the Petitioner submitted additional capitalization plan of Rs. 116.1 Cr for Unit 2 and Unit 3 for the Control Period. The capitalization plan has been divided into two major heads:

(i) Standalone capitalization: This category includes capitalised costs incurred for assets/schemes exclusively for Unit 2 and Unit 3.

(ii) Common facilities: This category includes capitalised costs which have been incurred or proposed to be incurred for the whole station and their costs have been apportioned to the GFA of Unit 2 and Unit 3 appropriately.

3.6 The Petitioner has projected O&M expenses for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 in its MYT Business Plan. The submission of the Petitioner regarding O&M expenses is summarized in the table below.

Table 4: Submitted O&M expenses for Control Period (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses for Unit 2	39.35	34.65	53.67	50.08
Estimated O&M Expenses for Unit 3	28.75	45.75	41.57	61.45

Summary of the MYT Petition for the Control Period (FY 2012-13 to FY 2015-16)

True up of FY 2010-11

3.7 The Petitioner has requested for true up of FY 2010-11 and submitted the actual performance of Units 2 and Unit 3 for FY 2010-11 on various operational and financial related parameters. The Petitioner has calculated the revised generation tariff based on the principles enshrined in the PPA between TPCL and TSL.

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

Table 5: Submitted Energy Charges for FY 2010-11

Particulars	Units	Unit 2	Unit 3
Gross Generation	MUs	860.40	883.08
Auxiliary Consumption	%	10.15%	10.04%
Net Generation	MUs	773.07	t of S
Heat Rate	Kcal / kWh	2644	2621
Specific Oil Consumption	ml / kWh	0.425	0.425
Energy Charges	Rs Cr	120.36	121.79

Table 6: Submitted Fixed Charges for FY 2010-11 (Rs Cr)

Particulars	Unit 2	Unit 3
O&M expenses	23.79	21.55
Depreciation	32.54	32.17
Interest on Loan	0.00	1.96
Return on Equity	31.24	32.18
Interest on Working Capital	5.76	5.80
Income Tax (MAT)	7.78	8.01
Total Fixed Charges	101.11	101.67

Revised estimates for FY 2011-12

3.9 In its ARR and tariff petition, the Petitioner has requested for revision of ARR of FY 2011-12 based on the actual performance from April 2011 to November 2011[1] and estimated performance for the remaining part of the year, based on the principles enshrined in Generation Tariff Regulations, 2010. The energy charges and fixed cost as submitted by the Petitioner for tariff period of FY 2011-12, are summarised in the following tables:

Table 7: Submitted Energy Charges for FY 2011-12*

Particulars	Units	Unit 2	Unit 3
Gross Generation	MUs	788.60	838.78
Auxiliary Consumption	%	10.00%	10.00%
Net Generation	MUs	709.74	754.91
Normative Heat Rate	Kcal / kWh	2567	2577
Normative Specific Oil Consumption	ml / kWh	1.00	1.00
Total Fuel Cost	Rs Cr	130.91	139.75

*As submitted in the ARR Petition

Table 8: Submitted Fixed Charges for FY 2011-12 (Rs. Cr)*

Particulars	Unit 2	Unit 3
O&M expenses	24.27	22.94
Depreciation	4.69	6.42
Interest on Loan	1.83	1.72

[1] In the additional submissions made to the Commission, the Petitioner submitted the actual (unaudited) data for Unit 2 and Unit 3 for April 2011 to March 2012. The same has been considered by the Commission while approving the revised ARR for FY 2011-12.

Particulars	Unit 2	Unit 3
Return on Equity	26.30	25.52
Interest on Working Capital	9.13	9.09
Incentive	6.69	4.01
Cost of LDO at Normative Availability	4.16	4.10
Total Fixed Charges	77.07	73.79

*As submitted in the ARR Petition

Annual Fixed Charges and Energy Charge Rate for the Control Period

3.10 The Petitioner submitted that it has filed the MYT petition for the Control Period in line with Generation Tariff Regulation, 2010. The energy charge rate and the fixed cost as submitted by the Petitioner for each year of the Control Period is shown in the following tables –

Table 9: Submitted Energy Charges for Control Period for Unit 2

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MUs	893.52	914.54	904.03	927.59
Auxiliary Consumption	%	10%	10%	10%	10%
Net Generation	MUs	804.17	823.09	813.63	834.83
Heat Rate	Kcal / kWh	2567	2567	2567	2567
Normative Specific Oil Consumption	ml / kWh	1.00	1.00	1.00	1.00
Energy Charge Rate (Rs/kWh)	Rs/kWh	1.845	1.845	1.845	1.845

Table 10: Submitted Energy Charges for Control Period for Unit 3

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MUs	893.52	893.52	925.06	927.59
Auxiliary Consumption	%	10%	10%	10%	10%
Net Generation	MUs	804.17	804.17	832.55	834.83
Heat Rate	Kcal / kWh	2577	2577	2577	2577
Normative Specific Oil Consumption	ml / kWh	1.00	1.00	1.00	1.00
Energy Charge Rate (Rs/kWh)	Rs/kWh	1.849	1.849	1.849	1.849

Table 11: Submitted Fixed Charges for Control Period for Unit 2 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	40.65	36.48	55.99	52.84
Depreciation	5.52	6.66	7.45	7.84
Interest on Loan	3.07	4.74	5.70	6.25
Return on Equity	27.25	28.56	29.49	30.21
Interest on Working Capital	11.40	11.22	12.62	12.46
Incentive	10.40	14.26	11.15	17.65
Cost of LDO at Normative Availability	4.99	4.99	4.99	5.01
Total Fixed Charges	103.29	106.93	127.40	132.26

Table 12: Submitted Fixed Charges for Control Period for Unit 3 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	29.96	47.35	43.51	63.70
Depreciation	7.14	7.96	8.45	8.88
Interest on Loan	2.71	3.82	4.31	4.62
Return on Equity	26.34	27.29	27.88	28.38
Interest on Working Capital	11.85	12.67	12.89	14.00
Incentive	12.77	9.98	15.70	13.95
Cost of LDO at Normative Availability	4.99	4.99	4.99	5.00
Total Fixed Charges	95.77	114.07	117.73	138.53

A4: PUBLIC CONSULTATION PROCESS- ISSUES RAISED

4.1 The public hearing was held on April 14, 2012 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:

Sale of Fly ash

Public Comments/Suggestions

4.3 The Objector submitted that the Petitioner is selling the fly ash or slag to M/s Lafarge and it is resulting in huge profits which have not been mentioned in petition.

Petitioner's response

4.4 The Petitioner submitted that it is supplying fly ash to M/s Lafarge at free of cost as a part of its initiative towards achieving 100% fly ash utilization and bears all the Maintenance cost of the equipments required to deliver the fly ash to M/s Lafarge Plant.

Commission's view

4.5 In order to validate the claim of the Petitioner, the Commission enquired from M/s Lafarge whether any amount was being charged by the Petitioner for provision of fly ash. M/s Lafarge through its letter dated May 22, 2012 has informed the Commission that it is receiving fly ash from the Petitioner on a regular basis 'free of cost'.

4.6 In view of the above clarification by the Petitioner as well as M/s Lafarge the Commission is of the view that the Petitioner is not receiving any amount in lieu of supply of fly ash to M/s Lafarge.

Sale of Power to JUSCO

Public Comments/Suggestions

4.7 The Objector submitted that the Petitioner is illegally distributing power to JUSCO because TSL has got an agreement with TPCL about the power distribution in its licensed area. The Petitioner is distributing power directly to Adityapur which is resulting in huge profits to the Petitioner.

Petitioner's response

4.8 The Petitioner submitted that it is a Generating Company which supplies power only to Tata Steel Distribution from Jojobera Unit 2 and Unit 3. It has clarified that there is no direct supply provided to JUSCO or Adityapur, hence such contexts do not find any specific mention in the MYT Petition.

Commission's view

4.9 Since the consumer has not submitted any evidence in support of his claim and further in view of the clarification given by the Petitioner, the Commission feels that there is no substance in the allegation made by the Consumer.

CAG Scam

Public Comments/Suggestions

4.10 The Objector submitted that while the Petitioner has written that main reason for tariff rise is rise in coal cost it has not mentioned anything about the recent CAG report which has highlighted that Tata Company is involved in Rs. 6700 Cr scam.

Petitioner's response

4.11 The Petitioner submitted that the above objection is beyond the scope of the MYT Business Plan & MYT Petition submitted by it. It has requested the Commission to not entertain such irrelevant queries.

Commission's view

4.12 The Commission agrees with the view of the Petitioner that the objection is beyond the context and scope of the present Order and hence does not merit consideration.

Profits on Plant Operation

Public Comments/Suggestions

4.13 The Objector submitted that last year the Petitioner made profits of Rs. 2000 Cr but it is telling the Commission that it has suffered loss.

Petitioner's response

4.14 The Petitioner submitted that it is unable to find reference of such objection. It has further submitted that the objection is beyond the scope of the MYT Business Plan & MYT Petition submitted by it.

Commission's view

4.15 The Commission has approved the tariff for Unit 2 and Unit 3 of the Jojobera power plant operated by the Petitioner after scrutinizing the expenses incurred by the Petitioner in operation of these units and in accordance with the Generation Tariff Regulations, 2010.

4.16 The Commission agrees with the view of the Petitioner that the profit and loss of the entire Tata Power Company Limited which operates in the area of generation, transmission and distribution across the country is beyond the context and scope of the present petition.

Loan

4.17 The Objector submitted that the Petitioner has not mentioned in ARR petition the amount of loan and reason for taking loan. It has enquired whether this loan amount is being borne by entire TPCL or only Unit 2 and Unit 3 at Jamshedpur.

Petitioner's response

4.18 The Petitioner submitted that the details regarding the outstanding loan of the Unit 2 and Unit 3 have been furnished in the tariff petition. Detailed computation of outstanding loan amount on original Project Cost and the normative loan considered for Additional Capitalization have been elaborated in Tables 33, 34, 41, 42, 91, 92, 99 and 100 of the MYT Petition submitted before the Commission.

Commission's view

4.19 With regards to the interest on loan the Commission has scrutinized the submissions made by the Petitioner in the MYT petition and the additional information. The Commission has allowed the interest on loan after due prudence check and in accordance with Generation Tariff Regulations, 2010. The details of the same can be found in the relevant sections of this Order.

IT Return for Jojobera Power Plant

4.20 The Objector submitted that the Petitioner furnishes IT return for entire company in India but not for the Jamshedpur units. The Commission should investigate the same.

4.21 The Objector has stated that the Petitioner submitted the request for exemption in tax to the Commission. However, the benefit of the same is being taken by its corporate office in Mumbai. It is taking benefit through IT Department, Govt. of India and the same is being requested to the Commission for exemption.

Petitioner's response

4.22 The Petitioner submitted that the Income Tax computation and payment is made for the Company as a whole and not for Jojobera Units 2 & 3 separately. It is, therefore, not possible to identify the Income Tax for Jojobera Units 2 & 3 in isolation. It is further submitted that, Tata Power as a Company is presently enjoying Tax exemption under Section 80 lA of the Income Tax Act 1961. Although such benefits under Section 80 lA are available, Minimum Alternate Tax (MAT) is payable by Tata Power.

4.23 In regards of Income Tax, Cluase 7.17 & 7.18 of Generation Tariff Regulations 2010 provide for grossing up of return on equity with the actual tax rate payable by a Generation Company. The Petitioner submitted that in compliance with the above Regulations, it has, therefore, in the MYT Petition for the Control Period of FY 2012-13 to FY 2015-16, claimed MAT through grossing up the Post-Tax RoE by the prevailing MAT Rate for each of the years (from FY 2011-12 to FY 2015-16) to arrive at the Pre-tax RoE. It has further submitted that, no separate Income Tax has been claimed or recovered by Tata Power from the Distribution Licensee.

Commission's view

4.24 The Commission is satisfied by the reply given by the Petitioner. With regards to tax on income, Clause 7.48 of the Generation Tariff Regulations, 2010 clearly states that actual tax on the income streams of the Generating Company shall not be recovered from the Beneficiaries.

4.25 However, in accordance with Clause 7.17 & 7.18 of the Generation Tariff Regulations, 2010 the Commission has grossed up the return on equity allowable to the Petitioner by the Minimum Alternate Tax (MAT) rule and the same is reflected in the computation of RoE allowed to the Petitioner in this Order.

Expense on Sub-Lease

4.26 The Objector submitted that the expense on sub-lease submitted by the Petitioner is wrong as no receipt of the same is submitted. TSL owes to the state government a sum of Rs. 6000 Cr. In the Previous Public hearing, this point was mentioned, but the Commission has kept mysterious silence on this matter despite assuring about action. Had an investigation occurred, the Petitioner would have given receipt in ARR which is still missing.

Petitioner's response

4.27 The Petitioner submitted that as mentioned in the MYT Petition, it is reiterated that, the Petitioner has not yet borne the liability of payment towards the lease rental of sub-leased land to the Government of Jharkhand. Therefore, in compliance with the Directive of the Commission in the Tariff Order of FY 2011-12, it has not included such expenses in the proposed O&M expenses for the Control Period. However, the projections of such liability have been provided in the MYT Petition in order to facilitate the future decision of the Commission in this matter. Further, the receipt issued by the Government of Jharkhand on payment towards the Lease Rental for Sub-leased Land in future would be produced before the Commission for consideration.

Commission's view

4.28 With regards to lease rent of the sub leased land the Commission in its previous Tariff Order for FY 2011-12 has already noted that –

"9.70 As per the submission made by the Petitioner, the sub lease agreement has not yet been signed between the Petitioner and TSL. The Petitioner has also admitted in the additional submissions made to the Commission that the determination of such liability may take place over a period of 2-3 years and that:

(a) *Since the time of takeover of plants was way back in 1997, no lease in rent has been paid so far;*

(b) *It is not clear whether such liability would be with retrospective effect i.e. since 1997 or from any other point of time;*

9.71 Thus the matter has not yet attained finality and the actual impact of the same is uncertain. Further, the projection of lease rent made by the Petitioner is on assumption basis and the actual amount of lease rent payable, if any, may vary.

9.72 ***Given the uncertainty regarding the actual liability, the Commission considers the claim of the Petitioner to be premature. It has, therefore, not considered this claim while determining the ARR for FY 2011-12.*** *The claim of the Petitioner may be considered by the Commission when the actual liability on this account arises."*

4.29 The objector is thus mistaken in its assumption that the Commission has allowed the expense on sub-lease of land. The Commission reiterates that the claim of the Petitioner may be considered by the Commission, after due prudence check, when the actual liability on this account arises.

Additional Capitalization

4.30 The Objector submitted that civil work being carried out on building but no reason has been ascertained in petition for the same.

4.31 The expense on IT improvement is also very high as the entire system has been contracted and a pre defined amount is given. In case of any defect, the contractor has to get it corrected as it is his responsibility.

Petitioner's response

4.32 The Petitioner submitted that it has provided detailed justifications of all the Civil Projects undertaken under the Capex Schemes in the MYT Business Plan & MYT Petition for Unit 2 and Unit 3 for the Control Period and also submitted the Detailed Project Report of all the relevant high value Capex schemes for the kind perusal of the Commission.

4.33 With regards to the expense on IT improvement the Petitioner submitted that the maintenance of IT System is being carried out by third parties on contractual basis. But such contracts are only service-related contracts and excludes any equipment related warranties or obligations. However, a Capex Project has been proposed for up-gradation of IT Hardware in Unit 2 and Unit 3 and phased appropriately over the Control Period. Such up-gradations are required since the IT Systems become obsolete due to rapid development in the IT sector and spares are not readily available to upgrade the existing systems in case of any failure. Further, even if the spares become available in certain cases, they may not be compatible to the existing configuration. In view of such requirement and based on the present IT structure and configuration of the system, the IT department have identified the components of the system which will require such up-gradation during the Control Period and accordingly such Capex Scheme has been proposed.

Commission's view

4.34 The Commission has scrutinized the submissions made by the Petitioner regarding additional capitalization to be undertaken during the Control Period in detail. It has approved the same after due prudence check and in accordance with Generation Tariff Regulations, 2010.

Water Charges

4.35 The Objector submitted that there is no expense of the Petitioner on water because there is an agreement between Tata Group and the State Government w.r.t tax exemption on the expenses incurred on water, power and roads by companies.

Petitioner's response

4.36 The Petitioner submitted that it procures water from JUSCO and the payment is done against the monthly bills at the specified water rate. The Petitioner has further submitted that it has considered the actual water rate in the various computations produced in the Petition.

Commission's view

4.37 The Petitioner requested the Commission for allowance of Water Charges as a part of the O&M expenses claimed by it for FY 2012-13 to FY 2015-16. The Petitioner submitted that the Water Charges being paid by it to JUSCO will increase sharply from FY 2012-13 onwards due to the increase in water charges by 92% on account of higher taxes being levied by Govt. of Jharkhand.

4.38 The average annual Raw Water Expenses claimed by the Petitioner during the MYT Control Period have been summarized in the table below.

Table 13: Water expenses for Unit 2 and Unit 3 during Control Period

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation (Unit 2&3)	MU	1787	1808	1829	1855
Quantity of Water	m^3	6075936	6147418	6218899	6307615
Raw Water Charges	Rs./ m^3	5.52	5.52	5.52	5.52
Raw Water Expenses	Rs. Cr	3.35	3.39	3.43	3.48

4.39 In order to validate the claim of the Petitioner, that it is indeed paying Water Charges to JUSCO, the Commission orally asked the Petitioner to submit proof of payment in form of receipt of payments made towards Water Charges. However, there was no response from the Petitioner regarding the same. Subsequently the Commission wrote a letter to the Petitioner vide Letter No. JSERC/Legal/38 of 2011/196 dated 28th May 2012. However, the Petitioner in its reply dated May 28, 2012 submitted the bills raised by JUSCO on Tata Power for payment of Water Charges only. No receipt of payment made against those bills was submitted to the Commission.

4.40 The Commission took a serious view of the matter and conveyed to the Petitioner both over the telephone and in writing), that if the Petitioner fails to provide the details of receipt of payment made to JUSCO towards Water Charges, the Commission shall be forced to take an adverse view in the matter.

4.41 In response, the Petitioner, submitted before the Commission a list of 'Invoice Numbers' for the month of May 2011; and the 'Bill Amt' and 'Bill Paid' against those invoices. However, no actual receipt of the payment made to JUSCO, signed and validated by the representatives of JUSCO, was submitted to the Commission.

4.42 Therefore, the Commission deems the reply given by the Petitioner to be unsatisfactory and has decided to disallow the Water Charges as claimed by the Petitioner for FY 2012-13 to FY 2015-16.

4.43 The Commission may allow the actual Water Charges incurred by the Petitioner during the year at the time of Annual Performance Review at the end of the year provided the Petitioner is able to provide satisfactory evidence in support of its claim.

A5: APPROVAL OF THE BUSINESS PLAN FOR THE FIRST CONTROL PERIOD (FY 2012-13 TO FY 2015-16)

5.1 The Petitioner has broadly submitted its MYT Business Plan for the Control Period under two heads, namely Business Plan and Financial Projections. The Business Plan covers aspects such as generation plan, annual outage plan and availability of the plant, operational performance plan, fuel procurement plan, ash management plan and raw water consumption plan. The capital expenditure plan and operation and maintenance expenses plan have been presented under the Financial Projections. The aforementioned plans are discussed in this Section.

Business Plan

Generation Plan

Petitioner's submission

5.2 The Petitioner submitted its expected availability, gross generation and PLF for Unit 2 and Unit 3 of Jojobera plant as summarized in the table below.

Table 14: Generation details as submitted by the Petitioner

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross generation					
Unit 2	MUs	893.52	914.54	904.03	927.59
Unit 3	MUs	893.52	893.52	925.06	927.59
Total	MUs	1787.04	1808.06	1829.09	1855.18
Plant Load Factor					
Unit2	%	85%	87%	86%	88%
Unit 3	%	85%	85%	88%	88%
Availability					
Unit 2	%	94.52%	98.08%	93.15%	98.09%
Unit 3	%	98.08%	93.15%	98.08%	94.52%

Commission's analysis

5.3 The targets for Availability and the projected generation for each year of the Control Period has been dealt with by the Commission in Section A8: of this Order.

Annual Outage Plan and Availability

Petitioner's submission

5.4 The Petitioner submitted the annual outage plan of Unit 2 and Unit 3 of Jojobera plant after including scheduled preventive maintenance, technological up gradations, performance improvement measures, statutory compliances and life sustenance, extension and enhancement activities. The Petitioner has also submitted the Maintenance Plan which is prepared on the basis of the operational challenges, past operation and maintenance experience, OEM (Original Equipment Manufacturer) recommendations, COQ (Cost of Quality) analysis, Capex Plan and major maintenance schedules. The annual outage plan submitted by the Petitioner is given shown in the table below:

Table 15: Annual Outage plan submitted by the Petitioner

Unit	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Unit 2	March 5, 2013 to March 25, 2013		March 1, 2015 to March 25,2015	
	(20 days)		(25 days)	
	APH tube replacement & renewal of 50% Economiser coil		Turbine HP-IP &LP module overhauling, replacement of reheater & superheater coils	
Unit 3		May 1, 2013 to May 26, 2013		May 20, 2015 to June 8, 2015
		(25 days)		(20 days)
		Overhauling of LP turbine, renewal of 50% Economiser & LTSH coils		Renewal of APH tubes, renewal of 50% Economiser & LTSH coils

Commission's analysis

5.5 The Commission directs the Petitioner to maintain Availability above normative levels specified in the Generation Tariff Regulations, 2010 and make necessary arrangements for off-take of power.

Operational Performance Plan

Petitioner's submission

5.6 The Petitioner submitted its operational performance plan, wherein, it has planned initiatives to reduce forced outage rates. The operational performance plan as submitted by the Petitioner is shown in the tables below.

Table 16: Performance parameters for Unit 2

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Capacity	MW	120	120	120	120
Generation	MU	893.52	914.54	904.03	927.59
Plant Load Factor	%	85%	87%	86%	88%
Heat Rate	KCal/kWh	2651	2660	2659	2668
Aux Power	%	10%	10%	10%	10%
Availability	%	94.52%	98.08%	93.15%	98.09%

Table 17: Performance parameters for Unit 3

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Capacity	MW	120	120	120	120
Generation	MU	893.52	914.54	904.03	927.59
Plant Load Factor	%	85%	87%	86%	88%
Heat Rate	KCal/kWh	2651	2660	2659	2668
Aux Power	%	10%	10%	10%	10%
Availability	%	98.08%	93.15%	98.08%	94.52%

Commission's analysis

5.7 The Commission, in its Generation Tariff Regulations, 2010 has specified the targets for operational norms viz. Availability, Auxiliary Consumption and Heat Rate for Unit 2 and Unit 3 of the Jojobera power plant. The same have been approved by the Commission in this Order for computation of generation tariff for the respective Units.

5.8 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.

5.9 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. Tata Steel Limited in its tariff petition on page 5-51 has stated as under.

"Power Purchase from Damodar Valley Corporation (DVC) at 132 KV and 400 KV

5.5.4 To minimise the dependability on Tata Steel Works (TSW) and to meet the demand of its licensed area, TSL has planned to purchase additional power from DVC through a new 400 KV substation coming in FY 2011-12."

5.10 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.

Fuel Procurement Plan

Petitioner's submission

5.11 The Petitioner submitted in its fuel procurement plan that it has signed an MoU with West Bokaro Collieries (Middling Coal) for annual capacity of 15 lakh tons and has a fuel supply agreement with Mahanadi Coalfields Limited of annual contract quantity of 7 lakh tons. The shortage (if any) is met from coal washeries such as RJC or importing coal from Indonesia. The total Coal Requirement for Unit 2 and Unit 3 during the Control Period has been estimated at about 1.3 million Tons, as provided in the following Table.

Table 18: Fuel procurement plan FY 13-16 –Unit 2 & 3

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Generation	MU	1787	1808	1829	1855
WB Coal Consumption	Ton	875947	887592	899287	913470
MCL Coal Consumption	Ton	376697	381702	386730	392827
WB Coal Procurement	Ton	883012	894750	906540	920837
MCL Coal Procurement	Ton	379735	384781	389849	395995
Total Coal Procurement	Ton	1262746	1279531	1296388	1316832

Commission's analysis

5.12 The Petitioner has projected that the total requirement of coal of Unit 2 and Unit 3 shall be met primarily (about 70%) by coal procured from West Bokaro Collieries (Middling Coal) and the remaining requirement of coal (about 30%) shall be met by coal procured from Mahanadi Coalfields Limited.

5.13 The Commission has considered the actual proportion of the various types of coal used in last three months of FY 2011-12 (as submitted in the additional information) for projecting the proportion of various types of coal to be used during the Control Period. The proportion of various types of coal to be used has been projected as Middling Coal – 61.69%, MCL Coal – 38.31% for Unit 2 and Middling Coal – 63.12%, MCL Coal – 36.88% for Unit 3.

5.14 However, the Commission observes that the per unit cost of energy derived from WB Coal is higher than the per unit cost of energy derived from MCL coal even though the calorific value of coal procured from West Bokaro Collieries is higher than that of coal procured from MCL.

5.15 The table below shows the gross calorific value and the price of MCL and WB coal utilized by the Petitioner during FY 2008-09 to FY 2010-11.

Table 19: Comparison of coal from WB and MCL

			FY 2008-09	FY 2009-10	FY 2010-11
Price of Coal	WB Coal	Rs/MT	1795	2044	2418
	MCL Coal	Rs/MT	1001	1059	1142
Calorific Value of Coal	WB Coal	Kcal/kg	4466	4405	4321
	MCL Coal	Kcal/kg	2998	2829	2781
Unit Heat Cost	WB Coal	KCal/Rs	2488	2155	1787
	MCL Coal	KCal/Rs	2995	2673	2436

5.16 The transit loss on the coal procured from MCL is also substantially lower than transit loss on coal procured from West Bokaro Collieries. The Petitioner should examine the feasibility of increasing the fuel procurement from MCL or other sources in order to economize the cost of coal and make all efforts to optimize its fuel cost through an optimal fuel-mix.

Ash Management Plan

Petitioner's submission

5.17 The Petitioner submitted its ash management plan for Unit 2 and Unit 3. It has mentioned that ash management has become difficult due to high ash content in coal, higher generation, increase in transportation and handling charges and increase in ash disposal distances due to 'Consent to operate' issued by Jharkhand State Pollution Control Board (JSPCB). The Jojobera Power Plant generates about 78% of the total Ash as Fly Ash and remaining 28% as Bottom Ash.

5.18 The Petitioner has also submitted that it has entered into MoUs and Service Level Agreement (SLA) with various parties for off-take of Fly Ash. Further, to optimize the Ash Disposal Cost and to maintain the uninterrupted operation of the Plant, the Petitioner on a regular basis tracks parties interested in off-take of ash free of cost. The computation of expected unit-wise ash generation is shown in the following Table.

Table 20: Unit-wise ash generation during control period

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Fly Ash Generation	%	78%	78%	78%	78%
Unit 1	Ton	120249	120710	121170	121964
Unit 2	Ton	202375	207842	205376	211443
Unit 3	Ton	203675	203598	211499	211999
Unit 4	Ton	202222	202911	203600	204848
Total Fly Ash Generation	Ton	728522	735061	741645	750253
Bottom Ash Generation	%	22%	22%	22%	22%
Unit 1	Ton	33916	34046	34176	34400

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Unit 2	Ton	57080	58622	57926	59638
Unit 3	Ton	57447	57425	59653	59794
Unit 4	Ton	57037	57231	57426	57778
Total Bottom Ash Generation	Ton	205481	207325	209182	211610
Total Ash Generation	Ton	934003	942386	950826	961863

Commission's analysis

5.19 The Commission is of the view that the Petitioner should make all attempts to minimize expenses related to ash management and search for different methods and destinations for off-take of fly ash.

5.20 The Commission has also allowed additional capitalization related to ash management and expects the Petitioner to minimize these expenses to reduce burden on beneficiaries and consumers. The costs related to ash disposal have been dealt in Section dealing with O&M expenses in Section A8: of this Order.

Raw water consumption plan

Petitioner's submission

5.21 The Petitioner has estimated about 3.4m^3 of raw water is required for generation of 1000 units. Based on raw water charges, it has projected its water consumption expenses for the control period. Considering the Raw Water Charges at Rs 5.52/m^3, the Average Annual Raw Water Expenses during the MYT Control Period projected by the Petitioner are provided in the following Table.

Table 21: Water expenses for Unit 2 and Unit 3 during Control Period

	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation (Unit 2&3)	MU	1787	1808	1829	1855
Quantity of Water	m^3	6075936	6147418	6218899	6307615
Raw Water Charges	Rs./ m^3	5.52	5.52	5.52	5.52
Raw Water Expenses	Rs. Cr	3.35	3.39	3.43	3.48

Commission's analysis

5.22 The Commission has already expressed its views with regards to Water Charges in paragraph 4.37 to 4.43 of this Order..

Financial Projections

Capital Expenditure Plan

Petitioner's submission

5.23 Under the Capital Expenditure Plan, the Petitioner submitted additional capitalization plan of Rs. 116.1 Cr for Unit 2 and Unit 3 for the Control Period. The capitalization plan has been divided into two major heads:

(a) Standalone capitalization: This category includes capitalised costs incurred for assets/schemes exclusively for Unit 2 and Unit 3.

(b) Common facilities: This category includes capitalised costs which have been incurred or proposed to be incurred for the whole station and their costs have been apportioned to the GFA of Unit 2 and Unit 3.

5.24 The Petitioner submitted that majority of the schemes are related to reliable operation and efficient performance of the plant. The Petitioner has broadly segregated capitalization plan into following categories:

(a) Mandatory Technical

(b) Reliability Improvement

(c) Efficiency Improvement

(d) Mandatory Statutory

(e) Safety And Security Related

(f) Cost Reduction

(g) Tools & Tackles

(h) Spares Etc.

(i) Technical Up gradation and Obsolescence

(j) Unclassified Schemes

Table 22: Capitalization submitted by the Petitioner for Unit 2 (Rs lakhs)*

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Efficiency Improvement	101.78	481.15	0.00	568.9
Mandatory technical	5.74	35.40	4.31	46.65
Mandatory Others	164.01	216.88	160.05	151.03
Reliability Improvement	175.32	1051.01	65.88	837.07
Safety	2.87	0.00	2.87	2.87

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Spares	227.57	475.04	117.13	232.60
Technical Up gradation	26.59	20.46	0.00	0.00
Grand Total	**703.90**	**2279.94**	**350.23**	**1839.12**

* As submitted in the Annexure to the Business Plan

Table 23: Capitalization submitted by the Petitioner for Unit 3 (Rs lakhs)*

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Efficiency Improvement	62.51	61.09	0.00	23.3
Mandatory technical	5.74	18.00	4.31	66.03
Mandatory Others	28.77	116.83	29.35	98.75
Reliability Improvement	175.30	810.90	65.88	1040.78
Safety	18.33	0.00	2.87	2.87
Spares	158.56	308.95	73.51	56.47
Technical Up gradation	26.56	0.00	0.00	0.00
Grand Total	**475.77**	**1315.77**	**175.91**	**1288.21**

* As submitted in the Annexure to the Business Plan

Table 24: Capitalization submitted by the Petitioner for Common facilities (Rs lakhs)*

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Cost reduction	631.90	17.23	0.00	0.00
Efficiency Improvement	0.00	0.00	22.97	0.00
Mandatory technical	525.96	0.00	0.00	0.00
Mandatory Others	454.23	387.41	176.1	0.00
Others	117.71	14.35	0.00	0.00
Reliability Improvement	154.52	57.42	34.45	68.9
Safety	174.73	141.57	51.10	32.73
Spares	62.01	22.97	0.00	0.00
Tools & Tackles	20.73	12.63	1.15	0.00
Grand Total	**2141.78**	**653.58**	**285.77**	**101.63**

* As submitted in the Annexure to the Business Plan

5.25 The Petitioner has also submitted that the financing of the schemes shall be done through internal accruals and no specific debt will be taken for any capital expenditure schemes. Therefore, it has considered normative debt: equity ratio of 70:30 for financing of the additional capitalization.

Commission's analysis

5.26 The Commission has analysed the Business Plan submitted by the Petitioner in accordance with Regulation 7.6 of the Generation Tariff Regulations, 2010 as reproduced below.

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

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

ii. *Change in law;*

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

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

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

Provided that in respect sub-clauses (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture air conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machine, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.04.2012 for the Control period."

5.27 The Commission has scrutinized in detail the submissions made by the Petitioner with regards to the additional capitalization and has examined the benefits to be derived from each scheme proposed by the Petitioner.

5.28 The Petitioner in its MYT Business Plan provided Detailed Project Reports (DPRs) of five projects/schemes. However, the Commission asked the Petitioner to provide DPRs of all the schemes which involve total capital expenditure of more than Rs. 1 Cr during the Control Period. In the subsequent submissions made to the Commission, the Petitioner provided DPRs of the remaining twenty two schemes, which have been considered by the Commission in its analysis.

5.29 The Commission has scrutinised the DPRs of following schemes, which have been submitted by the Petitioner:

(a) Fly ash lines
(b) Centrifugal compressor for Ash plant
(c) Coal shed for CHP
(d) Shunting Diesel locomotive for CHP

(e) Dust control system
(f) Renovation of DM plant
(g) Renovation of service building
(h) CHP Combined (Strengthening of JT 1 n 2, Extension of conveyor 5 n 13)
(i) HT Motors for critical equipments
(j) High concentration slurry discharge system
(k) Construction of railway platform
(l) Road and Boundary wall
(m) Turbine gear assembly
(n) Construction of Training centre
(o) Up-gradation of GRP replays
(p) Flame scanner system up-gradation
(q) Relining of ash ponds
(r) Economizer coil assembly
(s) Up-gradation of ESP
(t) Slurry line pipes
(u) Reheater coils
(v) APH tubes
(w) LTSH tubes and bends
(x) Steam cooled wall bottom header
(y) Burner panel bends
(z) Axial fan critical components
(aa) Turbine parting plane bolts and coupling bolts

5.30 The Commission has assessed requirement of carrying out each scheme submitted by the Petitioner. Some of the schemes such as Reheater coils, APH tubes etc, were found to be necessary for efficient and successful functioning of the units and have been approved by the Commission. On the other hand, execution of certain schemes is not allowable under Regulation 7.6 of the Generation Tariff Regulations 2010. The Commission has not considered such schemes while approving the capital expenditure for the Control Period.

5.31 Further, the Commission considers certain schemes on ‘Fire retardant paint on cable trays’ and ‘Fire retardant sealing on cable trays’ as regular maintenance activity and hence, has not considered the same in the capitalization plan.

5.32 The Commission has also identified certain schemes such as ‘fork lifters’ etc which are considered as part of Tools & tackles and as such are not considered as part of additional capitalization.

5.33 In the Business Plan, the Petitioner submitted capital schemes amounting to Rs. 116.12 Cr for Unit 2 and Unit 3. In the subsequent submissions made to the Commission, the Petitioner submitted that certain schemes submitted in the Business Plan will not be undertaken during the Control Period. Further, the Petitioner submitted that certain schemes which had been taken up during FY 2011-12 will be capitalised in FY 2012-13 only. These schemes have been added to the Business Plan as "Spill-over works". The Commission has considered the same while approving the total capital expenditure and capitalization during the Control Period.

5.34 The list of capital expenditure schemes approved by the Commission is given in Annexure 2A. The Annexure 2B contains the schemes not approved by the Commission during the Control Period and the reasoning thereof.

5.35 The Petitioner in its MYT Business Plan submitted that the financing of the schemes shall be done through internal accruals and no specific debt will be taken for any capital expenditure schemes. Therefore, it has considered normative debt: equity ratio of 70:30 for financing additional capitalization.

5.36 On scrutiny of the information submitted by the Petitioner including the DPRs of various schemes, the Commission observed that the capital costs of each scheme included interest during construction (IDC). The Commission asked the Petitioner to explain the rationale of including IDC in capital cost of the project when the Petitioner has proposed to fund entire capitalization through equity. During the Technical Validation Sessions, the Petitioner explained that it has considered normative IDC in capital cost for the purpose of projection. However, the Petitioner also explained that no IDC shall be included in the project cost in case the project is funded by equity only. The Petitioner also clarified that it has not capitalised any IDC for any of the capital expenditure scheme during FY 2007-08 to FY 2011-12 (which were funded by equity only).

5.37 The Commission believes that IDC should not be allowed as part of the project cost if the scheme is being funded by equity only. Since the Petitioner has proposed to fund additional capitalization during the Control Period through equity, the Commission has not allowed IDC while approving the project cost of each scheme.

5.38 Accordingly, the total additional capitalization approved by the Commission for each year of the Control Period is shown in the tables below:

Table 25: Additional Capitalization approved by the Commission for Unit 2 (Rs lakhs)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Cost reduction	0.00	0.00	0.00	0.00
Efficiency Improvement	99.15	440	0.00	520
Mandatory Technical	5.61	34.61	4.21	45.61
Mandatory Others	384.85	203.07	153.07	133.55
Reliability Improvement	223.2	670.27	7.02	714.65
Safety	0.00	0.00	0.00	0.00

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Spares	66.11	507.3	105.61	0.00
Technical Up gradation	47	20	0.00	0.00
Tools & Tackles	0.00	4.63	0.00	0.00
Grand Total	**825.92**	**1879.88**	**269.91**	**1413.81**

Table 26: Additional Capitalization approved by the Commission for Unit 3 (Rs lakhs)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Efficiency Improvement	101.49	0.00	0.00	20
Mandatory Technical	5.61	17.61	4.21	64.61
Mandatory Others	72.49	292.71	28.07	83.55
Reliability Improvement	91.83	658.59	7.02	1164.65
Safety	15.54	0.00	0.00	0.00
Spares	133.01	356.15	5.61	50
Technical Up gradation	16	0.00	0.00	0.00
Grand Total	**435.97**	**1325.06**	**44.91**	**1382.81**

Table 27: Additional Capitalization approved by the Commission for Common facilities (Rs lakhs)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Cost reduction	244.71	381.26	0.00	0.00
Efficiency Improvement	0.00	0.00	22.46	0.00
Mandatory Technical	3.64	493.81	0.00	0.00
Mandatory Others	133.08	33.68	0.00	0.00
Others	35.98	14.04	0.00	0.00
Reliability Improvement	317.28	56.14	33.68	67.36
Safety	89.82	101.06	28.07	28.07
Spares	60.92	22.46	0.00	0.00
Tools & Tackles	11.18	0.00	0.00	0.00
Grand Total	**896.61**	**1102.45**	**84.21**	**95.43**

5.39 The Commission shall review the capital expenditure and capitalization actually done by the Petitioner at the end of each year of the Control Period in accordance with Regulation 6.8 - 6.10 of the Generation Tariff Regulations, 2010.

5.40 The Petitioner shall submit the actual capital expenditure incurred along with the Annual Performance Review Filing during each year of the Control Period. The Commission shall also conduct a midterm review at the end of second year of the Control Period. In case, the cumulative incurred capital expenditure and/or capitalization deviates from the approved capital expenditure / capitalization by more than 20% (cumulative), the Commission will make necessary changes to capital investment plan for the Control Period and will 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 capitalization vis-à-vis approved capital expenditure/capitalization.

Operation and Maintenance Plan

Petitioner's submission

5.41 The Petitioner has projected O&M expenses for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 in its MYT Business Plan. The submission of the Petitioner made in the Business Plan regarding O&M expenses is summarized in the table below.

Table 28: Submitted O&M expenses for Control Period (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses for Unit 2	39.35	34.65	53.67	50.08
Estimated O&M Expenses for Unit 3	28.75	45.75	41.57	61.45

Commission's analysis

5.42 The Commission has dealt with O&M expenses for the Control Period in the relevant sections of Section A8: of this Order.

A6: TRUE UP FOR FY 2010-11

6.1 The Commission in its previous Tariff Order carried out provisional truing up of ARR for FY 2010-11 based on the information provided by the Petitioner. The Petitioner has now sought approval from the Commission for true up of variation in certain elements of the ARR for FY 2010-11 which were provisionally trued up.

6.2 The Commission has analysed the submission of the Petitioner with respect to the ARR for FY 2010-11 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

Petitioner's submission

6.3 The Petitioner submitted that the operational parameters of Unit 2 and 3 of the Jojobera generating station are the same as that approved by the Commission at the time of provisional true up of parameters pertaining to operational performance of Unit 2 and 3 for FY 2010-11 as approved in the Tariff Order for FY 2011-12.

Commission's analysis

6.4 The Commission observes since there is no change in the operational parameters of FY 2010-11 as earlier approved for Unit 2 and Unit 3 in the provisional true up carried out in the Tariff Order for FY 2011-12, the operational parameters for Unit 2 and Unit 3 for FY 2010-11 are summarized in the below tables.

Table 29 : Operational Parameters for Unit 2 for FY 2010-11

Particulars	True Up Values Submitted by TPCL	Approved by JSERC in TO for FY 2011-12
Gross Generation	860.40	860.40
PLF	81.85%	81.85%
Aux. Power Consumption	10.15%	10.15%
Net Generation	773.07	773.07
Heat Rate	2644	2644

Table 30 : Operational Parameters for Unit 3 for FY 2010-11

Particulars	True Up Values Submitted by TPCL	Approved by JSERC in TO for FY 2011-12
Gross Generation	883.08	883.08
PLF	84.01%	84.01%
Aux. Power Consumption	10.04%	10.04%
Net Generation	794.40	794.40
Heat Rate	2621	2621

Fuel Cost Parameters

Petitioner's submission

6.5 The Petitioner submitted that the parameters of fuel cost for Unit 2 and 3 of the Jojobera generating station are the same as that approved by the Commission at the time of provisional true up of parameters pertaining to fuel cost of Unit 2 and 3 for FY 2010-11 as approved in the Tariff Order for FY 2011-12.

Commission's analysis

6.6 The Commission observes since there is no change in the fuel cost parameters of FY 2010-11 as earlier approved for Unit 2 and Unit 3 in the provisional true up carried out in the Tariff Order for FY 2011-12. The submitted and approved value of fuel cost parameters for Unit 2 and Unit 3 for FY 2010-11 is summarized in the tables below.

Table 31: Parameters for fuel cost for Unit 2 for FY 2010-11

Particulars	UoM	Approved by JSERC in TO for FY 2011-12	True Up Values Submitted by TPCL
LDO Consumption	Ml/kWh	0.425	0.425
GCV – LDO	Kcal/Kg	9100	9100
Weighted Average GCV – Middling Coal	Kcal/kWh	4321	4321
Weighted Average GCV –MCL Coal	Kcal/kWh	2781	2781
Landed Price – LDO	Rs/MT	42867	42867
Landed Price– Middling Coal	Rs/MT	2418	2418
Landed Price–MCL Coal	Rs/MT	1142	1142
Fuel Cost	Rs Cr	120.36	120.36

Table 32 : Parameters for fuel cost for Unit 3 for FY 2010-11

Particulars	UoM	Approved by JSERC in TO for FY 2011-12	True Up Values Submitted by TPCL
LDO Consumption	Ml/kWh	0.425	0.425
GCV – LDO	Kcal/Kg	9100	9100
Weighted Average GCV – Middling Coal	Kcal/kWh	4348	4348
Weighted Average GCV –MCL Coal	Kcal/kWh	2766	2766
Landed Price – LDO	Rs/MT	42547	42547
Landed Price– Middling Coal	Rs/MT	2416	2416
Landed Price–MCL Coal	Rs/MT	1140	1140
Fuel Cost (Rs Cr)	Rs Cr	121.79	121.79

Determination of Fixed Cost

Operation & Maintenance Expenses

Petitioner's submission

6.7 The Petitioner has submitted the O&M expenses as per the previous tariff order wherein the Commission had approved O&M expenses of Rs.23.79 Cr for Unit 2 and Rs 21.55 Cr for Unit 3.

Commission's analysis

6.8 In accordance with the terms of PPA, the O&M expenditure is to be allowed at the rate of 3% of original project cost to be escalated by 7% each year and the Commission in its previous tariff order has allowed the O&M accordingly. Since, the original project cost has not under gone any change, the Commission retains the O&M expenses approved by it its previous tariff order.

6.9 Accordingly, the Commission approves O&M expenses of Rs.23.79 Cr for Unit 2 and Rs 21.55 Cr for Unit 3 for FY 2010-11.

Depreciation

Petitioner's submission

6.10 The Petitioner has stated that Commission had approved a depreciation charge of Rs 32.54 Cr for Unit 2 and Rs 32.17 Cr for Unit 3 and accordingly, the same has been considered for truing up for FY 2010-11.

Commission's analysis

6.11 As in case of O&M expenses, the depreciation charge is also computed on the basis of original project cost. Since the original project cost has not undergone any change, the Commission retains the depreciation charge as approved in its previous tariff order at Rs 32.54 Cr for Unit 2 and Rs 32.17 Cr for Unit 3 for FY 2010-11.

Interest on Loan

Petitioner's submission

6.12 The Petitioner has submitted that the Commission in the Tariff Order of FY 2010-11 had approved an interest rate of 13.02% for Unit 2 and 12.33% for Unit 3.

6.13 Repayment of debt for Unit 2 has been completed and accordingly interest on debt for Unit 2 has been calculated as nil and for Unit 3, interest on debt for FY 2010-11 has been calculated as Rs 1.96 Cr.

Commission's analysis

6.14 As in case of O&M expenses, the interest on loan is also computed on the basis of original project cost. Since the original project cost has not undergone any change, the Commission retains the interest on loan as approved in its previous tariff order at NIL for Unit 2 and Rs 1.96 Cr for Unit 3 for FY 2010-11.

Return on Equity (RoE)

Petitioner's submission

6.15 The Petitioner submitted that the Commission had approved RoE (post tax) for FY 2010-11 of Rs.27.06 Cr for Unit 2 and Rs.31.10 Cr for Unit 3 in the Tariff Order for FY 2011-12. This value of RoE approved by the Commission was based on the estimated PLF of both Unit 2 and Unit 3 submitted by the Petitioner as part of the ARR of FY 2011-12.

6.16 The Petitioner has requested the Commission to true up the value of RoE on the basis of the actual PLF for FY 2010-11 for both Units 2 and 3.

Commission's analysis

6.17 In line with the methodology followed for FY 2010-11, the Commission has computed the RoE in accordance with the terms and conditions of PPA and approved PLF of 81.85% for Unit 2 and 84.01% for Unit 3.

6.18 Accordingly, the Commission approves post tax RoE of Rs.31.24 Cr for Unit 2 and Rs.32.18 Cr for Unit 3 for FY 2010-11. RoE approved for Unit 2 and Unit 3 for FY 2010-11 is summarized in the table below.

Table 33 : RoE for Unit 2 and Unit 3 for FY 2010-11 (Rs. Cr)

	Unit 2			Unit 3		
Particulars	Approved by JSERC in TO FY 2012-12	Submitted by TPCL	Approved by JSERC in this TO	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Equity Capital	129.40	129.40	129.40	125.44	125.44	125.44
PLF	77.23%	81.85%	81.85%	82.78%	84.01%	84.01%
Pre Tax RoE	**27.06**	**31.24**	**31.24**	**31.10**	**32.18**	**32.18**

Interest on Working Capital

Petitioner's submission

6.19 The Petitioner has requested the Commission to true up working capital and interest thereon to take into account the impact of truing up of RoE for Units 2 and 3 for FY 2010-11.

6.20 The Petitioner has further stated that interest on working capital has been computed in accordance with terms and conditions mentioned specified in the erstwhile PPA entered into between TSL and TPCL. The PPA states:

"Working capital is estimated as per GoI norms and the interest thereon at the prevailing SBI advance rate." Accordingly, working capital has been calculated after considering the following norms for generating stations.

(a) Fuel costs for one month, reasonable fuel stocks as actually maintained but limited to 15 days for pit head stations and 30 days for non-pit head stations;

(b) The cost of 60-day inventory for any fuel other than coal;

(c) Operation & Maintenance expenses for one month, and

(d) The project's receivables equivalent to two months' average billing for Capacity Payment and Energy Payment.

6.21 The interest on working capital has been considered as 11.75%, which the Petitioner submitted was the prevailing SBI Advance Rate as on April 1, 2010. Accordingly, the Petitioner requests the Commission to approve Rs 5.76 Cr and Rs 5.80 Cr as the interest on working capital for Units 2 and Unit 3 respectively for FY 2010-11.

6.22 The Commission had previously approved interest on working capital amounting to Rs.5.66 Cr for Unit 2 and Rs.5.77 Cr for Unit 3 at the time of provisional true up of FY 2010-11 in the Tariff Order issued in FY 2011-12.

6.23 However, after considering the impact of pre tax return on equity on the receivables, the interest on working capital has been computed at Rs 5.76 Cr for Unit 2 and Rs 5.80 Cr for Unit 3. The Petitioner has requested the Commission to approve the same.

Commission's analysis

6.24 The Commission has calculated the interest on working capital as per the expenses and receivables trued up in this tariff order. The rate of interest on working capital is considered as 11.75% p.a. which was the prevailing SBI advance rate on April 1, 2010.

6.25 The Commission has computed and approved interest on working capital of Rs 5.76 Cr for Unit 2 and Rs 5.80 Cr for Unit 3.

Table 34 : Trued Up Interest on Working Capital for Unit 2 and Unit 3 for FY 2010-11 (Rs. Cr)

	Unit 2			Unit 3		
Particulars	Approved by JSERC in TO FY 2011-12	True Up Values Submitted by TPCL	Approved by JSERC in this TO	Approved by JSERC in TO FY 2011-12	True Up Values Submitted by TPCL	Approved by JSERC in this TO
Coal Cost for 1 month	9.90	9.90	9.90	10.02	10.02	10.02
LDO Cost for 2 months	0.26	0.26	0.26	0.27	0.27	0.27
O&M Expenses for 1 month	1.98	1.98	1.98	1.80	1.80	1.80
Receivables for 2 months	36.02	36.91	36.91	37.01	37.24	37.24
Total Working Capital	48.17	49.05	49.05	49.09	49.32	49.32
SBI PLR as on April 1, 2010	11.75%	11.75%	11.75%	11.75%	11.75%	11.75%
Interest on Working Capital	**5.66**	**5.76**	**5.76**	**5.77**	**5.80**	**5.80**

Tax on RoE

Petitioner's submission

6.26 The Petitioner submitted that the effective minimum alternate tax (MAT) rate for FY 2010-11 was 19.9305%.

6.27 The Petitioner has further submitted that for the computation of tax on RoE, RoE shall be first grossed up by the applicable MAT rate to calculate pre tax RoE and then the MAT rate shall be applied to determine the tax payable by the Petitioner.

6.28 Accordingly, the tax on RoE payable by the Petitioner has been determined at Rs.7.78 Cr for Unit 2 and Rs. 8.01 Cr for Unit 3 for FY 2010-11.

Commission's analysis

6.29 The Commission has computed and trued up the tax on RoE payable by the Petitioner in FY 2010-11 on the basis of revised RoE approved and the applicable MAT rate of 19.9305% for the year in accordance with Generation Tariff Regulations 2004. The tax on RoE for FY 2010-11 has been approved at Rs 7.78 Cr for Unit 2 and Rs 8.01 Cr for Unit 3.

Summary of Fixed Cost determinants

6.30 The Fixed Cost approved by the Commission for FY 2010-11in the Tariff Order of FY 2011-12, the Petitioner's revised submission and the costs approved by the Commission in this Order for the purpose of final true up for Unit 2 are summarized in the Table below.

Table 35: Fixed Cost determinants for FY 2010-11 for Unit 2

Parameters	Unit	Unit 2		
		Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
O&M charges	Rs Cr	23.79	23.79	23.79
Depreciation	Rs Cr	32.54	32.54	32.54
Interest on Loan	Rs Cr	0.00	0.00	0.00
Return on Equity	Rs Cr	27.06	31.24	31.24
Interest on Working Capital	Rs Cr	5.66	5.76	5.76
Tax on RoE	Rs Cr	6.74	7.78	7.78
Total Fixed cost	Rs Cr	95.79	101.11	101.11
Additional Fixed Cost allowed in this Order	Rs Cr			5.32

6.31 The Fixed Cost approved by the Commission for FY 2010-11in the Tariff Order of FY 2011-12, the Petitioner's revised submission and the costs approved by the Commission in this Order for the purpose of final true up for Unit 3 are summarized in the Table below.

Table 36: True up of Fixed Cost determinants for FY 2010-11 for Unit 3

Parameters	Unit	Unit 3		
		Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
O&M charges	Rs Cr	21.55	21.55	21.55
Depreciation	Rs Cr	32.17	32.17	32.17
Interest on Loan	Rs Cr	1.96	1.96	1.96
Return on Equity	Rs Cr	31.10	32.18	32.18
Interest on Working Capital	Rs Cr	5.77	5.80	5.80
Tax on RoE	Rs Cr	7.74	8.01	8.01
Total Fixed cost	Rs Cr	100.29	101.67	101.67
Additional Fixed Cost allowed in this Order	Rs Cr			1.38

A7: REVISED ESTIMATES FOR FY 2011-12

7.1 The Petitioner had submitted estimates of operational and financial figures for the year FY 2011-12 for determination of generation tariff in the petition filed for FY 2011-12. In the subsequent submissions made to the Commission, the Petitioner has also submitted revised estimates of operational and financial parameters for FY 2011-12 before the Commission for provisional true up of FY 2011-12.

7.2 The Commission has scrutinized the petition and the additional information submitted by the Petitioner in accordance with the Generation Tariff Regulations, 2010. The component-wise description of the Petitioner's submission and the Commission's analysis thereon is given hereunder.

Norms of Operation and Fuel Cost

Plant Availability

Petitioner's submission

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

7.4 Since the Availability of Unit 2 and Unit 3 is higher than the NAPAF of 85%, the Petitioner has claimed generation incentive on higher Availability during the year.

Commission's analysis

7.5 The Commission in its previous Tariff Order had considered Normative Annual Plant Availability Factor (NAPAF) of 85% as specified in the Generation Tariff Regulation, 2010 for projection of Availability during FY 2011-12. Since the Availability of Unit 2 and Unit 3 at 91.87% and 94.96% respectively is greater than NAPAF of 85%, the Commission has considered the actual availability of Unit 2 and Unit 3 for calculation of the generation incentive receivable by the Petitioner.

Auxiliary Consumption

Petitioner's submission

7.6 The Petitioner submitted month wise actual availability of Unit 2 and Unit 3 and submitted that the average Auxiliary Consumption for FY 2011-12 for Unit 2 is 9.55% and Unit 3 is 9.35%.

Commission's analysis

7.7 In line with the Generation Tariff Regulation, 2010 the Commission has considered the 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.

7.8 For computation of net generation for the year the Commission has considered the actual Auxiliary Consumption for FY 2011-12 for Unit 2 at 9.55% and Unit 3 is 9.35% as submitted by the Petitioner.

Gross and Net Generation

Petitioner's submission

7.9 The Petitioner has provided in the additional information submitted in respect of the tariff petition that the gross generation for Unit 2 and Unit 3 for FY 2011-12 was 798.55 MU and 824.69 MU. The Petitioner has further explained that the gross generation is lower than the estimate approved by the Commission in the Tariff Order of FY 2011-12 due to lower demand from the distribution licensee. This is demonstrated by the satisfactory Availability of the units in the year FY 2011-12.

Commission's analysis

7.10 The Commission has computed and approves the gross and net generation for FY 2011-12 considering the approved values of gross generation and auxiliary consumption as shown in Table below.

Table 37: Generation for Unit 2 for FY 2011-12

Particulars	Unit 2			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL in the Petition	Submitted by TPCL in additional information	Approved by JSERC in this TO
Availability (%)	85.00%	93.08%	91.87%	91.87%
Gross Generation (MU)	895.97	788.60	798.55	798.55
Auxiliary Consumption (%)	10%	10%	9.55%	9.55%
Net Generation (MU)	806.37	709.74	722.28	722.28

Table 38: Generation for Unit 3 for FY 2011-12

Particulars	Unit 3			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL in the Petition	Submitted by TPCL in additional information	Approved by JSERC in this TO
Availability (%)	85.00%	94.76%	94.96%	94.96%
Gross Generation (MU)	895.97	838.78	824.69	824.69

Particulars	Unit 3			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL in the Petition	Submitted by TPCL in additional information	Approved by JSERC in this TO
Auxiliary Consumption (%)	10%	10%	9.35%	9.35%
Net Generation (MU)	806.37	754.91	747.58	747.58

Station Heat Rate (SHR)

Petitioner's submission

7.11 In the tariff petition submitted by the Petitioner in FY 2011-12, the Petitioner had requested for approval of a higher Station Heat Rate than the norm approved by the Commission in the Generation Tariff Regulation, 2010 at 2567 KCal/kWh for Unit 2 and 2577 KCal/kWh for Unit 3.

7.12 The Petitioner submitted that the Commission did not consider the findings of the CPRI Energy Audit Report of Unit 3 and did not approve the higher SHR in the Tariff Order FY 2011-12. The Petitioner has further submitted that it has appealed to the Hon'ble ATE in this matter. Furthermore, pending the decision of the Hon'ble ATE, the Petitioner has considered the SHR at 2567 KCal/kWh for Unit 2 and 2577 KCal/kWh for Unit 3 as approved by the Commission in the Tariff Order for FY 2011-12.

Commission's analysis

7.13 The Commission approves the SHR for Unit 2 and Unit 3 as per the specified norms of operation for the two Units of Jojobera Plant in the Regulation 8.4 of the Generation Tariff Regulations, 2010.

7.14 As per the said Regulations, the Station Heat Rate for the two units has been fixed at 2567 KCal/kWh and 2577 KCal/kWh respectively.

Specific Oil Consumption

Petitioner's submission

7.15 The specific oil consumption (of LDO) for FY 2011-12 has been considered by the Petitioner to be 1.00 ml/kWh both for Unit 2 and Unit 3 for calculation of the energy charge rate (ECR).

Commission's analysis

7.16 The Commission has approved specific oil consumption (of LDO) as 1.00 ml/kWh for FY 2011-12 both for Unit 2 and Unit 3 as specified the Generation Tariff Regulation, 2010.

Determination of Energy Charges

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

Petitioner's submission

7.17 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.

7.18 In the additional information, the Petitioner 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

7.19 The Commission has considered the actual proportion of the various types of coal used in FY 2011-12 (as submitted in the additional information) for approving the proportion of various types of coal used during FY 2011-12 as Middling Coal – 65.16%, MCL Coal – 34.84% for Unit 2 and Middling Coal – 64.61%, MCL Coal – 35.39% for Unit 3.

7.20 Accordingly, the Commission has computed the GCV for each type of coal by considering the actual weighted average GCV for FY 2011-12 as shown in the table below. The Table also summarises the weighted average GCV of coal as submitted by the Petitioner and approved by the Commission for both the Units.

Table 39: GCV of various types of fuel (KCal/kg) for Unit 2 for FY 2011-12

Particulars	Unit 2			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Submitted by TPCL in additional information	Approved by JSERC in this TO
MCL Coal	2893	2796	2848	2848
Middling Coal	4265	4241	4209	4209

Table 40: GCV of various types of fuel (KCal/kg) for Unit 3 for FY 2011-12

Particulars	Unit 3			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Submitted by TPCL in additional information	Approved by JSERC in this TO
MCL Coal	2900	2790	2849	2849

Particulars	Unit 3			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Submitted by TPCL in additional information	Approved by JSERC in this TO
Middling Coal	4267	4240	4214	4214

Transit Loss

Petitioner's submission

7.21 The Petitioner submitted the actual month wise transit loss of various sources of coal during FY 2011-12. The Petitioner has further submitted that the transit loss incurred during such transportation is uncontrollable especially in the case of middling coal (washed coal) sourced from West Bokaro colliery. Transit loss in the case of middling coal is especially high owing to the following reasons enumerated by the Petitioner:

(a) Calibration of measuring instruments (at source) – The Petitioner has pointed out that the in-motion weigh bridge at West Bokaro has been working erroneously for the past few months and the same has been intimated to them through regular correspondence.

(b) High surface moisture in middling coal – The Petitioner submitted that middling coal has relatively very high surface moisture at the time of loading. The moisture content is reduced during transportation from West Bokaro coalfields to Tata Power plant, Jojobera, thereby contributing to higher transit losses.

(c) Pilferage – The Petitioner submitted that during loading or unloading of coal, some quantity of coal is spilled; furthermore, there are high chances of theft coal along the route of transportation of middling coal.

(d) Undelivered coal – The Petitioner has pointed out that during unloading, small quantities of coal get stuck at the edges of the transport wagons due to moisture and remains undelivered at the plant, contributing to transit and handling losses.

7.22 The Petitioner has stated that owing to the above mentioned reasons, which are largely uncontrollable, the actual transit loss is much higher than the normative rate of transit loss allowed to the generating company. The impact of high transit loss in middling coal consumed by Units 2 and 3 amounts to approximately Rs.5.77 Cr during the period of April to November 2011.

7.23 The Petitioner submitted that it has considered Transit Loss at 0.8% for both Unit 2 and Unit 3 for FY 2011-12 as specified in the Generation Tariff Regulation, 2010 for computing the landed cost of various sources of coal consumed. However, it has requested the Commission to approve the transit loss for FY 2011-12 at actual and allow them to recover the amount on account of excess transit loss in coal from the Tata Steel Limited through a supplementary invoice after issuance of Tariff Order for FY 2012-13.

Commission's analysis

7.24 The Commission specified the norms for transit loss in Regulation 8.19 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, the data made available by the Generation companies including TPCL for the two units - Unit 2 and Unit 3 of Jojobera Plant and the norms fixed by the Central Electricity Regulatory Commission (CERC) and other State Electricity Regulatory Commissions. 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.

7.25 The Regulations have been notified accordingly and the norms of operation are applicable and binding on each of the generation plants covered under these Regulations.

7.26 In view of the above the Commission does not find any merit in the submissions of the Petitioner for a higher transit loss. Accordingly, the Commission has approved Transit Loss at 0.8% for both Unit 2 and Unit 3 for FY 2011-12 as specified in the Generation Tariff Regulation, 2010.

Price of Primary Fuel

Petitioner's submission

7.27 The Petitioner submitted the actual landed cost of coal consumed in Unit 2 and Unit 3 during FY 2011-12. The landed cost of coal submitted by the Petitioner in the petition and the additional information following the petition is 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.

7.28 The Petitioner submitted that since the landed price of coal approved for FY 2011-12 by the Commission was computed as weighted average price of January-March 2011, hence the impact of the above mentioned price rise had not been factored completely. Further the price and quality of fuel are uncontrollable factors for a generating company.

Commission's analysis

7.29 The Commission has approved the landed price of the various types of coal used by the Petitioner in accordance with Generation Tariff Regulation, 2010.

7.30 Towards approving the landed price of various sources of coal for FY 2011-12, the Commission has considered:

(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 equal to 0.8% i.e. the approved transit loss as per the Generation Tariff Regulations, 2010.

7.31 The Commission has considered the weighted average of the landed cost of coal from April 2011 to March 2012, arrived using the methodology stated above, for approving the coal price for FY 2011-12. However, the Commission directs the Petitioner 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.

7.32 The weighted average landed price of each type of coal as proposed by the Petitioner and that approved by the Commission for Units 2 and Unit 3 during FY 2011-12 are given in the table below.

Table 41: Approved Landed Cost (Rs/Ton) of Coal for Unit 2 for FY 2011-12

Particulars	Unit 2			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Submitted by TPCL in additional information	Approved by JSERC in this TO
MCL Coal	1179	1537	1582	1582
Middling Coal	2492	2868	2886	2886

Table 42: Approved Landed Cost (Rs/Ton) of Coal for Unit 3 for FY 2011-12

Particulars	Unit 3			
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Submitted by TPCL in additional information	Approved by JSERC in this TO
MCL Coal	1180	1535	1571	1571
Middling Coal	2492	2864	2881	2881

Energy Charge Rate (ECR)

Petitioner's submission

7.33 The Petitioner submitted that it has calculated the energy charge rate for FY 2011-12 as per the formula specified in the Generation Tariff Regulation, 2010 and the projected value of the fuel cost parameters. The ECR as submitted by the Petitioner for Unit 2 and Unit 3 is shown in the below.

Commission's analysis

7.34 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).

7.35 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

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

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"

7.36 The Commission has calculated the ECR to be charged by the Petitioner as per the formula stated above and considering the revised values of the various fuel parameters submitted by the Petitioner as part of their petition and additional information thereon. The Tables below contain the ECR for Units 2 and 3 during FY 2011-12 as submitted by the Petitioner and as approved by the Commission.

Table 43 : Energy Charge Rate for Unit 2 for FY 2011-12

	Unit	Unit 2			
Parameters		Approved by JSERC in TO FY 2011-12	Submitted by TPCL in petition	Submitted by TPCL as additional information	Approved by JSERC in this TO
Gross Generation	MU	895.97	788.60	798.55	798.55
Heat Rate	KCal/kWh	2567	2567	2611	2567
Specific Oil			1.00	1.00	1.00
Calorific Value of Oil	KCal/l	9100	9100	9100	9100
Energy Charge Rate	Rs/kWh	1.532	1.838	-	1.850
Fuel Cost	Rs Cr	**123.54**	**130.91**	-	**133.62**

Table 44 : Energy Charge Rate for Unit 3 for FY 2011-12

	Unit	Unit 3			
Parameters		Approved by JSERC in TO FY 2011-12	Submitted by TPCL in petition	Submitted by TPCL as additional information	Approved by JSERC in this TO
Gross Generation	MU	895.97	838.78	824.69	824.69
Heat Rate	KCal/kWh	2577	2577	2615	2577
Specific Oil	ml/kWh	1.00	1.00	1.00	1.00
Calorific Value of Oil	KCal/l	9100	9100	9100	9100
Energy Charge Rate	Rs/kWh	1.535	1.845	-	1.849
Fuel Cost	Rs Cr	**123.78**	**139.75**	-	**138.23**

Determination of Fixed Cost

Additional Capitalization

Petitioner's submission

7.37 Through the tariff petition of FY 2011-12, the Petitioner has proposed to include expenses pertaining to the additional capitalization for the period FY 2007-08 to FY 2010-11 (on account of assets which are already in service prior to FY 2011-12) in the Gross Fixed Asset of Jojobera Units 2 and Unit 3 for the purpose of tariff determination from FY 2011-12 onwards. Further, they also proposed various capital expenditure schemes and additional capitalization for the year FY 2011-12.

7.38 The Petitioner had categorized this additional capitalization expenditure incurred in respect of Units 2 and 3 under two broad categories:

(a) Capitalization – Standalone: This included the Capitalized Costs incurred for Assets/Schemes exclusively for Unit 2 and Unit 3.

(b) Capitalization – Common Facilities: This included the Capitalized Costs which were incurred for the whole Jojobera Power Station. These Assets/Schemes were towards providing facilities to the whole power station and the Capitalized Cost of such Assets/Schemes was apportioned to the GFA of Unit 2 and Unit 3 based on the installed capacity of these Units. It was submitted that both Unit 2 and Unit 3 individually contribute to 28.07% of the installed capacity of the Jojobera Power Plant.

7.39 The Petitioner submitted its tariff petition that additional capitalization for Unit 2 (including apportioned additional capitalization of Common Facilities) for FY 2007-08 to FY 2011-12 amounts to Rs.27.78 Cr and the additional capitalization of Unit 3 (including apportioned additional capitalization of Common Facilities) for FY 2007-08 to FY 2011-12 as Rs. 26.54 Cr.

7.40 In subsequent submissions to the Commission, the Petitioner revised the amount of additional capitalization to Rs 22.19 Cr for Unit 2 and Rs 22.05 Cr for Unit 3. The additional capitalization submitted by the Petitioner in the tariff petition and the revised figures submitted in the subsequent submissions is given in the Table below.

Table 45: Submitted Additional Capitalization (Rs Cr) for FY 2011-12

	Submitted in the Tariff Petition			Submitted in Additional Information		
Particulars	FY 2007-08 to FY 2010-11	FY 2011-12	Total	FY 2007-08 to FY 2010-11	FY 2011-12	Total
Unit 2						
Capitalization - Standalone	12.42	11.01	23.43	12.42	6.56	18.48
Capitalization - Apportioned for	1.54	2.80	4.35	1.54	1.67	3.22

	Submitted in the Tariff Petition			Submitted in Additional Information		
Particulars	**FY 2007-08 to FY 2010-11**	**FY 2011-12**	**Total**	**FY 2007-08 to FY 2010-11**	**FY 2011-12**	**Total**
Common Facilities						
Total	**13.96**	**13.82**	**27.78**	**13.96**	**8.23**	**22.19**
Unit 3						
Capitalization - Standalone	13.21	8.98	22.20	13.21	5.62	18.83
Capitalization - Apportioned for Common Facilities	1.54	2.80	4.35	1.54	1.67	3.22
Total	**14.76**	**11.78**	**26.54**	**14.76**	**7.29**	**22.05**

Commission's analysis

7.41 The Commission has outlined the provisions for approval of capital cost, including any additional capitalization, for a generating station in the Generation Tariff Regulation, 2010. The relevant portions of the said Regulations are quoted below for reference.

"Capital Cost of the Project

'7.3 Capital cost for a Project shall include:

(a) *the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, as admitted by the Commission after prudence check shall form the basis for determination of tariff;*

(b) *capitalized initial spares subject to the ceiling norms specified as under …*

(c) *additional capital expenditure determined under clause 7.5 and 7.6 of these Regulation*

…

Additional Capitalisation

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

(i) Undischarged liabilities;

(ii) Works deferred for execution;

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

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

(v) Change in law.

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

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

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

(ii) Change in law;

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

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

7.42 The Commission while reviewing the additional capitalization proposals made by the Petitioner for FY 2007-08 to FY 2010-11 has also taken into view the provisions of the erstwhile PPA signed between TPCL and TSL. Clause 12 of Appendix B of the Tariff Schedule to the PPA provides as mentioned under:

"12. Operation and Maintenance expenditure inclusive of insurance is considered at 3% of the cost of the project. 7% escalation is considered. The balance between 3% O&M expenditure and the actual expenditure from the books of account will be transferred to the Capital Maintenance Reserve for use towards major repairs in future years."

7.43 Further, as per Article I of the PPA, Capital Maintenance Reserve (CMR) is defined as follows:

"Capital Maintenance Reserve shall mean a reserve established by seller to fund the payment of certain capital maintenance costs including any such reserve established pursuant to the debt financing agreements."

7.44 According to the provisions of the PPA, additional capitalization for the period during which the PPA was in force, was required to be funded through the balance in the CMR maintained for this purpose. The Commission approved O&M expenditure in accordance with the terms of the PPA and the difference between the O&M expenditure approved and the actual expenditure incurred was transferred to the CMR to fund the additional capitalization carried out by the Petitioner.

7.45 In accordance with the above provisions pertaining to the maintenance of the CMR, the Commission computed the amount of transfer to the CMR for the period FY 2007-08 to FY 2010-11 to determine the amount of additional capitalization that may be required to be funded through additional sources beyond the balance held in the CMR. The Commission has summarized the computation of CMR balance for Unit 2 and Unit 3 in the below tables:

Table 46: Computation of CMR (Rs Cr) for Unit 2 during FY 2007-08 to FY 2010-11

Particulars	FY 2007-08	FY2008-09	FY 2009-10	FY 2010-11
Normative O&M Allowed	19.42	20.78	22.23	23.79
Actual O&M Expenses	12.96	10.96	21.10	20.31
Transfer to Capital Maintenance Reserve (CMR)	6.46	9.82	1.13	3.48
Additional Capitalization during the year	0.61	1.91	7.84	3.58

Table 47: Computation of CMR (Rs Cr) for Unit 3 during FY 2007-08 to FY 2010-11

Particulars	FY 2007-08	FY2008-09	FY 2009-10	FY 2010-11
Normative O&M Allowed	17.59	18.83	20.14	21.55
Actual O&M Expenses	10.14	10.96	17.39	15.78
Transfer to Capital Maintenance Reserve (CMR)	7.45	7.87	2.75	5.77
Additional Capitalization during the year	0.16	1.45	9.51	3.63

7.46 After taking the computation of CMR transfers into account, the Commission has concluded that the Petitioner had sufficient balance in the CMR for financing additional capital expenditure during FY 2007-08 to FY 2010-11, therefore the Commission has not approved any additional capital expenditure for both Units 2 and Unit 3 for the said period as the same has been already funded through the capital maintenance reserves in accordance to the provisions of the PPA signed between the Petitioner and TSL and provided through tariff for Unit 2 and Unit 3 during FY 2007-08 to FY 2010-11.

7.47 With regard to the additional capitalization proposed by the Petitioner for FY 2011-12, 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 same shall, however, be trued up after due prudence check by the Commission in the next Tariff Order.

Table 48: Submitted and Approved Additional Capitalization (Rs Cr) for FY 2011-12

	Submitted in the Tariff Petition			Submitted in Additional Information			Approved in this TO		
Particulars	FY 2007-08 to FY 2010-11	FY 2011-12	Total	FY 2007-08 to FY 2010-11	FY 2011-12	Total	FY 2007-08 to FY 2010-11	FY 2011-12	Total
Unit 2									
Capitalization - Standalone	12.42	11.01	23.43	12.42	6.56	18.48	0.00	6.56	6.56
Capitalization - Apportioned for Common Facilities	1.54	2.80	4.35	1.54	1.67	3.22	0.00	1.67	1.67
Total	**13.96**	**13.82**	**27.78**	**13.96**	**8.23**	**22.19**	0.00	**8.23**	**8.23**
Unit 3									
Capitalization - Standalone	13.21	8.98	22.20	13.21	5.62	18.83	0.00	5.62	5.62
Capitalization - Apportioned for Common Facilities	1.54	2.80	4.35	1.54	1.67	3.22	0.00	1.67	1.67
Total	**14.76**	**11.78**	**26.54**	**14.76**	**7.29**	**22.05**	0.00	**7.29**	**7.29**

Normative Operation & Maintenance Expenses

Petitioner's submission

7.48 The Petitioner has revised the O&M expenses for FY 2011-12 as compared to that approved by the Commission in the Tariff Order of FY 2011-12. The Petitioner has computed the first year O&M expenses as 2.5% of Original Project Cost and additional capitalisation and considered an annual escalation factor of 6% up to FY 2011-12.

Commission's analysis

7.49 As per the Regulation 7.40 of the Generation Tariff Regulation, 2010 the O&M expenses shall comprise of:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance expenses; and

(d) Other miscellaneous expenses, statutory levies and taxes (except corporate income tax).

7.50 Further, 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 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:

"(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".

7.51 In accordance with Regulation 7.41 of the Generation Tariff Regulations, 2010 and the relevant clause of the Generation Tariff Regulations, 2004, the Commission has approved the normative O&M expenses for FY 2011-12 in accordance with the Regulations, as quoted above, 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.

7.52 The Commission has also included 2.5% of the approved additional capitalization and 6% escalation on the same as a part of the normative O&M expenses, after considering that the additional capitalization during a particular year was spread across the year.

Table 49: Normative O&M Expenses (Rs Cr) for Unit 2 for FY 2011-12

Particulars	Unit 2		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Normative O&M Expenses on Original Cost	20.47	20.47	20.47
Normative O&M Expenses on Additional Capitalization	0.60	0.52	0.10
Total	**21.07**	**20.99**	**20.57**

Table 50: Normative O&M Expenses (Rs Cr) for Unit 3 for FY 2011-12

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Normative O&M Expenses on Original Cost	18.72	18.72	18.72
Normative O&M Expenses on Additional Capitalization	0.61	0.52	0.09
Total	**19.33**	**19.24**	**18.81**

Additional O&M Expenses

7.53 In additional to the normative O&M expenses, discussed in the previous section, the Petitioner has also proposed additional O&M expenditure on account of:

(a) Ash Disposal Expenses

(b) ARR Application Fee and Publication Expenses

7.54 The following sections discuss the Petitioner's submission regarding these expenses and the Commission's analysis thereof.

Ash Disposal Expenses

Petitioner's submission

7.55 The Petitioner had requested the Commission through its tariff petition last year for FY 2011-12 to approve ash disposal expenses over and above the normative O&M expenses. They had cited the difficulty in managing the rising ash disposal cost within the normative O&M expenses due to stringent environment norms and increase in the ash generation at the Jojobera station and saturation of the full capacity of the ash ponds.

7.56 The Commission had provisionally allowed ash disposal expenses for FY 2011-12 at the same level as the actual ash disposal expenses for FY 2010-11 i.e.Rs.3.44 Cr for Units 2 and 3.

7.57 The Petitioner submitted the projected values of generation, heat rate, fuel mix, GCV, raw water cost, ash content of coal and the excavation and transportation cost. The Petitioner has further submitted that the cost of excavation and transportation has been estimated at Rs.162.5/ton compared to Rs.125/ton for FY 2010-11 mainly on account of increase in the order cost and increase in labour wages.

7.58 The Petitioner revised its estimates regarding ash disposal expenses and has requested the Commission to approve ash disposal expenses for FY 2011-12 at Rs.3.18 Cr for Unit 2 and Rs.3.60 Cr for Unit 3.

Commission's analysis

7.59 The Commission in its previous Tariff Order for FY 2011-12 had decided to provisionally allow the Ash Disposal expenses for FY 2011-12 at the same level as the actual Ash Disposal expenses for FY 2010-11, i.e. Rs 3.44 Cr combined for Unit 2 and Unit 3. The Commission had further stated that the same shall be trued up as per the actual expenditure to be made available by the Petitioner with the tariff petition subject to the availability of the actual information.

7.60 The Petitioner submitted the actual (unaudited) expenses on account of Ash Disposal for Unit 2 and Unit 3 for FY 2011-12 in the additional information by it. The Ash Disposal Expenses for FY 2011-12 have been submitted at Rs 2.30 Cr for Unit 2 and Rs 2.38 Cr for Unit 3. The Commission has considered the same for approving Ash Disposal Expenses for the year. The same shall be trued up as per the final audited accounts of the Petitioner for FY 2011-12 to be submitted with the next tariff petition.

Application Fee and the Publication Expenses

Petitioner's submission

7.61 The Petitioner submitted that it should be allowed to recover the expenses incurred on account of the applicable ARR application fee as per Clause 11.7 of Generation Tariff Regulations 2011.

7.62 The Petitioner has revised its submission in respect of actual ARR application fee and publication of notices at Rs 0.10 Cr for each Unit 2 and 3.

Commission's analysis

7.63 The Clause 11.7 of the Generation Tariff Regulation, 2010 as quoted below provide for recovery of expenses of Application Fee and Publication Expenses by a Generating Company from its Beneficiaries.

"11.17 The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the transmission customers, as the case may be"

7.64 Accordingly, the Commission has decided to allow the ARR Application Fee and Publication expenses of Rs 0.10 Cr each for Unit 2 and Unit 3 as proposed by the Petitioner.

Total O&M Expenses

7.65 The total O&M expenses as submitted by the Petitioner and as approved by the Commission for FY 2011-12, based on the discussion in the previous sections, are shown in the Table below.

Table 51: O&M Expenses (Rs Cr) for FY 2011-12

	Unit 2			Unit 3		
Particulars	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Normative O&M Expenses	21.07	20.99	20.57	19.33	19.24	18.81
Ash Disposal Expenses	1.72	3.18	2.30	1.72	3.60	2.38
ARR Publication and Fee Expenses	0.12	0.10	0.10	0.12	0.10	0.10
Total	**22.92**	**24.27**	**22.98**	**21.18**	**22.94**	**21.29**

Depreciation

Petitioner's submission

7.66 The Petitioner submitted that Unit 2 and Unit 3 at Jojobera were commissioned in February 2001 and February 2002 respectively. Since both the Units have not yet completed 12 years of operation, as per the norm specified in Generation Tariff Regulation, 2010, the depreciation rates for various classes of assets as prescribed in the Generation Tariff Regulation, 2010 is applicable for both the Units.

7.67 The Petitioner has calculated depreciation on:

(a) The Original Project Cost for Unit 2 and Unit 3 and;

(b) Additional capitalization submitted for the two units from FY 2007-08 to FY 2011-12.

7.68 The Petitioner has revised depreciation charge for both units in respect of the additional capitalization for the period FY 2007-08 to FY 2011-12.

Commission's analysis

7.69 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%.

7.70 The Commission has computed depreciation for the additional capitalization approved for both units for FY 2011-12 in line with above mentioned principles of the Generation Tariff Regulations, 2010.

7.71 The depreciation approved for FY 2011-12 on the original cost and depreciation trued up for FY 2011-12 on additional capitalization is given in the table below.

Table 52: Depreciation for FY 2011-12 for Unit 2 (Rs Cr)

Particulars	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Depreciation on Original Cost of Capital	3.59	3.59	3.59
Depreciation on Additional Capitalisation (FY 2007-08 to FY 2011-12)	1.14	1.10	0.22
Total Depreciation	**4.73**	**4.69**	**3.81**

Table 53: Depreciation for FY 2011-12 for Unit 3 (Rs Cr)

Particulars	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Depreciation on Original Cost of Capital	5.34	5.34	5.34
Depreciation on Additional Capitalisation (FY 2007-08 to FY 2011-12)	1.14	1.08	0.19
Total Depreciation	**6.48**	**6.42**	**5.53**

Interest on Loan

Petitioner's submission

7.72 The Petitioner submitted that the repayment of long term debt of the Original Project Cost of the Unit 2 and Unit 3 has been completed in the years FY 2009-10 and FY 2010-11 respectively.

7.73 The Petitioner has further submitted that as per the Generation Tariff Regulation, 2010 it has considered 70% of the additional capitalisation from FY 2007-08 to FY 2011-12 as normative debt and has considered interest on the same @ 13.02% and 12.33% for Unit 2 and 3 respectively. This rate of interest is as per the Commission's approval in the Tariff Order for FY 2011-12. The depreciation on additional capitalization has been considered as deemed repayment of normative debt.

Commission's analysis

7.74 The Commission has worked out the gross normative loan for FY 2011-12 as per Clause 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."

7.75 Since repayment of the normative loan for the Original Project Cost for Unit 2 and Unit 3 has been completed in the years FY 2009-10 and FY 2010-11 respectively, the opening normative loan for FY 2011-12 for both the Units is ZERO.

7.76 The Commission has allowed interest on loan on the approved additional capitalization (during FY 2011-12) considering 70% of the approved capitalization as normative debt. The additional capitalization for FY 2011-12 has been trued up by the Commission in this Tariff Order and interest on loan has been computed after taking into account the trued up value of additional capitalization of both units.

7.77 The trued up depreciation on additional capitalization has been considered as deemed repayment of normative debt.

7.78 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 in the Tariff Order for FY 2011-12. These rates have been used for truing up the interest on loan for both Units 2 and 3 for FY 2011-12.

Table 54: Interest on Loan for Unit 2 for FY 2011-12 (Rs. Cr)

Particulars	Unit 2		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Opening Debt on Original Capital Cost	0.00	0.00	0.00
Additions during 2008-11	9.63	9.77	0.00
Opening Debt for the year	9.63	9.77	0.00
Additions during FY 2011-12	11.91	9.67	5.76
Repayment	1.14	1.10	0.22
Closing Debt	20.40	18.34	5.55
Rate of Interest	13.02%	13.02%	13.02%
Total	**1.96**	**1.83**	**0.36**

Table 55: Interest on Loan for Unit 3 for FY 2011-12 (Rs. Cr)

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Opening Debt on Original Capital Cost	0.00	0.00	0.00
Additions during 2008-11	10.51	10.33	0.00
Opening Debt for the year	10.51	10.33	0.00
Additions during FY 2011-12	10.41	8.25	5.11
Repayment	1.14	1.08	0.19
Closing Debt	19.78	17.50	4.92
Rate of Interest	12.33%	12.33%	12.33%
Total	**1.87**	**1.72**	**0.30**

Interest on Working Capital

Petitioner's submission

7.79 The Petitioner has revised submission of interest on working capital previously approved for FY 2011-12 by considering:

(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 one month; and

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

7.80 The rate of interest on working capital has been considered as 13.25%.

Commission's analysis

7.81 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 Clause 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.

7.82 Further Clause 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."

7.83 Accordingly, the trued up values of fixed cost components comprising working capital have been considered, whereas values of fuel cost components have been taken as approved by the Commission in its Tariff Order for FY 2011-12.

7.84 Further Clause 8.2 of the Generation Tariff Regulations, 2010 states that the annual fixed cost of a thermal generating station shall consist of Return on Equity, Interest and Financing Charges on Loan Capital, Depreciation, Operation and Maintenance Expenses, Interest Charges on Working Capital and Cost of Secondary Fuel Oil. Accordingly, the Commission has considered the trued up value of only the aforementioned components while calculating the receivables towards working capital.

7.85 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.

7.86 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 56: Interest on Working Capital for Unit 2 for FY 2011-12 (Rs Cr)

Particulars	Unit 2		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Coal Cost for 2 months	20.59	24.79	20.59
LDO Cost for 2 months	0.66	0.69	0.66
Receivables for 2 months	31.89	36.52	31.35
O&M Expenses for 1 month	1.91	2.03	1.92
Maintenance Spares (@ 20% of O&M Expenses)	4.58	4.86	4.60
Total Working Capital	59.63	68.89	59.11
Interest on Working Capital	**7.90**	**9.13**	**7.68**

Table 57: Interest on Working Capital for Unit 3 for FY 2011-12 (Rs Cr)

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Coal Cost for 2 months	20.63	24.88	20.63
LDO Cost for 2 months	0.67	0.68	0.67
Receivables for 2 months	31.79	36.51	31.22
O&M Expenses for 1 month	1.76	1.91	1.77
Maintenance Spares (@ 20% of O&M Expenses)	4.24	4.59	4.26
Total Working Capital	59.08	68.57	58.55
Interest on Working Capital	**7.83**	**9.09**	**7.61**

Return on Equity (RoE)

Petitioner's submission

7.87 The Petitioner has considered the post-tax return on equity at 15.50% on the equity component of the Original Project Cost. It has further claimed that the Generation Tariff Regulation, 2010 have not specified any normative post-tax return on equity for equity component of additional capitalization. The Petitioner has mentioned that the capitalization of various capex schemes during FY 2007-08 to FY 2010-11 was completed within the committed timeline and also, capitalization of various capex schemes of FY 2011-12 is expected to be within the proposed timelines. Accordingly, the Petitioner has considered post-tax return on equity at 16% on the equity component of the estimated additional capitalization for FY 2007-08 to FY 2010-11 and the proposed additional capitalization for FY 2011-12.

7.88 The Petitioner has considered the Debt-Equity ratio for any project or any additional capital expenditure as 70:30.

7.89 The Petitioner submitted that both Unit 2 and Unit 3 shall operate under Minimum Alternate Tax (MAT) regime for the year FY 2011-12.

7.90 Therefore, the pre-tax RoE has been grossed up by the applicable MAT rate of 20.01% to arrive at the post-tax RoE.

Commission's analysis

7.91 The Commission has worked out the gross normative equity for FY 2011-12 as per Clause 7.13 and 7.14 of the Generation Tariff Regulation, 2010. Accordingly, the opening normative equity for the year has been taken equal to the normative equity admitted by the Commission till April 1, 2011.

7.92 The Commission has also allowed return on equity on the approved additional capitalization (during FY 2011-12) considering 30% of the approved capitalization as normative equity.

7.93 Further, the base rate of return on equity has been considered at 15.50% as per Clause 7.16 of the Generation Tariff Regulation, 2010. In accordance with Clause 7.17 and 7.18 of the said regulations, the same has been grossed by the applicable tax rate for FY 2011-12 (which is 20.01%) to arrive at the pre tax return on equity for FY 2011-12.

7.94 The Commission has not considered any additional return on the additional capitalisation approved for the year as has been proposed by the Petitioner. The Commission observes that Clause 7.16 of the Generation Tariff Regulation, 2010 clearly states that:

"7.16 .... Provided that in case of ***Projects commissioned on or after 1st April, 2011,*** *an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified* ***in Appendix-II*** *to these Regulations"*

Thus the Petitioner shall be eligible for an additional return of 0.5% (over and above the base rate of 15.50%) on the capital schemes started after April 1, 2011 only if such projects as listed in Appendix-II of the said Regulations are completed in time. The additional capitalization schemes as submitted by the Petitioner are not covered in the list of projects in Appendix-II of the said Regulations. The return on equity on the equity portion of the additional capitalization has thus been taken as 15.50% only.

Table 58: Return on Equity for Unit 2 for FY 2011-12 (Rs Cr)

Particulars	Unit 2		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Opening Equity on Original Capital Cost	129.40	129.40	129.40
Additions during FY 2007-08 to FY 2010-11	4.13	4.19	0.00
Opening Equity for FY 2011-12	133.53	133.59	129.40
Additions during FY 2011-12	5.10	4.14	2.47
Closing Equity for FY 2011-12	138.63	137.73	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	-	16.00%	15.50%
Tax Rate	19.93%	20.01%	20.01%
Return on Equity	**26.34**	**26.30**	**25.31**

Table 59: Return on Equity for Unit 3 for FY 2011-12 (Rs Cr)

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Opening Equity on Original Capital Cost	125.44	125.44	125.44
Additions during FY 2007-08 to FY 2010-11	4.51	4.43	0.00
Opening Equity for FY 2011-12	129.95	129.87	125.44
Additions during FY 2011-12	4.46	3.54	2.19
Closing Equity for FY 2011-12	134.41	133.40	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	-	16.00%	15.50%

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Tax Rate	19.93%	20.01%	20.01%
Return on Equity	**25.59**	**25.52**	**24.52**

Cost of Secondary Fuel

Petitioner's submission

7.95 The Petitioner submitted the cost of secondary fuel – Light Diesel Oil (LDO) – by considering the generation corresponding to the NAPAF (i.e. 85%) and Specific Normative Fuel Oil Consumption (i.e. 1ml/kWh).

7.96 The price of LDO has been submitted at Rs 48, 986/kL for Unit 2 and Rs 47, 889/kL for Unit 3 in the additional information.

Commission's analysis

7.97 The Commission has projected the cost of secondary fuel oil (LDO in case of the Petitioner) in accordance with Clause 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:

$$= SFC \times LPSFi \times NAPAF \times 24 \times NDY \times IC \times 10$$

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."

7.98 Accordingly, the consumption of LDO has been projected 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.

7.99 The submitted and approved cost of LDO for FY 2011-12 is shown in the table below:

Table 60: Cost of Secondary Fuel Oil for FY 2011-12 (Rs Cr)

	Unit 2			Unit 3		
Particulars	**Approved by JSERC in TO FY 2011-12**	**Submitted by TPCL**	**Approved by JSERC in this TO**	**Approved by JSERC in TO FY 2011-12**	**Submitted by TPCL**	**Approved by JSERC in this TO**
Gross Generation at NAPF (MU)	895.97	895.97	895.97	895.97	895.97	895.97
Specific Consumption of LDO at NAPF (ml/kWh)	1.00	1.00	1.00	1.00	1.00	1.00
LDO Consumption at NAPF (kL)	895.97	895.97	895.97	895.97	895.97	895.97
LDO Landed Cost (Rs/kL)	44045	46479	48986	44542	45765	47889
LDO Cost (Rs Cr)	**3.95**	**4.16**	**4.39***	**3.99**	**4.10**	**4.29***

*the LDO cost approved by the Commission is marginally higher than that submitted by the Petitioner as the Commission has taken into account the actual price of LDO (in Rs/kL) during the year which is higher than the price of LDO (in Rs/kL) as projected by the Petitioner in the petition.

Sharing of Gains on Secondary Fuel Oil Consumption

Petitioner's submission

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

7.101 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

7.102 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 Clause 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."

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

Table 61: 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**

*approved by Commission as per additional information submitted by Petitioner

Incentive

Petitioner's submission

7.104 The Petitioner submitted that Clause 8.12 of the Generation Tariff Regulations, 2010 as quoted below stipulates the norm for recovery of Annual Fixed Charges.

"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"

7.105 The Petitioner submitted that since Unit 2 has completed ten years of operation and Unit 3 has completed nine years of operation, therefore, Unit 2 qualifies under Clause 8.12 (b) and Unit 3 qualifies under Clause 8.12 (a) for the computation of incentive.

7.106 The Petitioner has calculated the generation incentive for FY 2011-12 considering that the actual availability for the year (average availability of 91.87% for Unit 2 and 94.96% for Unit 3) is higher than the NAPAF (at 85%). Further the Petitioner has grossed up the incentive so arrived by the applicable MAT Rate FY 2011-12 (which is 20.01%) to arrive at the pre-tax incentive at Rs 6.69 Cr and Rs 4.01 Cr for Unit 2 and Unit 3 respectively.

Commission's analysis

7.107 The Commission had stated through its Tariff Order FY 2011-12 that the recovery of incentive for the said year shall be done at the time of the review of FY 2011-12 subject to certification from the buyer with regard to availability, month wise PLF, details of shut down hours, details of running hours segregated by loading pattern. The Petitioner submitted above information as part of the petition and additional information thereon.

7.108 In the additional information submitted to the Commission the Petitioner submitted certification from Tata Steel LDC for month wise Availability for Unit 2 and Unit 3. The Commission has considered the certified Availability of the Units for each month to compute the incentive allowable to the Petitioner.

7.109 The Commission has calculated the generation incentive for FY 2011-12 considering that the actual availability for the year (average availability of 91.87% for Unit 2 and 94.96% for Unit 3) is higher than the NAPAF (at 85%) as per the formula given in the Generation Tariff Regulations, 2010. Further, in line with the provisions of the Generation Tariff Regulations 2010, the Commission has also grossed up the incentive so arrived, by the applicable MAT Rate to arrive at the pre-tax incentive at Rs 6.52 Cr and Rs 4.65 Cr for Unit 2 and Unit 3 respectively. Incentive approved for Unit 3 is higher than that submitted by the Petitioner because the Petitioner submitted details of actual availability in the additional information that was higher than the submission made in the MYT petition.

7.110 The submitted and approved incentive for Unit 2 and Unit 3 for FY 2011-12 is shown in the tables below:

Table 62: Incentive for Unit 2 for FY 2011-12 (Rs Cr)

Particulars	Unit 2		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Actual Availability	NA	93.08%	91.87%
NAPAF	85%	85%	85%
Incentive	**-**	**6.69**	**6.52**

Table 63: Incentive for Unit 3 for FY 2011-12 (Rs Cr)

Particulars	Unit 3		
	Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Actual Availability	NA	94.76%	94.96%
NAPAF	85%	85%	85%
Incentive	**-**	**4.00**	**4.65**

Summary of Fixed Cost Determinants and Generation Tariff

7.111 Clause 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.

7.112 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 64: Fixed Cost and Energy Cost for Unit 2 for FY 2011-12

Parameters	Units	Unit 2		
		Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
O&M charges	Rs Cr	22.92	24.27	22.98
Depreciation	Rs Cr	4.73	4.69	3.81
Interest on Loan	Rs Cr	1.96	1.83	0.36
Return on Equity	Rs Cr	26.34	26.30	25.31
Interest on Working Capital	Rs Cr	7.90	9.13	7.68
Cost of Secondary Fuel	Rs Cr	3.95	4.16	4.39
Annual Fixed Charges	Rs Cr	**67.80**	**70.38**	**64.54**
Energy Charge Rate (ECR)	Rs/kWh	1.532	1.845	1.850
Fuel Cost	Rs Cr	**123.54**	**130.91**	**133.62**
Total Cost	Rs Cr	**191.34**	**201.29**	**198.16**
Incentive	Rs Cr	-	6.69	6.52
Less: Sharing of gains on LDO Consumption	Rs Cr	-	1.15	1.10
Add: Gain on aux. power consumption	Rs Cr	-	0.24	0.00[2]
Total Cost including incentive & sharing of gains on LDO consumption	**Rs Cr**	**191.34**	**207.08**	**203.57**

Table 65: Fixed Cost and ECR for Unit 3 for FY 2011-12

Parameters	Units	Unit 3		
		Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
O&M charges	Rs Cr	21.18	22.94	21.29
Depreciation	Rs Cr	6.48	6.42	5.53
Interest on Loan	Rs Cr	1.87	1.72	0.30
Return on Equity	Rs Cr	25.59	25.52	24.52

[2] The Commission has not approved gain on account auxiliary power consumption separately as the same has been allowed to the Petitioner by calculating fuel cost on actual net generation by taking into account the actual auxiliary consumption.

Parameters	Units	Unit 3		
		Approved by JSERC in TO FY 2011-12	Submitted by TPCL	Approved by JSERC in this TO
Interest on Working Capital	Rs Cr	7.83	9.09	7.61
Cost of Secondary Fuel	Rs Cr	3.99	4.10	4.29
Annual Fixed Charges	Rs Cr	**66.94**	**69.78**	**63.54**
Energy Charge Rate (ECR)	Rs/kWh	1.535	1.851	1.849
Fuel Cost	Rs Cr	**123.78**	**139.75**	**138.23**
Total Cost	Rs Cr	**190.72**	**209.53**	**201.77**
Incentive	Rs Cr	-	4.00	4.65
Less: Sharing of gains on LDO Consumption	Rs Cr	-	0.48	0.34
Add: Gain on aux. power consumption	Rs Cr	-	0.48	0.00[3]
Total Cost including incentive & sharing of gains on LDO consumption	Rs Cr	**190.72**	**213.54**	**206.08**

Gap/Surplus for FY 2011-12

7.113 The Commission has approved revenue gap/surplus for FY 2011-12 as per the below computation:

Table 66: Revenue gap/surplus for FY 2011-12

Parameters	Unit 2		Unit 3	
	Submitted by TPCL in additional information	Approved by JSERC in this TO	Submitted by TPCL in additional information	Approved by JSERC in this TO
Annual Revenue Requirement including incentive & sharing of Gains on LDO consumption	207.08	203.57	213.54	206.08
Revenue Recovered during the year	197.81	202.38*	206.69	206.05*
Gap/(Surplus)	9.32	1.19	6.68	0.03
Carrying Cost	1.37	-	0.98	-
Gap/(Surplus) for the year	10.69	1.19	7.66	0.03

*As submitted by the Petitioner in additional information

[3] The Commission has not approved gain on account auxiliary power consumption separately as the same has been allowed to the Petitioner by calculating fuel cost on actual net generation by taking into account the actual auxiliary consumption.

7.114 The Commission has computed the revenue gap for the Petitioner for FY 2011-12 on provisional basis. The revenue gap for FY 2011-12, along with the carrying cost, shall be trued up and allowed by the Commission in the tariff for the next financial year when the audited accounts for FY 2011-12 are made available by the Petitioner.

7.115 The carrying cost shall be allowed by the Commission in accordance with Clause 6.16, 6.17 and 6.18 of 'Generation Tariff Regulations, 2010' as quoted below.

"6.16 If the Tariff already recovered is more than the Tariff determined after true up, the Generating Company shall refund to the Beneficiaries the excess amount so recovered along with simple interest at the rate equal to short term prime lending rate of State Bank of India as on 1st April of the respective Year.

6.17 Similarly, in case the Tariff already recovered is less than the Tariff determined after true up, the Generating Company shall recover from the Beneficiaries, the less recovered amount along with simple interest at the rate equal to short term prime lending rate of State Bank of India as on 1st April of the respective Year/Years subject to adhering to the timelines specified by the Commission for filling of True-up application. In case, it is found that the filling of True-up is delayed due to the reasons attributable to the Generating Company, the under recovery shall not bear any interest expenses.

6.18 The amount under-recovered or over-recovered, along with simple interest, shall be recovered or refunded by the Generating Company, in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission after the truing up exercise."

A8: TARIFF DETERMINATION FOR THE FIRST CONTROL PERIOD (FY 2012-13 TO FY 2015-16)

8.1 The Petitioner submitted the petition for determination of generation tariff for the Control Period on the basis of the projection of operational and financial figures for the year.

8.2 The Commission has scrutinized the petition filed by TPCL for determination of Generation Tariff for the Control Period in accordance with the Generation Tariff Regulations, 2010. The component-wise description of the Petitioner's submission and the Commission's analysis thereon is given below.

Norms of Operation and Fuel Cost

Plant Availability

Petitioner's submission

8.3 The Petitioner has projected the Availability for both Unit 2 and Unit 3 at 85% for the purpose of computation of tariff. However, considering past trends and performance it has projected the Availability of the Units during the Control Period as shown in the table below.

Table 67: Projected Availability for the Control Period

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Unit 2	%	94.52	98.08	93.15	98.09
Unit 3	%	98.08	93.15	98.08	94.52

Commission's analysis

8.4 The Commission has considered Normative Annual Plant Availability Factor (NAPAF) of 85% as specified in the Generation Tariff Regulation, 2010 for projection of Availability during each year of the Control Period i.e. from FY 2012-13 to FY 2015-16.

Plant Load Factor (PLF)

Petitioner's submission

8.5 The Petitioner has projected the Plant Load Factor (PLF) for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 taking into account the Annual Outage Plan and demand estimate from Tata Steel Distribution during each year. The projected PLF for each year is shown in the table below.

Table 68: Projected PLF for the Control Period

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Unit 2	%	85.00%	87.00%	86.00%	88.00%

Particulars	Units	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Unit 3	%	85.00%	85.00%	88.00%	88.00%

Commission's analysis

8.6 For the purpose of computation of Energy Charge Rate, the Plant Load Factor has no relevance and the actual recovery of fuel charge will depend on actual generation by the Generation Company. However, for the Purpose of estimating the Generation, the Commission has kept the Plant Load Factor at the Normative Annual Plant Availability Factor (NAPAF) of 85%.

Auxiliary Consumption

Petitioner's submission

8.7 The Petitioner has considered Auxiliary Consumption at 10% for both Unit 2 and Unit 3 during each year of the Control Period in accordance with the Generation Tariff Regulations, 2010.

Commission's analysis

8.8 The Commission has considered Auxiliary Consumption at 10% for both Unit 2 and Unit 3 for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 as specified in the Generation Tariff Regulation, 2010.

Gross and Net Generation

Petitioner's submission

8.9 The Petitioner has projected the generation for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 taking into account the Annual Outage Plan and demand estimate from Tata Steel Distribution during each year. The projected generation for each year is shown in the table below.

Table 69: Submitted Gross and Net Generation for the Control Period for Unit 2

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Availability (%)	94.52	98.08	93.15	98.09
PLF (%)	85.00%	87.00%	86.00%	88.00%
Gross Generation (MU)	893.52	914.54	904.03	927.59
Auxiliary Consumption (%)	10.00%	10.00%	10.00%	10.00%
Net Generation (MU)	804.17	823.09	813.63	834.83

Table 70: Submitted Gross and Net Generation for the Control Period for Unit 3

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Availability (%)	98.08	93.15	98.08	94.52
PLF (%)	85.00%	85.00%	88.00%	88.00%
Gross Generation (MU)	893.52	893.52	925.06	927.59
Auxiliary Consumption (%)	10.00%	10.00%	10.00%	10.00%
Net Generation (MU)	804.17	804.17	832.55	834.83

Commission's analysis

8.10 The Commission has computed and approved the gross and net generation for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 considering the approved values of PLF and auxiliary consumption as shown in the table below.

Table 71: Approved Gross and Net Generation for the Control Period for Unit 2

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative Availability (%)	85.00%	85.00%	85.00%	85.00%
Projected PLF (%)	85.00%	85.00%	85.00%	85.00%
Gross Generation (MU)	893.52	893.52	893.52	895.97
Auxiliary Consumption (%)	10.00%	10.00%	10.00%	10.00%
Net Generation (MU)	804.17	804.17	804.17	806.37

Table 72: Approved Gross and Net Generation for the Control Period for Unit 3

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Normative Availability (%)	85.00%	85.00%	85.00%	85.00%
Projected PLF (%)	85.00%	85.00%	85.00%	85.00%
Gross Generation (MU)	893.52	893.52	893.52	895.97
Auxiliary Consumption (%)	10.00%	10.00%	10.00%	10.00%
Net Generation (MU)	804.17	804.17	804.17	806.37

Station Heat Rate (SHR)

Petitioner's submission

8.11 The Petitioner submitted that while the Commission had in Clause 8.4 of the Generation Tariff Regulations 2010 and the tariff dated August 20, 2011 approved the SHR at 2567 Kcal/kWh and 2577 Kcal/kWh for Unit 2 and Unit 3 respectively, various factors such as aging, natural wear and tear of key assets and equipments, loading of the unit (a factor that cannot be controlled by the company) constraint the heat rate of the units. The Petitioner submitted that considering the above factors it is not possible to achieve the heat rate as prescribed in Generation Tariff Regulations 2010.

8.12 The Petitioner submitted that in compliance with the Directive dated January 20, 2010, it had presented through its submission dated April 23, 2010 a detailed action plan for improving the operational performance of the units. The Petitioner submitted that it had engaged Central Power Research Institute (CPRI), Bangalore for organizing Energy Audit and Performance Test of Unit 3 during July-August 2010 which recommended Annual Heat Rate of 2643 Kcal/kWh for FY 2010-11 for Unit 3 and Annual degradation factor for the unit at 9 Kcal/kWh/Year. Based on the report and the Petitioner's internal analysis, it submitted that the heat rate of the Units is expected to improve by about 10 Kcal/kWh after Annual Shutdown.

8.13 The Petitioner submitted that it has filed an appeal dated October 4, 2011 before the Hon'ble ATE against the Tariff Order of the Commission dated August 2011 seeking relaxation of norms for SHR.

8.14 The Petitioner has further submitted that meanwhile for the purpose of revenue and tariff computations it has considered the heat rate at 2567 Kcal/kWh and 2577 Kcal/kWh for Unit 2 and Unit 3 respectively till the decision of the Hon'ble ATE is passed in the above appeal.

Commission's analysis

8.15 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. As already noted by the Commission in its previous Tariff Order dated August 20, 2011, 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 the Petitioner for the two units - Unit 2 and Unit 3 of the Jojobera Plant. Before finalization of the norms, the Commission had also conducted a public hearing in which all the stakeholders, including the Petitioner, participated. The Commission after due deliberation finalized the Regulations.

8.16 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.

8.17 For this and other reasons already noted by the Commission in its previous Tariff Order dated August 2011, the Commission does not find any merit in allowing relaxation of the norms fixed for SHR in the Generation Tariff Regulations, 2010.

8.18 Thus for the calculation of energy charge rate and fuel cost the Commission has considered the SHR for Unit 2 at 2567 Kcal/kWh and for Unit 3 at 2577 Kcal/kWh for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 as specified in the Generation Tariff Regulation, 2010.

Specific Oil Consumption

Petitioner's submission

8.19 The Petitioner has considered the Specific LDO Consumption of 1.00 ml/kWh for Unit 2 and Unit 3 for the Control Period as specified in Clause 8.4 of Generation Tariff Regulations 2010.

Commission's analysis

8.20 The Commission has approved specific oil consumption (of LDO) at 1.00 ml/kWh for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 for both Unit 2 and Unit 3 as specified the Generation Tariff Regulation, 2010.

Determination of Energy Charges

Gross Calorific Value (GCV) of Primary Fuel

Petitioner's submission

8.21 The Petitioner submitted that it has computed the base landed price of coal, base landed price of LDO, and base GCV of coal in accordance with the guidelines prescribed by the Commission for the same in the Clauses 7.50, 8.19 and 8.22 of the Generation Tariff Regulations 2010.

Table 73: Submitted Base GCV of various types of fuel (Kcal/kg)

	Unit 2	Unit 3
MCL Coal	2827	2827
Middling Coal	4220	4228
Weighted Average GCV	**3802**	**3808**

Commission's analysis

8.22 The Commission has considered the actual proportion of the various types of coal used in January 2012 to March 2012 by the Petitioner (as submitted in the additional information) for projection of the proportion of various types of coal to be used during each year of the Control Period i.e. from FY 2012-13 to FY 2015-16. Accordingly, the proportion of various types of coal projected to be used in Unit 2 and Unit 3 is shown in Table below.

Table 74: Approved Coal Mix for Unit 2 (in %)*

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
MCL Coal	38.31%	38.31%	38.31%	38.31%
Middling Coal	61.69%	61.69%	61.69%	61.69%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

*Actuals for Jan-Mar 2012 as submitted in the additional information

Table 75: Approved Coal Mix for Unit 3 (in %)*

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
MCL Coal	36.88%	36.88%	36.88%	36.88%
Middling Coal	63.12%	63.12%	63.12%	63.12%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

*Actuals Jan-Mar 2012 as submitted in the additional information

8.23 The Commission has projected the GCV of the each type of coal to be used by the Petitioner in accordance with Clause 8.22 of the Generation Tariff Regulation, 2010, which states that:

"8.22 .... Initially the Base value of gross calorific value of fuel oils and gross calorific value of coal incurred by the Generating Company/ generating Station shall be taken based on actuals of the weighted average gross calorific value of the three preceding months and in the absence of weighted average gross calorific value for the three preceding months, latest weighted average gross calorific value for the generating station, before the start of the year."

8.24 Accordingly, the Commission has projected the GCV for each type of coal by considering the weighted average GCV observed during the last three months of FY 2011-12 as shown in the Table below.

Table 76: Approved Base GCV of various types of fuel (Kcal/kg) for Unit 2

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
MCL Coal	2935	2935	2935	2935
Middling Coal	4156	4156	4156	4156
Weighted Average GCV	**3688**	**3688**	**3688**	**3688**

Table 77: Approved Base GCV of various types of fuel (Kcal/kg) for Unit 3

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
MCL Coal	2940	2940	2940	2940
Middling Coal	4163	4163	4163	4163

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Weighted Average GCV	**3712**	**3712**	**3712**	**3712**

Transit Loss

Petitioner's submission

8.25 The Petitioner submitted that it has computed the base landed price of coal, base landed price of LDO, and base GCV of coal in accordance with the guidelines prescribed by the Commission for the same in the Clauses 7.50, 8.19 and 8.22 of the Generation Tariff Regulations 2010.

Commission's analysis

8.26 The Commission has approved Transit Loss at 0.8% for both Unit 2 and Unit 3 for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 as specified in the Generation Tariff Regulation, 2010.

Price of Primary Fuel

Petitioner's submission

8.27 The Petitioner submitted that it has computed the base landed price of coal, base landed price of LDO, and base GCV of coal in accordance with the guidelines prescribed by the Commission for the same in the Clauses 7.50, 8.19 and 8.22 of the Generation Tariff Regulations 2010.

8.28 The base landed cost of each type of coal and the weighted average price of coal as projected by the Petitioner for each year of the Control Period is shown in the Table below.

Table 78: Submitted Base Landed Cost of Coal

Particulars	Units	Unit 2		Unit 3	
		Middling	MCL	Middling	MCL
Proportion in the Overall Coal Mix	%	70%	30%	70%	30%
Landed Cost	Rs/Ton	2875	1520	2875	1519
Weighted Average Cost of Coal	**Rs/Ton**	**2469**		**2468**	

Commission's analysis

8.29 The Commission has projected the price of the various types of coal to be used by the Petitioner in accordance with Clause 8.22 of the Generation Tariff Regulation, 2010, which states that:

"8.22 Initially, the Base value of price of fuel oils, price of coal incurred by the Generating Company/ generating station shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of weighted average landed costs for the three preceding months, latest respective weighted average procurement price for the generating station, before the start of the year."

8.30 Accordingly, the Commission directed the Petitioner to submit the landed cost of coal for the last three months prior to the start of the current financial year i.e. January to March 2012 and the exact calculation of the same.

8.31 For projection of coal price during each year of the Control Period i.e. from FY 2012-13 to FY 2015-16, the Commission has first recomputed the landed cost of coal for January to March 2012 considering:

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

(b) Transit loss equal to 0.8% i.e. the approved transit loss as per the Generation Tariff Regulations, 2010.

8.32 The Commission has considered the weighted average of the landed cost of coal for January to March 2012, arrived using the methodology stated above, for projecting the coal price during each year of the Control Period i.e. from FY 2012-13 to FY 2015-16.

8.33 The Commission has considered the actual proportion of the various types of coal used in January to March 2012 by the Petitioner for projection of the proportion of various types of coal to be used during each year of the Control Period i.e. from FY 2012-13 to FY 2015-16, as has already been explained in section 8.22.

8.34 The landed price of each type of coal and the weighted average cost of coal as projected by the Commission based on the above assumptions is shown in the Table below.

Table 79: Approved Base Landed Cost of Coal

Particulars	Units	Unit 2		Unit 3	
		MCL	Middling	MCL	Middling
Landed Cost	Rs/Ton	1671	2921	1663	2921
Proportion in the Overall Coal Mix	%	38.31%	61.69%	36.88%	63.12%
Weighted Average Cost of Coal	**Rs/Ton**	**2442**		**2457**	

Energy Charge Rate (ECR) and Cost of Primary Fuel

Petitioner's submission

8.35 The Petitioner submitted that it has calculated the ECR for each year as per the formula stated in Generation Tariff Regulations, 2010 and considering the submitted values of the various fuel parameters. The table below contains the ECR as submitted by the Petitioner for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16.

Table 80 : Submitted Energy Charge Rate for the Control Period for Unit 2

Parameters		FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MU	893.52	914.54	904.03	927.59
Heat Rate	Kcal/kWh	2567	2567	2567	2567
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Base Calorific Value of	Kcal/l	9100	9100	9100	9100
Auxiliary Consumption	%	10.00%	10.00%	10.00%	10.00%
Net Generation	MU	804.17	823.09	813.63	834.83
Base Weighted Average Calorific Value of Coal	Kcal/kg	3802	3802	3802	3802
Base Weighted Average cost of Coal	Rs/Ton	2469	2469	2469	2469
Energy Charge Rate	**Rs/kWh**	**1.845**	**1.845**	**1.845**	**1.845**

Table 81 : Submitted Energy Charge Rate for the Control Period for Unit 3

Parameters		FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MU	893.52	893.52	925.06	927.59
Heat Rate	Kcal/kWh	2577	2577	2577	2577
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Base Calorific Value of	Kcal/l	9100	9100	9100	9100
Auxiliary Consumption	%	10.00%	10.00%	10.00%	10.00%
Net Generation	MU	804.17	804.17	832.55	834.83
Base Weighted Average Calorific Value of Coal	Kcal/kg	3808	3808	3808	3808
Base Weighted Average cost of Coal	Rs/Ton	2468	2468	2468	2468
Energy Charge Rate	**Rs/kWh**	**1.849**	**1.849**	**1.849**	**1.849**

Commission's analysis

8.36 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).

8.37 The formula for calculation of energy charge and energy charge rate (ECR) payable to a Generating Company is specified in Clause 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

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

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"

8.38 The Commission has calculated the ECR to be charged by the Petitioner as per the formula stated above and considering the approved values of the various fuel parameters. The table below contains the ECR for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 as approved by the Commission.

Table 82 : Approved Energy Charge Rate for the Control Period for Unit 2

Parameters		FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MU	893.52	893.52	893.52	895.97
Heat Rate	Kcal/kWh	2567	2567	2567	2567
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Base Calorific Value of Oil	Kcal/l	9100	9100	9100	9100
Auxiliary Consumption	%	10.00%	10.00%	10.00%	10.00%
Net Generation	MU	804.17	804.17	804.17	806.37
Base Weighted Average Calorific Value of Coal	Kcal/kg	3688	3688	3688	3688
Base Weighted Average cost of Coal	Rs/Ton	2442	2442	2442	2442
Energy Charge Rate*	Rs/kWh	**1.882**	**1.882**	**1.882**	**1.882**

*The ECR Rate approved by the Commission is marginally higher than the ECR rate proposed by the Petitioner as in accordance with the Generation Tariff Regulations, 2010, the Commission has taken into account the latest available information for the landed cost of coal and GCV of coal for the purpose of projection. The actual fuel cost incurred by the Petitioner shall be reviewed at the end of each year of the Control Period.

Table 83 : Approved Energy Charge Rate for the Control Period for Unit 3

Parameters		FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation	MU	893.52	893.52	893.52	895.97
Heat Rate	Kcal/kWh	2577	2577	2577	2577
Specific Oil Consumption	ml/kWh	1.00	1.00	1.00	1.00
Base Calorific Value of Oil	Kcal/l	9100	9100	9100	9100
Auxiliary Consumption	%	10.00%	10.00%	10.00%	10.00%
Net Generation	MU	804.17	804.17	804.17	806.37
Base Weighted Average Calorific Value of Coal	Kcal/kg	3712	3712	3712	3712
Base Weighted Average cost of Coal	Rs/Ton	2457	2457	2457	2457
Energy Charge Rate*	Rs/kWh	**1.888**	**1.888**	**1.888**	**1.888**

*The ECR Rate approved by the Commission is marginally higher than the ECR rate proposed by the Petitioner as in accordance with the Generation Tariff Regulations, 2010, the Commission has taken into account the latest available information for the landed cost of coal and GCV of coal for the purpose of projection. The actual fuel cost incurred by the Petitioner shall be reviewed at the end of each year of the Control Period.

Determination of Fixed Cost

Additional Capitalization

Petitioner's submission

8.39 The Petitioner has projected capital expenditure and additional capitalization for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 in its MYT Business Plan. The detailed capital expenditure phasing and justification for each proposed scheme has been given in Section A5: of this Order.

Table 84: Submitted Additional Capitalization for Control Period for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Additional Capitalisation, Standalone Assets	7.04	22.80	3.50	18.39
Additional Capitalisation, Apportioned for Common Facilities	10.71	3.27	1.43	0.51
Total	**17.75**	**26.07**	**4.93**	**18.90**

Table 85: Submitted Additional Capitalization for Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Additional Capitalisation, Standalone Assets	4.76	13.16	1.76	12.88
Additional Capitalisation, Apportioned for Common Facilities	10.71	3.27	1.43	0.51
Total	**15.47**	**16.43**	**3.19**	**13.39**

Commission's analysis

8.40 The Commission has scrutinized the information provided by the Petitioner in its MYT Business Plan and has allowed the capital expenditure schemes and the related capitalization after due prudence check. The details of the capital expenditure plan approved by the Commission for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 are contained in Section A5: of this Order. The approved capitalization for each year has also been summarized in the tables below.

Table 86: Additional Capitalization approved for Control Period (Rs Cr) for Unit 2

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Additional Capitalisation, Standalone Assets	8.26	18.80	2.70	14.14
Additional Capitalisation, Apportioned for Common Facilities	4.48	5.51	0.42	0.48
Total	**12.74**	**24.31**	**3.12**	**14.62**

Table 87: Additional Capitalization approved for Control Period (Rs Cr) for Unit 3

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Additional Capitalisation, Standalone Assets	4.36	13.25	0.45	13.83
Additional Capitalisation, Apportioned for Common Facilities	4.48	5.51	0.42	0.48
Total	**8.84**	**18.76**	**0.87**	**14.31**

8.41 The Commission shall review the capital expenditure and capitalization actually done by the Petitioner at the end of each year of the Control Period in accordance with Clause 6.8 to 6.10 of the Generation Tariff Regulations, 2010.

8.42 The Petitioner shall submit the actual capital expenditure incurred along with the Annual Performance Review Filing during each year of the Control Period. The Commission shall also conduct a midterm review at the end of second year of the Control Period. In case, the cumulative incurred capital expenditure and/or capitalization deviates from the approved capital expenditure / capitalization by more than 20% (cumulative), the Commission will make necessary changes to capital investment plan for the Control Period and will 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 capitalization vis-à-vis approved capital expenditure/capitalization.

Operation & Maintenance Expenses

Petitioner's submission

8.43 The Petitioner has presented the O&M expenses for the Control Period under three broad categories –

(a) Projected O&M Expenses for the Control Period including,

(i) Salaries, wages, pension contribution and other employee expenses

(ii) Administration and general expenses

(iii) Repairs and Maintenance expenses and

(b) O&M Expenses on Additional Capitalization;

(c) Application Fee and Publication Expenses.

Projected O&M Expenses for the Control Period

8.44 The Petitioner has projected O&M expenses for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 in its MYT Business Plan. The submission of the Petitioner regarding O&M expenses is summarized in the table below.

Table 88: Submitted O&M expenses for Control Period for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Employee Expenses	8.88	12.59	17.22	22.96
A&G Expenses	10.41	11.09	11.81	12.70
R&M Expenses	20.07	10.96	24.64	14.43
Estimated O&M Expenses	**39.35**	**34.64**	**53.67**	**50.08**

Table 89: Submitted O&M expenses for Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Employee Expenses	8.88	12.59	17.22	22.96
A&G Expenses	10.41	11.09	11.81	12.70
R&M Expenses	9.46	22.06	12.54	25.79
Estimated O&M Expenses	**28.75**	**45.75**	**41.57**	**61.45**

O&M Expenses on Additional Capitalization

8.45 The Petitioner submitted that it be allowed normative O&M expenses on additional capitalization at 2.50% of the capitalized cost in the first year with 6% annual escalation thereafter during the MYT Control period. The normative O&M expenses on additional capitalization as submitted by the Petitioner are shown in the table below.

Table 90: Submitted Normative O&M expenses on Additional Capitalization for Control Period (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M Expenses on Additional Capitalization for Unit 2	1.05	1.66	2.15	2.57
O&M Expenses on Additional Capitalization for Unit 3	0.97	1.43	1.76	2.07

Application Fee and Publication Expenses

8.46 The Petitioner submitted that it has projected the MYT/APR Application Fee and Publication Fee for the Control Period based on Clause 1 of Section 7 of Fee Schedule of JSERC (Conduct of Business) Regulations, 2011.

Table 91: Submitted expenses for ARR Application Fee and Publication Expenses for Control Period (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Application Fee and Publication Expenses for Unit 2	0.26	0.18	0.19	0.19
Application Fee and Publication Expenses for Unit 3	0.26	0.18	0.19	0.19

8.47 The total O&M expenses as submitted by the Petitioner for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 are summarized in the tables below.

Table 92: Submitted O&M expenses for Control Period for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses	39.35	34.64	53.67	50.08
O&M Expenses on Additional Capitalization	1.05	1.66	2.15	2.57
Application Fee and Publication Expenses	0.26	0.18	0.19	0.19
Total	**40.66**	**36.48**	**56.01**	**52.84**

Table 93: Submitted O&M expenses for Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses	28.75	45.75	41.57	61.45
O&M Expenses on Additional Capitalization	0.97	1.43	1.76	2.07
Application Fee and Publication Expenses	0.26	0.18	0.19	0.19
Total	**29.98**	**47.36**	**43.52**	**63.71**

Commission's analysis

8.48 As per the Clause 7.40 of the Generation Tariff Regulation, 2010 the O&M expenses shall comprise of:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance expenses; and

(d) Other miscellaneous expenses, statutory levies and taxes (except corporate income tax).

8.49 Further, as per Clause 7.41 of the Generation Tariff Regulation, 2010, for the Existing Thermal Generating Stations, the O&M expenses for the Control Period shall be approved considering the past O&M expenses of the generating station. The said Regulations are reproduced for reference below:

"7.41 Existing Thermal Generating Stations:

(a) The O&M expenses for the Transition Period shall be approved by the Commission as per the JSERC (Terms and condition of Determination of Generation Tariff) Regulations, 2004.

(b) The Applicant shall submit details on O&M expenses as required by the Commission. The O&M expenses excluding terminal liabilities for the Base Year shall be determined based on latest accounting statements, estimates of the Generating Company for relevant years and other factors considered relevant.

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

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

(e) Increase in O&M charges on account of war, insurgency or changes in laws, or like eventualities where the Commission is of the opinion that an increase in O&M charges is".

8.50 During the technical validation sessions, the Commission asked the Petitioner to submit the following information with respect to O&M expenses for Unit 2 and Unit 3 –

(a) The break-up of the actual R&M and A&G expenses for FY2007-08 to FY 2011-12.

(b) Rationale for escalation of 15% in O&M expenses during the Control Period should also be provided.

(c) The reasons for increase in employee cost incurred by the Petitioner for FY 2011-12 and detailed break-up of employee cost should be submitted in the format prescribed in the tariff petition.

(d) TPCL should submit the methodology for allocation of O&M expenses for Jojobera power plant between Unit 1, Unit 2, Unit 3, Unit 4, Unit 5 and Unit 6. The basis for allocation for each cost item – R&M expenses, A&G expenses and employee expenses should be submitted separately.

(e) TPCL submitted that the water charges shall substantially increase in FY 2012-13. TPCL should submit the actual water charges incurred in FY 2009-10 to FY 2011-12 and the expected water charges in FY 2012-13. The documentary proof substantiating the increase should also be submitted.

8.51 In the subsequent submissions the Petitioner submitted the details regarding the O&M expenses as asked for by the Commission. The Petitioner also submitted the actual (unaudited) O&M expenses for FY 2011-12 and the revised O&M expenses projections for the Control Period. The revised O&M expenses submitted by the Petitioner are contained in the table below.

Table 94: O&M expenses for Control Period submitted in the Additional Information for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
R&M Expenses	20.07	10.96	24.64	14.43
Employee Expenses	5.91	6.80	7.82	8.99
A&G Expenses	12.86	13.84	14.69	15.96
Estimated O&M Expenses	**38.84**	**31.61**	**47.15**	**39.38**

Table 95: O&M expenses for Control Period submitted in the Additional Information for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
R&M Expenses	9.46	22.06	12.54	25.79
Employee Expenses	5.91	6.80	7.82	8.99
A&G Expenses	12.25	12.97	13.90	14.85
Estimated O&M Expenses	**27.62**	**41.82**	**34.26**	**49.63**

8.52 The Commission has analyzed the submissions made by the Petitioner and after prudence check approves the O&M expenses on the basis of methodology explained in the following paragraphs.

8.53 In accordance with Clause 7.41, the Commission has considered the latest available accounting statements of the Petitioner i.e. the actual unaudited expenses for FY 2011-12 for projection of O&M expenses for the Control Period.

8.54 Clause 6.5 of the Generation Tariff Regulations, 2010 further states that *"The Commission shall normally not revisit the performance targets even if the targets are fixed on the basis of base values of un-audited accounts*". However, the Commission notes that the O&M expenses for FY 2011-12 have increased significantly during the year due to the high inflation, salary adjustment given to employees and increase in cost of ash disposal and R&M activities. Keeping the interest of consumers in mind the Commission has decided that it may revise the Base Year O&M expenses in its next Tariff Order after taking into account the audited accounts (after due prudence check) for FY 2011-12.

8.55 *Employee Expenses:* In accordance with the provisions of the Generation Tariff Regulations, 2010, for the purpose of approval of O&M expenses, employee expenses have been considered in two parts –

(a) Employee Expenses excluding terminal liabilities: The base figures for employee expenses (excluding terminal liabilities) have been taken equal to the expenses submitted by the Petitioner for FY 2011-12. The escalation factor is considered according to the general inflation rate of 8.40% (based on CERC Methodology of '80% weightage to WPI & 20% weightage to CPI and the average increase in the weighted average index from FY 2008-09 to FY 2011-12) on year-on-year basis to arrive at the approved employee expenses figure for FY 2012-13 to FY 2015-16.

(b) Terminal Liabilities: The base figures for projecting terminal liabilities have been taken equal to the expenses submitted by the Petitioner for FY 2011-12. The same has been considered for projection of terminal benefits during the Control Period. However, in accordance with Clause 7.41, the terminal liabilities for each year of the Control Period shall be trued up as per the actual terminal liabilities incurred by the Petitioner after due prudence check by the Commission.

8.56 *A&G expenses:* The A&G expenses for the Petitioner consist of Ash Disposal expenses, Water Charges, ARR filing & publication expenses and other expenses.

8.57 With regards to Water Charges the Commission has already expressed its views in paragraph 4.37 to 4.43 of this Order.

8.58 The Petitioner has in the MYT Petition submitted that the Ash Disposal Expenses, which form a part of the A&G expenses, have been estimated to increase sharply in FY 2011-12 at Rs 162/ton as compared to Rs 125/ton for FY 2010-11. It has further projected the Ash Disposal Expenses for FY 2012-13 to FY 2015-16 by considering an escalation of 8.50% on the Ash Disposal Expenses (per ton) in FY 2012-13.

8.59 The Commission has considered the actual Ash Disposal Expenses incurred by the Petitioner in FY 2011-12 and has escalated the same by the general inflation rate of 8.40% (based on CERC Methodology of '80% weightage to WPI & 20% weightage to CPI and the average increase in the weighted average index from FY 2008-09 to FY 2011-12) on year-on-year basis to arrive at the approved Ash Disposal Expenses for FY 2012-13 to FY 2015-16. The Commission would like to point out that in the Capital Investment Plan approved for Unit 2 and Unit 3 for FY 2012-13 to FY 2015-16 the Commission has approved several schemes which will enable the Petitioner in better management of fly ash and allow it to minimize Ash Disposal Expenses. The Petitioner should expedite the implementation of such schemes and should optimize its Ash Disposal Expenses.

8.60 The base figures for other A&G expenses (excluding Ash Disposal Expenses, Water Charges and ARR filing & publication expenses and tariff petition) have been taken equal to the actual expenses submitted by the Petitioner for FY 2011-12. The escalation factor is considered according to the general inflation rate of 8.40% (based on CERC Methodology of '80% weightage to WPI & 20% weightage to CPI and the average increase in the weighted average index from FY 2008-09 to FY 2011-12) on year-on-year basis to arrive at the approved A&G expenses for FY 2012-13 to FY 2015-16.

8.61 The Clause 11.7 of the Generation Tariff Regulation, 2010 provides for recovery of expenses of Application Fee and Publication Expenses by a Generating Company from its Beneficiaries as per actuals. These have thus been considered separately as detailed in paragraph 8.65.

8.62 *R&M expenses*: The Commission observes that the R&M expenses for a generating station vary from year to year depending upon the maintenance activities carried out during the year. As such considering the R&M expenses for a single year as the base expenses would be inaccurate. The base figures for R&M expenses have been taken by first normalizing the R&M expenses of the past four years (FY 2008-09 to FY 2011-12) at the escalation rate of 8.40% and then taking an average of past four years. The escalation factor is considered according to the general inflation rate of 8.40% (based on CERC Methodology of '80% weightage to WPI & 20% weightage to CPI and the average increase in the weighted average index from FY 2008-09 to FY 2011-12) on year-on-year basis. The same escalation factor has been considered to arrive at the approved R&M expenses figure for FY 2012-13 to FY 2015-16.

Table 96: Approved O&M expenses for Control Period for Unit 2 (Rs Cr)

Description	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
R&M Expenses	**10.30**	**11.17**	**12.10**	**13.12**
Employee Expenses	**5.50**	**5.89**	**6.32**	**6.78**
Employee Expenses w/o Terminal Liabilities	4.66	5.05	5.48	5.94
Terminal Liabilities	0.84	0.84	0.84	0.84
A&G Expenses	**7.68**	**8.32**	**9.02**	**9.78**
Ash Disposal Expenses	2.49	2.70	2.93	3.18

Description	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Raw Water Charges	0.00	0.00	0.00	0.00
Other A&G Expenses	5.18	5.62	6.09	6.60
O&M Expenses	**23.48**	**25.37**	**27.44**	**29.68**

Table 97: Approved O&M expenses for Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
R&M Expenses	**6.41**	**6.95**	**7.54**	**8.17**
Employee Expenses	**5.50**	**5.89**	**6.32**	**6.78**
Employee Expenses w/o Terminal Liabilities	4.66	5.05	5.48	5.94
Terminal Liabilities	0.84	0.84	0.84	0.84
A&G Expenses	**7.18**	**7.78**	**8.43**	**9.14**
Ash Disposal Expenses	2.58	2.80	3.03	3.29
Raw Water Charges	0.00	0.00	0.00	0.00
Other A&G Expenses	4.60	4.98	5.40	5.86
O&M Expenses	**19.09**	**□0.62**	**22.29**	**24.09**

O&M Expenses on Additional Capitalization

8.63 In accordance with the Clause 7.41 of the Generation Tariff Regulations, 2010 the Commission has approved the O&M expenses for the Control Period considering the past trend in O&M expenses as detailed above.

8.64 There is however no provision in Clause 7.41 for allowing normative O&M expenses on the approved additional capitalization as requested by the Petitioner. The Commission has therefore not allowed any additional O&M expenses over and above the O&M expenses as approved above.

Application Fee and Publication Expenses

8.65 The Clause 11.7 of the Generation Tariff Regulation, 2010 as quoted below provide for recovery of expenses of Application Fee and Publication Expenses by a Generating Company from its Beneficiaries.

"11.17 The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the transmission customers, as the case may be"

8.66 Accordingly, the Commission has decided to allow the ARR Application Fee and Publication expenses as proposed by the Petitioner. The same shall, however, be trued up as per the actual expenditure incurred by the Petitioner on the same.

Table 98: Approved expenses for ARR Application Fee and Publication Expenses for Control Period (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Application Fee and Publication Expenses for Unit 2	0.26	0.18	0.19	0.19
Application Fee and Publication Expenses for Unit 3	0.26	0.18	0.19	0.19

8.67 The total O&M expenses as approved by the Commission for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 are summarized in the tables below.

Table 99: Approved O&M expenses for Control Period for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses	23.48	25.38	27.44	29.68
O&M Expenses on Additional Capitalization	0.00	0.00	0.00	0.00
Application Fee and Publication Expenses	0.26	0.18	0.19	0.19
Total	**23.74**	**25.56**	**27.63**	**29.87**

Table 100: Approved O&M expenses for Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Estimated O&M Expenses	19.09	20.63	22.29	24.09
O&M Expenses on Additional Capitalization	0.00	0.00	0.00	0.00
Application Fee and Publication Expenses	0.26	0.18	0.19	0.19
Total	**19.35**	**20.81**	**22.48**	**24.28**

Depreciation

Petitioner's submission

8.68 The Petitioner submitted depreciation on the Original Project Cost and the additional capitalization proposed for Unit 2 and Unit 3 during the Control Period.

8.69 The depreciation on additional capitalization during the year has been considered for 6 months and for full years thereafter. The depreciation amount for Unit 2 and Unit 3 for each year of the Control Period as submitted by the Petitioner is shown in the tables below.

Table 101: Submitted Depreciation for Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	
Depreciation on Original Cost of Capital	3.59	3.59	3.59	3.36
Depreciation on Additional Capitalisation	1.93	3.07	3.86	4.48
Total Depreciation	**5.52**	**6.66**	**7.45**	**7.84**

Table 102: Submitted Depreciation for Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation on Original Cost of Capital	5.34	5.34	5.34	5.34
Depreciation on Additional Capitalisation	1.79	2.62	3.11	3.54
Total Depreciation	**7.14**	**7.96**	**8.45**	**8.88**

Commission's analysis

8.70 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%.

8.71 The Commission has observed that both for Unit 2 and Unit 3, the cumulative depreciation on the Original Project Cost for some assets has exceeded 70%. For these assets, following the methodology adopted by it the previous Tariff Order, the Commission has spread the balance depreciable value of the assets (as on March 31, 2011) over the balance useful life of the asset.

(Note: For purpose of calculation of depreciation, the useful life of assets has been considered as 25 years. Since depreciation has been charged for Unit 2 from 2002 onwards, the balance useful life of assets for Unit 2 has been taken equal to 15 years. For Unit 3, depreciation has been charged from 2003 onwards, the balance useful life of assets for Unit 3 has been taken equal to 16 years.)

8.72 In case of assets where cumulative depreciation has not reached 70%, the Commission has considered the depreciation on assets as per the rates specified in the Generation Tariff Regulation, 2010.

8.73 The Commission has also allowed depreciation on the approved additional capitalization considering the depreciation rates specified in Generation Tariff Regulation, 2010. Depreciation has been provided for twelve months on the approved additional capitalization at the beginning of the year; and for six months on the approved additional capitalization during the year, considering that asset addition will be spread over the course of the entire year.

8.74 The depreciation approved for the Control Period i.e. FY 2012-13 to FY 2015-16 on Original Project Cost and additional capitalization is given in the tables below.

Table 103: Approved Depreciation for Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation on Original Cost of Capital	3.59	3.59	3.59	3.36
Depreciation on Additional Capitalisation	0.79	1.79	2.51	2.98
Total Depreciation	**4.38**	**5.38**	**6.10**	**6.34**

Table 104: Approved Depreciation for Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Depreciation on Original Cost of Capital	5.34	5.34	5.34	5.34
Depreciation on Additional Capitalisation	0.63	1.38	1.89	2.30
Total Depreciation	**5.96**	**6.72**	**7.23**	**7.63**

Interest on Loan

Petitioner's submission

8.75 The Petitioner submitted that it will finance the projected additional capitalization for FY 2012-13 to FY 2015-16 from internal accruals and hence no specific debt for any Capex Scheme is anticipated.

8.76 However, the Debt-Equity ratio for any project/unit or any additional capitalization incurred has been taken as 70:30 on normative basis in accordance with the Clauses 7.3, 7.13 and 7.14 of Generation Tariff Regulations 2010.

8.77 Further, for the purpose of computation of interest on loan additional capitalization has been considered at 13.02% and 12.33% for Unit 2 and Unit 3 respectively.

Table 105: Submitted Interest on Loan for Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Debt for the year	18.35	28.84	44.01	43.60
Additions during the year	12.42	18.25	3.45	13.23
Repayment	1.93	3.07	3.86	4.48
Closing Debt	28.84	44.01	43.60	52.35
Rate of Interest	13.02%	13.02%	13.02%	13.02%
Interest on Debt	**3.07**	**4.74**	**5.70**	**6.25**

Table 106: Submitted Interest on Loan for Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Debt for the year	17.50	26.53	35.41	34.54
Additions during the year	10.83	11.50	2.23	9.37
Repayment	1.79	2.62	3.11	3.54
Closing Debt	26.53	35.41	34.54	40.37
Rate of Interest	12.33%	12.33%	12.33%	12.33%
Interest on Debt	**2.71**	**3.82**	**4.31**	**4.62**

Commission's analysis

8.78 The Commission has worked out the gross normative loan for FY 2011-12 as per Clause 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."

8.79 Since repayment of the normative loan for the Original Project Cost for Unit 2 and Unit 3 has been completed in the years FY 2009-10 and FY 2010-11 respectively, the opening normative loan for both the Units is ZERO.

8.80 The Commission has allowed interest on loan on the approved additional capitalization considering 70% of the approved capitalization as normative debt.

8.81 The rate of interest on the approved normative debt has been worked out in accordance with Clause 7.23 of the Generation Tariff Regulation, 2010 as quoted below:

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

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

8.82 The last available weighted average rate of interest for Unit 2 and Unit 3 is 13.02% and 12.33% respectively (which was the rate of interest on the long term debt of Unit 2 and Unit 3 in FY 2009-10 an FY 2010-11 respectively). The same has been considered for calculation of interest on normative loan.

Table 107: Approved Interest on Loan for the Control Period for Unit 2 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Debt on Original Capital Cost	0.00			
Additions during 2011-12	5.55			
Opening Debt for the year	5.55	13.68	28.91	28.58
Additions during the year	8.92	17.02	2.18	10.23
Repayment	0.79	1.79	2.51	2.98
Closing Debt	13.68	28.91	28.58	35.83
Rate of Interest	13.02%	13.02%	13.02%	13.02%
Interest on Debt	**1.25**	**2.77**	**3.74**	**4.19**

Table 108: Approved Interest on Loan for the Control Period for Unit 3 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Debt on Original Capital Cost	0.00			
Additions during 2011-12	4.92			
Opening Debt for the year	4.92	10.48	22.24	20.95
Additions during the year	6.19	13.13	0.61	10.01
Repayment	0.63	1.38	1.89	2.30
Closing Debt	10.48	22.24	20.95	28.67
Rate of Interest	12.33%	12.33%	12.33%	12.33%
Interest on Debt	**0.95**	**2.02**	**2.66**	**3.06**

Interest on Working Capital

Petitioner's submission

8.83 For the purpose of computing Working Capital, the Petitioner submitted the components of Coal Cost, LDO Cost and Receivables have been computed at Normative Plant Availability of 85% for the whole year and apportioned to 2 months as specified in the Generation Tariff Regulations 2010. Further, as specified in the above Regulations, projected Annual O&M Expenses apportioned to 1 month and the cost of maintenance spares at 20% of Annual O&M Expenses has been considered.

8.84 As specified in Clause 7.38 of Generation Tariff Regulations 2010, rate of interest on working capital has been projected considering the prevailing SBI PLR of 14.75%.

Table 109: Submitted Working Capital for the Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Coal Cost for 2 months	24.73	24.73	24.73	24.80
LDO Cost for 2 months	0.83	0.83	0.83	0.83
Receivables for 2 months	40.21	40.17	44.10	43.90
O&M Expenses for 1 month	3.39	3.04	4.67	4.40
Maintenance Spares (@ 20% of O&M Expenses)	8.13	7.30	11.20	10.57
Total Working Capital	**77.29**	**76.07**	**85.54**	**84.50**
Rate of Interest	14.75%	14.75%	14.75%	14.75%
Interest on Working Capital	**11.40**	**11.22**	**12.62**	**12.46**

Table 110: Submitted Working Capital for the Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Coal Cost for 2 months	24.79	24.79	24.79	24.85
LDO Cost for 2 months	0.83	0.83	0.83	0.83
Receivables for 2 months	38.43	42.01	41.60	45.48
O&M Expenses for 1 month	2.50	3.95	3.63	5.31
Maintenance Spares (@ 20% of O&M Expenses)	6.00	9.47	8.70	12.74
Total Working Capital	**72.54**	**81.05**	**79.55**	**89.22**
Rate of Interest	14.75%	14.75%	14.75%	14.75%
Interest on Working Capital	**10.70**	**11.96**	**11.73**	**13.16**

Commission's analysis

8.85 The Commission has determined the working capital requirement for the Petitioner by considering the following components as per Clause 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.

8.86 The rate of interest on working capital has been taken as 14.75% i.e. the short-term Prime Lending Rate of State Bank of India as on April 1, 2012.

8.87 Accordingly, the Commission has computed the interest on working capital for Unit 2 and Unit 3 for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16 as shown in the tables below.

Table 111: Approved Interest on Working Capital for the Control Period for Unit 2 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Coal Cost for 2 months	25.22	25.22	25.22	25.29
LDO Cost for 2 months	0.89	0.89	0.89	0.89
Receivables for 2 months	37.05	37.98	38.78	39.46
O&M Expenses for 1 month	1.98	2.13	2.30	2.49
Maintenance Spares (@ 20% of O&M Expenses)	4.75	5.11	5.53	5.97
Total Working Capital	**69.88**	**71.34**	**72.72**	**74.11**
Rate of Interest	14.75%	14.75%	14.75%	14.75%
Interest on Working Capital	**10.31**	**10.52**	**10.73**	**10.93**

Table 112: Approved Interest on Working Capital for the Control Period for Unit 3 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Coal Cost for 2 months	25.30	25.30	25.30	25.37
LDO Cost for 2 months	0.94	0.94	0.94	0.95
Receivables for 2 months	36.47	37.17	37.77	38.38
O&M Expenses for 1 month	1.61	1.73	1.87	2.02
Maintenance Spares (@ 20% of O&M Expenses)	3.87	4.16	4.50	4.86
Total Working Capital	**68.20**	**69.32**	**70.38**	**71.57**
Rate of Interest	14.75%	14.75%	14.75%	14.75%
Interest on Working Capital	**10.06**	**10.22**	**10.38**	**10.56**

Return on Equity (RoE)

Petitioner's submission

8.88 A Post-tax 'return on equity' of 15.5%, (to be grossed-up by the applicable tax rate) has been considered by the Petitioner on equity component of the Original Project Cost and Additional Capitalization for FY 2001-11 (till April 1, 2011). The Petitioner has further submitted that it is in the process of implementing various Capex schemes proposed for FY 2011-12 and has also planned for substantial Capital Investments during the Control Period; and has considered a normative rate of return of 16% (15.5 + 0.5 %) as the duration of these Capex Projects are considerably short as may be verified by the Commission.

8.89 The debt-equity ratio for any Project/Unit/or any additional capital expenditure incurred has been considered as per the Clauses 7.3, 7.13 & 7.14 of Generation Tariff Regulations 2010 i.e. 70:30.

Table 113: Submitted Return on Equity for the Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Equity for the year	137.73	143.06	150.88	152.36
Additions during the year	5.32	7.82	1.48	5.67
Closing Equity	143.06	150.88	152.36	158.03
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	16.00%	16.00%	16.00%	16.00%
Tax Rate	20.01%	20.01%	20.01%	20.01%
Rate of Return on Equity Component of Original Cost	19.38%	19.38%	19.38%	19.38%
Rate of Return on Equity Component of Additional Capitalization	20.00%	20.00%	20.00%	20.00%
Return on Equity	**27.25**	**28.56**	**29.49**	**30.21**

Table 114: Submitted Return on Equity for the Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Equity for the year	129.87	134.51	139.44	140.39
Additions during the year	4.64	4.93	0.96	4.02
Closing Equity	134.51	139.44	140.39	144.41
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	16.00%	16.00%	16.00%	16.00%
Tax Rate	20.01%	20.01%	20.01%	20.01%
Rate of Return on Equity Component of Original Cost	19.38%	19.38%	19.38%	19.38%
Rate of Return on Equity Component of Additional Capitalization	20.00%	20.00%	20.00%	20.00%
Return on Equity	**26.34**	**27.29**	**27.88**	**28.38**

Commission's analysis

8.90 The Commission has worked out the normative equity for FY 2011-12 as per Clause 7.13 and 7.14 of the Generation Tariff Regulation, 2010 as quoted above in paragraph 8.78. Accordingly, the opening normative equity for the year has been taken equal to the normative equity admitted by the Commission till April 1, 2011.

8.91 The Commission has also allowed return on equity on the approved additional capitalization considering 30% of the approved capitalization as normative equity.

8.92 Further, the base rate of return on equity has been considered at 15.50% as per Clause 7.16 of the Generation Tariff Regulation, 2010. In accordance with Clause 7.17 and 7.18 of the said regulations, the same has been grossed by the applicable tax rate for FY 2011-12 (20.01%) to arrive at the pre tax return on equity for each year of the Control Period i.e. from FY 2012-13 to FY 2015-16.

8.93 The Commission has not considered any additional return on the additional capitalisation approved for the year as has been proposed by the Petitioner. The Commission observes that Clause 7.16 of the Generation Tariff Regulation, 2010 clearly states that:

*"7.16 .... Provided that in case of **Projects commissioned on or after 1st April, 2011,** an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in Appendix-II to these Regulations"*

Thus the Petitioner shall be eligible for an additional return of 0.5% (over and above the base rate of 15.50%) on the capital schemes started after April 1, 2011 only if such projects as listed in Appendix-II of the said Regulations are completed in time. The additional capitalization schemes as submitted by the Petitioner are not covered in the list of projects in Appendix-II of the said Regulations. The return on equity on the equity portion of the additional capitalization has thus been taken as 15.50% only.

Table 115: Approved Return on Equity for the Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Equity for the year	131.87	135.69	142.99	143.92
Additions during the year	3.82	7.29	0.94	4.38
Closing Equity	135.69	142.99	143.92	148.31
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	15.50%	15.50%	15.50%	15.50%
Tax Rate	20.01%	20.01%	20.01%	20.01%
Rate of Return on Equity Component of Original Cost	19.38%	19.38%	19.38%	19.38%
Rate of Return on Equity Component of Additional Capitalization	19.38%	19.38%	19.38%	19.38%
Return on Equity	**25.92**	**27.00**	**27.80**	**28.31**

Table 116: Approved Return on Equity for the Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Opening Equity for the year	127.63	130.28	135.91	136.17
Additions during the year	2.65	5.63	0.26	4.29
Closing Equity	130.28	135.91	136.17	140.46
Rate of Return on Equity Component of Original Cost	15.50%	15.50%	15.50%	15.50%
Rate of Return on Equity Component of Additional Capitalization	15.50%	15.50%	15.50%	15.50%
Tax Rate	20.01%	20.01%	20.01%	20.01%
Rate of Return on Equity Component of Original Cost	19.38%	19.38%	19.38%	19.38%
Rate of Return on Equity Component of Additional Capitalization	19.38%	19.38%	19.38%	19.38%
Return on Equity	**24.99**	**25.79**	**26.36**	**26.80**

Cost of Secondary Fuel

Petitioner's submission

8.94 Clause 8.4 of Generation Tariff Regulations 2010 stipulates the NAPF (%) at 85% and SFC (ml/kWh) at 1 ml/kWh for Jojobera Units 2 and Unit 3. The Petitioner has thus computed in accordance the cost of Secondary Fuel Oil for Units 2 and Unit 3 at their corresponding NAPF.

Table 117: Submitted Cost of Secondary Fuel Oil for the Control Period for Unit 2 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation at NAPF (MU)	893.52	893.52	893.52	895.97
Specific Consumption of LDO at NAPF (ml/kWh)	1.00	1.00	1.00	1.00
LDO Consumption at NAPF (kL)	893.52	893.52	893.52	895.97
LDO Landed Cost (Rs/kL)	55888	55888	55888	55888
LDO Cost (Rs Cr)	4.99	4.99	4.99	5.01

Table 118: Submitted Cost of Secondary Fuel Oil for the Control Period for Unit 3 (Rs Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation at NAPF (MU)	893.52	893.52	893.52	895.97
Specific Consumption of LDO at NAPF (ml/kWh)	1.00	1.00	1.00	1.00
LDO Consumption at NAPF (kL)	893.52	893.52	893.52	895.97
LDO Landed Cost (Rs/kL)	55792	55792	55792	55792
LDO Cost (Rs Cr)	4.99	4.99	4.99	5.00

Commission's analysis

8.95 The Commission has projected the cost of secondary fuel oil (LDO in case of the Petitioner) in accordance with Clause 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:

$$= SFC \times LPSFi \times NAPAF \times 24 \times NDY \times IC \times 10$$

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."

8.96 Accordingly, the consumption of LDO has been projected considering the gross generation corresponding to the NAPAF (i.e. 85%) and Specific Normative Fuel Oil Consumption (i.e. 1ml/kWh) and the price of LDO has been projected considering the weighted average cost of LDO from January to March 2012.

8.97 The normative cost of LDO approved by the Commission for Unit 2 and Unit 3 for each year of the Control Period (FY 2012-13 to FY 2015-16) is shown in the tables below

Table 119: Approved Cost of Secondary Fuel Oil for the Control Period for Unit 2 (Rs Cr)*

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation at NAPF (MU)	893.52	893.52	893.52	895.97
Specific Consumption of LDO at NAPF (ml/kWh)	1.00	1.00	1.00	1.00
LDO Consumption at NAPF (kL)	893.52	893.52	893.52	895.97
LDO Landed Cost (Rs/kL)	59690	59690	59690	59690
LDO Cost (Rs Cr)	5.33	5.33	5.33	5.35

*The LDO Cost approved by the Commission is marginally higher than that proposed by the Petitioner as in accordance with the Generation Tariff Regulations, 2010 the Commission has taken into account the latest available information for the landed cost of LDO for the purpose of projection. The actual fuel cost of LDO incurred by the Petitioner shall be reviewed at the end of each year of the Control Period.

Table 120: Approved Cost of Secondary Fuel Oil for the Control Period for Unit 3 (Rs Cr)*

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Gross Generation at NAPF (MU)	893.52	893.52	893.52	895.97
Specific Consumption of LDO at NAPF (ml/kWh)	1.00	1.00	1.00	1.00
LDO Consumption at NAPF (kL)	893.52	893.52	893.52	895.97
LDO Landed Cost (Rs/kL)	63351.97	63351.97	63351.97	63351.97
LDO Cost (Rs Cr)	5.66	5.66	5.66	5.68

*The LDO Cost approved by the Commission is marginally higher than that proposed by the Petitioner as in accordance with the Generation Tariff Regulations, 2010 the Commission has taken into account the latest available information for the landed cost of LDO for the purpose of projection. The actual fuel cost of LDO incurred by the Petitioner shall be reviewed at the end of each year of the Control Period.

Incentive

Petitioner's submission

8.98 The Petitioner submitted that Unit 2 and Unit 3 qualify under the Section 8.12 (b) of Generation Tariff Regulations 2010 for the computation of Incentive for the Control Period based on the Projected Plant Availability beyond Normative Plant Availability (85%) as specified in the Generation Tariff Regulations 2010 and has requested recovery of the same from the Licensee through Monthly Billing.

Table 121: Submitted Cost of Incentive for the Control Period for Unit 2 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Projected Plant Availability (%)	94.52	98.08	93.15	98.09
Normative Plant Availability (%)	85	85	85	85
Annual Fixed charges without incentive	92.88	92.67	116.25	114.61
Annual Fixed Charges with Incentive	103.29	106.93	127.40	132.26
Incentive	10.40	14.26	11.15	17.65

Table 122: Submitted Cost of Incentive for the Control Period for Unit 3 (Rs Cr)

	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Projected Plant Availability (%)	98.08	93.15	98.08	94.52
Normative Plant Availability (%)	85	85	85	85
Annual Fixed charges without incentive	82.99	104.08	102.03	124.58
Annual Fixed Charges with Incentive	95.77	114.07	117.73	138.53
Incentive	12.77	9.98	15.70	13.95

Commission's analysis

8.99 The Commission observes that the Petitioner has computed the incentive on Availability as per the projections of the same during the Control Period. The Generation Tariff Regulations, 2010 allow for recovery of incentive by the Petitioner on the actual Availability achieved by it during the month and not on the projected value of Availability. The Commission has thus not projected any incentive on Availability for the Control Period. The incentive on the Availability may be recovered by the Petitioner every month as per the actual Availability achieved by it.

8.100 The Petitioner is also directed to submit the certification from Tata Steel Distribution for Availability achieved by the Petitioner for each month of the year to the Commission at the time of the Annual Performance Review during each year of the Control Period.

Summary of Fixed Cost Determinants

Petitioner's submission

8.101 The Annual Fixed Charges as submitted by the Petitioner for each year of the Control Period are shown in the following tables –

Table 123: Submitted Annual Fixed Charges for Control Period for Unit 2 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	40.65	36.48	55.99	52.84
Depreciation	5.52	6.66	7.45	7.84
Interest on Loan	3.07	4.74	5.70	6.25
Return on Equity	27.25	28.56	29.49	30.21
Interest on Working Capital	11.40	11.22	12.62	12.46
Incentive	10.40	14.26	11.15	17.65
Cost of LDO at Normative Availability	4.99	4.99	4.99	5.01
Total Fixed Charges	**103.29**	**106.93**	**127.40**	**132.26**

Table 124: Submitted Annual Fixed Charges for Control Period for Unit 3 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	29.96	47.35	43.51	63.70
Depreciation	7.14	7.96	8.45	8.88
Interest on Loan	2.71	3.82	4.31	4.62
Return on Equity	26.34	27.29	27.88	28.38
Interest on Working Capital	11.85	12.67	12.89	14.00
Incentive	12.77	9.98	15.70	13.95
Cost of LDO at Normative Availability	4.99	4.99	4.99	5.00
Total Fixed Charges	**95.77**	**114.07**	**117.73**	**138.53**

Commission's analysis

8.102 Clause 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.

8.103 The Annual Fixed Charges as approved by the Commission for each year of the Control Period are shown in the following tables –

Table 125: Approved Annual Fixed Charges for Control Period for Unit 2 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	23.74	25.56	27.63	29.87
Depreciation	4.38	5.38	6.10	6.34
Interest on Loan	1.25	2.77	3.74	4.19
Return on Equity	25.92	27.00	27.80	28.31
Interest on Working Capital	10.31	10.52	10.73	10.93
Cost of LDO at Normative Availability	5.33	5.33	5.33	5.35
Annual Fixed Charges	**70.93**	**76.56**	**81.33**	**84.99**

Table 126: Approved Annual Fixed Charges for Control Period for Unit 3 (Rs. Cr)

Particulars	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
O&M expenses	19.35	20.81	22.48	24.28
Depreciation	5.96	6.72	7.23	7.63
Interest on Loan	0.95	2.02	2.66	3.06
Return on Equity	24.99	25.79	26.36	26.80
Interest on Working Capital	10.06	10.22	10.38	10.56
Cost of LDO at Normative Availability	5.66	5.66	5.66	5.68
Annual Fixed Charges	**66.97**	**71.22**	**74.77**	**78.01**

A9: GENERATION TARIFF FOR FY 2012-13

9.1 Based upon the analysis done by the Commission in the previous sections the approved Annual Fixed Charges and Energy Charge Rate for FY 2012-13 for Unit 2 and Unit 3 is summarized in the table below.

Table 127: Approved Annual Fixed Charges for FY 2012-13 (Rs. Cr)

Particulars	Unit 2	Unit 3
O&M expenses	23.74	19.35
Depreciation	4.38	5.96
Interest on Loan	1.25	0.95
Return on Equity	25.92	24.99
Interest on Working Capital	10.31	10.06
Cost of LDO at Normative Availability	5.33	5.66
Total for the year	**70.93**	**66.97**
Recovery on account of FY 2010-11	5.32	1.38
AFC recoverable during the year	**76.25**	**68.35**
Energy Charge Rate (Rs/kWh)	**1.882**	**1.888**

9.2 The Commission has included the approved gap for FY 2010-11 in the total Annual Fixed Charges (AFC) for FY 2012-13. The Petitioner is thus **not** required to reconcile the payment due/receipts with TSL, in view of the revised Generation Tariff for power sold to TSL for FY 2010-11.

9.3 The Commission has computed the revenue gap for the Petitioner for FY 2011-12 on provisional basis. In accordance with the Generation Tariff Regulations, 2010, the revenue gap for FY 2011-12, along with the carrying cost, shall be allowed to the Petitioner in the subsequent years after final truing up of ARR for FY 2011-12Petitioner.

A10: STATUS OF EARLIER DIRECTIVES

Directives as per TO 2010-11	Status	Views of the Commission
The Commission in the previous Order observed that the Petitioner has been submitting availability of 90% or more, while it has stated that the PLF is lower due to the constrains it is facing from the buyer, TSL. Whereas TSL has sought approval from the Commission for additional procurement from its steel plant due to non-availability of sufficient power from TPCL and DVC. The Commission directed the Petitioner to conduct a thorough review of its Units to ascertain the detailed reasons for the difference in the PLF and availability and the improvement strategy for PLF to ensure the PLF of 85% is achieved.	The Petitioner submitted that 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. In short, PLF of Unit 2 and Unit 3 is an uncontrollable factor for Tata Power Jojobera.	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 Distribution in earnest. The Petitioner is also directed to submit a report in the matter within three months of this Order.
The Commission observes that the quality of imported coal obtained in the FY 2008-09 and FY 2009-10, is inferior with a GCV of only 2993 kcal/kg and 2980 kcal/kg for the respective years. At the same time, the cost of imported coal of Rs 6734 for FY 2008-09 and Rs 6607 for FY 2009-10 is exorbitant. TPCL is directed to look into the reason for supply of such inferior quality of coal and submit a report to the Commission within next three months.	The Petitioner submitted that it submitted the report on the same with the tariff petition.	The Commission will scrutinize the report submitted by the Petitioner and comment on the same in the future Orders.

Directives as per TO 2011-12	Status	Views of the Commission
Capital Investment for additional capitalization The Petitioner was 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 Certificate of Completion of the assets pertaining to additional capitalization and the listing of fixed asset register certified by the statutory auditor of the company has been submitted with this petition. The Petitioner submitted that it is in the process of compilation of start date, current status and expected completion date of each scheme for FY 2011-12. As such, it has projected capitalization by	The Commission has allowed the capitalization for FY 2007-11 based on the information submitted by the Petitioner in this petition. The Commission directs the Petitioner to provide the listing of fixed asset register certified by the statutory auditor of the company for FY 2011-12. The additional capitalization for FY 2011-12 shall be trued up in the future Orders after due prudence check of the information

Directives as per TO 2011-12	Status	Views of the Commission
	considering capex schemes which are expected to be completed by 31st March 2012.	submitted by the Petitioner.
Improvement of Operation parameters and energy audit The Commission directed the Petitioner to conduct an energy audit and insulation checking and rectify the same by incorporating insulation repair in the Annual Maintenance Plan. The Commission also directed the Petitioner to provide actual operational Heat Balance Diagrams of the units at 100% load, 80%, 75% & 50% and a month-wise loading profile of the Units. The Petitioner was directed to provide the design Heat Balance Diagram at the above load conditions along with an explanation of the variances in the various TG cycle equipment performances from the design conditions.	The Petitioner submitted that it has engaged CPRI for carrying out energy audit of Unit 2 and 3. Energy audit of Unit 3 was conducted during July to August 2010 and the energy audit report has been submitted. Further, CPRI has already energy audit of Unit 2 and the energy audit report of CPRI is expected in February 2012. The Petitioner submitted the heat balance diagrams of the units at 100% and at the average running PLF as captured by the parameters of the respective units at the specified loads in this petition.	The Petitioner has complied with the directive.
Adjustment of Bills & payments/receipt as per revised cost of power sold to TSL The Commission directed the Petitioner to reconcile the payment due/receipts with TSL, in view of the revised Generation Tariff for power sold to TSL for FY 2009-10, FY 2010-11 & FY 2011-12, as determined by the Commission in this order within three months.	The Petitioner submitted that it has reconciled the payments due/receipts with TSL till August 2011.	The Petitioner has complied with the directive.
Pollution Control The Petitioner was directed to provide a status report on the pollution control norms being followed at the Jojobera Power Plant and an action taken report to curb the pollution levels within three months of the issue of this Tariff Order.	The Petitioner submitted that the status report on the pollution control norms being followed at Jojobera power plant and an action taken report to curb the pollution levels has been submitted with the petition.	The Petitioner has complied with the directive.
Data adequacy in next Tariff petition and timelines The Commission directed TPCL to come	The Commission may appreciate that it is practically impossible to interpret and foresee all data requirements of the Commission. However, through various	While the Petitioner may find it 'impossible' to interpret and foresee all data requirements of the Commission, the Petitioner should provide detailed

Directives as per TO 2011-12	Status	Views of the Commission
up with the next tariff petition for FY 2012-13 removing the various data deficiencies highlighted throughout the tariff order along with the unit-wise audited accounts for FY 2010-11 and latest actual figures of FY 2011-12. The Commission also directed the Generation Company to file the next tariff petition along-with the Business Plan for FY 2012-13 as per the MYT Framework by 1st November 2011 and also ensure submission of subsequent ARR & tariff filings for the ensuing year are done by 1st November every year prior to the tariff period.	additional submissions, we have provided all the requested data as per the requirements of the Commission. The unit-wise audited accounts and latest actual figures have been submitted in the petition. The Petitioner submitted that on account of complex nature of the tasks and huge data consolidation involved in them, it has taken due extension from the Commission for submission of MYT business plan and MYT petition for the control period.	explanation and working of the calculations in the petition where ever possible. Further, all the data submitted by the Petitioner should also be provided in the form of a soft copy to facilitate the analysis of the same.

A11: DIRECTIVES

Capital Investment for additional capitalization

11.1 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.

Competitive Procurement

11.2 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

11.3 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.

11.4 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. Tata Steel Limited in its tariff petition on page 5-51 has stated as under.

"Power Purchase from Damodar Valley Corporation (DVC) at 132 KV and 400 KV

5.5.4 To minimise the dependability on Tata Steel Works (TSW) and to meet the demand of its licensed area, TSL has planned to purchase additional power from DVC through a new 400 KV substation coming in FY 2011-12."

11.5 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.

Landed Cost of Coal

11.6 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 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.

Data adequacy in next Tariff petition and timelines

11.7 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.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on this the 31st of May, 2012.

Date: 31st of May, 2012
Place: Ranchi

Sd/-	Sd/-
(T.MUNIKRISHNAIAH)	(MUKHTIAR SINGH)
MEMBER (E)	CHAIRPERSON

A12: ANNEXURES

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

Table 128: List of participating members of public in the public hearing

Sl. No.	Name	Address / Organization if any
1.	Aveek Chatterjee	Tata Power
2.	Anirban Das	Tata Power
3.	Tarun Negi	Tata Power
4.	Ananta Behera	Tata Power
5.	Rabindranath	Tata Power
6.	V.H. Wagle	Tata Power
7.	S. Sanyal	Tata Power
8.	Durgesh Sharma	Tata Power
9.	V. Singh	Tata Power
10.	A. Pralesh	Tata Power
11.	Sujit Singh	Tata Power
12.	Subrata Kunda	Tata Power
13.	Binay Khalkho	Tata Power
14.	S.D. Bhattamyia	Tata Power
15.	Santosh Kumar	Telco
16.	Shekhar Muilya	Tata Power
17.	Rajesh Pronand	Tata Power
18.	Sandip Pattanayak	Baridih
19.	M.V.U. Phanindra	Alok Vihar, Jamshedpur
20.	Raja Mishra	Tata Power
21.	S.K. Srivastav	Tata Power
22.	G.P. Sastry	Tata Power
23.	U.N. Jha	Tata Power
24.	O.P. Gupta	Tata Power
25.	P.K. Barua	Kadma, Jamshedpur
26.	Gaurav Barua	Sakchi, Jamshedpur
27.	Rajesh Sharma	Sonari
28.	B.K. Prasad	Tata Steel
29.	Santosh Kumar	Tata Steel
30.	D. S. Kundalkar	Tata Power
31.	Ashok Wankhede	Tata Power
32.	Rasmimayee lenka	Tata Steel
33.	D.M. Choudhary	Tata Steel
34.	B.K. Ojha	Dainik Jagran
35.	Kush Mumar	Tata Steel
36.	Ajay Kumar	Tata Steel
37.	D. Singh	Tisco
38.	Rajesh Kumar	Private
39.	A.K. Ranjan	Private

Sl. No.	Name	Address / Organization if any
40.	A.K. Lodh	Tata Power
41.	Vidyasagar	Hindustan Hindy
42.	Jornal	Hindustan Hindy
43.	Brajesh	Prabhat Khabar
44.	Photographar	Prabhat Khabar
45.	Manoj Kumar	J.C.C.N. News
46.	Rakesh Kumar	J.C.C.N. News

Annexure 2A: Capital Expenditure Schemes Approved for the Control Period

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory technical	2	Unit-2 220V DC Unit Battery Set	Batteries	5.28%	15.00		15.00			Yes	The Petitioner submitted that unit battery set was commissioned at the time of CoD and its back-up has deteriorated. The upgraded battery system is required to provide extended backup for protection, controls and FSS.
Mandatory technical	2	Unit-2 24V DC Unit Battery Bank-2	Batteries	5.28%	14.00		14.00			Yes	The Petitioner submitted that unit battery set was commissioned at the time of CoD and its back-up has deteriorated. The upgraded battery system is required to provide extended backup for protection, controls and FSS.
Mandatory technical	2	Unit-2 UPS Battery Set-1	Batteries	5.28%	30.00				30.00	Yes	The Petitioner submitted that UPS battery set was commissioned at the time of CoD and cells have deteriorated and needs up gradation. Up gradation is required for reliable operation of the units.
Mandatory technical	2	GT-2 132kV Breaker Up gradation	Transformers, kiosks sub-station equipment & other fixed apparatus (including	5.28%	10.00				10.00	Yes	The Petitioner submitted that up gradation of old design breaker is required, as its spare parts are not available. Up gradation is required to reduce the operational downtime.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
			plant foundation) having a rating of 100kVA and over								
Mandatory technical	2	IT Hardware for Jojobera	IT Equipments	15.00%	21.05	5.61	5.61	4.21	5.61	Yes	The Petitioner submitted that updation of servers and IT system is required for proper functioning of different systems in the power plant.
Mandatory technical	3	Unit-3 24V DC Unit Battery Bank-1	Batteries	5.28%	12.00		12.00			Yes	The Petitioner submitted that unit battery set was commissioned at the time of CoD and its back-up has deteriorated. The upgraded battery system is required to provide extended backup for protection, controls and FSS.
Mandatory technical	3	Unit-3 220V DC Unit Battery Set	Batteries	5.28%	15.00				15.00	Yes	The Petitioner submitted that unit battery set was commissioned at the time of CoD and its back-up has deteriorated. The upgraded battery system is required to provide extended backup for protection, controls and FSS.
Mandatory technical	3	Unit-3 UPS Battery Set-2	Batteries	5.28%	30.00				30.00	Yes	The Petitioner submitted that UPS battery set was commissioned at the time of CoD and cells have deteriorated and needs up gradation. Up gradation is required for reliable operation of the units.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory technical	3	Unit-3 24V DC Unit Battery Bank-2	Batteries	5.28%	14.00				14.00	Yes	The Petitioner submitted that unit battery set was commissioned at the time of CoD and its back-up has deteriorated. The upgraded battery system is required to provide extended backup for protection, controls and FSS.
Mandatory technical	3	IT Hardware for Jojobera	IT Equipments	15.00%	21.05	5.61	5.61	4.21	5.61	Yes	The Petitioner submitted that updation of servers and IT system is required for proper functioning of different systems in the power plant.
Mandatory technical	Common	Construction of Coal Shed at CHP	Any other Assets not covered above	3.34%	493.81		493.81			Yes	The Petitioner submitted that coal shed is required to protect middling coal from rain water in monsoon season.
Mandatory technical	Common	Centralised greasing for Wagon tipplers	Plant & Machinery in Generating Station	5.28%	3.64	3.64				Yes	This is a carry forward scheme
Reliability Improvement	2	Paving of Switchyard	Building & Civil Engineering works of a permanent character	3.34%	26.67	5.61	7.02	7.02	7.02	Yes	The Petitioner submitted that paving of switchyard is important to avoid soil erosion and maintain availability of bay and reliance generation.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	2	Revamping of Earth pits (Electrical)	Building & Civil Engineering works of a permanent character	3.34%	11.23	11.23				Yes	The Petitioner submitted that this scheme will provide maintenance free earth pits of desired resistance for sale and reliable operation of the units.
Reliability Improvement	2	Revamping of Earth pits (Instrumentation)	Building & Civil Engineering works of a permanent character	3.34%	5.61		5.61			Yes	The Petitioner submitted that this scheme will provide maintenance free earth pits of desired resistance for sale and reliable operation of the units.
Reliability Improvement	2	Master Cal liberation Instruments	Any other assets not covered above	5.28%	2.81	2.81				Yes	The Petitioner submitted it needs to procure more master calibration instruments, which are used to check accuracy of all process instruments.
Reliability Improvement	2	Revamping of Instrumentation Systems in DM Plant	Any other assets not covered above	5.28%	5.61	5.61				Yes	The Petitioner submitted that useful life of instruments in DM plant is 5 years, hence there is need to upgrade the existing instruments.
Reliability Improvement	2	Highly Concentrated Slurry Discharge System	Plant & Machinery in Generating Station	5.28%	252.63	0.00	0.00	0.00	252.63	Yes	The Petitioner proposed to set up high concentration slurry discharge system so that thick ash can be transported to land acquired by Tata Power away from plant premises.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	2	Revamping of Instrumentation Systems in Ash Plant	Any other assets not covered above	5.28%	20.00		20.00			Yes	The Petitioner submitted that useful life of instruments in ash plant is 5 years, hence there is need to upgrade the existing instruments.
Reliability Improvement	2	Turbine HPSV Actuator	Plant & Machinery in Generating Station	5.28%	11.67	11.67				Yes	The Petitioner submitted that it needs a spare HPSV actuator, which is required to protect the turbine valves in case of fault occurrence and has a longer lead time for procurement.
Reliability Improvement	2	Procurement of Turbine Control & Stop Valves TSVs & Servo	Plant & Machinery in Generating Station	5.28%	6.67	6.67				Yes	The Petitioner submitted that it needs to procure spare TSVs & servo to increase availability of turbine valves.
Reliability Improvement	2	Turbine HPCV Actuator	Plant & Machinery in Generating Station	5.28%	14.46	14.46				Yes	The Petitioner submitted that it needs a spare HPCV actuator, which is required to control the steam flow inlet to the HP turbine.
Reliability Improvement	2	Procurement of PR05B Processors for Unit 2	Any other assets not covered above	5.28%	20.00	20.00				Yes	The Petitioner submitted that it needs to keep spare PR05B processor. Its lead time is longer and non-availability may affect availability of the unit.
Reliability Improvement	2	Modified Recovery Pump	Plant & Machinery in Generating Station	5.28%	14.04	7.02	7.02			Yes	The Petitioner submitted that it needs modified recovery pumps to extract water from heavy ash water collected in recovery pit. This will result in reduced maintenance cost on account of existing recovery

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
											pumps.
Reliability Improvement	2	Up gradation of Unit 2 GRP relays (Static to Numerical)	Any other assets not covered above	5.28%	60.00		60.00			Yes	The Petitioner submitted that Unit 2 GRP relays performance has deteriorated since CoD and there are chances of failure of relay. Hence, up gradation is required.
Reliability Improvement	2	Turbine IPSV Actuator	Plant & Machinery in Generating Station	5.28%	11.67		11.67			Yes	The Petitioner submitted that it needs a spare IPSV actuator, which is required to protect the turbine valves and has a longer lead time for procurement.
Reliability Improvement	2	Reheater Coils	Plant & Machinery in Generating Station	5.28%	500.00		250.00		250.00	Yes	The Petitioner submitted the up gradation of reheater coils is necessary as units have completed nearly 12 years of continuous running.
Reliability Improvement	2	Burner Panel Bends	Plant & Machinery in Generating Station	5.28%	350.00		210.0		140.00	Yes	The Petitioner submitted that erosion has been found in burner panel bends and hence need up gradation in phased manner.
Reliability Improvement	2	Coal Nozzle Tip & Compartment	Plant & Machinery in Generating Station	5.28%	85.00		85.00			Yes	The Petitioner submitted that standby coal nozzle tip & compartment is required for higher flexibility and reduce boiler outage duration.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	2	Flame Scanner Panel Up gradation	Any other assets not covered above	5.28%	50.00				50.00	Yes	The Petitioner submitted that it is necessary to upgrade flame monitoring device, which were installed at the time of CoD.
Reliability Improvement	2	Up gradation of Electromechanical Relay by Numerical Relay of Unit 2	Any other assets not covered above	5.28%	15.00				15.00	Yes	The Petitioner submitted that advance numerical relays will make the system more responsive and efficient.
Reliability Improvement	2	Protection relay for station transformers CF from FY 12	Any other assets not covered above	5.28%	11.83	11.83				Yes	This is a carry forward scheme
Reliability Improvement	2	Boiler RH and SH Coil assembly-CF from FY 12	Plant & Machinery in Generating Station	5.28%	95.68	95.68				Yes	This is a carry forward scheme
Reliability Improvement	2	Up gradation of instrument system in Ash Plant- CF from FY 12	Transformers, kiosks sub-station equipment & other fixed apparatus (including	5.28%	20.02	20.02				Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
			plant foundation) having a rating of 100kVA and over								
Reliability Improvement	2	Up gradation of wet system and line replacement	Plant & Machinery in Generating Station	5.28%	8.46	8.46				Yes	This is a carry forward scheme
Reliability Improvement	2	Paving of 132 KV Switch yard-CF from FY 12	Building & Civil Engineering works of a permanent character	5.28%	2.13	2.13				Yes	This is a carry forward scheme
Reliability Improvement	2	Economiser Coil Assembly(Upper Bank and Lower Bank) 25%-CF from FY 12	Plant & Machinery in Generating Station	5.28%	7.30		7.30			Yes	This is a carry forward scheme
Reliability Improvement	2	Procurement of LTSH Coils-U2-CF from FY 12	Plant & Machinery in Generating Station	5.28%	6.65		6.65			Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	3	Paving of Switchyard	Building & Civil Engineering works of a permanent character	3.34%	26.67	5.61	7.02	7.02	7.02	Yes	The Petitioner submitted that paving of switchyard is important to avoid soil erosion and maintain availability of bay and reliance generation.
Reliability Improvement	3	Revamping of Earth pits (Electrical)	Building & Civil Engineering works of a permanent character	3.34%	11.23	11.23				Yes	The Petitioner submitted that this scheme will provide maintenance free earth pits of desired resistance for sale and reliable operation of the units.
Reliability Improvement	3	Revamping of Earth pits (Instrumentation)	Building & Civil Engineering works of a permanent character	3.34%	5.61		5.61			Yes	The Petitioner submitted that this scheme will provide maintenance free earth pits of desired resistance for sale and reliable operation of the units.
Reliability Improvement	3	Master Calibration Instruments	Any other assets not covered above	5.28%	2.81	2.81				Yes	The Petitioner submitted it needs to procure more master calibration instruments, which are used to check accuracy of all process instruments.
Reliability Improvement	3	Revamping of Instrumentation Systems in DM Plant	Any other assets not covered above	5.28%	5.61	5.61				Yes	The Petitioner submitted that useful life of instruments in DM plant is 5 years, hence there is need to upgrade the existing instruments.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	3	Highly Concentrated Slurry Discharge System	Plant & Machinery in Generating Station	5.28%	252.63	0.00	0.00	0.00	252.63	Yes	The Petitioner proposed to set up high concentration slurry discharge system so that thick ash can be transported to land acquired by Tata Power away from plant premises.
Reliability Improvement	3	Turbine HPCV Actuator	Plant & Machinery in Generating Station	5.28%	14.46	14.46				Yes	The Petitioner submitted that it needs a spare HPCV actuator.
Reliability Improvement	3	Turbine HPSV Actuator	Plant & Machinery in Generating Station	5.28%	11.67	11.67				Yes	The Petitioner submitted that it needs a spare HPSV actuator, which is required to protect the turbine valves in case of fault occurrence and has a longer lead time for procurement.
Reliability Improvement	3	Procurement of Turbine Control & Stop Valves TSVs & Servo	Plant & Machinery in Generating Station	5.28%	6.67	6.67				Yes	The Petitioner submitted that it needs to procure spare TSVs & servo to increase availability of turbine valves.
Reliability Improvement	3	Revamping of Instrumentation Systems in Ash Plant	Any other assets not covered above	5.28%	20.00	20.00				Yes	The Petitioner submitted that useful life of instruments in ash plant is 5 years and now there is need to upgrade the existing instruments.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	3	Modified Recovery Pump	Plant & Machinery in Generating Station	5.28%	14.04	7.02	7.02			Yes	The Petitioner submitted that it needs modified recovery pumps to extract water from heavy ash water collected in recovery pit. This will result in reduced maintenance cost on account of existing recovery pumps.
Reliability Improvement	3	Boiler Feed Pump Cartridge	Plant & Machinery in Generating Station	5.28%	80.00		80.00			Yes	The Petitioner submitted that this scheme will ensure higher availability of the pump during crisis. Downtime of critical equipment will reduce to 4-5 days as against 15-20 days for complete overhauling.
Reliability Improvement	3	Steam Cooled Wall Bottom Header	Plant & Machinery in Generating Station	5.28%	190.00		80.00		110.00	Yes	The Petitioner submitted that up gradation is required as more than 30% reduction in thickness has been witnessed, while only 20% is allowed.
Reliability Improvement	3	LTSH Tubes & Bends 50%	Plant & Machinery in Generating Station	5.28%	450.00		100.00		350.00	Yes	The Petitioner submitted that LTSH coils are showing deterioration after 11 years of operation and need up gradation.
Reliability Improvement	3	Economiser Coil Assembly (Upper Bank & Lower Bank) 50%	Plant & Machinery in Generating Station	5.28%	575.00		200.00		375.00	Yes	The Petitioner submitted that Economiser coils are showing deterioration after 10-11 years of operation and need up gradation.

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						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	3	Up gradation of HPBP Servo to Proportional Valve	Any other assets not covered above	5.28%	60.00		60.00			Yes	The Petitioner submitted that this scheme is required to increase availability and reliability of HPBP system.
Reliability Improvement	3	Turbine IPSV Actuator	Plant & Machinery in Generating Station	5.28%	11.67		11.67			Yes	The Petitioner submitted that it needs a spare IPSV actuator.
Reliability Improvement	3	Procurement of PR05B Processors for Unit 3	Any other assets not covered above	5.28%	20.00		20.00			Yes	The Petitioner submitted that it needs a spare processor.
Reliability Improvement	3	Up gradation of Unit 3 GRP Relays (Static to Numerical)	Any other assets not covered above	5.28%	60.00		60.00			Yes	The Petitioner submitted that Unit 3 GRP was commissioned in 2000 and its performance has deteriorated with time. Hence, there is need to upgrade the existing GRP.
Reliability Improvement	3	Flame Scanner Panel Up gradation	Any other assets not covered above	5.28%	50.00				50.00	Yes	The Petitioner submitted that it is necessary to upgrade flame monitoring device for smooth operation of units, which were installed at the time of CoD.
Reliability Improvement	3	Up gradation of Electromechanical Relay by	Any other assets not covered above	5.28%	20.00				20.00	Yes	The Petitioner submitted that advanced numerical relays will make the system more responsive and efficient.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
		Numerical Relay of Unit 3									
Reliability Improvement	3	Boiler Pressure Part Bends-CF from FY 12	Plant & Machinery in Generating Station	5.28%	27.27		27.27			Yes	This is a carry forward scheme
Reliability Improvement	3	Paving of 132 KV Switch yard-CF from FY 12	Building & Civil Engineering works of a permanent character	3.34%	2.13	2.13				Yes	This is a carry forward scheme
Reliability Improvement	3	Thyristor controlled BFP Scoop-CF from FY 12	Plant & Machinery in Generating Station	5.28%	4.62	4.62				Yes	This is a carry forward scheme
Reliability Improvement	Common	Strengthening of JT1 & JT 2	Any other assets not covered above	5.28%	53.43	53.43				Yes	The Petitioner submitted that in order to run both the streams of feeding circuit, this scheme is required.
Reliability Improvement	Common	Toe with Pin & Bracket for Wagon Tippler	Any other assets not covered above	5.28%	16.84	16.84				Yes	The Petitioner submitted that this system needs up gradation as the existing one is in bad condition.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Reliability Improvement	Common	Chute Liners for Discharge & Receiving Chutes	Plant & Machinery in Generating Station	5.28%	28.07	28.07				Yes	The Petitioner submitted that unloading and feeding circuit chute liners are required to be upgraded for improvement in effectiveness in maintenance practices.
Reliability Improvement	Common	Body of Trash Screen	Any other assets not covered above	5.28%	11.23		11.23			Yes	The Petitioner submitted that body of trash screen needs up gradation to have better performance.
Reliability Improvement	Common	Sector Gear & Pinion Set for Wagon Tippler	Any other assets not covered above	5.28%	33.68				33.68	Yes	The Petitioner submitted that existing system is showing deterioration and needs up gradation.
Reliability Improvement	Common	Renovation of DM Plant	Any other assets not covered above	5.28%	134.74	33.68	33.68	33.68	33.68	Yes	The Petitioner submitted that existing system has been corroded due to 10-11 years of usage and need renovation.
Reliability Improvement	Common	Renovation of Chemical Dosing System in CW treatment	Any other assets not covered above	5.28%	28.07	16.84	11.23			Yes	The Petitioner submitted that the existing system has been corroded and need renovation.
Reliability Improvement	Common	BullDozer for Coal movement-CF from FY 12	Plant & Machinery in Generating Station	5.28%	168.42	168.42				Yes	This is a carry forward scheme

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						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Efficiency Improvement	2	Trim Part Up gradation of RH, SH-1, SH-2 Spray Block Values	Any other assets not covered above	5.28%	16.71	16.71				Yes	The Petitioner submitted that in Unit 2, block valves were commissioned in 2000 and now need up gradation
Efficiency Improvement	2	Up gradation of RH/SH Spray Control Valve	Plant & Machinery in Generating Station	5.28%	55.44	55.44				Yes	The Petitioner submitted that this scheme is necessary to upgrade the standby control valve internals for better steam temperature control and improve heat rate.
Efficiency Improvement	2	APH Tubes	Plant & Machinery in Generating Station	5.28%	940.00		440.00		500.00	Yes	The Petitioner submitted that many of the tubes are in corroded condition and up gradation of these tubes is required.
Efficiency Improvement	2	Feeder Control System Up gradation	Any other assets not covered above	5.28%	20.00				20.00	Yes	The Petitioner submitted that feeder control system requires up gradation as its performance has deteriorated over time.
Efficiency Improvement	2	Boiler Performance Optimizer	Any other assets not covered above	5.28%	27.00	27.00				Yes	The Petitioner submitted that this scheme will improve boiler efficiency and reduce combustion related emissions.
Efficiency Improvement	3	Coal Mill HPMS	Plant & Machinery in Generating Station	5.28%	74.49	74.49	0.00			Yes	The Petitioner submitted that this system will result in longer life of elements prone to wear and tear, consistency of mill parameters and reduced maintenance as this system is already running for Coal Mill-2A

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						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Efficiency Improvement	3	Feeder Control System Up gradation	Any other assets not covered above	5.28%	20.00				20.00	Yes	The Petitioner submitted that feeder control system requires up gradation as its performance has deteriorated over time.
Efficiency Improvement	3	Boiler Performance Optimizer	Any other assets not covered above	5.28%	27.00	27.00				Yes	The Petitioner submitted that this scheme will improve boiler efficiency and reduce combustion related emissions.
Efficiency Improvement	Common	Retaining Wall around Uncrushed Yard	Building & Civil Engineering works of a permanent character	3.34%	22.46			22.46		Yes	The Petitioner submitted that this scheme will result in reduction of coal spillage.
Mandatory	2	Installation of Flow Meters for Water Measurement	Any other assets not covered above	5.28%	6.56	6.56				Yes	The Petitioner submitted that this scheme will help in estimating the water usage in the plant and help in reducing wastage of water.
Mandatory	2	Fly Ash Line Pipes	Any other assets not covered above	5.28%	400.00	100.00	125.00	125.00	50.00	Yes	The Petitioner submitted that this scheme will ensure environmental compliance and reduced cost of maintenance and spares by having leakage free ash pipes.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory	2	Slurry Line Pipes	Any other assets not covered above	5.28%	98.25	21.05	28.07	28.07	21.05	Yes	The Petitioner submitted that this scheme is necessary to control ash discharge in surrounding areas of the plant and ensure environmental compliance.
Mandatory	2	Up gradation of ESP	Plant & Machinery in Generating Station	5.28%	112.50		50.00		62.50	Yes	The Petitioner submitted that this scheme is necessary for increasing performance of ESP, reducing emission and ensure environmental compliance.
Mandatory	2	Retrofitting of ESP controllers of Unit 2	Plant & Machinery in Generating Station	5.28%	30.00	30.00				Yes	The Petitioner submitted that new ESP controllers are required to maintain emission level less than 50ppp, which is guided by State Environment Regulations.
Mandatory	2	Anhydrous Ammonia System- CF from FY 12	Plant & Machinery in Generating Station	5.28%	184.64	184.64				Yes	This is a carry forward scheme
Mandatory	2	Up gradation of fly ash line pipe-CF from FY 12	Plant & Machinery in Generating Station	5.28%	42.60	42.60				Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory	3	Installation of Flow Meters for Water Measurement	Any other assets not covered above	5.28%	6.56	6.56				Yes	The Petitioner submitted that this scheme will help in estimating the water usage in the plant and help in reducing wastage of water.
Mandatory	3	Slurry Line Pipes	Any other assets not covered above	5.28%	98.25	21.05	28.07	28.07	21.05	Yes	The Petitioner submitted that this scheme is necessary to control ash discharge in surrounding areas of the plant and ensure environmental compliance.
Mandatory	3	Up gradation of ESP	Plant & Machinery in Generating Station	5.28%	112.50		50.00		62.50	Yes	The Petitioner submitted that this scheme is necessary for increasing performance of ESP, reducing emission and ensure environmental compliance.
Mandatory	3	Retrofitting of ESP controllers of Unit 2	Plant & Machinery in Generating Station	5.28%	30.00		30.00			Yes	The Petitioner submitted that new ESP controllers are required to maintain emission level less than 50ppp, which is guided by State Environment Regulations.
Mandatory	3	SOX/NOX/CO Analysers-CF from FY 12	Any other assets not covered above	5.28%	2.28	2.28				Yes	This is a carry forward scheme
Mandatory	3	Anhydrous Ammonia System- CF from FY 12	Plant & Machinery in Generating Station	5.28%	184.64	0.00	184.64			Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory	3	Up gradation of fly ash line pipe-CF from FY 12	Plant & Machinery in Generating Station	5.28%	42.60	42.60				Yes	This is a carry forward scheme
Mandatory	Common	Drinking Water Distribution System	Any other assets not covered above	5.28%	25.26	25.26				Yes	The Petitioner submitted that old water pipes are corroded and there is cross tapping with service water at several places, making water contaminated. This scheme is required as per OHSAS 18001:2007 standards. However, the Petitioner submitted revised capitalization in additional information, which is significantly higher than the first submission. Further reasons have not been submitted for the increase in cost. The Commission approves the capitalization as per first submission for this scheme. As stated in Clause 6.8 of the Generation Tariff Regulations, 2010, 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.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Mandatory	Common	Construction of Occupational Health Center	Building & Civil Engineering works of a permanent character	3.34%	17.23	17.23				Yes	The Petitioner submitted that occupational health centre is necessary for providing first aid facilities. However, the Petitioner submitted revised capitalization in additional information, which is significantly higher than the first submission. The relevant provisions of Regulations will be considered by the Commission at the time of true-up as explained above.
Mandatory	Common	Construction of Dust Control System in Ash Silo no. 2 & 3	Any other assets not covered above	5.28%	67.37	33.68	33.68			Yes	As stated in Clause 6.8 of the Generation Tariff Regulations, 2010, 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.
Mandatory	Common	Automatic Bagging Machine in Ash Silo for Unit 2	Any other assets not covered above	5.28%	28.07	28.07				Yes	The Petitioner submitted that this scheme is necessary for occupational health and safety as per OSHAS 18001.
Mandatory	Common	Relining of Ash Ponds	Building & Civil Engineering works of a permanent	3.34%	876.64	0.00	0.00	0.00	0.00	Yes	The Petitioner submitted that relining of ash pond is necessary for better ash management and meeting environmental norms. However, this scheme is not proposed to be capitalised till

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
			character								FY17. The Commission has approved the scheme in principle, it has however, not considered the cost of the scheme for capitalization during control period.
Mandatory	Common	Modification of CHP control room	Building & Civil Engineering works of a permanent character	3.34%	14.04	14.04				Yes	This is a carry forward scheme
Mandatory	Common	Dust Suppression system for wagon tippler -CF from FY 12	Plant & Machinery in Generating Station	5.28%	2.52	2.52				Yes	This is a carry forward scheme.
Mandatory	Common	Dust Suppression system -CF from FY 12	Any other assets not covered above	5.28%	12.28	12.28				Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Safety	3	Permanent Safety Walk-way and Scaffolding	Any other assets not covered above	5.28%	15.54	15.54				Yes	This is a carry forward scheme
Safety	Common	Construction of Railway Platform	Building & Civil Engineering works of a permanent character	3.34%	112.28	56.14	56.14			Yes	The Petitioner submitted that railway platform is required for efficient loading of bags to the rakes in minimum time and enhanced safety for workmen engaged in loading.
Safety	Common	GPS System	Any other assets not covered above	5.28%	8.42	5.61	2.81			Yes	The Petitioner submitted that GPS system is necessary in tracking ash disposal trucks to ensure that ash is disposed at right locations.
Safety	Common	Motor Point Locking Device for Rail Track	Plant & Machinery in Generating Station	5.28%	14.04		14.04			Yes	The Petitioner submitted that motor point locking device is required to ensure safety in yard movement and reduction in derailment.
Safety	Common	Construction of Road & Boundary Wall	Building & Civil Engineering works of a permanent character	3.34%	112.28	28.07	28.07	28.07	28.07	Yes	The Petitioner submitted that this scheme is required for smooth transportation and reduce theft.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Cost reduction	Common	Extension Job of Conveyor 5	Plant & Machinery in Generating Station	5.28%	184.13		184.13			Yes	The Petitioner submitted that discharge chute of Conveyor 5 is required to be extended to separate feeding circuit from unloading circuit and reduce demurrage charges.
Cost reduction	Common	Extension Job of Conveyor 13	Plant & Machinery in Generating Station	5.28%	180.29		180.29			Yes	The Petitioner submitted that discharge chute of Conveyor 13 is required to be extended to ease dozer movement and reducing diesel consumption during coal handling.
Cost reduction	Common	Shunting Diesel Locomotive	Self Propelled Vehicles	9.50%	229.05	229.05				Yes	The Petitioner submitted that a new shunting diesel locomotive is required to reduce demurrage charges while unloading coal.
Cost reduction	Common	Inmotion Weigh Bridge	Any other assets not covered above	5.28%	14.04	14.04				Yes	The Petitioner submitted that this system in required to avoid over-loading in rakes and avoid penalty.
Cost reduction	Common	Retaining Wall around Crush Yard 2	Building & Civil Engineering works of a permanent character	3.34%	16.84		16.84			Yes	The Petitioner submitted that retaining wall is required to protect coal from washing away.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Cost reduction	Common	Crossover track line between Wagon Tippler 1 & Wagon Tippler 2 -CF from FY 12	Plant & Machinery in Generating Station	5.28%	1.62	1.62				Yes	This is a carry forward scheme
Tools & Tackles	2	Tools & Lifting Equipments -CF from FY 12	Plant & Machinery in Generating Station	5.28%	4.63		4.63			Yes	This is a carry forward scheme
Tools & Tackles	Common	Tools & Tackles -CF from FY 12	Any other assets not covered above	5.28%	11.18	11.18				Yes	This is a carry forward scheme
Spares	2	Centrifugal Compressor for Ash Plant	Plant & Machinery in Generating Station	5.28%	68.16		68.16			Yes	The Petitioner submitted that it needs a centrifugal compressor to ensure spare optimization of the equipment.
Spares	2	Turbine Gear Assembly	Plant & Machinery in Generating Station	5.28%	210.00	0.00	210.00			Yes	The Petitioner submitted that a standby turning gear assembly is required for quick restoration of unit in case of any malfunctioning.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Spares	2	Mill Motor	Plant & Machinery in Generating Station	5.28%	40.00		40.00			Yes	The Petitioner proposed to have a spare mill motor for reliable operation of units.
Spares	2	Insurance Spare for LPBP	Plant & Machinery in Generating Station	5.28%	40.00		20.00	20.00		Yes	The Petitioner submitted that it need spare LPBP to increase availability.
Spares	2	Axial Fan Critical Components	Plant & Machinery in Generating Station	5.28%	160.00		80.00	80.00		Yes	The Petitioner submitted that it needs a spare blade assembly to reduce revival time during forced outage.
Spares	2	145KC CT	Transformers, kiosks sub-station equipment & other fixed apparatus (including plant foundation) having a rating of 100kVA and over	5.28%	11.23	5.61		5.61		Yes	The Petitioner submitted that spare CTs need to be procured to prepare back-up. Non-availability of CT leads to generation loss and lead time of CT is more than six months.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Spares	2	HT Motor for Critical Equipments	Plant & Machinery in Generating Station	5.28%	60.50	60.50				Yes	The Petitioner submitted that it requires spare HT motors to avoid reduction in capacity in case of failure.
Spares	2	Turbine Spares--CF from FY 12	Plant & Machinery in Generating Station	5.28%	89.14		89.14			Yes	This is a carry forward scheme
Spares	3	Spare HT Motor for CEP	Plant & Machinery in Generating Station	5.28%	34.46	34.46				Yes	The Petitioner submitted that it needs a spare 6.6kV HT motor to meet contingency situations.
Spares	3	Centrifugal Compressor for Ash Plant	Plant & Machinery in Generating Station	5.28%	68.16		68.16			Yes	The Petitioner submitted that it needs a centrifugal compressor to ensure spare optimization of the equipment.
Spares	3	Turbine Parting Plane Bolts & Coupling Bolts	Any other assets not covered above	5.28%	215.00		165.00		50.00	Yes	The Petitioner submitted that it require a spare set of plates to meet any contingency situation.
Spares	3	HRH & MS Safety Valve	Plant & Machinery in Generating Station	5.28%	60.00		60.00			Yes	The Petitioner submitted that HRH & MS Safety valve have deteriorated and need up gradation.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Spares	3	145KV CT	Transformers, kiosks sub-station equipment & other fixed apparatus (including plant foundation) having a rating of 100kVA and over	5.28%	11.23	5.61		5.61		Yes	The Petitioner submitted that spare CTs need to be procured to prepare back-up. Non-availability of CT leads to generation loss and lead time of CT is more than six months.
Spares	3	HT Motor for Critical Equipments	Plant & Machinery in Generating Station	5.28%	60.50	60.50				Yes	The Petitioner submitted that it requires spare HT motors to avoid reduction in capacity in case of failure.
Spares	3	Coal Mill Insurance Spares-CF from FY 12	Plant & Machinery in Generating Station	5.28%	26.65	26.65				Yes	This is a carry forward scheme
Spares	3	Insurance Spares -CF from FY 12	Plant & Machinery in Generating Station	5.28%	62.99	0.00	62.99			Yes	This is a carry forward scheme

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Spares	3	Procurement of critical TG spares-CF from FY 12	Plant & Machinery in Generating Station	5.28%	5.79	5.79				Yes	This is a carry forward scheme
Spares	Common	Loco Engine Wheel	Plant & Machinery in Generating Station	5.28%	13.20	13.20				Yes	The Petitioner submitted that a spare loco engine wheel is required for ensuring availability in case of any failure.
Spares	Common	NTA855 Engine for Locomotive	Self Propelled Vehicles	9.50%	14.04	14.04				Yes	The Petitioner submitted that old engine performance has deteriorated & an additional engine is required for improving reliability.
Spares	Common	Traction Alternator of Loco Engine	Self Propelled Vehicles	9.50%	33.68	33.68				Yes	The Petitioner submitted that it requires a spare traction alternator to ensure maintenance of the system.
Spares	Common	VTA1710L Diesel Engine	Self Propelled Vehicles	9.50%	22.46		22.46			Yes	The Petitioner submitted that diesel engine is required for locomotive 103 as the existing engines are not able to meet the required volume of operations.
Technical Up gradation	2	Conversion from Pneumatic Control to Electronic Control for Fan Actuators	Any other assets not covered above	5.28%	16.00	16.00				Yes	The Petitioner submitted that electronic control will be more reliable to control air flow. This will help in increasing availability of actuator and improving combustion in boiler.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Technical Up gradation	2	Unit 2 PHD System Up gradation for PI System	Any other assets not covered above	5.28%	20.00		20.00			Yes	The Petitioner submitted that it needs upgraded PHD system to act as an interface between PI system and DCS system. This will increase availability, storage and security of data.
Technical Up gradation	2	Ash Plant ABB MNS MCC replacement--CF from FY 12	Any other assets not covered above	5.28%	31.00	31.00				Yes	This is a carry forward scheme
Technical Up gradation	3	Conversion from Pneumatic Control to Electronic Control for Fan Actuators	Any other assets not covered above	5.28%	16.00	16.00				Yes	The Petitioner submitted that electronic control will be more reliable to control air flow. This will help in increasing availability of actuator and improving combustion in boiler.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Approved by the Commission						
Others	Common	Construction of Drain	Building & Civil Engineering works of a permanent character	3.34%	28.07	14.04	14.04			Yes	The Petitioner submitted that construction of drain is required to ensure minimum standards of work environment & hygiene to the employees.
Others	Common	Office furniture-CF from FY 12	Office Furniture, Furnishings & Office Equipments	6.33%	15.79	15.79				Yes	This is a carry forward scheme
Others	Common	Training centre facility-CF from FY 12	Building & Civil Engineering works of a permanent character	3.34%	4.43	4.43				Yes	This is a carry forward scheme
Others	Common	Air conditioners for CHP- CF from FY 12	Air Conditioning plants:(i) Static	5.28%	1.72	1.72				Yes	This is a carry forward scheme
Total Capitalization (Rs lacs)					**10633.61**	**2158.5**	**4307.3**	**399.0**	**2892.0**		
Total Capitalization (Rs Cr)					**106.34***	**21.59**	**43.07**	**3.99**	**28.92**		

*The total scheme cost is not equal to the sum of capitalization allowed for each year as the scheme titled 'Relining of Ash Ponds' (of Rs 8.77 Cr in value) has been allowed by the Commission but no capitalization has been considered against the scheme till FY 2015-16.

Annexure 2B: Capital Expenditure Schemes Not Approved for the Control Period

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
Efficiency Improvement	2	LED Lighting	Any other assets not covered above	5.28%	5.61		2.81		2.81	No	The Petitioner submitted that this is a environment sustainability measure. The Commission appreciates such efforts undertaken by TPCL. However, such activities may be carried out from internal accruals/own funds of the Petitioner and their cost should not be loaded on to the beneficiaries.
Efficiency Improvement	3	LED Lighting	Any other assets not covered above	5.28%	5.61		2.81		2.81	No	The Petitioner submitted that this is a environment sustainability measure. The Commission appreciates such efforts undertaken by TPCL. However, such activities may be carried out from internal accruals/own funds of the Petitioner and their cost should not be loaded on to the beneficiaries.
Safety	2	Fire Retardant Paint on Cable Trays	Any other assets not covered above	5.28%	8.42	2.81		2.81	2.81	No	The Petitioner submitted that this scheme will reduce fire hazards in the cable tray. The Commission believes that this is in the nature of maintenance activity and constitutes

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
											revenue expenditure. Therefore, the Commission disallows this scheme.
Safety	3	Fire Retardant Paint on Cable Trays	Any other assets not covered above	5.28%	8.42	2.81		2.81	2.81	No	The Petitioner submitted that this scheme will reduce fire hazards in the cable tray. The Commission believes that this scheme is in nature of maintenance activity and constitutes revenue expenditure. Therefore, the Commission disallows this scheme.
Safety	3	Fire Sealing of Cable Entries	Any other assets not covered above	5.28%	14.85	14.85				No	The Petitioner submitted that this scheme will reduce fire hazards in the cable tray. The Commission believes that this scheme is in nature of maintenance activity and constitutes revenue expenditure. Therefore, the Commission disallows this scheme.
Safety	Common	Construction of Watch Towers	Building & Civil Engineering works of a permanent	3.34%	5.61	1.68	1.68	1.12	1.12	No	The Petitioner submitted that this scheme is required to increase the surveillance area. This scheme is not allowable under Clause 7.6 of the

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
			character								Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Safety	Common	Purchase of Security Gadgets	Office Furniture, Furnishings & Office Equipments	6.33%	14.04	5.61	2.81	2.81	2.81	No	The Petitioner submitted that security gadgets are required for better checking and monitoring procedures. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Safety	Common	Upgraded VHF Sets & Communication System	Communication Equipment (ii) Telephone Lines & Telephones	6.33%	5.61	2.81	1.68	1.12		No	The Petitioner submitted that this scheme is required for quick communication. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
Safety	Common	Modification of Existing System for Fire Monitoring & Control	Any other assets not covered above	5.28%	22.46	22.46				No	The Petitioner submitted that this scheme is required for safety and reliability of operation. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Safety	Common	Construction of Fire Station for Unit 2& 3	Building & Civil Engineering works of a permanent character	3.34%	42.11	28.07	14.04			No	The Petitioner submitted that this scheme is required for swift fire-fighting operations during emergency. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Safety	Common	Enhancing Fire Fighting Systems of Unit 2 & 3	Any other assets not covered above	5.28%	50.53	16.84	16.84	16.84		No	The Petitioner submitted that this scheme is required as per OHSAS 18001:2007 standards. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
											accruals/own funds if required..
Safety	Common	Installation of Lighting Tower at New Ash Bag loading Railway Yard	Any other assets not covered above	5.28%	3.37	3.37				No	The Petitioner submitted that lighting tower is essential for safe operation during night. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Cost Reduction	2	Lathe &Milling Machine for workshop	Plant & Machinery in Generating Station	5.28%	50.00		50.00			No	The Scheme added was submitted in the additional information submitted by the Petitioner. However, no details regarding the scheme have been submitted. Hence, the Commission is unable to allow this scheme.
Tools & Tackles	Common	New Testing Instruments & Tools	Any other assets not covered above	5.28%	5.61	3.37	1.12	1.12		No	The Petitioner submitted that standby equipments are required for carrying out tests in the chemical laboratory. This scheme is not allowable under Clause 7.6 of the Generation Tariff

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
											Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Tools & Tackles	Common	Fork Lifters	Any other assets not covered above	5.28%	5.61	5.61				No	The Petitioner submitted that additional fork lifters are required to manage various activities at a time. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Tools & Tackles	Common	Tools & Tackles	Any other assets not covered above	5.28%	22.46	11.23	11.23			No	The Petitioner submitted that this scheme is required for general purpose maintenance work of CHP. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
Others	Common	Renovation of Service Building	Building & Civil Engineering works of a permanent character	3.34%	0	0	0	0		No	The Petitioner submitted that it needs to add extra office space and renovate existing building to align it with the new design and architecture. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.
Others	Common	Construction of Training Center	Building & Civil Engineering works of a permanent character	3.34%	56.14	56.14				No	The Petitioner submitted that in-house training centre is required to impart training to employees at reduced administrative costs. This scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required..
Others	Common	Construction of Security Barrack	Building & Civil Engineering works of a permanent	3.34%	16.84	16.84				No	The Petitioner submitted that this scheme is planned to provide infrastructure for accommodating security personnel at the plant. This

Type	Unit	Project/Scheme Name	Asset Class	Rate of Depreciation %	Scheme Value (Rs. In Lakhs)	Capitalization phasing over the years (Rs. In Lakhs)				Scheme approved (Y/N)	Comments
						FY 13	FY 14	FY 15	FY 16		
					Submitted in additional information						
			character								scheme is not allowable under Clause 7.6 of the Generation Tariff Regulations 2010. The Petitioner may implement the scheme using through internal accruals/own funds if required.