Jharkhand State Electricity Regulatory Commission

Tariff Order
on
Annual Revenue Requirement
and
Determination of Generation Tariff
for
Financial Years 2009-10 & 2010-11
for
Tenughat Vidyut Nigam Limited
(TVNL)

Ranchi

November 2010

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List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
AAD	Advance Against Depreciation
ARR	Aggregate Revenue Requirement
COD	Commercial Operation Date
CWIP	Capital Work in Progress
DM	De-mineralised
FY	Financial Year
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoI	Government of India
JSEB	Jharkhand State Electricity Board
JSERC	Jharkhand State Electricity Regulatory Commission
kcal	Kilocalorie
kg	Kilogram
kWh	Kilowatt-hour
MGR	Merry-Go-Round
ml	Millilitre
MT	Million Tonnes
MUs	Million Units
MW	Megawatt
O&M	Operations and Maintenance
PLF	Plant Load Factor
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
RoE	Return on Equity
SERC	State Electricity Regulatory Commission
SLM	Straight Line Method

A1: INTRODUCTION

Jharkhand State Electricity Regulatory Commission (JSERC)

1.1 The Jharkhand State Electricity Regulatory Commission (herein after 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 w.e.f. April 24, 2003. The Electricity Act, 2003 (hereinafter referred to as "the Act" or "EA, 2003") came into force w.e.f. 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.

Tenughat Vidyut Nigam Limited (TVNL)

1.8 The Tenughat Vidyut Nigam Limited (TVNL) (hereinafter referred to as 'the Petitioner') is a wholly owned Generating Company of Government of Jharkhand and was constituted in 1987 under the Indian Company's Act, 1956.

Overview of the Thermal Stations

1.9 The Petitioner operates two Units (Units I and II) of Tenughat Thermal Power Station that are the subject of tariff determination in the petition filed by it. Each unit has an installed power generation capacity of 210 MW. Unit I commenced its operations in September, 1996 and Unit II in September, 1997. With the creation of State of Jharkhand on November 15, 2000, the Petitioner is an undertaking of Government of Jharkhand.

1.10 The Petitioner has submitted that all the papers relating to Tenughat Thermal Power Station (TTPS) are still lying at the erstwhile office of the Petitioner located in Patna and in spite of the orders of the Jharkhand High Court the Petitioner has not been able to access these documents. As such the details of the estimated costs of various items related to the project are not available to the Petitioner.

1.11 However, based on the expenditure details available with TTPS and discussions with the Petitioner the total cost of the project at the time of CoD, including interest during construction (IDC), was approved as Rs 1247.04 Cr by the Commission in its previous Tariff Order.

Status of PPA

1.12 The Petitioner entered into a Power Purchase Agreement (PPA) with JSEB on July 19, 2005. The PPA was executed on September 1, 2005 and was valid and operative till August 1, 2010. There is a provision in the PPA under the general terms and conditions, clause 10 which states that in case JSEB continues to receive power from TVNL even after expiry of this agreement without further renewal of formal extension thereof, then all the provisions of this agreement shall continue to operate till this agreement is formally extended reviewed and replaced. As per this PPA, the applicable rate for sale of energy by the Petitioner to JSEB will be the rate decided by the Commission at delivery point. Since the PPA is now expired, the Petitioner is directed by the Commission to renegotiate its PPA with JSEB at the earliest.

Scope of the present order

1.13 This Order relates to the ARR and Tariff petition filed by the Petitioner before the Commission for:

(a) Provisional truing up for ARR for FY 2009-10 as per provisional annual accounts and;

(b) Approval of ARR and determination of tariff for FY 2010-11;

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

1.14 While determining ARR and tariff for FY 2009-10 and FY 2010-11, the Commission has taken into consideration the following:

(a) Provisions of Section 86 of the Act;

(b) Provisions of the National Electricity Policy;

(c) Provisions of the National Tariff Policy;

(d) Principles laid down in the 'JSERC Generation Tariff Regulations, 2004'; and

(e) Power Purchase agreement between the Petitioner & JSEB.

A2: PROCEDURAL HISTORY

Background

2.1 The Commission issued its last Tariff Order for provisional truing up of ARR for FY 2007-08 and FY 2008-09, and for the determination of ARR and tariff of the Petitioner for FY 2008-09 and FY 2009-10 on 5th March, 2010. The Petitioner has now submitted a petition for provisional true up of ARR for FY 2009-10 and for determination of ARR and tariff for FY 2010-11.

Information Gaps in the petition

2.2 As part of the exercise of tariff determination for FY 2009-10 and FY 2010-11, several deficiencies were observed in the tariff petition received from the Petitioner. The information gaps observed were communicated to the Petitioner through written communication vide Letter No.JSERC/17/2010 /359 dated 3rd September, 2010. The Petitioner subsequently submitted its response and provided the requisite data vide letter dated 23rd October, 2010.

2.3 Subsequently, further clarifications were obtained from the Petitioner during the finalization of this Tariff Order.

Inviting Public Response

2.4 After acceptance of the petition, the Commission directed the Petitioner to make available the copies of petition to the general public, and issue a public notice inviting comments/ suggestions thereon. Accordingly, the public notice was published in the following newspapers.

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

Newspaper	Date
Hindustan Times (English)	15.09.2010 & 16.09.2010
Telegraph (English)	16.09.2010
Prabhat Khabar (Hindi)	15.09.2010 & 16.09.2010
Hindustan (Hindi)	15.09.2010 & 16.09.2010

2.5 A period of twenty one days (21) was given for submitting the comments/suggestions from the public.

2.6 The Commission subsequently issued an advertisement on its website, www.jserc.org, and various newspapers for conducting public hearing on the ARR and Tariff filing of the Petitioner for FY 2009-10 and FY 2010-11. The details of the newspapers wherein the advertisements were issued by the Commission are shown hereunder:

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

Newspaper	Date
AAJ	19.10.2010
Hindustan	19.10.2010
Prabhat Khabar	19.10.2010
Ranchi Express	19.10.2010
Dainik Jagran	19.10.2010
Sanmarg	19.10.2010
The Hindustan Times	19.10.2010
The Pioneer	19.10.2010

Submission of comments/suggestions and conduct of public hearing

2.7 No comments were received from the public in writing within the provided time frame.

2.8 Subsequently, a public hearing was held on 24.10.2010 at the office premises of the Commission in Ranchi. The details of the comments made by the public during the hearing and the Petitioner's response thereon have been given in the section dealing with the public consultation process.

A3: SUMMARY OF ARR & TARIFF PETITION

3.1 The summary of the energy charges submitted for both Units (combined) of the TTPS in the tariff petition for FY 2009-10 and FY 2010-11 is given below:

Table 3: Energy Charges for FY 2009-10 and FY 2010-11

Details	Units	FY 2009-10 (Actual)	FY 2010-11 (Projected)
Installed Capacity	MW	420	420
PLF	%	55.68	74.88
Gross Generation	MU	2049	2755
Auxiliary Consumption	%	9.00	9.00
Net Generation	MU	1864	2507
Heat Rate	kCal/kWh	3418	3000
Specific Coal Consumption	kg/kWh	0.753	0.700
Specific Oil Consumption	ml/kWh	3.296	2.5
Total Fuel Cost	**Rs. Cr**	**233.52**	**315.56**
Fuel Cost per unit	**Rs./kWh**	**1.253**	**1.259**

3.2 The summary of the fixed charges and generation tariff for both Units (combined) of the TTPS filed in the tariff petition for FY 2009-10 and FY 2010-11 is given in Table 4:

Table 4: Fixed Charges and Generation Tariff for FY 2009-10 and FY 2010-11

Details	Units	FY 2009-10 (Actual)	FY 2010-11 (Projected)
Depreciation	Rs. Cr	45.62	47.06
Interest on Loan	Rs. Cr	83.06	83.06
Return on Equity	Rs. Cr	19.99	23.73
Interest on Working Capital	Rs. Cr	23.76	21.38
O&M Expenses	Rs. Cr	125.34	97.60
Less Non-Tariff Income	Rs. Cr	**9.85**	10.97
Total Fixed Charges	**Rs. Cr**	**287.92**	**261.86**
Total Fuel Cost	**Rs. Cr**	**233.52**	**315.56**
Generation Tariff	**Rs./kWh**	**2.85**	**2.30**

A4: PUBLIC CONSULTATION PROCESS

Submission of comments/suggestions and conduct of public hearing

4.1 The tariff petition evoked response from the sole consumer, JSEB (Jharkhand State Electricity Board). A public hearing was held on 24th October, 2010 at the Commission's office in Ranchi wherein the Petitioner presented a summary of the Petition filed by it to the Commission as well as the public. A total of ten members of the public took part in the public hearing process. The list of the attendees is attached in Annexure-I.

4.2 During the course of public hearing, the Commission also allowed persons/ representatives of entities, who had not submitted prior written representations but attended the public hearing, to express their views regarding the petition.

4.3 The members of the public, primarily the representatives of JSEB, put forth their comments and suggestions before the Commission in the presence of the Petitioner.

4.4 The issues raised by the participants along with the reply of the Petitioner and views of the Commission thereon are discussed in this chapter.

Continuation of the Present Tariff

Views of JSEB

4.5 JSEB submits that the Petitioner has filed the petition for FY 2010-11 when only five months are left in the completion of the year and requested that the Petitioner may be asked to file the petition for FY 2011-12. Meanwhile, the prevailing rate of tariff should continue.

Petitioner's Response

4.6 The Petitioner agrees with the request of JSEB and assures to file the tariff petition for FY 2011-12 at the earliest. The Petitioner also agreed to continue to supply power to them at the prevailing rate which was approved by the Commission in its previous Tariff Order of FY 2009-10.

Views of the Commission

4.7 The tariff for any financial year must be as per the ARR of the Petitioner as approved by the Commission in accordance with

(a) Provisions of Section 86 of the Act;

(b) Provisions of the National Electricity Policy;

(c) Provisions of the National Tariff Policy;

(d) Principles laid down in the 'JSERC Generation Tariff Regulations, 2004'; and

(e) Power Purchase agreement between the Petitioner & JSEB.

4.8 The Commission does not agree with the suggestion of the JSEB because once the tariff petition is filed by the Petitioner, the Commission is legally duty bound to determine the tariff, if the petition is found in order.

Availability Based Tariff (ABT)

Views of JSEB

4.9 The Petitioner may be asked by the Commission to furnish the tariff petition for FY 2011-12 on the ABT based tariff.

Petitioner's Response

4.10 The Petitioner understands the importance of filing tariff under ABT regime, which is essential for maintaining grid discipline. However, the benefits of the ABT can only be realised by all stakeholders when a suitable PPA reflecting the features of ABT such as recovery of fixed charges on attaining normative availability, empowering the seller to sell power in the event of non-payment or less off take by the buyer (guaranteed minimum off take) is in place. The Petitioner requests the Commission to issue a directive for the same.

Views of the Commission

4.11 The Commission agrees with the Petitioner. The Petitioner should renegotiate its existing PPA to incorporate the conditions required for implementation of Availability Based Tariff.

Normative Parameters for Fixation of Tariff

Views of JSEB

4.12 The normative parameters may be taken for fixation of tariff as per CERC regulations applicable with respect to the NTPC generating units, which also have units as old as of the year 1982.

Petitioner's Response

4.13 The Petitioner submits that the normative values which are to be specified by the Commission have to reflect the past trend. The CERC Tariff Regulations 2009-14 are applicable to the plants for which tariff is determined by CERC, whereas the Petitioner is under the jurisdiction of the Commission. The CERC Tariff Regulations also recognise the necessity of specifying different operating conditions for old plants and in the eastern region. CERC has specified the following PLF for plants operated by DVC.

Generating Plant	PLF
Mejia TPS Unit I to IV	82%
Bokaro TPS	75%
Chandrapura TPS	60%
Durgapur TPS	74%

4.14 Tariff may be fixed on the basis of normative parameters, on the past performance of the generating station, on the efficiency improvement measures as approved by the Commission, as per the 'JSERC Generation Tariff Regulations, 2004' and the prevailing regulations of CERC.

The Petitioner has also submitted the following to the Commission:

4.15 Total power generated by the Petitioner and supplied to JSEB results in average billing of Rs 46 Cr per month. But JSEB has opened an LC for Rs 25 Cr only which has resulted in accumulation of outstanding dues to the Petitioner by JSEB to the tune of Rs 1936.73 Cr as on 30.09.10, which includes energy bill of Rs 559.9 Cr, ad hoc and DPS charge of Rs 1384.28 Cr and adjustment of revenue surplus of Rs 7.45 Cr. JSEB may be directed to open a confirmed irrevocable and revolving letter of credit equal to last three months average billing i.e. Rs 46 Cr for realisation of the current bill.

4.16 Monthly coal consumption at TTPS is around 2 lakh MT for the operation of both units. The average monthly billing of M/s CCL alone is around Rs 25 Cr. Other expenditure on account of employees, fuel oil, O&M expenses etc come out to be around Rs 20 Cr. Due to non availability of funds the Petitioner is unable to run the plant at normative levels. Total outstanding dues of M/s CCL on the Petitioner are Rs 292 Cr as on 30.09.10. Due to lack of funds the Petitioner is not able to enter into an FSA agreement with CCL and CCL has even threatened to stop coal supplies to the Petitioner. JSEB may be directed to pay its dues to the Petitioner.

4.17 It may be directed that in case the energy dues on the JSEB go beyond one month's average billing charges, the Petitioner will be free to regulate power supply to JSEB and sell power to a third party including power traders. Separate clause to this effect will also be included in the new PPA. Also, if the LC is not adequate to pay for one month's power sale proceeds this would be considered a default on the part of the purchaser and the Petitioner shall reserve the right to terminate the agreement after giving one month's notice.

4.18 Further, the actual heat rate observed in FY 2009-10 was 3418 kcal/kWh and all efforts have been made to reduce it further. The Petitioner has targeted heat rate of 3000 kcal/kWh in FY 2010-11. The Petitioner requests the Commission allow a higher heat rate than the approved value for 2009-10 keeping in view the adverse operating conditions of the Petitioner for the reasons stated above.

4.19 The Commission had taken the normative value of 2500 kcal/kWh as applicable for plants commissioned after 1.04.2004 in the JSERC Generation Tariff Regulations, 2004.

4.20 For plants existing prior to 2004, which is applicable to the Petitioner, the tariff regulations state "in case of existing generating stations the norms of operations shall be fixed based on the past performance of the station and the efficiency improvements measures as approved by the Commission".

4.21 The Commission is requested to take cognizance of the past performance of the Petitioner, which is amongst the best in the eastern region.

Views of the Commission

4.22 The Petitioner has correctly pointed out that the determination of tariff for the Petitioner shall be as per the JSERC Generation Tariff Regulations, 2004 as amended from time to time and not as per the regulations of the CERC, which are applicable to the central generating stations.

4.23 The applicable regulations do not provide for any relaxation in operational parameters on account of non-payment of dues. However, both the parties involved should work out an effective mechanism for payment of all dues including the pending ones.

4.24 The Commission suggests the Petitioner to undertake following measures to improve the performance of the units of TTPS:

(a) Better plant maintenance;

(b) Effective management of spares/critical equipment such as BTG (Boiler Turbine Generator) ;

(c) Benchmarking of plant operational practices ; and

(d) Training of manpower for effective plant management.

A5: PROVISIONAL TRUE UP OF FY 2009-10 AND COMMISSION'S ANALYSIS OF ARR FOR FY 2010-11

5.1 The Petitioner has filed the present petition for provisional true-up of FY 2009-10 based on the provisional annual accounts and projections for FY 2010-11 based on the past years performance.

5.2 The Commission has scrutinized the petition; the component-wise details of the Petitioner's submission and the Commission's analysis have been discussed in this chapter.

Basis of Fuel Cost & Fixed Cost Determination

Petitioner's submission

5.3 The Petitioner has proposed energy and fixed charges as per the terms and conditions of the PPA signed between the Petitioner and JSEB in 2005.

Commission's analysis

5.4 The PPA states that the applicable rate of sale of energy by the Petitioner to JSEB will be the rate as decided by the Commission at delivery point. Accordingly, the Commission has determined the tariff for FY 2009-10 and FY 2010-11 in accordance with the JSERC 'Generation Tariff Regulations, 2004' and also based on the past performance of the Tenughat Thermal Power station.

Plant Load Factor (PLF)

Petitioner's submission

5.5 The Petitioner has submitted actual PLF of 55.68% for FY 2009-10 against the PLF of 56.75% approved by the Commission in its previous Tariff Order of FY 2009-10.

5.6 The Petitioner has projected a PLF of 74.88% for FY 2010-11.

Commission's analysis

5.7 The Commission in its previous Tariff Order of FY 2009-10 had approved the PLF of 56.75% based on the actual generation data of the first 10 months of FY 2009-10 submitted by the Petitioner. Based on the additional information now submitted by the Petitioner, the actual PLF for FY 2009-10 comes out to 55.68%. Accordingly, the Commission approves the actual PLF of 55.68% for FY 2009-10.

5.8 The Petitioner in its tariff Petition has submitted that it is operating under the following constraints:

- Momentary outages due to tripping of transmission lines;
- Outages due to other reasons; and
- Backing down of the units under instructions of JSEB due to lack of load.

5.9 The Commission has noticed that at times the Petitioner has not been able to operate both the units because the consumer does not consume the entire generation for various reasons. In a state like Jharkhand where most of the rural areas are not getting adequate power such situation has to be avoided. The Petitioner and the sole purchaser should ensure that the entire generation of the Petitioner is properly used. This should be kept in mind while renegotiating the PPA. This will not only help the Petitioner in improvement of its financial health but will also ensure adequate supply of power to the consumers of Jharkhand.

5.10 The Petitioner is further directed to give the details of outages of the station as per the format prescribed in Annexure 2 of the Tariff Order and furnish information to the Commission on the quarterly basis.

5.11 The Commission in its previous Tariff Order of FY 2009-10 had also directed the Petitioner to take adequate and sustainable measures to improve the PLF and availability and to attain the benchmark level of 80% availability by the end of FY 2011-12. Considering that the Petitioner is taking measures for improving the operational parameters, the Commission approves the PLF of 74.88% projected by the Petitioner for FY 2010-11.

Gross Generation

Petitioner's submission

5.12 The Petitioner has submitted gross generation of 2049 MUs for both the units based on the actual PLF for FY 2009-10.

5.13 For FY 2010-11, the Petitioner has submitted gross generation of 2755 MUs based on projected PLF of 74.88%.

Commission's analysis

5.14 The Commission approves the gross generation of 2049 MUs and 2755 MUs for FY 2009-10 and FY 2010-11 respectively based on the approved PLF for the respective years.

Auxiliary Consumption

Petitioner's submission

5.15 The Petitioner has submitted actual auxiliary consumption of 9.00% for FY 2009-10.

5.16 For FY 2010-11, the Petitioner has projected auxiliary consumption of 9%.

Commission's analysis

5.17 Auxiliary consumption refers to the quantum of energy consumed by the auxiliary equipment of the generating station. Higher auxiliary consumption reduces the net generation of a generating station.

5.18 The Commission observed a discrepancy in the auxiliary consumption submitted by the Petitioner in the tariff petition. The Petitioner had submitted auxiliary consumption of 9% in table 1 and 9.45% in table 25 of the petition for FY 2009-10. The Petitioner later clarified that the actual auxiliary consumption for FY 2009-10 was 9.45%. Therefore, the Commission approves the actual auxiliary consumption of 9.45% for FY 2009-10 as submitted by the Petitioner.

5.19 The Commission approves the auxiliary consumption of 9.0% for FY 2010-11 taking into consideration the submission of the Petitioner to improve the plant operational parameters for FY 2010-11. The Commission also compared the operational parameters of Tenughat Thermal Power Station with other similar sized thermal plants in the country with similar vintage and is of the view that the auxiliary consumption of 9% is easily achievable.

Net Generation

Petitioner's submission

5.20 The Petitioner has submitted net generation of 1864 MUs for FY 2009-10 and 2507 MUs for FY 2010-11.

Commission's analysis

5.21 The Commission approves net generation of 1854.99 MUs for FY 2009-10 and 2507.04 MUs for FY 2010-11 based on the approved gross generation and the auxiliary consumption for the respective years.

Station Heat Rate (SHR)

Petitioner's submission

5.22 The Petitioner has submitted actual SHR of 3418 kcal/kWh for FY 2009-10. The Petitioner has stated that it is making all the efforts to reduce the station heat rate and has also targeted to achieve heat rate of 3000 kcal/kWh for FY 2010-11.

5.23 The Petitioner has further stated that as per the JSERC Generation Tariff Regulations, 2004 the normative value of 2500 kcal/kWh is applicable for the plants set up after 1.4.2004. For plants set up prior to 1.4.2004, the regulation states that "in case of existing generating stations the norms of operation shall be based on past performance of the generating station and on efficiency improvement measures fixed by the Commission". Therefore, the Petitioner has requested the Commission to take cognizance of the past performance and allow higher heat rate.

Commission's analysis

5.24 The Commission has observed that the Petitioner while calculating the variable cost has not taken in to account the actual station heat rate of the Tenughat Thermal Power Station for FY 2009-10. Instead, the Petitioner has calculated the variable cost based on the actual coal consumption. The Commission, in order to verify the SHR submitted by the Petitioner, back calculated the SHR taking into account the actual coal consumption, oil consumption, gross calorific value of coal, gross calorific value of oil and the gross generation submitted by the Petitioner. The figure of SHR arrived at by the Commission does not match with the figure submitted by the Petitioner which clearly shows that the Petitioner has not correctly determined the figure of SHR.

5.25 Therefore, the Commission directs the Petitioner to take into account the actual station heat rate while calculating the variable cost. The methodology adopted by the Commission for calculating the energy charges is detailed in table 6 of this Tariff Order

5.26 The Commission is also of the view that the station heat rate submitted by the Petitioner is very high and is much higher than the SHR of 2500 kcal/kWh approved by the Commission in its previous Tariff Order for FY 2009-10. The Commission had also directed the Petitioner to take immediate steps to improve the operational parameters of the plant. Despite the repeated directions, the Petitioner has not informed the Commission about the steps taken to improve the operational parameters.

5.27 The operating practices being followed by the generating station is the most important factor responsible for the station heat rate achieved by the generating station. The Commission feels that the inefficiencies on the part of the Petitioner should not be passed on to the consumers. As such, the Commission is not in agreement with the submissions of the Petitioner for approving a higher SHR for FY 2009-10 and FY 2010-11 and approves SHR at 2500 kcal/kWh for FY 2009-10 and FY 2010-11 for both the units based on the SHR of other generating stations in the country with a similar vintage.

Specific Oil Consumption

Petitioner's submission

5.28 The Petitioner has submitted actual specific oil consumption of 3.296 ml/kWh for both the Units for FY 2009-10.

5.29 The Petitioner has stated that due to large number outages experienced by the units of TTPS due to transmission line tripping etc., the norm of 2 ml/kWh could not be achieved. The Petitioner has submitted that it is planning to reduce its oil consumption and improve specific oil consumption and has thus projected specific oil consumption of 2.5 ml/kWh for FY 2010-11.

Commission's analysis

5.30 The specific oil consumption is the amount of secondary fuel (in ml) consumed in the process of generation of one unit of power produced (in kWh). A lower specific oil consumption lowers the consumption of the secondary fuel in the generation process, and hence lowers the secondary fuel cost.

5.31 Specific secondary fuel oil consumption is directly related to the number of start ups of the units and the average unit loading. The need of secondary fuel support for flame stabilization is normally required at unit load below 40%, except for start up. Based on the analysis of the PLF of the station which is 55.68% for FY 2009-10, projected at 74.88% for FY 2010-11 and taking into consideration the improvement in plant availability, the Commission approves the secondary fuel oil consumption of 2 ml/kWh for FY 2009-10 and FY 2010-11 respectively.

5.32 The Commission directs the Petitioner to reduce the specific oil consumption to the normative levels specified in the JSERC Generation Tariff Regulations, 2004 and its amendments by the end of FY 2011-12.

5.33 The Petitioner is further directed to give the details of outages of the station due to reasons including the transmission line tripping as per the format prescribed in Annexure 2 of the Tariff Order and furnish information to the Commission on the quarterly basis.

Gross Calorific Value (GCV) Of Primary and Secondary Fuel

Petitioner's submission

5.34 The Petitioner sources Grade D coal from the collieries of Central Coal Fields Limited. The gross calorific value of coal was 4300 kcal/kg for FY 2009-10 and FY 2010-11. The GCV of secondary fuel was 10,000 kcal/kl.

Commission's analysis

5.35 Calorific value of a fuel refers to the amount of heat released on burning one unit of the fuel. Thus, a higher GCV indicates better quality of fuel and also lowers fuel cost, since it lowers the consumption of fuel needed for producing the required amount of energy.

5.36 The Petitioner uses Grade D coal which has GCV in the range of 4200-4940 kcal/kg. Therefore, the Commission approves the calorific value as submitted by the Petitioner at 4300 kcal/kg for FY 2009-10 and FY 2010-11.

5.37 The Commission also approves the GCV of secondary fuel at 10,000 kcal/kl as submitted by the Petitioner for FY 2009-10 and FY 2010-11.

Price of Primary and Secondary Fuel

Petitioner's submission

5.38 The Petitioner has submitted the actual delivered coal price as Rs 1343/MT and delivered oil price as Rs 38086.49/kl for FY 2009-10.

5.39 The Petitioner has projected delivered coal price as Rs 1477.30/MT and delivered Oil Price of Rs 43269.11/kl for FY 2010-11.

Commission's analysis

5.40 The Commission for verifying the actual price of coal paid by the Petitioner during FY 2009-10, asked the Petitioner to submit the copy of coal bills raised by the CCL Colllieries and the amount paid by it against the bills. The Petitioner did not submit the copy of the bills but submitted the statement of the bills. From the statement of the bills submitted by the Petitioner as additional information, the Commission calculated the price of coal as Rs 1331.22/MT which is different from the coal price of Rs 1343/MT submitted by the Petitioner. This discrepancy was pointed out to the Petitioner, to which petitioner clarified that the price of Rs 1343/MT submitted in the petition also includes the transit loss and charges incurred towards HSD which is used for dozing.

5.41 The Commission would like to clarify to the Petitioner that the cost of HSD is to be included in the secondary fuel cost and not in the cost of the coal. Since, the cost of HSD was not provided separately, the Commission approves the coal price as Rs 1331.22/MT for FY 2009-10 based on the additional information submitted by the Petitioner and directs the Petitioner to submit the break-up of coal price and that of secondary oil separately from the next tariff petition. The actual oil cost of Rs 38086.49/kl is approved as submitted by the Petitioner for FY 2009-10.

5.42 For FY 2010-11, the Commission approves the coal cost of Rs 1477.30/MT and oil cost of Rs 43269.11/kl as projected by the Petitioner. Although, the same shall be trued-up, when the actual data is made available by the Petitioner along with the next tariff petition of FY 2011-12.

Transit Loss

Petitioner's submission

5.43 The Petitioner has proposed 0.3% transit loss of coal for FY 2009-10 and FY 2010-11. The transportation of coal on a bumpy road results in loss of coal by spilling from the trucks. In addition, there is loss due to wind, evaporation of moisture etc.

Commission's analysis

5.44 The JSERC 'Generation Tariff Regulations, 2004' allow transit loss of 0.3% for pithead generating stations. Since the transit loss submitted by the Petitioner is in line with the regulations, the Commission approves the transit loss of 0.3% for FY 2009-10 and FY 2010-11.

Summary of Plant Parameters & Fuel Cost Determinants

5.45 The summary of plant parameters and fuel cost determinants for the two Units of Tenughat Thermal Power Station as submitted by the Petitioner for FY 2009-10 and FY 2010-11 is given in Table 5:

Table 5: Plant parameters & Fuel Cost Determinants for FY 2009-10 and FY 2010-11

Parameters	Unit	Unit I&II	
		FY 2009-10	*FY 2010-11*
Installed Capacity	MW	420	420
PLF	%	55.68%	74.88%
Generation	MU	2049	2755
Auxiliary Consumption	%	9%	9%
Net Generation	MU	1864	2507
Specific coal consumption	kg/kWh	0.753	0.70
Total coal consumption	MT	1542664	1928500
Total coal consumption incl. transit loss @0.3%	MT	1547305	1934303
Delieverd coal price	Rs/MT	1343	1477.30

Parameters	Unit	Unit I&II	
		FY 2009-10	*FY 2010-11*
Total coal cost	Rs. Lakhs	20780.31	28575.46
Specific Oil consumption	ml/kWh	3.296	2.5
Total Oil consumption	kl	6752	6888
Delivered oil price	Rs/kl	38086.49	43269.11
Total oil cost	Rs lakhs	2571.78	2980.16
Coal cost per unit	Rs/kWh	1.115	1.140
Oil cost per unit	Rs/kWh	0.138	0.119
Total fuel cost per unit	Rs/kWh	1.253	1.259
Total fuel cost	Rs lakhs	23352.10	31555.62

5.46 The summary of plant parameters and fuel cost determinants for the two Units of Tenughat Thermal Power Station as approved by the Commission for FY 2009-10 and FY 2010-11 is given in Table 6:

Table 6: Approved Plant parameters & Fuel Cost Determinants for FY 2009-10 and FY 2010-11

Parameters	Formula	Unit	Unit I&II	
			FY 2009-10	FY 2010-11
Capacity	A	MW	420	420
PLF	B	%	55.68%	74.88%
Gross Generation	C=Ax1000 x8760 x B/10^6	MU	2049	2755
Heat Rate	D	kcal/kWh	2500	2500
Specific oil consumption	E	ml/kWh	2.00	2.00
Calorific value of oil	F	kcal/kl	10,000	10,000
Auxiliary Consumption	G	%	9.45%	9.00%
Net Generation	H=C x (1-G)	MU	1854.99	2507.04
Calorific value of coal	I	kcal/kg	4300	4300
Overall heat	J=C x D	kcal	5121446.40	6887462.40
Oil consumption	K=C x E	kl	4097.16	5509.97

Parameters	Formula	Unit	Unit I&II	
			FY 2009-10	FY 2010-11
Heat from Oil	L=K x F/1000	kcal	40971.57	55099.70
Heat from coal	M=J-L	kcal	5080475	6832363
Transit Loss	N	%	0.30%	0.30%
Consumption of Indian coal including transit loss	O= M/I* 1000 /(1-N)	MT	1185061	1593703
Cost of oil per kl	P	Rs/kl	38086.49	43269.11
Cost of coal per MT without transit loss	Q	Rs/MT	1331.22	1477.30
Total cost of oil	R=P x K /10^7	Rs Cr	15.60	23.84
Cost of coal	S=OxQ/10^7	Rs Cr	157.76	235.44
Total Fuel Cost	T=R+S	Rs Cr	173.36	259.28
Per unit oil cost	U=R/H*10	Rs/kWh	0.08	0.10
Per unit coal cost	V=S/H*10	Rs/kWh	0.85	0.94
Per unit fuel cost	**W=U+V**	**Rs/kWh**	**0.93**	**1.03**

Project Cost Structure

Petitioner's submission

5.47 The Petitioner has submitted that the Commission had approved the project cost at the end of FY 2009-10 as Rs 1395.37 Cr based on the additional capitalisation of Rs 43.47 Cr but the Petitioner was able to capitalise the assets only worth Rs 8.68 Cr.

5.48 The Petitioner has submitted that it plans to infuse equity of Rs 53.39 Cr on account of asset additions. Since, the investment would be spread over the year the petitioner has projected average equity of Rs 26.70 Cr for FY 2010-11.

5.49 The Petitioner has submitted the following details on the funding of the project :

Table 7: Details of Funding of the Project

Particulars	Amount (Rs. Cr)
Project cost at start of 2009-10	1351.90*
Additional capitalization in 2009-10	8.68
Total Project Cost	1360.58
Outstanding debt component at the start of FY 2010-11	638.90

Particulars	Amount (Rs. Cr)
Equity Component at the start of FY 2010-11	142.80
Equity infusion at the start of FY 2010-11	26.70
Total Equity	169.50

* Submitted as additional information

Commission's analysis

5.50 The Commission approves the project cost of Rs 1360.58 Crores which includes additional capitalisation of Rs 8.68 Cr for FY 2009-10.

5.51 For FY 2010-11, the Commission approves the additional capitalisation of Rs 53.39 Cr projected by the Petitioner and thereby approving the project cost as Rs 1413.97 Cr towards the project cost of FY 2010-11.

5.52 Based on the submission made by the Petitioner, the Commission approves the following project cost for FY 2009-10 and FY 2010-11:

Table 8: Approved Project cost structure (Rs Cr)

Item	Amount
Project cost at start of FY 2009-10	1351.90
Additional capitalization in FY 2009-10	8.68
Total Project Cost	1360.58
Project cost at start of 2010-11	1360.58
Additional capitalization in 2010-11	53.39
Total Project Cost	1413.97

Operation & Maintenance (O&M) Expenses

Petitioner's submission

5.53 The Petitioner has submitted that the O&M expenses of the generating station include employee cost, repairs and maintenance, consumption of stores & spares, water charges, ash disposal, pollution control cess, insurance and other administrative and general expenses of the corporate office at Ranchi. The maintenance expenditure has increased substantially due to the age of the plant and numerous outages experienced.

5.54 Table 9 details the O&M expenses incurred by the Petitioner for FY 2009-10 and the projected O&M expenses for FY 2010-11:

Table 9: O&M Expenses for FY 2009-10 & FY 2010-11 (Rs Cr)

Particulars	FY 2009-10	FY 2010-11
Employee Cost	19.43	47.68
A&G Expenses	13.60	7.07
R&M	18.08	-
O&M including Capital expenditure	74.23	42.85
Total	**125.34**	**97.60**

5.55 The Petitioner has projected a sharp increase in employee cost for FY 2010-11 due to inclusion of CISF security cost of Rs 7.45 Cr and arrears on account of wage revision by the sixth pay commission, which the Petitioner is planning to disburse during FY 2010-11.

5.56 The Petitioner has submitted that it is aligning its accounts due to which it has not projected any amount against R&M for FY 2010-11.

Commission's analysis

5.57 The Commission observes that the O&M expenses claimed by the Petitioner are very high. The Commission has computed the O&M expenses as per the JSERC 'Generation Tariff Regulations, 2004' for plants set up before 01.04.2004, which states that the O&M should considered at 2.50% of the capital cost, escalated @ 6% p.a.

5.58 The Commission approves the O&M expenses of Rs 70.77 Cr for FY 2009-10. This is based on 2.50% of initial project cost of Rs 1247.04 Cr and average capitalisation, escalated at the rate of 6% per annum till the FY 2009-10.

5.59 For FY 2010-11, the Commission approves O&M expenses of Rs 89.74 Cr. This is based on 2.50% of initial project cost of Rs 1247.04 Cr and average capitalisation, escalated at the rate of 6% per annum till FY 2010-11, disbursement of arrears on account of sixth pay commission and projected CISF security cost.

5.60 The Petitioner is directed to provide the following details of the expenses projected under CISF security cost along with the next tariff petition :

- Name & designation of the CISF personnel involved with their respective salaries; and
- Deployment against each CISF personnel

Depreciation

Petitioner's submission

5.61 The Petitioner has calculated the depreciation on historical capital cost of the assets. Depreciation is calculated annually as per the straight line method at the rates prescribed in the schedule attached in appendix-II of the JSERC Generation Tariff Regulation, 2004.

5.62 The depreciation expense submitted by the Petitioner is detailed in Table 10 below:

Table 10: Depreciation Expenses for FY 2009-10 and FY 2010-11 (Rs Cr)

Item	FY 2009-10	FY 2010-11
Depreciation for Plant	45.23	45.85
Depreciation for HO	0.12	0.13
Depreciation for Additional Capitalization	0.28	1.07
Total	**45.63**	**47.06**

Commission's analysis

5.63 Depreciation is calculated on the historical cost of the asset based on the straight-line method over the useful life of the asset. According to the JSERC 'Generation Tariff Regulations, 2004', depreciation is allowed up to a maximum of 90% of the historical cost of the asset.

5.64 For FY 2009-10, the Commission has reviewed the submission of depreciation made by the Petitioner and has approved depreciation of Rs 45.63 Cr for FY 2009-10.

5.65 For FY 2010-11, the Commission has approved capitalisation of Rs 53.39 Cr submitted by the Petitioner and has considered that the whole investment will not be made at the starting of the year rather it will be spread over the year, thus the Commission for calculating the depreciation on the assets added during the year has considered average of Rs 53.39 Cr which comes out to Rs 26.70 Cr. However, the same shall be trued-up, when the actual details of the capital expenditure are made available by the Petitioner in the next tariff petition of FY 2011-12.

5.66 The Commission has computed the depreciation based on the asset classification, cost of acquisition and additional capitalisation submitted by the Petitioner and has thus approved the depreciation charges of Rs 45.63 Cr and Rs 46.98 Cr for FY 2009-10 and FY 2010-11 respectively.

5.67 Table 11 below details the depreciation approved by the Commission for FY 2009-10 and FY 2010-11:

Table 11: Approved Depreciation Expenses for FY 2009-10 and FY 2010-11 (Rs Cr)

Item	FY 2009-10	FY 2010-11
Depreciation for Plant	45.23	45.78
Depreciation for HO	0.12	0.13
Depreciation for Additional Capitalization	0.28	1.07
Total	**45.63**	**46.98**

Interest on Loan

Petitioner's submission

5.68 The Petitioner has submitted interest on loan as Rs 83.06 Cr for FY 2009-10.

5.69 The Petitioner has submitted that the loan outstanding as on 31.03.2010 is Rs. 638.90 Cr. This comprises of Rs 608.90 Cr loan from Bihar Government and Rs. 30 Crore loan from Jharkhand Government. As per the terms and conditions, State Government loan is repayable in 15 equal instalments. However, the Petitioner has submitted that it is not able to repay loan due to non-recovery of dues from JSEB.

5.70 The Petitioner also stated that the Commission in its previous Tariff Order of FY 2009-10 had directed it to restructure the existing loan. The Petitioner has approached GoJ for conversion of loan into equity and the subject is under consideration. Meanwhile, the Petitioner has requested the Commission to approve interest charges of Rs. 83.06 Cr for FY 2010-11.

5.71 Table 12 below summarises the outstanding loan and interest to be paid in FY 2010-11:

Table 12 : Details of the Outstanding Loan and Interest Payable in FY 2010-11 (Rs Cr)

Name of the Institution	Balance at the beginning of the year	Loan received during the year	Repayment during the year	Balance outstanding at the end of the year	Rate of Interest (%)	Interest for the year
Bihar Govt. Loan	608.90	-	-	608.90	13	79.16
Jharkhand Govt. Loan	30.00	-	-	30.00	13	3.90
Total	**638.90**			**638.90**		**83.06**

Commission's analysis

5.72 The Commission observes that the Petitioner is not repaying its loan due to its inability to collect dues from JSEB. The Petitioner should work out an effective mechanism to recover the amount due from JSEB. The Commission feels that had there been timely repayment of loans, the interest on account of the loan would have come down.

5.73 Meanwhile, the Commission allows the aggregate interest of Rs. 83.06 Cr for the existing debt for FY 2009-10 and FY 2010-11. It also directs the Petitioner to restructure its outstanding debt at the earliest.

Interest on Working Capital

Petitioner's submission

5.74 Table 13 contains the details of the interest on working capital as submitted by the Petitioner.

Table 13:Interest on Working Capital (Rs Cr)

Particulars	FY 2009-10 (Actual)	FY 2010-11 (Projected)
Cost of Coal for 1½ months	25.98	35.72
Secondary Fuel Oil for 1 month	2.14	2.48
Operation & Maintenance expenses for 1 month	10.45	8.13
Maintenance expenses @ 1% of Plant & Equipment	11.72	11.72
Receivables equivalent to 2 months of fixed and variable Charges	139.80	112.98
Total Working Capital	**190.09**	**171.04**
Interest on Working Capital @ 12.50%	**23.76**	**21.38**

5.75 The Petitioner has submitted that Commission in its previous Tariff Order had allowed interest on working capital at the rate of 12.25%. It has, however, submitted that it has been able to avail the loans at an average rate of 12.50% per annum. The Petitioner has requested the Commission to allow interest on working capital at the rate of interest of 12.50% per annum for FY 2009-10 and FY 2010-11.

Commission's analysis

5.76 The working capital requirement for FY 2009-10 and FY 2010-11 has been approved as per the JSERC 'Generation Tariff Regulations, 2004'. As per the JSERC Generation Tariff Regulations, 2004 the rate of interest on working capital is to be the short-term Prime Lending Rate of State Bank of India as on 1st April of the year for which the tariff is to be determined.

5.77 The Commission approves the interest on working capital for FY 2009-10 at the rate of 12.25% which was the prevailing SBI PLR as on 1st April 2009.

5.78 For FY 2010-11, the Commission approves the interest on working capital at the rate of 11.75% which was the prevailing SBI PLR on 1st April 2010.

5.79 The approved interest on working capital for FY 2009-10 and FY 2010-11 is summarised in Table 14:

Table 14: Approved Interest on Working Capital (Rs Cr)

Particulars	FY 2009-10	FY 2010-11
Cost of Coal for 1½ month	19.72	29.43
Secondary Fuel Oil for 1 month	1.30	1.99
Operation & Maintenance expenses for 1 month	5.90	7.48
Maintenance expenses @ 1% of Plant & Equipment	11.72	11.72
Receivables equivalent to 2 months of fixed and variable Charges	65.86	84.62
Total Working Capital	104.49	135.23
Interest on Working Capital	**12.80**	**15.89**

Return on Equity (RoE)

Petitioner's submission

5.80 The Petitioner had projected an equity infusion of Rs 43.47 Cr on account of additional capitalisation for FY 2009-10 in the tariff petition of FY 2009-10 but as per the provisional balance sheet assets of Rs 8.68 Cr have been capitalised. However, the figure is expected to increase once the final accounts are available. Accordingly, the Petitioner has submitted return on equity as Rs 19.99 Cr for FY 2009-10.

5.81 During FY 2010-11, an amount of Rs 53.39 Cr is projected to be infused as equity on account of addition in assets. The Petitioner has calculated return on equity of Rs 23.73 Cr at 14% p.a.

Commission's analysis

5.82 The Commission has allowed return on equity at the rate of 14% considered on the average equity for the respective years. Table 15 contains the return on equity approved for FY 2009-10 and FY 2010-11.

Table 15: Approved Return on Equity (Rs. Cr.)

Particulars	FY 2009-10	FY 2010-11
Initial Equity at the start of FY	134.12	142.80
Equity Infusion during FY	8.68	53.39
Equity at the end of FY	142.80	196.19
Average Equity considered for the year	138.46	169.50
Return on Equity (%)	14%	14%
Return on Equity (Rs Cr)	19.38	23.73

Non tariff Income

Petitioner's submission

5.83 The Petitioner has submitted that its non-tariff income during FY 2009-10 was Rs 9.85 Cr as against Rs 15.83 Cr approved by the Commission.

5.84 The Petitioner has projected non-tariff income of Rs 10.97 Cr during FY 2010-11.

Commission's analysis

5.85 The Commission approves the non-tariff income of Rs 9.85 Cr for FY 2009-10 based on the provisional accounts submitted by the Petitioner.

5.86 The Commission also approves the non-tariff income of Rs.10.97 Cr as projected by the Petitioner for FY 2010-11. However, the same shall be trued-up in the next Tariff Order of FY 2011-12 when the annual accounts are made available by the Petitioner.

Income Tax

Petitioner's submission

5.87 The Petitioner has stated that there was no assessable income for income tax and hence no tax on income has been submitted for the year FY 2009-10. The Petitioner has not projected any income tax for FY 2010-11.

Commission's analysis

5.88 The Commission accepts the submission made by the Petitioner.

Summary of Fixed Cost Determinants and Generation Tariff

5.89 The summary of fixed cost determinants and Generation Tariff for the two Units of Tenughat Thermal Power Station as submitted by the Petitioner and approved by the Commission for FY 2009-10 is given in Table 16:

Table 16 : Approved Fixed cost determinants and Generation Tariff for FY 2009-10

Parameters	Unit	Unit I&II	
		Submitted by the Petitioner	*Approved by the Commission*
O&M charges	Rs. Cr	125.34	70.77
Depreciation	Rs. Cr	45.63	45.63
Interest on Loan	Rs. Cr	83.06	83.06
Return on Equity	Rs. Cr	19.99	19.38
Interest on Working Capital	Rs. Cr	23.76	12.80
Total Fixed cost	Rs. Cr	297.78	231.64
Energy Cost	Rs. Cr	233.52	173.36
Total Expenses	Rs. Cr	**531.30**	**405.00**
Non-tariff Income	Rs. Cr	9.85	9.85
Net Total Expenses	Rs. Cr	**521.45**	**395.15**
Generation Tariff	Rs/kWh	2.85	2.13
Revenue at existing tariff	Rs Cr		380.83
(Gap)/Surplus	Rs Cr		(14.32)

5.90 In Table 16 above, the Petitioner has submitted generation tariff of Rs 2.85/kWh for FY 2009-10 and the Commission has noted that the Petitioner has miscalculated the generation tariff for FY 2009-10 as it has not excluded the non tariff Income from the total expenses. Therefore, the generation tariff after subtracting the non tariff income from the total of fixed and variable cost calculated on net generation as per Petitioner's submission works out to Rs 2.81/kWh.

5.91 The summary of fixed cost determinants and Generation Tariff for the two Units of Tenughat thermal power plant as submitted by the Petitioner in the tariff petition of FY 2010-11 and approved by the Commission for FY 2010-11 is given in Table 17:

Table 17: Approved Fixed cost determinants and Generation Tariff for FY 2010-11

Parameters	Unit	Unit I&II	
		Submitted by the Petitioner	***Approved by the Commission***
O&M charges	Rs. Cr	97.60	89.74
Depreciation	Rs. Cr	47.06	46.98
Interest on Loan	Rs. Cr	83.06	83.06
Return on Equity	Rs. Cr	23.73	23.73
Interest on Working Capital	Rs. Cr	21.38	15.89
Total Fixed cost	Rs. Cr	272.83	259.40
Energy Cost	Rs. Cr	315.56	259.28
Total Expenses	Rs. Cr	**588.39**	**518.68**
Non-tariff Income	Rs. Cr	10.97	10.97
Net Total Expenses	Rs. Cr	**577.42**	**507.71**
Generation Tariff	Rs/kWh	2.30	2.03
Revenue at existing tariff	Rs Cr		514.69
(Gap)/Surplus			6.99

A6: APPROVED TARIFF

6.1 The Commission after the detailed analysis and provisional truing up for FY 2009-10 as well as the analysis of FY 2010-11 based on the petition filed by the Petitioner for FY 2010-11, has approved the tariff of Rs. 2.05/kWh for FY 2010-11.

6.2 The summary of treatment of revenue gap/surplus and tariff approved by the Commission is given in the Table 18

Table 18: Treatment of Revenue Gap/Surplus and Approved Generation Tariff for FY 2010-11

Particulars	Units	Approved by JSERC
Annual Revenue Requirement for FY 2010-11	**Rs. Cr**	**507.71**
Revenue (Gap)/Surplus for FY 2009-10	Rs. Cr	(14.32)
Revenue (Gap)/Surplus for FY 2010-11	Rs. Cr	6.99
Cumulative Revenue (Gap)/Surplus	Rs. Cr	(7.34)
Net ARR requirement (up to FY 2010-11)	Rs. Cr	515.05
Net Generation for FY 2010-11	**MU**	**2507.04**
Approved Tariff for FY 2010-11	**Rs/kWh**	**2.05**

6.3 As can be seen from the above table, the tariff for FY 2010-11 works out to Rs 2.05/kWh which is the same as was approved by the Commission in the previous Tariff Order of FY 2010-11. The tariff of Rs 2.05/kWh is applicable for FY 2010-11.

A7: STATUS OF EARLIER DIRECTIVES

Directives given in Previous Tariff Orders	Status	Views of the Commission
Directives given in FY 2007-08		
Removal of Constraints The Commission directs the Petitioner to complete the feasibility survey and preparation of DPR for construction of 400 kV D/c transmission line from TTPS to Ranchi and submit the action plan for implementation within six months of the order.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.
Energy Audit The Commission directs the Petitioner to have energy audit of their plant carried out by an Accredited Energy Auditor as per the provisions of the Energy Conservation Act, 2001 and submit the Energy Audit findings to the Commission within 6 months of the issue of this order. The Commission has observed that the auxiliary consumption that has been reported by the Petitioner in its petition for FY 2007-8 is quite high. Also, it has reported very high station heat rates. The energy audit must focus on these two issues and recommend steps along with cost and time schedule for achieving values as per norms.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.
Completion of MGR (Merry-Go-Round) System The Commission directs the Petitioner to ensure the work on the MGR is completed by June 2010 and submit a completion report to the Commission by July 2010. Any further delay would invite penal action from the Commission.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12
Spare codifications and computerized maintenance management system The Petitioner has partially complied with the directive. The Commission directs the Petitioner to invite tender for implementation of ERP-SAP and award the contract to the successful bidder within 3 months of this order and subsequently submit an implementation plan within 6 months of the issue of this order.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12
Water Chemistry		

Directives given in Previous Tariff Orders	Status	Views of the Commission
The Commission directs the Petitioner to maintain the DM plant properly and report to the Commission values regarding water chemistry, pH value, conductivity, oxygen content on a monthly basis.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12
Specific oil consumption The Commission directs the Petitioner to reduce the specific oil consumption to the normative levels specified in the JSERC Generation Tariff Regulations 2004 and its amendments by the end of FY 2011-12.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.
Ash Utilization & Management As per the MOEF Notification dated September 14, 1999 all existing thermal power plants as on September 1999 have to achieve ash utilization level of 100% in a phased manner by 2013- 14 in accordance with 15-year action plan. Hence, the Commission directs the Petitioner to take necessary initiatives to sell the ash either by their own efforts or by engaging private entrepreneurs to ensure effective ash utilization. The Petitioner has reported that it had started action for setting up dry ash collection system to ensure effective ash utilization and that M/s Mecon was preparing the DPR and tender for EPC will be floated shortly. The Commission directs the Petitioner to fully comply with the directive within 6 months.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.
Revision of PPA As per the PPA, TVNL is allowed to recover dues from JSEB on the basis of single-part tariff only, which does not allow recovery of capacity charges. Thus the Commission directs TVNL to revise its PPA with JSEB.	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.
Repayment of Govt. loans The Commission is allowing certain amount by way of depreciation charge for repayment of loan every year but repayment of loan has not been undertaken. The Petitioner is required to submit the utilization of amount allowed by way of depreciation and ensure the repayment of loan is done. In future, the Commission will allow depreciation only to the extent	The Petitioner has not submitted status report on the directive.	The Petitioner is directed to submit a status report on the same along with the next Tariff Petition for FY 2011-12.

Directives given in Previous Tariff Orders	Status	Views of the Commission
of repayment of loans by the Petitioner.		
Directives given in Previous Tariff Orders : FY 2009-10		
Improvement in performance of Operational parameters The Commission notes that the operational performance of the Petitioner is very low. In particular, the SHR and PLF can be improved further. The Commission directs the Petitioner to submit an improvement plan for both its units within three months of the issue of this order.	The Petitioner is making all efforts to improve performance of operational parameters. The Petitioner has set stiff targets for itself for FY 2010-11.	The Petitioner has not complied with the directive. It must follow a more systematic approach to improve performance of its operational parameters. The Commission again directs the Petitioner to submit an **improvement plan** for both its units alongwith the next tariff petition for FY 2011-12.
Issues in Accounting Treatment of Expenses The Commission has observed that the accounting treatment of various revenue and capital expenditure items is not in accordance standards and generally accepted accounting policies. The Commission directs the Petitioner to henceforth prepare its accounts as per the applicable accounting standards. The Petitioner should arrange training for its accounting personnel so as to update them with the prevalent accounting standards and policies.	The Petitioner has engaged consultants to rectify the deficiencies in the accounting treatment of expenses.	The Commission takes note of the step taken by the Petitioner but would like to know end result of the same. The Petitioner is directed to submit the report with the next tariff petition for FY 2011-12.
Loan Restructuring The Commission observes that the interest on long term loans paid by the Petitioner is very high for both the units of the Petitioner. The Commission directs the Petitioner to ascertain the interest rates of other Banks and conduct a cost benefit analysis for restructuring of its outstanding loans. The Commission directs the Petitioner to submit a report in this regard within three months of the issue of this order. The Petitioner has informed that it has approached GoJ for conversion of loan from Bihar Government into equity. The Commission directs the Petitioner to pursue its case with GoJ.	The Petitioner has requested conversion of loan to equity and the subject is under consideration of Govt. of Jharkhand. However, no progress has been made on the same.	The Petitioner should pursue the matter of conversion of loan with the government . Meanwhile, the Petitioner should also approach other banks to attempt restructuring of its debt.

Directives given in Previous Tariff Orders	Status	Views of the Commission
Adjustment of Bills & payments/receipt as per Revised Cost of Power Sold to JSEB The Commission directs the Petitioner to reconcile the payment due/receipts with JSEB, in lieu of the revised Generation Tariff for power sold to JSEB, as determined by the Commission in this order, within three months of the issue of this order. The Generation Company is required to generate a supplementary bill for the reconciled billed amount and submit the same to JSEB.	The matter is being pursued with JSEB. However, JSEB has expressed its inability to pay the dues shortly.	The Petitioner should pursue the matter with JSEB and work out effective mechanism to recover the pending dues from JSEB.
Investment in Fixed Deposits It is observed from the accounts of the Petitioner that it has invested a large amount of money in fixed deposits. On one hand, the Petitioner has availed funds at the high interest rate of 13% and on the other hand, it is getting a much lower interest on amount invested in fixed deposits. The Petitioner is directed to explain why it is holding such a large amount in deposits and not repaying the loans to its lenders and is also directed to furnish the details of the deposits with the various banks. The directive is to be complied within 3 months of the issue of this order.	As the issue of loan re-structuring is still pending, no change has been made in the investment pattern.	The Petitioner should pursue the matter of conversion of loan taken from the Government . Meanwhile, the Petitioner should also approach other banks to attempt restructuring of its debt.
Break-Up of Repair Works In its earlier tariff order for FY 2007-08, Commission had allowed a sum of Rs.9.23 Cr., being the half of the estimated sum required for repair of Unit-I by BHEL. The Commission directs the Petitioner to provide the detailed break-up of repair works done by BHEL for Unit-1 within 3 months of the issue of this order.	This issue has been discussed at length with the Commission and the Commission has considered the cost incurred by the Petitioner.	In view of the discussion held, the Petitioner is directed to provide break-up of the repair works to the Commission.

A8: DIRECTIVES

The Commission is re-iterating the following directives issued by it in previous Tariff Orders as the Petitioner has not yet complied fully with these directives. All these directives are meant to improve the functioning of the generating company and thereby reduce their cost. Unfortunately after a lapse of about 3 years no steps seem to have been taken by the Petitioner to implement the said directives. Less said the better about the attitude of the Petitioner. The Commission views the non-compliance of directives seriously and if the Petitioner does not take effective steps to implement the following directives the Commission may invoke penal provisions.

Removal of Constraints

8.1 The Commission directs the Petitioner to complete the feasibility survey and preparation of DPR for construction of 400 kV D/c transmission line from TTPS to Ranchi. The Petitioner should submit a progress report on the same along with the next Tariff Petition of FY 2011-12.

Energy Audit

8.2 The Commission directs the Petitioner to have energy audit of its plant carried out by an accredited energy auditor as per the provisions of the Energy Conservation Act, 2001 and submit the Energy Audit findings to the Commission. The Commission has observed that the auxiliary consumption and station heat rate that has been reported by the Petitioner in its petition is quite high. The energy audit must focus on these two issues and recommend steps along with cost and time schedule for achieving values as per norms.

Completion of MGR

8.3 The Commission directs the Petitioner to ensure the work on the MGR is completed within this financial year and submit a completion report of the same to the Commission.

Spare Codifications and Computerized Maintenance Management System

8.4 The Commission directs the Petitioner to take steps for implementation of ERP-SAP and submit an implementation plan. The status report for the same is to be submitted along with the next tariff petition of FY 2010-11.

Water Chemistry

8.5 The Commission directs the Petitioner to maintain the DM plant properly and report to the Commission values regarding water chemistry, pH value, conductivity, oxygen content on a monthly basis.

Specific Oil Consumption

8.6 The Commission directs the Petitioner to reduce the specific oil consumption to the normative levels specified in the JSERC Generation Tariff Regulations 2004 and its amendments by the end of FY 2011-12.

Ash Utilization & Management

8.7 As per the MOEF Notification dated September 14, 1999 all existing thermal power plants as on September 1999 have to achieve ash utilization level of 100% in a phased manner by 2013-14 in accordance with 15-year action plan. In the Tariff Order for FY 2007-08, the directive was given by the Commission to this effect which the Petitioner has not complied with, hence the Petitioner is directed to take necessary initiatives to sell the ash.

Repayment of Govt. Loans and Loan Restructuring

8.8 The Commission is allowing certain amount by way of depreciation charge for repayment of loan every year but repayment of loan has not been undertaken. The Petitioner is required to submit the utilization of amount allowed by way of depreciation and ensure the repayment of loan is done.

8.9 The Commission observes that the interest on long term loans paid by the Petitioner is very high. The Commission directs the Petitioner to ascertain the interest rates of other banks and conduct a cost benefit analysis for restructuring of its outstanding loans. The Commission directs the Petitioner to submit a report in this regard along with the next tariff petition for FY2010-11.

8.10 Meanwhile, the Petitioner should continue to pursue the matter of conversion of loan taken from Government into equity.

New Directives

In addition to the above, the Commission is also issuing the following directive to ensure further improvement in financial assessment of the Petitioner.

Fixed Assets Register (FAR)

8.11 The Commission has observed that the Petitioner is not maintaining a proper record of its fixed assets in the form of a fixed assets register. Maintenance of a FAR helps the company in monitoring of impairment of assets and its impact on the financial situation of the company, overall control and monitoring of assets and also for deriving information for costing purposes and/or statutory proceedings including a statutory audit.

8.12 The Petitioner is thus directed to create and maintain a FAR and submit a compliance report of the same to the Commission within six months of issue of this Tariff Order.

Details of Outages

8.13 The Petitioner is directed to give the details of outages of the station as per the format prescribed in Annexure 2 of the Tariff Order and furnish information to the Commission on the quarterly basis.

Details of CISF cost

8.14 The Commission directs the Petitioner to provide the following details of the expenses projected under CISF security cost along with the next tariff petition :

- Name & designation of the CISF personnel involved with their respective salaries; and

- Deployment against each CISF personnel.

Revision of PPA

8.15 The Commission has observed that the PPA between the Petitioner and JSEB expired in August 2010. The Petitioner must renegotiate the PPA at the earliest and submit the same for approval to the Commission.

Data adequacy in next Tariff petition and timelines

8.16 The Commission directs the Petitioner to come up with the next tariff petition for FY 2011-12 removing the various data deficiencies highlighted throughout the Tariff Order along with the audited accounts for FY 2009-10 and latest actual figures of FY 2010-11.

8.17 The Commission also directs the Petitioner to file the next tariff petition for FY 2011-12 by 31st December 2010 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.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on this the 22nd day of November, 2010.

Date: 22nd November, 2010

Place: Ranchi

(T.MUNIKRISHNAIAH)	(MUKHTIAR SINGH)
MEMBER (E)	CHAIRPERSON

ANNEXURE-I

List of participating members of public in the public hearing

S No	Address / Organisation if any
Prabhat Kumar	TVNL, Hinoo, Ranchi
S.R. Singh	TVNL, Hinoo, Ranchi
M.K. Prasad	TVNL, Hinoo, Ranchi
Saurabh Shanker	E & Y Delhi
Rajesh Ranjan	TVNL, Hinoo, Ranchi
C.S. Gupta	M(Tech), JSEB, Ranchi
S.C. Mishra	CE(C& R), JSEB, Ranchi
K.D. Pandey	Barhi toli, Purulia Road, Ranchi
S.N. Singh	TVNL, Hinoo, Ranchi
Basant Prakash	Ashok Nagar, Ranchi

Annexure-2

The information is to be recorded by the generating company on a daily basis in the prescribed formats:

Format for reporting outage of Units

S. No.	Unit	Date of outage of Unit	Duration of Outage (hours)	Date when Unit was brought back into service	Loss of generation (Million kwh)	Reason for Outage of Unit[1]	Steps taken to bring back the Unit into service	Remarks/Any additional information
1								
2								
3								
4								
5								

1 : Mention whether the outage of unit is due to internal plant system/equipment fault or due to the fault in the transmission system/ grid ,also indicate whether it a planned outage or a forced outage.

Format for reporting Backing Down of Units

S. No.	Unit	Date of Backing Down of Unit	Duration of Back Down (hours)	Generation of Unit before Back Down (MW)	Generation of Unit after Back Down (MW)	Loss of generation (Million kwh)	Reason for Back Down of Unit	Remarks/Any additional information
1								
2								
3								
4								
5								
6								