

Jharkhand State Electricity Regulatory Commission

**Provisional Tariff Order
on
Annual Revenue Requirement
and
Determination of Retail Tariffs
for
Jharkhand Area**

Financial Year 2012-13

**Damodar Valley Corporation
(DVC)**

Ranchi

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List of Abbreviations

Abbreviation	Description
A&G	Administrative and General
ARR	Annual Revenue Requirement
ATE	Appellate Tribunal of Electricity
CERC	Central Electricity Regulatory Commission
CWIP	Capital Work in Progress
DPS	Delayed Payment Surcharge
DS	Domestic Service
DS HT	Domestic Service High Tension
DVC	Damodar Valley Corporation
FAS	Financial Accounting System
FOR	Forum of Regulators
FY	Financial Year
GFA	Gross Fixed Assets
GoI	Government of India
HT	High Tension
JSEB	Jharkhand State Electricity Board
JSERC	Jharkhand State Electricity Regulatory Commission
JUSCO	Jamshedpur Utilities and Services Company Limited
LT	Low Tension
kV	Kilovolt
kVA	Kilovolt-ampere
kW	Kilowatt
kWh	Kilowatt-hour
MMC	Monthly Minimum Charges
MU	Million Units
NTI	Non Tariff Income
O&M	Operations and Maintenance
PLF	Plant Load Factor
PLR	Prime Lending Rate

Abbreviation	Description
PPA	Power Purchase Agreement
PSD	Power Service Division
R&M	Repair and Maintenance
RoE	Return on Equity
Rs	Rupees
SAP	System, Application and Production
SBI	State Bank of India
TPCL	Tata Power Company Limited
TPTCL	Tata Power Trading Company Limited
SLM	Straight Line Method
TSL	Tata Steel Limited

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 August 22, 2002 defined the functions of JSERC as per Section 22 of the Electricity Regulatory Commission Act, 1998 to be the following, namely:-
- (a) to determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be, in the manner provided in Section 29;
 - (b) to determine the tariff payable for the use of the transmission facilities in the manner provided in Section 29;
 - (c) to regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
 - (d) to promote competition, efficiency and economy in the activities of the electricity industry to achieve the objects and purposes of this Act.
- 1.3 With the Electricity Act, 2003 being brought into force, the earlier Electricity Regulatory Commission Act of 1998 stands repealed and the functions of JSERC are now defined as per Section 86 of the Act.
- 1.4 In accordance with the Act, the JSERC discharges the following functions: -
- (a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State;

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

- (b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- (c) facilitate intra-state transmission and wheeling of electricity;
- (d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- (e) promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee;
- (f) adjudicate upon the disputes between the licensees and generating companies; and to refer any dispute for arbitration;
- (g) levy fee for the purposes of this Act;
- (h) specify State Grid Code consistent with the Grid Code specified under Clause (h) of sub-section (1) of Section 79;
- (i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- (j) fix the trading margin in the intra-state trading of electricity, if considered, necessary;
- (k) discharge such other functions as may be assigned to it under this Act.

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

- (a) promotion of competition, efficiency and economy in activities of the electricity industry;
- (b) promotion of investment in electricity industry;
- (c) reorganisation and restructuring of electricity industry in the State;
- (d) matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by that Government.

- 1.6 The State Commission ensures transparency while exercising its powers and discharging its functions.
- 1.7 In discharge of its functions, the State Commission is guided by the National Tariff Policy as brought out by Government of India 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.

Damodar Valley Corporation (DVC)

- 1.8 Damodar Valley Corporation (hereinafter referred to as ‘DVC’ or the ‘Petitioner’), is a statutory body incorporated under the Damodar Valley Corporation Act, 1948 and undertakes multifarious functions. In regards to the electricity, DVC undertakes generation of electricity and is therefore a generating company within the meaning of Section 2 (28) of the Electricity Act, 2003. DVC also undertakes transmission of electricity in the Damodar valley area which falls within the territorial limits of the two states namely, West Bengal and Jharkhand. It, therefore, undertakes inter-state transmission of electricity and operates inter-state transmission system within the meaning of Section 2 (36) of the Electricity Act, 2003. DVC also undertakes the sale of electricity to West Bengal State Electricity Distribution Company Limited (WBSEDCL) and Jharkhand State Electricity Board (JSEB) in its capacity generally as a generating company. This is bulk sale of electricity by a generating company to a distribution licensee within the meaning of Section 62 (1) (a) of the Electricity Act, 2003. In addition to the above, DVC undertakes the retail sale and supply of electricity to the consumers in the Damodar Valley area under the provisions of Section 62 (d) read with Section 86 (1) of the Electricity Act, 2003.
- 1.9 DVC being a statutory body constituted under the DVC Act, 1948, is a Public Sector Undertaking (PSU) as envisaged under Section 79 (1) (a) of the Electricity Act, 2003, the tariff for generation of electricity is to be decided by the Central Electricity Regulatory Commission (CERC). Similarly, with regards to the inter-state transmission, DVC again is regulated by CERC and tariff for composite (inter-state) generation & transmission is to be determined by the CERC in terms of Section 79 (1) (c) and (d) of the Electricity Act, 2003.

- 1.10 With regards to the retail sale and supply of electricity, DVC covers the entire Damodar Valley area which falls in two contiguous States, namely, the State of West Bengal and the State of Jharkhand. Thus, tariff for retail sale and supply of electricity in the Damodar Valley area is governed by the provisions of Section 62 (d) read with Section 86 (1) of the Electricity Act, 2003 and has to be determined by the respective Electricity Regulatory Commissions in the states of West Bengal and Jharkhand.

Scope of the Present Order

- 1.11 This Order relates to the ARR and Tariff Petition filed by the Petitioner before the Commission for determination of ARR from FY 2006-07 to FY 2012-13 and determination of retail tariff for FY 2012-13 for supply in Damodar valley area falling within the territorial jurisdiction of the State of Jharkhand. The Order is in accordance with Sections 61, 62 and 64 of the Electricity Act, 2003 and provisions of the JSERC (Terms and Conditions for Distribution Tariff) Regulations, 2004 (hereinafter referred to as 'Distribution Tariff Regulations, 2004') and JSERC (Terms and Conditions for Determination of Distribution Tariff) Regulations, 2010 (hereinafter referred to as 'Distribution Tariff Regulations, 2010').
- 1.12 While determination of ARR from FY 2006-07 to FY 2012-13 and retail supply tariff for FY 2012-13 for the licensed area of the Petitioner falling in the State of Jharkhand, 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 National Tariff Policy; and
 - (d) Principles laid down in the 'Distribution Tariff Regulations, 2004'
 - (e) Principles laid down in the 'Distribution Tariff Regulations, 2010'

A2: PROCEDURAL HISTORY

Background

- 2.1 DVC has filed the present Petition on September 2, 2011 for finalization of the revenue requirements and tariff admissible to DVC for the distribution and retail supply of electricity to consumers serviced by DVC in the part of Damodar Valley falling within the territorial jurisdiction of the state of Jharkhand for the period FY 2006-07 to FY 2012-13.
- 2.2 Earlier, DVC has filed petitions on October 31, 2009 and March 31, 2011 for finalization of ARR for the tariff period FY 2006-07 to FY 2010-11 and FY 2009-10 to FY 2011-12, respectively for the determination of tariff for distribution and retail supply of electricity to consumers serviced by DVC in the part of Damodar Valley falling within the territorial jurisdiction of the state of Jharkhand.
- 2.3 DVC had also filed a Petition on March 31, 2007 for finalization of revenue requirements and tariff for the period of FY 2006-07. The said Petition was not processed by the Commission as the tariff for generation and transmission of electricity applicable to DVC which is the input tariff to be determined by CERC was not finalized and there were also orders passed by Appellate Tribunal for Electricity (ATE) in the appeals arising out of orders passed by CERC directing that no final orders be passed by the State Commission's on the retail supply tariffs till further Orders.

DVC Case History

- 2.4 Central Electricity Regulatory Commission (CERC) by order dated October 3, 2006, decided the tariff for DVC for its functions of inter-state generation and transmission of electricity and directed that the tariff so determined should be made effective for the period April 1, 2006 to March 31, 2009.
- 2.5 DVC, aggrieved by the order dated October 3, 2006 passed by CERC filed an appeal against the said Order before the ATE. The ATE before passing its final judgement in the appeal filed by DVC against the aforementioned Order by CERC, issued several interim orders dated December 6, 2006, January 15, 2007 and February 26, 2007, restraining the State Commissions of West Bengal and Jharkhand from passing the orders for determination of distribution and retail tariffs for DVC till the passing of its final judgement. The ATE, by judgment and order dated November 23, 2007, allowed the appeal filed by DVC and directed CERC to de novo determine the revenue requirements and inter-state generation and transmission tariff for DVC for the period FY 2006-07 to FY 2008-09 in the terms laid down by it in this Order. Subsequently, the CERC in accordance with the directions & judgement given by the ATE revised the ARR and tariff for inter-state generation and transmission of electricity for the period FY 2006-07 to FY 2008-09 through its order dated August 6, 2009.

2.6 DVC aggrieved by the CERC Order dated August 6, 2009, again filed an appeal against the said Order before ATE. The ATE vide Interim Order dated September 16, 2009 allowed the WBERC and JSERC to fix the retail supply tariff for FY 2010-11 after considering the generation tariff as fixed by CERC in its Order dated August 6, 2009 as the input cost but not to pass any final orders in this regards. Consequently, DVC filed the Petition for determination of ARR and retail tariffs for the period FY 2006-07 to FY 2010-11 to the Commission on October 31, 2009. Since the matter was subjudice before the ATE and there was a direction not to pass any final retail tariff Order as stated earlier, the Commission kept the Petition pending till the final order of the ATE.

2.7 The ATE, vide its Order dated May 10, 2010, directed DVC to implement the generation tariff as determined by the CERC in its Order dated August 6, 2009 and to give effect to any refund to its consumers arising out of implementation of the said Order. The relevant extract of the said Order is reproduced below:

“107. Since we do not find any substance in the grounds raised in the Appeal, we deem it fit to dismiss the Appeal as devoid of merits. Consequently, we direct the Appellant (DVC) to implement the Tariff as determined by the Central Commission vide its Order dated, 6th August, 2009. DVC is also directed to revise the electricity bills raised by it for electricity consumption during April, 2006 onwards of its licensees and HT consumers and refund the excess amount billed and collected along with the interest at the rate of 6 per cent per annum in line with Section 62 (6) of The Electricity Act, 2003...”
Emphasis added

2.8 Being aggrieved by the said Order of the ATE, DVC filed an appeal No. C.A. No. 4881/2010 before the Hon’ble Supreme Court against the aforementioned Order of the ATE. The Hon’ble Supreme Court in its Order dated July 9, 2010, ordered a stay on the refund, however the final judgement is pending and matter is subjudice. The relevant extract of the said Order is reproduced below:

“In the meantime, parties will submit before us the various disputed items to be taken into account in Tariff Fixation as well as the relevant documents on which Damodar Valley Corporation would be relying upon at the final hearing...Until further orders, there shall be stay on refund.” **Emphasis added**

2.9 From the above it is clear that the Order of the Hon’ble ATE has not been stayed by the Hon’ble Supreme Court except the portion related to refund.

2.10 In addition, the ATE Order dated May 10, 2010 directed the Petitioner to approach the concerned SERCs for finalising the retail tariffs, the relevant extract is being reproduced below:

“107.Thereafter, the DVC is directed to approach the concerned State Electricity Commissions for getting the final Order relating to the Retail Tariff who in turn will fix the retail Tariff according to law.”

- 2.11 The Commission, in line with the directions of the ATE in its aforementioned Order, initiated the process of review of the Tariff Petition submitted by the Petitioner on October 31, 2009 for FY 2006-07 to FY 2010-11 and found numerous data discrepancies and gaps which were communicated to the Petitioner. Consequently, the Petitioner submitted the additional information on December 15, 2010.
- 2.12 Further discrepancies were noted after scrutiny of additional information and same were communicated to the Petitioner. The Commission also noted that as the FY 2010-11 was almost over, DVC should submit Tariff Petition for FY 2011-12 for fixing of retail tariff. DVC submitted its Petition for scrutiny of ARR and retail tariff for FY 2011-12 on March 31, 2011. The scrutiny of the said petition also revealed several data discrepancies and additional data requirements, which were communicated to the Petitioner. The Petitioner sought time to reply to the discrepancies and information sought, which was granted by the Commission. In the meanwhile, the Petitioner submitted the revised Petition for determining the ARR for the Multi-Year Tariff (MYT) period for FY 2011-12 to FY 2013-14 on September 2, 2011. However the Tariff Petition submitted by the Petitioner was not in line with the JSERC's (Distribution Tariff) Regulations, 2010, according to which ARR & Retail Tariff Petition had to be filed till FY 2012-13 and thereafter only MYT petitions can be submitted. Thus, the Commission directed the Petitioner to submit ARR & retail tariff Petition for FY 2012-13 in line with the JSERC (Distribution Tariff) Regulations, 2010. Subsequently, the Petitioner submitted the ARR & Retail tariff petition for FY 2012-13 along with the true up for past years from FY 2006-07 to FY 2011-12 and same has been approved by the Commission in this Order. However, this is a provisional Tariff Order subject to final outcome of the matter pending before Supreme Court.

Information Gaps in the Petition

- 2.13 There was delay in submission of the ARR & Retail Tariff Petition for FY 2012-13 by the Petitioner and also during the scrutiny of the said petition, several deficiencies were observed in the tariff petition submitted by the Petitioner. These information gaps were communicated to the Petitioner through letter dated August 14, 2012. The indicative list of information gaps and additional data sought has been summarised below:

- | |
|---|
| <p>a) DVC was directed to submit copy of audited annual accounts for FY 2006-07 to FY 2010-11 along with provisional annual accounts for FY 2011-12.</p> <p>b) DVC was directed to submit details of assets utilized in the power distribution & retail supply business along with bifurcation of assets between those utilized for West Bengal area and that for Jharkhand Area.</p> <p>c) DVC was directed to submit sample copies of source-wise actual power purchase bills during the period FY 2006-07 to FY 2011-12.</p> <p>d) DVC was directed to submit the basis for allocation of power purchase cost between the West Bengal & Jharkhand area.</p> <p>e) DVC was directed to submit consumer-wise details of number of consumers, connected load and energy sales for the period FY 2006-07 to FY 2011-12 along with basis for projection for FY 2012-13.</p> |
|---|

- f) DVC should submit details of Capital Expenditure incurred by the Petitioner for supplying the electricity to its consumers along with the corresponding depreciation schedule for the period FY 2006-07 to FY 2011-12.
- g) DVC was directed to submit the details of O&M expenses proportionate to the distribution and retail supply business for the period FY 2006-07 to FY 2011-12.
- h) DVC should provide the basis for the calculation of Interest on working capital (IWC) for the period FY 2006-07 to FY 2012-13. The Petitioner also needs to explain the methodology for calculation of IWC.
- i) DVC is directed to submit the sample Electricity Bills for the sale of electricity to its retail consumers for the period FY 2006-07 to FY 2011-12.
- j) DVC should submit actual energy balance for FY 2011-12.
- k) As per the JSERC Renewable Purchase Obligations Regulations 2010, the licensee is required to source percentage of its total energy requirement from renewable sources for FY 2011-12. The petitioner needs to provide details of energy purchased from renewable sources (including purchase of RECs if any) during FY 2011-12.
- l) DVC should submit details of domestic consumers and rates charged from them.
- m) DVC should submit details of revenue earned through UI for the period FY 2006-07 to FY 2008-09.

2.14 The Petitioner delayed the submission of additional information sought and submitted the required data only during September 2012. Further, the Commission's representatives also visited DVC's Office at Kolkata to validate the data from their records and also to understand the functioning of the distribution system of the Petitioner. The Commission sought additional information and clarification through email dated October 4, 2012, which was submitted by the Petitioner through its letter dated October 17, 2012. The lack of required information/ data along with the tariff petition and in the required formats and subsequent delays in submission of the additional information has resulted in not passing of the Order within 120 days from the submission of the tariff petition. The Commission directs the Petitioner to submit the next tariff petition in accordance with the JSERC Distribution Tariff Regulations, 2010 along with the relevant information to avoid such delays.

Inviting Public Response

2.15 After the initial scrutiny of ARR Petition filed by the Petitioner, the Commission directed the Petitioner to issue public notice for inviting comments/suggestions from public and to make available copies of the ARR and tariff petition to the general public.

2.16 The public notice was subsequently issued by the Petitioner in various newspapers, as detailed hereunder:

Table 1: List of Newspapers where public notice was published by DVC inviting public comments/objections/suggestions

Newspaper (Jharkhand Editions)	Date
The Hindustan Times (English)	25 th & 26 th April 2012
Times of India (English)	25 th & 26 th April 2012

Hindustan (Hindi)	25 th & 26 th April 2012
Prabhat Khabar (Hindi)	25 th & 26 th April 2012

- 2.17 A period of 30 days was provided for submitting the comments/suggestions. The Commission received written comments/objections/ suggestions from 19 consumers. The Commission subsequently issued advertisement on its website www.jserc.org and in various newspapers for conducting the public hearing on the ARR and Tariff filing by the Petitioner for FY 2012-13. The newspapers wherein the advertisement for public hearing was issued by the Commission are detailed hereunder:

Table 2: List of Newspapers where public notice was published by Commission for Public hearing

Newspaper (Jharkhand Editions)	Date
Aaj	12.06.2012 & 17.06.2012
Hindustan (Hindi)	12.06.2012 & 17.06.2012
Prabhat Khabar	12.06.2012 & 17.06.2012
The Pioneer	12.06.2012 & 17.06.2012
Farooqui Tanzeem (Urdu Daily)	16.06.2012
Dainik Jagran	16.06.2012
Ranchi Express	16.06.2012
The Hindustan Times (English)	16.06.2012
Dainik Bhaskar	16.06.2012

Submission of objections and conduct of public hearing

- 2.18 The public hearing was held on June 17, 2012 at Auditorium, Combined Building, Area No. 6, DVC, Maithon, Dhanbad. 44 stakeholders including consumers, representatives of the Petitioner and of the Commission attended the public hearing. During the hearing, many respondents gave their comments and suggestions on the ARR filing by the Petitioner. The comments/suggestions of the public as well as the Petitioner's response to them are detailed in the section dealing with the public consultation process.
- 2.19 After the Public hearing, the Commission's representatives met the Petitioner at its office to discuss the remaining data/information gaps in the petition. During the meeting, the petitioner clarified its position on certain data gaps including actual power purchase bills, consumer bills; etc which had been pointed out by the Commission earlier and also assisted the Commission's representatives in validating the information submitted in the petition.

A3: SUMMARY OF ARR & TARIFF PETITION**Overview**

- 3.1 DVC has filed the present Tariff Petition with respect to the retail supply of power in the Damodar Valley Area falling within the State of Jharkhand and includes following:
- (a) Estimation of Annual Revenue Requirement (ARR) for FY 2006-07 to FY 2010-11 based upon the actual information submitted by the Petitioner for the aforementioned years;
 - (b) Projection of ARR for FY 2011-12 on basis of past trends & latest available information; &
 - (c) Projection of ARR and determination of retail supply tariffs for FY 2012-13.

ARR and Tariff Determination

- 3.2 The following table provides a summary of the ARR as submitted by the Petitioner for FY 2006-07 to FY 2012-13.

Table 3: ARR Requirement for FY 2006-07 to FY 2012-13 as submitted by DVC (Rs Cr)

S. No.	Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12 *	FY 2012-13	
1	Own generation cost	2,448.72	2,353.66	2,471.40	3,514.86	4,217.24	4983.59	6088.33	
2	Power Purchase Cost	141.33	121.84	141.66	751.51	597.60	1107.56	1806.11	
3	Revenue Requirement as per the claim not considered by CERC	1348.78	1357.29	1501.04	0.00	0.00	0.00	0.00	
4	IWC due to Power Purchase	3.53	3.05	3.54	18.79	14.94	23.43	42.26	
5	T&D Cost	128.58	130.00	131.79	Included in own generation cost as given in Sl. No. 1 in this table				
6	Pension as allowed by CERC	306.90	306.90	306.90					
7	Sinking fund contribution as allowed by CERC	40.43	30.72	27.55					
8	Other costs (incl. of Tariff filing & publication costs)	0.00	0.00	0.00	0.00	0.00	0.00	3.42	
9	Total Cost	4418.28	4303.46	4583.88	4285.16	4829.78	6114.59	7940.12	
10	Non-Tariff Income	7.65	12.22	24.26	1.89	7.63	0.00	0.00	
11	Net Cost	4410.63	4291.24	4559.62	4283.27	4822.15	6114.59	7940.12	
12	Allocation of Cost to Jharkhand Area in ratio	2768.39	2562.42	2735.79	2499.12	2867.60	3497.08	4595.40	

	of energy sales in Jharkhand area							
13	Add: Tariff filing & publication fees allocated to Jharkhand Area	0.24	0.23	0.27	0.63	0.66	1.79	0.00
14	Total ARR for retail supply in Jharkhand Area	2768.63	2562.65	2736.06	2499.73	2868.25	3498.86	4595.40

Note: * As per the initial petition submitted by the Petitioner. DVC has submitted revised ARR for FY 2011-12 based on actual data as on November 6, 2012 and same has been considered while undertaking the analysis of ARR for FY 2011-12 in Section 6 of this Provisional Tariff Order.

3.3 The Petitioner has submitted that as the retail tariffs have not changed in the past six years, the cumulative revenue gap at current tariffs till FY 2012-13 has been projected to be Rs.3725 Cr and has been summarised in the following table.

Table 4: Revenue Gap for FY 2006-07 to FY 2012-13 as submitted by DVC (Rs Cr)

S. No.	Particulars	FY 2006-07	FY 2007-08	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12*	FY 2012-13
1	Total ARR for retail supply in Jharkhand Area	2768.63	2562.65	2736.06	2499.73	2868.25	3498.86	4595.40
2	Revenue from sale of Power in Jharkhand area at current tariffs	1877.64	1759.70	2172.99	2318.50	2023.33	3479.76	4172.36
3	Revenue Gap	890.99	802.95	563.07	181.23	844.92	19.11	423.04
4	Cumulative revenue gap till FY 2012-13							3725.32

Note: * As per the initial petition submitted by the Petitioner. DVC has submitted revised ARR for FY 2011-12 based on actual data as on November 6, 2012 and same has been considered while undertaking the analysis of ARR for FY 2011-12 in Section 6 of this Provisional Tariff Order.

3.4 Further, as the true up for FY 2006-07 to 2008-09 is provisional subject to the final decision of the Hon'ble Supreme Court in its appeal C.A. No. 4881/2010, the Petitioner has not considered the cumulative revenue gap for previous years i.e. from FY 2006-07 to FY 2011-12 while projecting the tariff hike for FY 2012-13. However, the Petitioner has requested to adjust the entire proposed revenue gap for FY 2012-13 i.e. Rs.423.04 Cr through tariff hike of 2.5% over existing tariffs.

3.5 In addition, the Petitioner has requested for two-part tariff structure is made applicable for HT consumers. The proposed tariff schedule for FY 2012-13 has been summarised in the following table.

Table 5: Retail Tariffs for FY 2012-13 as proposed by DVC

Consumer Category	Name of Tariff Scheme	Consumption Slab	Existing Component of Tariff (without adj. of FSA)*		Proposed Component of Tariff (2012-13)	
			Energy Charges	Fixed/Demand Charges	Energy Charges	Fixed/Demand Charges
			(Paise/kWh)	(Paise/kWh)	(Paise/kWh)	(Rs./kVA/ Month)
Industries (33 kV)	TOD	Normal (06:00 to 17:00)	202	171	305	670
		Peak (17:00 to 23:00)	202	171	365	
		Off Peak (23:00 to 6:00)	202	171	259	
	Non TOD	All Units	202	171	311	670
Industries (132 kV)	TOD	Normal (06:00 to 17:00)	202	171	302	670
		Peak (17:00 to 23:00)	202	171	362	
		Off Peak (23:00 to 6:00)	202	171	256	
	Non TOD	All Units	202	171	308	670
Traction (132 kV)	Non TOD	All Units	202	171	193	670
Industries (220 kV)	TOD	Normal (06:00 to 17:00)	202	171	295	670
		Peak (17:00 to 23:00)	202	171	354	
		Off Peak (23:00 to 6:00)	202	171	251	

Note: * The existing billing rate as per the applicable tariff rates after adjustment of FSA recoverable in accordance with the CERC's Provisional Tariff Order dated June 23, 2011 is 401 paise/unit comprising of 223 paise/unit as energy charges & 178 paise/unit as fixed charges

A4: PUBLIC CONSULTATION PROCESS - ISSUES RAISED

- 4.1 The tariff petition evoked response from several consumers. 44 stakeholders including the consumers, representatives of the Commission and DVC, participated in the public hearing held on June 17, 2012 in Maithon, Dhanbad. During the hearing, DVC presented a summary of the Petition, while several participating consumers presented their comments/objections on the tariff petition. Other than that, the Commission also received written objections from 19 consumers. The comments/suggestions of the public, the Petitioner's response and the Commission's views on them, have been summarised below.

Issue of jurisdiction of tariff determination*Public Comments/Suggestions*

- 4.2 The objector submitted that the tariff for supply of power made by DVC to its HT consumers at or above 33 kV comes under the jurisdiction of the CERC as the supply is made through a deemed inter-state transmission network and as such the State Commissions of Jharkhand and West Bengal have no authority and jurisdiction to fix tariff or commercial terms and condition of supply for such consumers. The Objector added that the tariff for entire transmission & distribution network of DVC has been determined by the CERC through its Order dated August 6, 2009 taking into account the entire capital and O&M cost towards the transmission & distribution activities undertaken by DVC. This was in line with the Judgement made by the Hon'ble APTEL in its Order dated November 23, 2007, which has been reproduced below:

111. DVC has been supplying power from its generating stations to West Bengal Electricity Board and Jharkhand Electricity Board along with nearly 120 HT Consumers either through inter-state transmission lines or through point-to-point 'dedicated transmission lines'. We, therefore, conclude that all transmission systems of DVC be considered as unified deemed inter-state transmission system, in so far as the determination of tariff is concerned and as such regulatory power for the same be exercised by the Central Commission.

- 4.3 Thus in view of the above Order of the APTEL, DVC has no distribution network and as such the entire transmission and distribution network of DVC has to be treated as unified deemed inter-state transmission network which comes under the jurisdiction of CERC and not of any state electricity regulatory commission.

Petitioner's Response

- 4.4 The Petitioner submitted that Ministry of Power, Government of India vide its letter dated June 2, 2005 has clarified that the CERC has jurisdiction in respect of generation stations and inter-state transmission system of DVC and the concerned SERCs have jurisdiction in respect of distribution and intra-state transmission of electricity undertaken by DVC. Accordingly, JSERC has the jurisdiction for tariff determination of distribution and intra-state transmission of electricity by DVC.
- 4.5 However, the Hon'ble APTEL by its Judgement dated November 23, 2007 ruled that as the transmission & distribution network of the DVC is an inter-connected network and cannot be segregated, it is to be considered as deemed inter-state transmission network **for the purposes of tariff determination**. Thus the said order is to be honoured only for the purposes of tariff determination and it cannot be said that DVC has no distribution network. In addition, as CERC has already considered the entire capital and O&M cost of **'deemed inter-state transmission' network of DVC** in its Order dated August 6, 2009 and June 23, 2011 while determining the tariff for the generation and inter-state transmission assets of the DVC. Accordingly, while filing for determination of retail & distribution tariff for Jharkhand Area, the DVC has considered the cost of generation & inter-state transmission network as determined by CERC as input cost and added further cost of power purchase and any other cost incurred for distributing the power which has to be recovered from the firm consumers through tariff design by the JSERC for power supplied to consumers in Jharkhand area.
- 4.6 Thus the Petitioner submitted that the retail tariffs for sale of electricity to HT Consumers can only be fixed by State Commissions after taking care of power purchase costs and other costs and has accordingly filed the tariff petition for determination of retail tariffs for FY 2012-13 with JSERC for sale of electricity in state of Jharkhand.

Views of the Commission

- 4.7 The Sections 62 (d) and 86 (1) of the Electricity Act, 2003, clearly lays down the powers of the SERCs for determining the tariff for generation, transmission and distribution & retail supply within the territorial limits of the respective state boundaries. Thus, the State Commissions of Jharkhand and West Bengal are well within their jurisdiction as per the provisions of the Electricity Act, 2003 while determining the retail tariffs for power supplied by DVC.
- 4.8 Further, the Ministry of Power's Letter dated June 2, 2005 clarified that the CERC has jurisdiction in respect of generation stations and inter-state transmission system of DVC and the concerned SERCs have jurisdiction in respect of distribution and intra-state transmission of electricity undertaken by DVC. For the purposes of clarity, the relevant extract of the aforesaid letter is reproduced in the following page:

“...to say that the matter of regulatory jurisdiction over the DVC under the Electricity Act 2003 has been examined in the Ministry. Following is being conveyed for necessary action :

- i) The Central Electricity Regulatory Commission has jurisdiction under section 79 of the Electricity Act 2003 in respect of the generating stations of the DVC and the inter-state transmission of electricity undertaken by the DVC.*
- ii) The concerned State Electricity Regulatory Commission has jurisdiction in terms of section 86 of the Act in respect of distribution of electricity and intra-state transmission of electricity undertaken by the DVC.”*

4.9 Accordingly, the jurisdiction of tariff determination for distribution & retail business of DVC lies with the respective state commissions of state of Jharkhand & West Bengal.

4.10 Moreover, the ATE’s Order dated November 23, 2007, makes this issue more clear. Para 48 of the said Order is reproduced below:

“48. Thus, there is no doubt that the DVC, which is a generating company, was established by the Central Government and it is the Central Government which has pervasive control over the DVC. This being so, under Section 79, the Central Commission is required to regulate the tariff of the DVC as it is controlled by the Central Government. The mere fact that it is also a transmission licensee does not detract from the fact that it is basically a generating company controlled by the Central Government. Thus, neither the West Bengal State Electricity Regulatory Commission nor the Jharkhand State Electricity Regulatory Commission has the power to regulate the tariff of the DVC. My learned brother has also held that it is only the Central Electricity Regulatory Commission which has the jurisdiction to regulate tariff of the DVC as a generating company. I also endorse the reasoning of my learned brother whereby he has concluded that it is the Central Electricity Regulatory Commission which has the jurisdiction to regulate the tariff of the DVC relating to transmission of electricity.”

4.11 The aforesaid para makes it clear that the generation and inter-state transmission tariff of DVC will be regulated by the Central Electricity Regulatory Commission (CERC). In the opinion of the Commission, from the aforesaid para and also on reading of the whole of judgement, nowhere it is said that the distribution tariff will be fixed by the CERC. A perusal of the Order makes it clear that distribution and retail tariffs will be determined by the respective SERCs. In addition, the latest Order of ATE with respect to DVC dated May 10, 2010 also reiterates the fact that State Commission’s have jurisdiction for determining the retail tariffs. Relevant extract of the said Order is presented below:

“107.Thereafter, the DVC is directed to approach the concerned State Electricity Commissions for getting the final Order relating to the Retail Tariff who in turn will fix the retail Tariff according to law.”

- 4.12 Thus, the jurisdiction for finalisation of distribution & retail tariffs for the consumers in Damodar valley area within the territorial jurisdiction of the state of Jharkhand clearly lies with the JSERC.
- 4.13 The Commission further clarifies that the cost of distribution and retail supply has been determined after adopting the input cost of inter-state generation & transmission as determined by CERC by its Orders dated August 6, 2009 for the period FY 2006-07 to FY 2008-09 and June 23, 2011 for the period FY 2009-10 to FY 2012-13, the power purchase cost and any other cost incurred by DVC for distributing the power to retail consumers.
- 4.14 The Objector has stated that the DVC does not have any distribution network. But the DVC, in response to the objector has stated that, the said order is to be honoured only for the purposes of tariff determination and it cannot be said that DVC has no distribution network. As stated in earlier paragraphs, the Commission feels that the DVC has distribution network and as such the objection of the Objector is not tenable.
- 4.15 Regarding the cost, the Objector says that all the costs have been considered by the CERC while determining the inter-state generation and transmission costs and there is nothing to be added on. But the Petitioner in its response to the objection says that there are further costs for power purchase and other expenses for distributing the power which has to be recovered from the consumers through tariff design by the JSERC for power supply to consumers in Jharkhand area. The commission views that the reply of the Petitioner is self explanatory and is accepted.

Public notice for load shedding

Public Comments/Suggestions

- 4.16 The objector submitted that any load shedding under the regulation should be stopped immediately. If at all it is continued the same should be as per schedule agreed upon and declared through public notice.

Petitioner's Response

- 4.17 The Petitioner noted the objector's suggestion of public notice for load shedding for future purposes.

Views of the Commission

- 4.18 The Commission is of the view that the Petitioner should ensure uninterrupted supply in the Damodar valley area and any load shedding should be as per the scheduled agreed upon with the concerned authorities and after declaring in advance to the public through notices in newspapers/ websites/ etc. The Commission also directs the petitioner to submit the quarterly reports of the actual load shedding done and reasons for the same to the Commission.

Supply of power to consumers at voltage below 33 kV*Public Comments/Suggestions*

- 4.19 The objector submitted that the DVC has only now disclosed that it is also supplying power to consumers connected at voltage below 33 kV in its petition for determination of retail tariffs by the JSERC. However while in its petition for tariff determination for generation & inter-state transmission assets to CERC and in its appeals to the Hon'ble APTEL it did not disclose any such facts. Thus supply of any power to such consumers by DVC is questionable and illegal.

Petitioner's Response

- 4.20 The Petitioner submitted that as per the provisions of Section 18(i) & 18 (ii) of the DVC Act, 1948, Corporation is free to supply power to any consumers in the Damodar Valley area including to consumers below 33 kV with the permission of the Provincial government and as such it has been undertaking LT supply at voltage below 33 kV for very insignificant quantum of electricity of approx. 40 MU to meet its own colony consumption at different field formations as also to meet the lighting load of Bokaro and Waria railway stations which are located in and around DVC area as special case since the inception.

Views of the Commission

- 4.21 The Commission is of the view that as per the Section 18(i) & 18 (ii) of the DVC Act, 1948, Corporation is free to supply power to any consumers in the Damodar Valley area including to consumers below 33 kV with the permission of the Provincial government. Moreover, the Electricity Act, 2003, provides that the Licensee shall on an application by the owner or occupier of any premises give supply of electricity to such premises, within one month, after receipt of the application requiring such supply. The Act of 2003 does not differentiate between consumers of different categories as far as supply of electricity is concerned.
- 4.22 Furthermore, the Petitioner is supplying such power below 33 kV to meet its own colony consumption at different field formations and also to meet the lighting load of Bokaro and Waria railway stations which are located in and around DVC area since inception.

Tariff for Low Voltage consumers*Public Comments/Suggestions*

- 4.23 The objector submitted that DVC has not disclosed the tariff for its consumers availing low voltage power. In addition, separate tariff has not been proposed for separate categories of consumers such as domestic, commercial, industrial, street lights, hospitals, water supply, etc have not been provided.

- 4.24 Further details about metered vs. non metered consumers have also not being furnished, which is otherwise required according to JSERC regulation.

Petitioner's Response

- 4.25 The Petitioner submitted that under the DVC Act, 1948 it is obligated to supply power to all consumers within its licensed area at or above 33 kV for which it has proposed separate tariffs. While all LT supply in the area of Jharkhand within the Damodar Valley area is being taken care of by JSEB under its service obligation. Thus as such no separate tariffs have been proposed by DVC for supplying power to such consumers.

Views of the Commission

- 4.26 The Commission is of the view that as the Petitioner is a 'deemed' distribution licensee under the Electricity Act, 2003, it is obligated to supply power to all consumers including low voltage consumers (below 33 kV) wishing to purchase power from it under the Universal Service Obligation (USO). However, as the Petitioner has not submitted a detail tariff proposal for low voltage consumers, the Commission directs the Petitioner to submit the same with its next tariff petition.

Sale of Power outside Damodar Valley

Public Comments/Suggestions

- 4.27 The objector submitted that DVC was created for the integrated development of "Notified Area under DVC" which is lying in the states of Jharkhand & West Bengal only. However, approx. 40% of electricity generated by DVC is being taken away and sold outside the valley area on regular basis. This affects the power supply within the valley area, wherein consumers face power cuts causing lag in development of the valley area.

Petitioner's Response

- 4.28 The Petitioner submitted that it is supplying power to all the consumers in the valley area spreading over states of Jharkhand & West Bengal and also taking care of the requirement of all the prospective consumers at 33 kV and above in its licensed area. Further, the power generated in its own plants as well as power purchased from CSGS & other sources is being supplied to the consumers in the valley area. Only the surplus power, i.e. after meeting the demand of the consumers in the valley area, is supplied to other beneficiaries beyond the valley area.

Views of the Commission

- 4.29 The Commission is of the view that DVC should ensure uninterrupted supply to its own consumers falling within the Damodar valley area. Only the surplus power may be sold by the Petitioner outside the licensed area.

Redressal mechanism

Public Comments/Suggestions

- 4.30 The objector submitted in case of breakdown, the fault redressal mechanism by DVC is very lethargic and takes several hours even after localization of fault in specific cases. Thus in the existing scenario, the mechanism of redressal needs geared up for quick restoration in the interest of the consumers and being an essential service installation.

Petitioner's Response

- 4.31 The Petitioner submitted that in case of any breakdown/ fault in the system, DVC takes prompt action towards restoration of power supply.

Views of the Commission

- 4.32 The Commission is of the view that the Petitioner should make all-out efforts for quick redressal of the fault/breakdown in the system in accordance with the provisions of the JSERC (Distribution Licensee Standards of Performance) Regulations, 2005 as amended from time to time. The Commission is also of the view that the Petitioner should carry out an assessment of its present fault redressal mechanism system and should make all out efforts to improve it. The Commission also directs the Petitioner to submit the quarterly reports in this behalf as laid down in the JSERC (Distribution Licensee Standards of Performance) Regulations, 2005 as amended from time to time.

Change of conductor at CTPS Chas feeder

Public Comments/Suggestions

- 4.33 The objector submitted that DVC has not changed its undersize AAAC Dog Conductor of 33 kV CTPS Chas feeder emanating from CTPS causing frequent snapping of conductor and burning of jumper.

Petitioner's Response

- 4.34 The Petitioner submitted that the reason for snapping of conductors and burning of jumper is overdrawal of power by Chas PSS of JSEB beyond the Contract Demand of 15 MVA. Thus JSEB is requested to restrict its drawal within the contracted demand so that DVC is able to supply uninterrupted power to Chas PSS of JSEB,

Views of the Commission

- 4.35 The Commission is of the view that the Petitioner should make all out efforts to curb frequent snapping of conductor and burning of jumper. Also an arrangement should be worked out between DVC & JSEB to ensure no overdrawal is being done at the Chas PSS to avoid any interruption.

SLDC operations

Public Comments/Suggestions

- 4.36 The objector submitted that DVC is operating an SLDC in the state of Jharkhand which is not formed under the provisions of the Electricity Act 2003, and as such it is illegal. Further is the SLDC operated by DVC reporting to JSERC the data of power & financial management as per the provisions of the Electricity Act 2003.

Petitioner's Response

- 4.37 The Petitioner submitted that the load despatch centre of DVC undertakes its functions of SLDC as envisaged under the IEGC code for the area of DVC alone.

Views of the Commission

- 4.38 The Commission is of the view that the load despatch centre of DVC undertakes its functions for the area of DVC alone. However, it shall not interfere with the functioning of the State Load Despatch Centre for the State of Jharkhand. The Commission also directs the Petitioner to submit the quarterly reports of the energy accounting to the Commission.

Revenue from trading business

Public Comments/Suggestions

- 4.39 The objector submitted that DVC is also engaged in power trading business. The objector pointed that the revenue earned through the inter-state/ intra-state trading business be accounted for while projecting the ARR for retail tariff by the Commission.

Petitioner's Response

- 4.40 The Petitioner submitted that it supplies power to other licensees, in addition to WBSEDCL and JSEB, out of its own generation after fulfilment of demand in the DVC's command area as a deemed distribution licensee. Such sale is carried out through schedule mode under ABT mechanism as per the bilateral agreement executed with the respective beneficiaries of the DVC. The power supply bill as per the ex-bus generation tariff accordingly has been preferred to beneficiaries/ licensees in accordance with the CERC's provisional tariff orders dated August 6, 2009 and June 23, 2011. Thus, any sale of power to licensees outside the command area of DVC is in accordance with the inter-state generation & sale of activities of the DVC and falls under the jurisdiction of CERC and not of this Commission. DVC also submitted that during FY 2011-12, no power has been sold through traders.

Views of the Commission

- 4.41 The Commission is of the view that any revenue related to inter-state sale of power falls under the jurisdiction of the CERC and not of this Commission. Thus, the Commission has not considered any revenue on account of inter-state sale of power separately while determining the ARR for retail tariffs.

Refusal to supply to low voltage consumers

Public Comments/Suggestions

- 4.42 The objector submitted that DVC does not provide power to low voltage consumers falling within its area and the same is causing inconvenience to such consumers and also other distribution licensee in the area which has to go out of its licensed area to supply to such consumers within the state of Jharkhand.

Petitioner's Response

- 4.43 The Petitioner submitted that the at the time of formation of DVC, it was decided that DVC is free to supply power to consumers connected at voltage above 30 kV within the Damodar Valley area falling within the territorial jurisdiction of the state of Jharkhand, while the low voltage consumers in the said region would be supplied by the other distribution licensee namely JSEB.
- 4.44 Further the Petitioner submitted that as Jharkhand State Electricity Board (JSEB) is already supplying power to such consumers under its universal service obligation, it would only add to costs of DVC to supply to such consumers. Thus, DVC is not supplying separately to these consumers.

Views of the Commission

- 4.45 DVC, being a “*deemed distribution licensee*” in the State of Jharkhand, has a Universal Service Obligation (USO) under the Electricity Act, 2003 and accordingly it has to supply electricity on an application by the owner or occupier of any premises within one month, after receipt of the application from the applicant requiring such supply. The Act of 2003 does not differentiates between consumers of different categories as far as supply of electricity is concerned. Thus, the Commission is of the view that DVC must supply to consumers within its area and willing to take supply from it, without any discrimination to any voltage level.

A5: DETERMINATION OF ANNUAL REVENUE REQUIREMENT FOR FY 2006-07 TO FY 2010-11

- 5.1 The Petitioner has sought approval for the determination of ARR & revenue for FY 2006-07 to FY 2010-11 based on the actual information and the annual accounts for the aforementioned years. The Commission, based on the audited accounts and other information made available by the Petitioner and the prudence check undertaken by the representatives of the Commission, analysed all the components of revenue and expenditure for FY 2006-07 to FY 2010-11.
- 5.2 The component-wise description of the Petitioner's submission and the Commission's analysis on the same is provided herein-under.

Consumers, Connected Load & Energy Sales

Petitioner's Submission

- 5.3 The Petitioner submitted the actual category-wise number of consumers, connected load and energy sales in the Damodar Valley area falling within the state of Jharkhand for FY 2006-07 to FY 2010-11 and same has been summarised in Table 6.

Commission's Analysis

- 5.4 The Commission after scrutinising the latest information submitted by the Petitioner, the annual accounts made available for the aforementioned years and prudence check, approves the actual number of consumers, connected load and energy sales as submitted by the Petitioner for FY 2006-07 to FY 2010-11.

Table 6: Consumers, Connected Load & Energy Sales in Jharkhand Area as submitted by DVC & approved by the Commission for FY 2006-07 to FY 2010-11

Financial Year	Consumers (Nos.)	Energy Sales (MU)	Connected Load/ Contract Demand (MVA)
2006-07	110	6761.63	1265.04
2007-08	120	7394.84	1313.69
2008-09	128	7740.31	1400.52
2009-10	133	8093.99	1423.21
2010-11	149	8549.47	1481.59

Transmission & Distribution (T&D) Losses & Energy Requirement

Petitioner's Submission

- 5.5 The Petitioner submitted that as it is supplying power in bulk to the WBSEDCL & JSEB and majority of HT consumers falling in the Damodar valley area are at 33 kV and above voltage, it incurs very low T&D losses. The actual T&D loss for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11 are 3.7%, 3.5%, 3.0%, 4.6% & 4.8%, respectively. The Petitioner submitted that there has been increase in T&D losses during FY 2010-11 due to increase in LT sales by approx. 18% over previous year.
- 5.6 Further, in addition to the energy sold in the Jharkhand area, the Petitioner also submitted the actual sales in the West Bengal area and the energy wheeled from its inter-state transmission system for the purposes of computation of the energy requirement for the entire Damodar Valley area. The actual energy sales in West Bengal area for the aforementioned years has been submitted as 4011 MU, 4989 MU, 5160 MU, 5778 MU & 5828 MU, respectively. While the energy wheeled during the said years were 409 MU, 358 MU, 275 MU, 304 MU & 276 MU, respectively.
- 5.7 Based on the total energy sales in the Damodar Valley area, the T&D losses and the energy wheeled from the system, the Petitioner submitted the actual energy requirement for the period FY 2006-07 to FY 2010-11 and has been summarised in Table 7.

Commission's Analysis

- 5.8 The Commission after analysing the information submitted by the Petitioner and prudence check approves the actual T&D losses, energy wheeled and energy requirement as submitted by the Petitioner and same has been summarised in the following table.

Table 7: Energy Requirement (MU) for FY 2006-07 to FY 2010-11 as submitted by DVC & as approved by the Commission

Particulars	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Energy sales within the State of Jharkhand										
LT Sales	41	46	40	37	44	41	46	40	37	44
HT Sales	6720	7349	7700	8057	8505	6720	7349	7700	8057	8505
Total sales within the State of Jharkhand	6762	7395	7740	8094	8549	6762	7395	7740	8094	8549
Energy Sales within the state of WB	4011	4989	5160	5778	5828	4011	4989	5160	5778	5828
Total Energy Sales in DVC Area	10773	12384	12900	13872	14377	10773	12384	12900	13872	14377
Energy Wheeled	409	358	275	304	276	409	358	275	304	276
Overall Utilization	11182	12742	13175	14176	14653	11182	12742	13175	14176	14653

Particulars	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
T&D Loss (%)	3.7%	3.5%	3.0%	4.6%	4.8%	3.7%	3.5%	3.0%	4.6%	4.8%
T&D Loss (MU)	432	459	414	676	732	432	459	414	676	732
Total Energy Requirement for DVC	11614	13201	13589	14853	15385	11614	13201	13589	14853	15385

Generation of power from own stations

Petitioner's Submission

5.9 The Petitioner generates power from its own stations to meet part of its power requirements to be sold to its consumers in the Jharkhand and West Bengal area. The generating stations include both thermal and hydel stations. During the period FY 2006-07 to FY 2010-11, DVC owned & operated 4 thermal stations namely, Bokaro thermal power station (BTPS), Chandrapura thermal power station (CTPS), Durgapur thermal power station (DTPS) and Mejia thermal power station (MTPS) along with 3 hydel stations namely Maithon hydel station (MHS), Panchet hydel station (PHS) and Tilayia hydel station (THS).

5.10 The actual generation available from own stations during the period FY 2006-07 to FY 2010-11 has been summarised in the following tables.

Table 8: Generation of power (MU) from own stations during FY 2006-07 as submitted by DVC

Station Name	Installed Capacity (MW)	Normative Availability (%)	Actual Availability (%)	Normative Aux. Consumption (%)	Net Generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	78.00	86.16	11.00	4232.03
BTPS	630.00	55.00	57.55	10.50	2842.38
CTPS	390.00	55.00	62.77	11.50	1897.86
DTPS	350.00	60.50	67.73	11.50	1837.73
MTPS U# 4	210.00	80.00	79.50	9.00	1330.93
Hydel Stations					
MHS	63.20				175.40
PHS	80.00				162.67
THS	4.00				17.98
Total	2357.20				12496.98

Table 9: Generation of power (MU) from own stations during FY 2007-08 as submitted by DVC

Station Name	Installed Capacity (MW)	Normative Availability (%)	Actual Availability (%)	Normative Aux. Consumption (%)	Net Generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	80.00	87.41	9.60	4360.97
BTPS	630.00	65.00	68.88	10.25	3411.57
CTPS	390.00	55.00	70.25	11.50	2123.89
DTPS	350.00	67.00	53.59	10.70	1467.25
MTPS U# 4	210.00	80.00	89.50	9.00	1498.30
MTPS U# 5 & 6	250.00*	80.00	44.28	9.00	223.00**
Hydel Stations					
MHS	63.20				203.33
PHS	80.00				208.72
THS	4.00				21.97
Total	2607.20				13519.00

* Note: Only Unit # 5 was available; ** only 20% of power is available for supply to DVC area

Table 10: Generation of power (MU) from own stations during FY 2008-09 as submitted by DVC

Station Name	Installed Capacity (MW)	Normative Availability (%)	Actual Availability (%)	Normative Aux. Consumption (%)	Net Generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	80.00	71.74	9.00	3603.02
BTPS	630.00	75.00	60.31	10.00	2995.68
CTPS	390.00	60.00	74.24	11.50	2244.74
DTPS	350.00	74.00	62.70	10.55	1719.63
MTPS U# 4	210.00	80.00	79.80	9.00	1335.83
MTPS U# 5 & 6	500.00	80.00	50.48	9.00	1615.79
Hydel Stations					
MHS	63.20				189.09
PHS	80.00				221.69
THS	4.00				19.53
Total	2857.20				13945.00

Table 11: Generation of power (MU) from own stations during FY 2009-10 as submitted by DVC

Station Name	Installed Capacity (MW)	Normative Availability (%)	Actual Availability (%)	Normative Aux. Consumption (%)	Net Generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	80.00	55.41	9.00	2782.90
BTPS	630.00	75.00	63.39	10.25	3139.83
CTPS	390.00	60.00	64.39	11.50	1946.93
DTPS	350.00	74.00	66.43	10.50	1823.00
MTPS U# 4	210.00	80.00	77.78	9.00	1302.08

MTPS U# 5 & 6	500.00	80.00	49.54	9.00	394.90
Hydel Stations					
MHS	63.20				102.38
PHS	80.00				84.50
THS	4.00				9.62
Total	2857.20				11586.14

Table 12: Generation of power (MU) from own stations during FY 2010-11 as submitted by DVC

Station Name	Installed Capacity (MW)	Normative Availability (%)	Actual Availability (%)	Normative Aux. Consumption (%)	Net Generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	80.00	74.50	9.00	3741.57
BTPS	630.00	75.00	61.37	10.25	3039.88
CTPS	390.00	60.00	77.15	11.50	2332.73
DTPS	350.00	74.00	48.75	10.50	1337.60
MTPS U# 4	210.00	80.00	75.73	9.00	1267.66
MTPS U# 5 & 6	500.00	80.00	70.27	9.00	560.16
Hydel Stations					
MHS	63.20				59.47
PHS	80.00				54.27
THS	4.00				0.46
Total	2857.20				12393.80

Commission's Analysis

5.11 DVC being a statutory body constituted under the DVC Act, 1948 is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003. Thus, the tariff for generation of electricity is to be decided by the Central Electricity Regulatory Commission (CERC). The actual generation from own sources for FY 2006-07 to FY 2008-09 and FY 2009-10 to FY 2010-11 is in accordance with the CERC Orders dated August 6, 2009 & June 23, 2011, respectively and same has been adopted by the Commission and summarised in the following table.

Table 13: Energy available (MU) from own stations during F 2006-07 to FY 2010-11 as submitted by DVC & as adopted by the Commission based on the relevant CERC orders

Particulars	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Thermal Stations	12141	13085	13515	11390	12280	12141	13085	13515	11390	12280
Hydel Stations	356	434	430	197	114	356	434	430	197	114
Total Generation from own sources	12497	13519	13945	11586	12394	12497	13519	13945	11586	12394

Power Purchase from Central Sector Generating Stations (CSGS) and other sources

Petitioner's Submission

- 5.12 The Petitioner submitted that it is also purchasing power from CSGS and other sources to meet the energy requirements in the DVC area. During FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11, the Petitioner made gross power purchase of 717 MU, 617 MU, 717 MU, 752 MU & 754 MU, respectively from NTPC, NHPC, PTC & other sources (excluding net power purchased under Unscheduled Interchange mechanism). The net power purchase for the aforementioned years, after considering the eastern region losses @ 2.5%, was 693 MU, 594 MU, 689 MU, 729 MU & 734 MU, respectively.
- 5.13 Further, during the period FY 2006-07 to FY 2010-11, the Petitioner also purchased & sold power through the Unscheduled Interchange (UI) mechanism. The net power purchased by DVC through UI (i.e. power purchased less power sold under UI mechanism) during FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11 was -833 MU, -456 MU, -324 MU, 1625 MU & 1782 MU, respectively.
- 5.14 Accordingly, the net power purchase from CSGS & other sources (including UI) during the aforementioned period works out to be -140 MU, 138 MU, 366 MU, 2354 MU & 2516 MU, respectively and same has been considered for estimating the energy availability.

Commission's Analysis

- 5.15 The Commission after scrutinising the information submitted by the Petitioner and after validating the same with the audited annual accounts for FY 2006-07 to FY 2010-11, approves the actual power purchased from CSGS and other sources (including UI) for FY 2006-07 to FY 2010-11 as submitted by the Petitioner.
- 5.16 The following table summarises the station-wise net power purchase as submitted by the Petitioner and as approved by the Commission for the period FY 2006-07 to FY 2010-11.

Table 14: Station-wise Power Purchase (MU) for FY 2006-07 to FY 2010-11 as submitted by Petitioner & as approved by the Commission

Name of Station	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
NTPC										
TSTPS	24	22	21	21	21	24	22	21	21	21
FSTPS	274	86	0	0	0	274	86	0	0	0
KSTPS	6	0	0	0	0	6	0	0	0	0
Muzaffarpur	0	0	0	0	0	0	0	0	0	0
NHPC										

Rangeet	19	31	32	31	33	19	31	32	31	33
Teesta	0	5	154	216	218	0	5	154	216	218
WBSEDCL	0	0	0	9	0	0	0	0	9	0
PTC										
Chukha	186	182	186	184	185	186	182	186	184	185
Kurichu	141	97	93	89	84	141	97	93	89	84
Tala	44	171	203	179	193	44	171	203	179	193
Sub-Total	693	594	689	729	734	693	594	689	729	734
Net power purchase through UI	(833)	(456)	(324)	1625	1782	(833)	(456)	(324)	1625	1782
Total Power Purchase	(140)	138	365	2354	2516	(140)	138	365	2354	2516

Energy Balance

5.17 Based on the energy requirement and energy availability from own generation, T&D losses and power purchase from CSGS and other sources, the energy balance for FY 2006-07 to FY 2010-11 as submitted by the Petitioner and as per Commission's analysis has been summarised in the following table.

Table 15: Energy Balance (MU) for FY 2006-07 to FY 2010-11 as per Petitioner's Submission & the Commission's Analysis

Name of Station	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
A. Energy Requirement										
Energy sales within the State of Jharkhand	6762	7395	7740	8094	8549	6762	7395	7740	8094	8549
Energy Sales within the state of WB	4011	4989	5160	5778	5828	4011	4989	5160	5778	5828
Total Energy Sales in DVC Area	10773	12384	12900	13872	14377	10773	12384	12900	13872	14377
Energy Wheeled	409	358	275	304	276	409	358	275	304	276
Overall Utilization	11182	12742	13175	14176	14653	11182	12742	13175	14176	14653
T&D Loss (%)	3.7%	3.5%	3.0%	4.6%	4.8%	3.7%	3.5%	3.0%	4.6%	4.8%
T&D Loss (MU)	432	459	414	676	732	432	459	414	676	732
Total Energy Requirement for DVC	11614	13201	13589	14853	15385	11614	13201	13589	14853	15385
B. Energy Availability										
Own generation – Firm sources										
Thermal	12141	13085	13515	11390	12280	12141	13085	13515	11390	12280
Hydel	356	434	430	197	114	356	434	430	197	114
Sub-total	12497	13519	13945	11586	12394	12497	13519	13945	11586	12394

Own Generation – Infirm sources	0	0	0	1717	2512	0	0	0	1717	2512
Net Power Purchase (incl. UI)	(140)	138	365	2354	2516	(140)	138	365	2354	2516
Energy recd. For wheeling	450	416	322	350	284	450	416	322	350	284
Less: Energy sold to other licensees	1193	872	1043	1154	2320	1193	872	1043	1154	2320
Total Energy Available for DVC	11614	13201	13589	14853	15385	11614	13201	13589	14853	15385

Cost of own generation (input cost from CERC Orders) for DVC

Petitioner's Submission

- 5.18 As mentioned in para 5.11 above, DVC constituted under the DVC Act, 1948, is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003, the tariff for generation of electricity is to be decided by the CERC. Accordingly, cost of generation for DVC as a whole from own stations has been taken as approved by the CERC in its relevant Orders.
- 5.19 For the period FY 2006-07 to FY 2008-09, the cost of power generated from owned thermal stations (MTPS Unit# 1 to 3, BTPS, CTPS & DTPS) and own hydel stations (MHS, PHS & THS) has been projected on the basis of the CERC Order dated August 6, 2009. However, the Capacity Charge for MTPS Unit # 4 has been provisionally submitted by the Petitioner as per the claim in Form 1 of its Petition No 279/2010 submitted to CERC as the tariff order for MTPS Unit # 4 has not yet been finalized by CERC. For MTPS Unit # 5 & 6, the cost of power generated for the period April 1, 2008 to September 23, 2008 has been estimated on the basis of the CERC's Order dated December 23, 2009; while the cost of power generated from said units during the period September 24, 2009 to March 31, 2009 has been provisionally estimated by the Petitioner as per the claim in its Petition No 155/08 submitted to CERC as the tariff order for MTPS Unit # 5 & 6 has not yet been finalized by CERC.
- 5.20 For the period FY 2009-10 & FY 2010-11, the Petitioner has estimated the cost of own generation from thermal stations (BTPS, CTPS & DTPS, MTPS Unit # 1 to 3 & MTPS Unit # 4) and own hydel stations (MHS, PHS & THS) in accordance with the CERC's Order dated June 23, 2011. For MTPS Unit # 5 & 6, the cost of power generation has been estimated in accordance with the CERC's Order dated December 23, 2009. The effect of variation in Fuel Price Adjustment (FPA) in energy charges has also been built in the own cost of generation in accordance with the formula prescribed by the CERC.
- 5.21 Accordingly, the cost of power generation from own thermal & hydel stations as submitted by DVC for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11 is Rs.2449 Cr, Rs. 2354 Cr, Rs. 2471 Cr, Rs. 3515 Cr & Rs. 4217 Cr, respectively.

Commission's Analysis

- 5.22 The Commission after scrutinising the information made available by the Petitioner and after perusal of the relevant CERC Orders dated August 6, 2009, December 23, 2009 and June 23, 2011, has adopted the cost of own power generation from thermal & hydel stations for DVC for the period FY 2006-07 to FY 2010-11 as approved by CERC in its relevant tariff orders.
- 5.23 It is to be noted that the fixed charges as determined by the CERC for the owned generation assets of the Petitioner, consists of charges related to depreciation, interest on loan, return on equity, interest on working capital for generation and transmission assets, O&M expenses & other offices & subsidiary activities.
- 5.24 The station-wise cost of own power generating stations as submitted by the Petitioner and as adopted by the Commission from the aforementioned CERC Orders for the period FY 2006-07 to FY 2010-11 has been summarised in the following table.

Table 16: Station-wise cost of own power generation (Rs Cr) for FY 2006-07 to FY 2010-11 as submitted by Petitioner & as adopted by the Commission based on the relevant CERC orders

Name of Station	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
A. Thermal Stations										
MTPS U# 1 to 3	803.98	749.07	703.52	908.02	1215.59	803.98	749.07	703.52	908.02	1215.59
BTPS	532.80	547.44	482.35	835.73	953.11	532.80	547.44	482.35	835.73	953.11
CTPS	371.43	393.79	450.20	536.71	672.07	371.43	393.79	450.20	536.71	672.07
DTPS	382.39	294.40	381.24	588.03	588.16	382.39	294.40	381.24	588.03	588.16
MTPS U#4	321.73	330.60	337.18	366.24	408.40	321.73	330.60	337.18	366.24	408.40
MTPS U# 5 & 6	0.00	4.16	82.15	130.73	196.89	0.00	4.16	82.15	130.73	196.89
MTPS U# 7 & 8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CTPS U# 7 & 8	0.00	0.00	0.00	47.85	66.09	0.00	0.00	0.00	47.85	66.09
KTPS U# 1 & 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DSTPS U# 1 & 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sub-total (Thermal)	2412.33	2319.46	2436.63	3413.32	4100.30	2412.33	2319.46	2436.63	3413.32	4100.30
B. Hydel Stations										
Maithon	19.12	19.24	19.37	43.60	50.21	19.12	19.24	19.37	43.60	50.21
Panchet	13.80	11.36	11.66	55.19	63.55	13.80	11.36	11.66	55.19	63.55
Tilayia	3.47	3.60	3.74	2.76	3.18	3.47	3.60	3.74	2.76	3.18
Sub-Total (Hydel)	36.39	34.20	34.77	101.54	116.94	36.39	34.20	34.77	101.54	116.94
Total Own Generation cost for DVC	2448.72	2353.66	2471.40	3514.86	4217.24	2448.72	2353.66	2471.40	3514.86	4217.24
Net Generation (MU)	12497	13519	13945	11586	12394	12497	13519	13945	11586	12394
Per unit cost of own generation (Rs/ kWh)	1.96	1.74	1.77	3.03	3.40	1.96	1.74	1.77	3.03	3.40

Power purchase cost for DVC (Other than own generation cost)*Petitioner's Submission*

5.25 The Petitioner submitted the actual power purchase cost from CSGS & other sources (excluding UI) during FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11, was Rs.141 Cr, Rs.122 Cr, Rs.142 Cr, Rs.154 Cr & Rs.169 Cr, respectively. The Petitioner also submitted cost of power purchased under UI mechanism during FY 2009-10 and FY 2010-11 to be Rs. 598 Cr and Rs.429 Cr, respectively.

Commission's Analysis

5.26 The Commission analysed the actual power purchase bills from the CSGS for the period FY 2006-07 to FY 2010-11, and accordingly approves the power purchase cost from CSGS & other sources (excluding UI) as submitted by the Petitioner.

5.27 On further scrutiny of the information submitted by the Petitioner, the Commission noted that for the FY 2006-07 to FY 2008-09, the Petitioner has earned revenue from sale of power through UI but has not netted off this revenue from the gross power purchase cost. Accordingly, the Commission directed the Petitioner to submit details of the revenue earned from sale of power through UI of 833 MU, 456 MU & 324 MU for FY 2006-07, FY 2007-08 & FY 2008-09, respectively which the Petitioner submitted subsequently. The revenue from sale of power under UI for the aforementioned years was Rs.106 Cr, Rs. 37 Cr and Rs. 60 Cr, respectively. The revenue from UI was then netted off from the gross power purchase from CSGS and other sources to arrive at net power purchase cost (including UI) for FY 2006-07 to FY 2008-09. In case of FY 2009-10 & FY 2010-11, the Commission approved the gross power purchase from UI sources as submitted by the Petitioner.

5.28 Thus, after considering the impact of power sold through UI, the net power purchase cost (including UI but other than own generation cost) approved for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11 works out to be Rs. 35 Cr, Rs.85 Cr, Rs. 82 Cr, Rs. 752 Cr, & Rs.598 Cr, respectively. The following table summarises source-wise power purchase cost (other than own generation cost) for the period FY 2006-07 to FY 2010-11 as submitted by the Petitioner and as approved by the Commission.

Table 17: Source-wise power purchase cost (Rs Cr) for FY 2006-07 to FY 2010-11 as submitted by Petitioner & as approved by the Commission

Name of Station	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Power Purchase cost (excluding UI)										
NTPC –TSTPS	3.74	3.52	5.04	3.97	6.19	3.74	3.52	5.04	3.97	6.19
NTPC - FSTPS	55.57	18.29	0.00	0.00	0.00	55.57	18.29	0.00	0.00	0.00
NTPC – KSTPS	1.34	0.00	0.00	0.00	0.00	1.34	0.00	0.00	0.00	0.00

NTPC - Muzaffarpur	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NHPC - Rangeet	5.80	6.51	6.42	6.55	8.25	5.80	6.51	6.42	6.55	8.25
NHPC – Teesta	0.00	0.92	31.13	48.67	56.20	0.00	0.92	31.13	48.67	56.20
WBSEDCL	0.00	0.00	0.00	2.77	0.00	0.00	0.00	0.00	2.77	0.00
PTC – Chukha	34.94	34.25	34.79	34.66	36.61	34.94	34.25	34.79	34.66	36.61
PTC – Kurichu	30.28	20.91	20.23	19.12	18.67	30.28	20.91	20.23	19.12	18.67
PTC – Tala	9.65	37.45	44.04	38.23	42.90	9.65	37.45	44.04	38.23	42.90
Gross power purchase excluding UI (Rs Cr)	141.33	121.84	141.66	153.96	168.82	141.33	121.84	141.66	153.96	168.82
Power purchased units excluding UI (MU)	693	594	689	729	734	693	594	689	729	734
Rate of power purchase excluding UI (Rs./kWh)	2.04	2.05	2.05	2.11	2.30	2.04	2.05	2.05	2.11	2.30
Net power purchase cost from UI (Rs Cr)	-	-	-	597.55	428.78	(105.91)	(36.92)	(59.56)	597.55	428.78
Total Power Purchase cost (Rs Cr)	141.33	121.84	141.66	751.51	597.60	35.42	84.92	82.10	751.51	597.60

Other Fixed cost components

Input cost (other than power generation cost) for DVC

Petitioner's Submission

5.29 The Petitioner submitted that other than the energy & capacity charges for own generation, the cost of transmission & distribution of electricity generated from own stations, the contribution made to pension fund & provisions towards sinking fund also constitute the input cost and are in accordance with the CERC Order dated August 6, 2009. Accordingly for FY 2006-07, FY 2007-08 & FY 2008-09, the Petitioner submitted the input cost other than cost of power generation to be Rs.476 Cr, Rs.468 Cr & Rs.466 Cr, respectively. In case of FY 2009-10 & FY 2010-11, the Petitioner has not submitted any cost pertaining to these charges separately as same has been included in the cost of own generation as approved by CERC in its Order dated June 23, 2011.

Commission's Analysis

5.30 The Commission after scrutinising the components of input cost (other than power generation cost) as submitted by the Petitioner, and after perusal of the CERC's Orders dated August 6, 2009 and June 23, 2011, has adopted the input cost (other than power generation cost) as approved by CERC in the aforementioned Orders for FY 2006-07, FY 2007-08 and FY 2008-09. In case of FY 2009-10 & FY 2010-11, the Commission has not considered any cost under this head separately as same has been included by CERC in the fixed cost applicable for own generating stations of DVC in its Order dated June 23, 2011 and has been adopted by this Commission in Table 16 of this Order. The following table summarises the input cost (other than own generation cost) as submitted by the Petitioner and as adopted by the Commission.

Table 18: Input cost (other than power generation cost) (Rs Cr) for FY 2006-07 to FY 2008-09 as submitted by Petitioner and as adopted by the Commission from relevant Orders of CERC

Particulars	DVC's Submission			Commission's Analysis		
	2006-07	2007-08	2008-09	2006-07	2007-08	2008-09
T&D Cost	128.58	130.00	131.79	128.58	130.00	131.79
Pension as allowed by CERC	306.90	306.90	306.90	306.90	306.90	306.90
Sinking fund contribution as allowed by CERC	40.43	30.72	27.55	40.43	30.72	27.55
Total Input cost of own generation (other than cost of power generation)	475.91	467.62	466.24	475.91	467.62	466.24

Revenue Requirement for DVC as per the claim not considered by CERC

Petitioner's Submission

5.31 The Petitioner submitted that the CERC in its Order dated August 6, 2009 did not give full effect to the judgement made by the Hon'ble ATE in the order dated November 23, 2007. Accordingly, the Petitioner submitted that the pending ARR not considered by CERC of Rs.1348.78 Cr, Rs.1357.29 Cr, and Rs.1501.04 Cr pertaining to FY 2006-07, FY 2007-08 and FY 2009-10, respectively should be allowed by the Commission while determining the retail tariff. The Petitioner has also filed an appeal for the said amounts in the Supreme Court (Appeal No. 4881/2010) wherein the decision is pending.

Commission's Analysis

5.32 The CERC in its Order dated August 6, 2009, finalised the input cost for own power generation and deemed inter-state transmission assets of DVC for the period FY 2006-07 to FY 2008-09. Accordingly, the Commission has considered the input cost as determined by CERC while fixing the retail tariffs for the aforementioned years. Any other cost pertaining to the generation and deemed inter-state transmission assets of the DVC comes under the jurisdiction of the CERC and the matter should be put to the Central Electricity Regulatory Commission by DVC. The Commission shall adopt costs related to inter-state generation and deemed inter-state transmission as per the relevant CERC Orders only. Thus the Commission has not included such additional cost pertaining to the generation & deemed inter-state transmission activities of the DVC being outside the jurisdiction of this Commission.

Non-Tariff Income

Petitioner's Submission

5.33 The Petitioner submitted non-tariff income pertaining to revenue collected through delayed payment surcharge for DVC as a whole, for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11 as Rs.7.65 Cr, Rs.12.22 Cr, Rs.24.26 Cr, Rs.1.89 Cr & Rs.7.63 Cr, respectively.

Commission's Analysis

- 5.34 The Commission's representatives verified the submission made by the Petitioner from the Accounting system (TALLY) of the Petitioner. Accordingly, the Commission approves the actual non-tariff income pertaining to delayed payment surcharge as Rs.7.65 Cr, Rs.12.22 Cr, Rs.24.26 Cr, Rs.1.89 Cr & Rs.7.63 Cr, respectively for the aforementioned years.

Revenue from Sale of Power in the Jharkhand Area*Petitioner's Submission*

- 5.35 The Petitioner has submitted the actual revenue from sale of power within the Jharkhand area to be Rs.1877.64 Cr, Rs.1759.70 Cr, Rs.2172.99 Cr, Rs.2318.50 Cr & Rs.2023.33 Cr for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11, respectively.

Commission's Analysis

- 5.36 The Commission after scrutinising the information submitted by the Petitioner and after verifying through the annual accounts and prudence check, approves the actual revenue from sale of power in Jharkhand area as Rs.1877.64 Cr, Rs.1759.70 Cr, Rs.2172.99 Cr, Rs.2318.50 Cr & Rs.2023.33 Cr for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 & FY 2010-11, respectively, which is in line with the submission made by the Petitioner.

Interest on Working Capital*Petitioner's Submission*

- 5.37 The Petitioner has estimated the interest on working capital in accordance with the methodology notified in the West Bengal gazette for calculation of Interest on Working Capital wherein Interest on Working Capital for power purchase is calculated @ 15% of the 1/6th of the capital requirement for Power Purchase.
- 5.38 Accordingly, the Petitioner submitted the interest on working capital required for power purchase for the DVC as a whole (i.e. inclusive of Jharkhand & West Bengal Area) to be Rs.3.53 Cr, Rs.3.05 Cr, Rs.3.54 Cr, Rs.18.79 Cr and Rs. 14.94 Cr for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 and FY 2010-11, respectively.

Commission's Analysis

- 5.39 The Commission is guided by the JSERC (Distribution Tariff) Regulations, 2004 for determining the working capital requirements for the retail & distribution business for the period FY 2006-07 to FY 2010-11. The abovementioned regulations provide that working capital is required to meet the shortfall in collection over and above the target approved by the Commission.

5.40 Accordingly, the Commission has estimated the working capital requirement for Jharkhand area to be 1% of the actual revenue from sale of power in the Jharkhand area in line with the said regulations applicable in the state of Jharkhand. The interest on working capital has been estimated at the prevailing State Bank of India (SBI) Prime Lending Rate (PLR) as on April 1st of the respective year. The following table summarises the computation of interest on working capital for FY 2006-07 to FY 2010-11 as per the Commission's analysis.

Table 19: Interest on Working Capital (Rs Cr) for Jharkhand Area for FY 2006-07 to FY 2010-11 as approved by the Commission

Particulars	2006-07	2007-08	2008-09	2009-10	2010-11
Revenue from sale of power in Jharkhand Area	1877.64	1759.70	2172.99	2318.50	2023.33
Working Capital Requirement in Jharkhand Area (@ 1% of Revenue from sale of power)	18.78	17.60	21.73	23.19	20.23
Interest Rate (%)	10.25%	12.25%	12.25%	12.25%	11.75%
Interest on Working Capital for Jharkhand Area	1.92	2.16	2.66	2.84	2.38

Tariff Filing and Publication Expenses for Jharkhand Area

Petitioner's Submission

5.41 The Petitioner has submitted that tariff filing and publication expenses for DVC pertaining to the Jharkhand area are Rs.0.24 Cr, Rs.0.23 Cr, Rs.0.27 Cr, Rs.0.63 Cr and Rs.0.66 Cr for FY 2006-07, FY 2007-08, FY 2008-09, FY 2009-10 and FY 2010-11, respectively.

Commission's Analysis

5.42 The Commission scrutinised the actual receipts for tariff filing fees pertaining to JSERC and the proportion of costs pertaining to CERC (in ratio of energy sales) and the receipts of publication expenses in the Jharkhand Area. Accordingly, the Commission has approved the costs pertaining to tariff filing and publication expenses for Jharkhand area as per the submission made by the Petitioner and same has been summarised in following table.

Table 20: Tariff Filing and Publication Expenses (Rs. Cr.) for Jharkhand Area for FY 2006-07 to FY 2010-11 as submitted by Petitioner and as approved by the Commission

Sl. No.	Particulars	DVC's Submission					Commission's Analysis				
		2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
A.	Tariff Filing Fees										
	Pertaining to JSERC	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio	0.09	0.08	0.12	0.50	0.54	0.09	0.08	0.12	0.50	0.54
	Sub-Total	0.19	0.18	0.22	0.60	0.64	0.19	0.18	0.22	0.60	0.64

Sl. No.	Particulars	DVC's Submission					Commission's Analysis				
B.	Publication fees										
	Pertaining to JSERC	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio	0.045	0.045	0.045	0.015	0.015	0.045	0.045	0.045	0.015	0.015
	Sub-Total	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.02	0.02
	TOTAL (A+B)	0.24	0.23	0.27	0.63	0.66	0.24	0.23	0.27	0.63	0.66

Allocation of Costs for DVC as a whole to Jharkhand Area

Petitioner's Submission

5.43 The Petitioner has submitted that the input costs including own generation cost, power purchase cost, other input cost, interest on working capital, etc cannot be segregated into the cost pertaining to Jharkhand and West Bengal area as DVC operates as a single entity. Thus, the Petitioner has submitted that for the purpose of computing retail tariffs pertaining to Jharkhand area, the input cost of DVC be bifurcated in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

Commission's Analysis

5.44 The Commission directed the petitioner to submit the details of segregated cost of supply for Jharkhand and West Bengal area. However the Petitioner clarified that the transmission and distribution system for the whole Damodar Valley area is an integrated one and cannot be segregated for Jharkhand and West Bengal. Thus, in absence of any other methodology for segregation of input costs, the Commission adopts the methodology proposed by the Petitioner i.e. segregating the input cost of DVC in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

5.45 The following table summarises the input cost allocated to the Jharkhand area for the period FY 2006-07 to FY 2010-11 as submitted by the Petitioner and as approved by the Commission.

Table 21: Input Cost (Rs. Cr.) allocated for Jharkhand Area for FY 2006-07 to FY 2010-11 as per Petitioner's submission and as per Commission's analysis

Particulars	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Own Generation cost adopted from relevant CERC Orders (A)	2448.72	2353.66	2471.40	3514.86	4217.24	2448.72	2353.66	2471.40	3514.86	4217.24
Power Purchase cost (B)	141.33	121.84	141.66	751.51	597.60	35.42	84.92	82.10	751.51	597.60
Revenue	1348.78	1357.29	1501.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Requirement as per claim not considered by CERC (C)										
IWC for power purchase as claimed by DVC (D)	3.53	3.05	3.54	18.79	14.94	0.00*	0.00*	0.00*	0.00*	0.00*
Transmission & Distribution cost (E)	128.58	130.00	131.79	Incl. in own generation cost as given in A above	Incl. in own generation cost as given in A above	128.58	130.00	131.79	Incl. in own generation cost as given in A above	Incl. in own generation cost as given in A above
Contribution to pension fund (F)	306.90	306.90	306.90			306.90	306.90	306.90		
Provisions for sinking fund (G)	40.43	30.72	27.55			40.43	30.72	27.55		
Sub-Total (H)	4418.28	4303.46	4583.88	4285.16	4829.78	2960.05	2906.20	3019.74	4266.38	4814.84
Less: Non-Tariff Income (I)	7.65	12.22	24.26	1.89	7.63	7.65	12.22	24.26	1.89	7.63
Total ARR for DVC (J = H – I)	4410.63	4291.24	4559.62	4283.27	4822.15	2952.40	2893.98	2995.48	4264.49	4807.21
Ratio of sales in Jharkhand Area (K)	63%	60%	60%	58%	59%	63%	60%	60%	58%	59%
Allocated input cost to Jharkhand Area (L = J * K)	2768.39	2562.42	2735.79	2499.12	2867.60	1853.12	1728.08	1797.30	2488.15	2858.58

Note: * Included separately while determining the ARR cost for Jharkhand Area

Summary of ARR for Jharkhand Area from FY 2006-07 to FY 2010-11

5.46 The following table summarizes the ARR for Jharkhand area as per DVC's submission and the Commission's analysis for the period FY 2006-07 to FY 2010-11.

Table 22: Summary of ARR (Rs Cr) for Jharkhand Area for FY 2006-07 to FY 2010-11 as per DVC's Submission and as per the Commission's Analysis

Particulars	DVC's Submission					Commission's Analysis				
	2006-07	2007-08	2008-09	2009-10	2010-11	2006-07	2007-08	2008-09	2009-10	2010-11
Allocated input cost for Jharkhand Area	2768.39	2562.42	2735.79	2499.12	2867.60	1853.12	1728.08	1797.30	2488.15	2858.58
Add: Tariff filing & publication expenses	0.24	0.23	0.27	0.63	0.66	0.24	0.23	0.27	0.63	0.66
Add: IWC for Jharkhand Area	Included in the input cost tofor Jharkhand Area					1.92	2.16	2.66	2.84	2.38
Total ARR for Jharkhand area	2768.63	2562.65	2736.06	2499.73	2868.25	1855.27	1730.46	1800.22	2491.61	2861.61
Revenue from sale of power in Jharkhand	1877.64	1759.70	2172.99	2318.50	2023.33	1877.64	1759.70	2172.99	2318.50	2023.33
Revenue Gap/(Surplus)	890.99	802.95	563.07	181.23	844.92	(22.37)	(29.24)	(372.77)	173.11	838.28
Sales (MU)	6762	7395	7740	8094	8549	6762	7395	7740	8094	8549
Average Cost of Supply (Rs/kWh)	4.09	3.47	3.53	3.09	3.36	2.74	2.34	2.33	3.08	3.35

A6: DETERMINATION OF ANNUAL REVENUE REQUIREMENT FOR FY 2011-12

- 6.1 The Petitioner has sought approval for the estimation of expenditure and revenue based on the actual expenditure and revenue for FY 2011-12 based on the provisional accounts for FY 2011-12. The Commission has analysed all the components of revenue and expenditure for FY 2011-12 and has estimated the ARR after thorough analysis and prudence check.
- 6.2 The component-wise description of the Petitioner's submission and the Commission's analysis on the same is provided herein-under.

Consumers, Connected Load & Energy Sales

Petitioner's Submission

- 6.3 The Petitioner submitted the number of consumers, connected load and energy sales for FY 2011-12 based on actual for half year and projection for remaining year based on past trend. For FY 2011-12, the projected number of consumers in Jharkhand area of Damodar Valley falling within Jharkhand area is 157 with connected load of 1,621 MVA and energy sales of 9,329.11 MU.

Commission's Analysis

- 6.4 As the FY 2011-12 was completed at the time of analysis of the Petition, the Commission directed the Petitioner to submit the actual data for number of consumers, connected load and energy sales for FY 2011-12, which the Petitioner submitted subsequently. Accordingly, the Commission allows the actual number of consumers, connected load & energy sales for FY 2011-12 subject to true up based on audited annual accounts for the year. The following table summarises the number of consumers, connected load & energy sales in Jharkhand area for FY 2011-12 as submitted by Petitioner and as approved by the Commission.

Table 23: Consumers, Connected Load and Energy Sales in Jharkhand Area for FY 2011-12

Particulars	Consumers (Nos.)		Connected Load (MVA)		Energy Sales (MU)	
	Petitioner Submission	Commission Analysis *	Petitioner Submission	Commission Analysis *	Petitioner Submission	Commission Analysis *
LT	-	4	-	-	-	50.24
HTS-1 - 33 kV	139	132	1001.50	998.31	6634.07	6137.09
HTS-2 (incl. traction) - 132 KV	17	16	595.41	538.65	2571.06	2698.39
HTS-3 - 220 kV	1	1	23.67	11.00	123.98	13.40
TOTAL	157	153	1,620.58	1,547.96	9,329.11	8,899.12

Particulars	Consumers (Nos.)		Connected Load (MVA)		Energy Sales (MU)	
	Petitioner Submission	Commission Analysis *	Petitioner Submission	Commission Analysis *	Petitioner Submission	Commission Analysis *
Sales in West Bengal Area					6,602.00	6,218.96
Total Energy Sales in DVC					15,931.11	15, 118.08

Note: * As per revised submission by the Petitioner on November 6, 2012

Transmission & Distribution (T&D) Losses & Energy Requirement

Petitioner's Submission

- 6.5 The Petitioner submitted that as it is supplying power in bulk to the WBSEDCL & JSEB and majorly HT consumers at 33kV and above voltages in the Damodar valley area, it incurs very low T&D losses. As per the initial petition, the Petitioner had projected the T&D losses for FY 2011-12 to be 4.01% based on the actual data for half year and projection for remaining year based on past trend. Similarly the energy wheeled (271 MU) and energy sold in West Bengal area (6602 MU) was also projected based on actual for first half of the year and projection for remaining period. Thus, the Petitioner projected the total energy requirement for the year as 17006 MU.
- 6.6 However, as the Commission directed the Petitioner to submit the actual energy balance data for FY 2011-12, the Petitioner submitted the same on November 6, 2012. Accordingly, the energy sales in Jharkhand area, in West Bengal area and energy wheeled was revised to 8899 MU, 6219 MU and 347 MU, respectively based on actual data for FY 2011-12. The actual T&D losses for the year were reported to be 4.6% and energy requirement was 16211 MU.

Commission's Analysis

- 6.7 The Commission after analysing the revised information submitted by the Petitioner for FY 2011-12 and after prudence check approves the actual T&D losses, energy wheeled and energy requirement as submitted by the Petitioner on November 6, 2012 subject to true-up based on the audited annual accounts for FY 2011-12 and same has been summarised in the following table.

Table 24: Energy Requirement (MU) for FY 2011-12 as submitted by DVC & as approved by the Commission

Particulars	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	Approved by the Commission
Energy sales within Jharkhand	9329	8899	8899
Energy Sales within West Bengal	6602	6219	6219

Particulars	DVC's Submission		Commission's Analysis
Total Energy Sales in DVC Area	15931	15118	15118
Energy Wheeled	271	347	347
Units utilized within own premises including construction power	123	0	0
Overall Utilization	16324	15465	15465
T&D Loss (%)	4.01%	4.60%	4.60%
T&D Loss (MU)	682	746	746
Total Energy Requirement for DVC	17006	16211	16211

Generation of power from own stations

Petitioner's Submission

- 6.8 The Petitioner generates power from its own stations to meet the power requirements to be sold to its consumers in the Jharkhand and West Bengal area. The generating stations include both thermal and hydel stations.
- 6.9 Based on the actual data of half year, for FY 2011-12, DVC owned & operated 5 thermal stations namely, Bokaro thermal power station (BTPS), Chandrapura thermal power station (CTPS), Durgapur thermal power station (DTPS), Koderma thermal power station (KTPS) and Mejia thermal power station (MTPS) along with 3 hydel stations namely Maithon hydel station (MHS), Panchet hydel station (PHS) and Tilayia hydel station (THS).

The power generation projected to be available from own stations during the year has been summarised in Table 25 below.

Commission's Analysis

- 6.10 DVC being a statutory body constituted under the DVC Act, 1948 is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003 and the tariff for generation of electricity is to be decided by the CERC. CERC in its Order dated June 23, 2011, had provisionally approved the generation from own stations of DVC. Accordingly, the Commission adopts the projected generation from own stations for FY 2011-12 as per the information submitted by the Petitioner, verified through relevant Orders of the CERC and prudence check, subject to true up based on subsequent CERC Orders.
- 6.11 The following table summarises the power generated from DVC's own stations during FY 2011-12 as submitted by the Petitioner and as adopted by the Commission based on the relevant orders of the CERC.

Table 25: Generation of power (MU) from own stations as submitted by the Petitioner and as adopted by the Commission for FY 2011-12

Station Name	Petitioner's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
Thermal Stations			
MTPS U# 1 to 3	3809	3365	3365
BTPS	3231	2964	2964
CTPS	2140	1944	1944
DTPS	1708	1745	1745
MTPS U# 4	1346	1176	1176
MTPS U# 5 & 6	667	3281	3281
MTPS U# 7 & 8 *	48	1302	1302
CTPS U# 7 & 8 *	0	1637	1637
KTPS & DSTPS U# 1 & 2 *	57	6	6
Hydel Stations			
MHS	170	122	122
PHS	215	173	173
THS	11	6	6
Total	13402	17722	17722

Note: * Inclusive of infirm power generation of 491 MU from MTPS U# 7&8, CTPS U# 7&8 and KTPS & DSTPS U# 1 & 2

Power Purchase from CSGS and other sources

Petitioner's Submission

- 6.12 The Petitioner submitted that it is also purchasing power from CSGS and other sources to meet the energy requirements in the DVC area. During FY 2011-12, the Petitioner projected gross power purchase of 3385 MU from NTPC, NHPC, PTC & other central stations (excluding UI sources) based on actual for half year and projection for remaining year based on past trend. Further, the Petitioner also projected power purchase of 478 MU from Renewable Energy Sources (RES) for meeting its Renewable Purchase Obligation (RPO). The net power purchase for the aforementioned years, after considering the eastern region losses @ 2.4%, is 3,304 MU.
- 6.13 However, as the Commission directed the Petitioner to submit the actual data for FY 2011-12, DVC submitted the revised power purchase based on provisional accounts for the year. Actual power purchase from CSGS & other sources (including net purchase under the UI mechanism) was 1540 MU. Also the Petitioner submitted that it has not made any purchase through RES and had requested the Commission to shift its RPO obligation from FY 2012-13 onwards, which the Commission had granted subsequently.

Commission's Analysis

- 6.14 The Commission after scrutinizing the revised data based on provisional accounts for FY 2011-12, approves the actual power purchased from CSGS and other sources (including net power purchase from UI mechanism) as per revised submission by the Petitioner subject to true-up based on the audited annual accounts for the year.
- 6.15 The following table summarises the station-wise net power purchase as submitted by the Petitioner and as approved by the Commission for FY 2011-12.

Table 26: Station-wise Power Purchase (MU) for FY 2011-12 as submitted by Petitioner & as approved by the Commission

Name of Station	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
NTPC			
TSTPS	21.00	20.24	20.24
FSTPS	126.00	0.00	0.00
KSTPS	0.00	0.00	0.00
Muzaffarpur	0.00	0.00	0.00
NHPC			
Rangeet	33.11	33.57	33.57
Teesta	217.81	214.61	214.61
WBSEDCL	0.00	0.00	0.00
MPL (Tata Power)	1,512.00	535.43	535.43
PTC			
Chukha	185.46	174.93	174.93
Kurichu	83.50	75.71	75.71
Tala	192.71	185.79	185.79
RPO	477.93	0.00	0.00
Power Exchange	454.61	23.32	23.32
Sub-Total	3,304.13	1263.60	1263.60
Net power purchase through UI	0.00	276.31	276.31
Total Power Purchase	3,304.13	1539.91	1539.91

Energy Balance

- 6.16 Based on the energy requirement and energy availability from own generation, T&D losses and power purchase from CSGS & other sources, the energy balance for FY 2011-12 as submitted by the Petitioner and as approved by the Commission has been summarised in the following table.

Table 27: Energy Balance (MU) for FY 2011-12 as submitted by Petitioner & as approved by the Commission

Name of Station	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
A. Energy Requirement			
Energy sales within the State of Jharkhand	9329	8899	8899
Energy Sales within the state of WB	6602	6219	6219
Total Energy Sales in DVC Area	15931	15118	15118
Energy Wheeled	271	347	347
Units utilized within own premises	123	0	0
Overall Utilization	16324	15465	15465
T&D Loss (%)	4.01%	4.60%	4.60%
T&D Loss (MU)	682	746	746
Total Energy Requirement for DVC	17006	16211	16211
B. Energy Availability			
Own generation – Firm sources			
Thermal	13006	17421	17421
Hydel	396	301	301
Sub-total	13402	17722	17722
Own Generation – Infirm sources	6550	0	0
Net Power Purchase (incl. UI)	3304	1540	1540
Energy recd. For wheeling	300	397	397
Less: Energy sold to other licensees	6550	3448	3448
Total Energy Available for DVC	17006	16211	16211

Cost of own generation (input cost as determined by CERC) for DVC*Petitioner's Submission*

6.17 As mentioned in para 6.10 above, DVC being a statutory body constituted under the DVC Act, 1948 is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003 and the tariff for generation of electricity is to be decided by the CERC. Accordingly cost of generation for DVC as a whole from own stations has been adopted based on the relevant CERC Orders.

- 6.18 For FY 2011-12, Petitioner has submitted that the own Generation Cost of DVC has been considered based on the provisional fixed charges as granted by CERC vide order dated June 23, 2011, commensurate with projected availability of the existing stations (up to MTPS unit # 4). For the upcoming generating station, viz., Koderma TPS, MTPS Ph-II the generating cost has been considered to be the same as approved by CERC in respect of MTPS # 5 & 6 for the period 2006-09 vide its order dated December 23, 2009.
- 6.19 Accordingly, the cost of power generation from own thermal & hydel stations as submitted by DVC for FY 2011-12 as per its initial petition was Rs.4983.59 Cr including Rs. 2,704 Cr on account of energy charges and Rs. 2,279.59 Cr. on account of fixed charges. However, as directed by the Commission, DVC submitted the revised cost of own power generation based on actual generation from its own stations on November 6, 2012. The revised cost of power generation as submitted by DVC was Rs. 5522.07 Cr including Rs. 2912.16 Cr on account of energy charges and Rs. 2609.91 Cr on account of fixed cost recovered.

Commission's Analysis

- 6.20 The Commission after scrutinising the information made available by the Petitioner and after perusal of the relevant CERC Orders dated June 23, 2011 and December 23, 2009, has adopted the approved energy charges on account of own power generation from thermal & hydel stations for DVC for FY 2011-12 subject to true up based on the subsequent Orders of the CERC. Thus the energy charges for own generating stations of DVC for FY 2011-12 has been taken as Rs.2912 Cr based on actual generation by DVC and the Energy Charge Rate (ECR) as allowed by the CERC in line with its Tariff Regulations 2009 subject to true up based on subsequent orders of the CERC.
- 6.21 However, on perusal of the CERC Tariff Order dated June 23, 2011 related to fixed cost determination of MTPS Unit # 1 to 4, BTPS, CTPS, DTPS, hydel stations, T&D cost and costs related to other offices & subsidiary activities, the Commission found that the annual fixed charges as decided by CERC is Rs.2275.75 Cr subject to a achievement of targeted availability. As the DVC's above mentioned generating stations were not able to achieve the targeted availability factor, the projected fixed charges for FY 2011-12 as per the Petitioner is Rs.1756.24 Cr and same has been adopted by the Commission. The Petitioner has also included the fixed charges of Rs. 345.92 Cr for MTPS Unit # 5 & 6 in accordance with CERC Order dated December 23, 2009 and same has been adopted by the Commission. The Petitioner also submitted fixed cost for infirm generation from MTPS Unit # 7 & 8 and CTPS U # 7 & 8. However, the same has not been considered by the Commission being beyond its jurisdiction. Once the CERC determines the fixed cost for the new generating stations of the DVC, the Commission would adopt the same in its subsequent retail tariff orders.
- 6.22 Thus total cost of power generated from DVC's stations for FY 2011-12 as adopted by Commission based on the relevant orders of the CERC is Rs.5014.32 Cr.

6.23 The following table summarises the station-wise own cost of power generation for DVC for FY 2011-12 as submitted by the Petitioner and as adopted by the Commission as per the relevant tariff orders of the CERC.

Table 28: Station-wise cost of own power generation (Rs Cr) for FY 2011-12 as submitted by Petitioner & as adopted by the Commission as per the relevant CERC orders.

Name of Station	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
A. Thermal Stations			
MTPS U# 1 to 3	1416.05	1157.05	1157.05
BTPS	1131.97	886.39	886.39
CTPS	740.54	618.53	618.53
DTPS	776.78	729.95	729.95
MTPS U#4	487.84	396.71	396.71
MTPS U# 5 & 6	254.93	747.87	747.87
MTPS U# 7 & 8	18.34	678.10	285.09
CTPS U# 7 & 8	0.00	197.79	83.06
KTPS U# 1 & 2	21.93	0.00	0.00
DSTPS U# 1 & 2	0.00	0.00	0.00
Sub-total (Thermal)	4848.36	5412.40	4904.64
B. Hydrel Stations			
Maithon	58.06	47.09	47.09
Panchet	73.49	59.60	59.60
Tilayia	3.67	2.98	2.98
Sub-Total (Hydel)	135.23	109.67	109.67
Total Own Generation cost for DVC	4983.59	5522.07	5014.32
Generation from own stations (MU)	13402	17722	17722
Per unit cost of own generation (Rs/kWh)	3.72	3.12	2.83

Power purchase cost for DVC (Other than own generation cost)

Petitioner's Submission

6.24 The Petitioner had projected the power purchase cost from all sources including CSGS & UI for FY 2011-12 to be Rs.1107.56 Cr based on actual for first half of the year and projections for balance year. However on the direction of the Commission, the Petitioner submitted the actual power purchase cost for FY 2011-12 to be Rs. 681.68 Cr based on actual data for the year. This cost included power purchase cost from UI sources of Rs. 212.16 Cr at the rate of Rs.3.10/ kWh.

Commission's Analysis

6.25 The Commission approves the actual power purchase cost for FY 2011-12 from CSGS and other sources (excluding UI) to be Rs.469.50 Cr as per the revised submission of DVC subject to true up based on audited annual accounts. In case of power procured from UI sources, the Commission approves the net power purchase from UI to be 276.31 MU as also submitted by the Petitioner in the energy balance provided to the Commission on November 6, 2012. This is then multiplied by the rate of power procurement from UI sources as submitted by the Petitioner i.e. Rs.3.10/ kWh to arrive at the net power purchase cost from UI sources. Accordingly, the Commission approves net power purchase cost from UI sources for FY 2011-12 to be Rs.85.63 Cr subject to true up based on audited annual accounts. The following table summarises the power purchase cost submitted by the Petitioner and approved by the Commission for FY 2011-12.

Table 29: Source-wise projected power purchase cost (Rs Cr) for FY 2011-12

Name of Station	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
Power Purchase cost (excluding UI)			
NTPC –TSTPS	6.26	12.56	12.56
NTPC - FSTPS	59.63	0.00	0.00
NTPC – KSTPS	0.00	0.00	0.00
NTPC – Muzaffarpur	0.00	0.00	0.00
NHPC – Rangeet	8.36	24.18	24.18
NHPC – Teesta	56.88	112.97	112.97
Power Exchange	133.07	5.43	5.43
MPL (Tata Power)	463.67	179.80	179.80
RPO	280.07	0.00	0.00
PTC – Chukha	37.20	51.17	51.17
PTC – Kurichu	18.93	24.17	24.17
PTC – Tala	43.50	59.23	59.23
UI	0.00	212.16	85.63
Gross power purchase (Rs Cr)	1107.56	681.68	555.13
Power purchased units (MU)	3,304	1,540	1,540
Rate of power purchase (Rs./kWh)	3.35	4.43	3.60

Other Fixed cost components**Input cost (other than power generation cost) for DVC***Petitioner's Submission*

6.26 The Petitioner submitted that other than the energy & capacity charges for own generation, the cost transmission & distribution of electricity generated from own stations, the contribution made to pension fund & provisions towards sinking fund also constitute the input cost for FY 2011-12. However same has been included in the cost of power generation as approved by CERC in its Order dated June 23, 2011. Hence, the Petitioner has not projected any cost pertaining to these charges separately.

Commission's Analysis

6.27 The input cost, as submitted by the Petitioner, has been verified by the Commission from the CERC's Order dated June 23, 2011, and finds that the cost of transmission & distribution of electricity generated from own stations, the contribution made to pension fund & provisions towards sinking fund has been included in the cost of own power generation as determined by CERC in its Order dated June 23, 2011. Hence the Commission has not considered any such cost separately.

Non-Tariff Income*Petitioner's Submission*

6.28 The Petitioner has not projected any non-tariff income pertaining to delayed payment surcharge for DVC as a whole for FY 2011-12 in the petition submitted by it to the Commission.

Commission's analysis

6.29 The Commission is of the view that the non-tariff income is a legitimate income and should be projected by the Petitioner for the purpose of determining the ARR for FY 2011-12.

6.30 However, in the absence of the projection of non-tariff income by the petitioner, the Commission based on the past trend applies a nominal growth rate of 10% over the previous year value and approves non-tariff income as Rs. 8.39 Cr. for FY 2011-12, subject to true up based on the actual data submitted for the year in the subsequent tariff petitions.

Revenue from Sale of Power in the Jharkhand Area

Petitioner's Submission

6.31 The Petitioner has submitted the projected revenue from sale of power within the Jharkhand area to be Rs.3,479.76 Cr, for FY 2011-12 based on the actual half year data and the projections for remaining year based on past trends.

Commission's Analysis

6.32 The Commission estimates the revenue from sale of power within Jharkhand area to be Rs. 3319.37 Cr on the basis of revised sales of 8899 MU and the existing tariffs. However, the same is subject to true up based on the audited annual accounts for FY 2011-12 submitted in the subsequent tariff orders.

Interest on Working Capital

Petitioner's Submission

- 6.33 The Petitioner has estimated the interest on working capital in accordance with the methodology notified in the West Bengal gazette for calculation of Interest on Working Capital wherein Interest on Working Capital for power purchase is calculated @ 11.75% of the 1/6th of the capital requirement for Power Purchase.
- 6.34 Accordingly, the Petitioner submitted the interest on working capital required for projected power purchase for the DVC as a whole (i.e. inclusive of Jharkhand & West Bengal Area) to be Rs.14.42 Cr for FY 2011-12.

Commission's Analysis

- 6.35 The interest on working capital has to be determined in accordance with the applicable provisions of the JSERC (Distribution Tariff Regulations), 2010 and not otherwise. As per the aforementioned regulations, the interest on working capital shall be calculated on the basis of the following:
- (a) One-twelfth of the amount of Operation and Maintenance expenses for such financial year; plus
 - (b) Maintenance spares at 1% of Opening GFA; plus
 - (c) Two months equivalent of the expected revenue from sale of electricity at the prevailing tariffs; minus
 - (d) Amount held as security deposits under clause (a) and clause (b) of subsection (1) of Section 47 of the Act from consumers and Distribution System Users; minus

- (e) One month equivalent of cost of power purchased, based on the annual power procurement plan.
- 6.36 However, the Commission noticed that the GFA and O&M cost of the Petitioner cannot be segregated into that of pertaining to generation and transmission business and that for distribution and retail business at present and as such applying the aforementioned methodology for computation of IWC was not possible. Hence, the Commission decided to continue with the methodology as applied by the Commission for truing up the ARR for FY 2006-07 to FY 2010-11 in this Order.
- 6.37 Accordingly, the Commission has estimated the working capital requirement for Jharkhand area to be 1% of the projected revenue from sale of power in the Jharkhand area. The interest on working capital has been estimated at the prevailing State Bank of India (SBI) Prime Lending Rate (PLR) as on April 1st of the respective year. The following table summarises the computation of interest on working capital for FY 2011-12 as per the Commission's analysis.

**Table 30: Interest on Working Capital (Rs Cr) for Jharkhand Area for FY 2011-12
as approved by the Commission**

Particulars	FY 2011-12
Revenue from sale of power in Jharkhand Area	3319.37
Working Capital Requirement in Jharkhand Area (@ 1% of Revenue from sale of power)	33.19
Interest Rate (%)	13.00%
Interest on Working Capital for Jharkhand Area	4.31

Tariff Filing and Publication Expenses for Jharkhand Area

Petitioner's Submission

- 6.38 The Petitioner has projected that tariff filing and publication expenses for DVC pertaining to the Jharkhand area as Rs. 1.79 Cr for FY 2011-12 based on the half year actual data and projections for remaining year based on the part trends.
- 6.39 However, as directed by the Commission, the Petitioner submitted the revised data for tariff filing fee for FY 2011-12 based on provisional accounts for the year as Rs. 1.12 Cr on November 6, 2012.

Commission's Analysis

- 6.40 The Commission directed the Petitioner to submit the actual receipts for tariff filing to JSERC and CERC and the publication expenses pertaining to Jharkhand area, which the Petitioner submitted subsequently. Based on the actual data, the Commission approves the entire tariff filing fee submitted to JSERC so far and to CERC in proportion of the energy sales for Jharkhand area.

- 6.41 Similarly, the publication expenses pertaining to Jharkhand area have also been approved in full, while that for CERC have been proportionately allowed in the ratio of energy sales in Jharkhand area. Accordingly, the tariff filing and publication expenses for Jharkhand area for FY 2011-12 have been approved as Rs.1.07 Cr, subject to true up based on audited annual accounts for the year.

Table 31: Projected Tariff Filing and Publication Expenses (Rs. Cr.) for Jharkhand Area FY 2011-12 as submitted by Petitioner and as approved by the Commission

Sl. No.	Particulars	DVC's Submission		Commission's Analysis
		As per initial Petition	As per revised submission on Nov. 6, 2012	
A.	Tariff filing fees			
	Pertaining to JSERC			0.25
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio			0.76
	Sub-Total			1.01
B.	Publication fees	1.79	1.12	
	Pertaining to JSERC			0.005
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio			0.055
	Sub-Total			0.06
	TOTAL (A+B)	1.79	1.12	1.07

Allocation of Costs for DVC as a whole to Jharkhand Area

Petitioner's Submission

- 6.42 The Petitioner has submitted that the input costs including own generation cost, power purchase cost, other input cost, interest on working capital, etc cannot be segregated into the cost pertaining to Jharkhand and West Bengal area as DVC operates as a single entity. Thus, the Petitioner has submitted that for the purpose of computing retail tariffs pertaining to Jharkhand area, the input cost of DVC be bifurcated in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

Commission's Analysis

6.43 The Commission directed the petitioner to submit the details of segregated cost of supply for Jharkhand and West Bengal area. However the Petitioner clarified that the transmission and distribution system for the whole Damodar Valley area is an integrated one and cannot be segregated for Jharkhand and West Bengal. Thus, in absence of any other methodology for segregation of input costs, the Commission adopts the methodology proposed by the Petitioner i.e. the input cost of DVC has been segregated in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

6.44 The following table summarises the input cost allocated to the Jharkhand area for the period FY 2011-12 as submitted by the Petitioner and as approved by the Commission.

Table 32: Input cost allocated to the Jharkhand area (Rs. Cr.) for FY 2011-12 as submitted by Petitioner and as approved by the Commission

Particulars	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
Own Generation cost	4983.59	5522.07	5014.32
Power Purchase cost	1107.56	681.68	555.13
IWC for power purchase as claimed by DVC	23.43	14.42	0.00*
Transmission & Distribution cost	Included in own power generation cost	Included in own power generation cost	Included in own power generation cost
Contribution to pension fund			
Provisions for sinking fund			
Sub-Total	6,114.59	6,218.18	5569.45
Less: Non-Tariff Income	-	-	8.39
Total ARR for DVC	6,114.59	6,218.18	5561.05
Ratio of sales in Jharkhand Area (%)	57%	57%	57%
Allocated input cost to Jharkhand Area	3497.08	3522.15	3149.93

Note: * Included separately while determining the ARR cost for Jharkhand Area

Summary of ARR for Jharkhand Area for FY 2011-12

6.45 The following table summarizes the ARR for Jharkhand area as per the submission by the Petitioner and that approved by Commission for the period FY 2011-12.

Table 33: Summary of ARR (Rs Cr) for Jharkhand Area for FY 2011-12 as submitted by Petitioner and as approved by Commission

Particulars	DVC's Submission		Commission's Analysis
	As per Initial Petition	As per revised submission on Nov 6, 2012	
Allocated input cost to Jharkhand Area	3,497.08	3,522.15	3149.93
Add: Tariff filing & publication expenses	1.79	1.12	1.07
Add: IWC for Jharkhand Area	Included in Input Cost to Jharkhand Area		4.31
Total ARR for Jharkhand area	3498.86	3523.27	3155.31
Revenue from sale of power in Jharkhand area	3479.76	3479.76	3319.37
Revenue Gap/ (Surplus)	19.11	43.51	(164.06)
Sales (MU)	9329	8899	8899
Average cost of Supply (Rs/kWh)	3.75	3.96	3.55

A7: DETERMINATION OF ANNUAL REVENUE REQUIREMENT FOR FY 2012-13

7.1 This section contains summary of the Commission's analysis of the ARR submitted by Petitioner for FY 2012-13.

Consumers, Connected Load & Energy Sales

Petitioner's Submission

7.2 The Petitioner projected the number of consumers, connected load and energy sales for FY 2012-13 based on the past trends. For FY 2012-13, the projected number of consumers in Jharkhand area of Damodar Valley falling within Jharkhand area is 170 with connected load of 1,827.71 MVA and energy sales of 11,185.94 MU.

Commission's Analysis

7.3 The Commission estimated the 5 year Compounded Annual Growth Rate (CAGR) for all the categories of consumers for projecting the number of consumers, connected load and energy sales, which is provided in the table below:

Table 34: 5 year CAGR for Consumers, Connected Load and Energy Sales

Particulars	Consumers	Connected Load (MVA)	Energy Sales (MU)
LT	0%	0%	5%
HTS-1 - 33 kV	10%	5%	4%
HTS-2 (incl. traction) - 132 KV	1%	4%	8%
HTS-3 - 220 kV	6%	3%	5%
TOTAL	6%	3%	5%

7.4 Accordingly, the Commission projected the consumer category-wise number of consumers, connected load and energy sales for FY 2012-13 by applying the 5-yr CAGR on the approved values for FY 2011-12.

7.5 The projected number of consumers, connected load as well as energy sales as approved by the Commission for FY 2012-13 is 163, 1547 MVA and 9331 MU, respectively.

Table 35: Consumers, Connected Load and Energy Sales in Jharkhand Area of Damodar Valley as per Petitioner's submission and the Commission's analysis

Particulars	Consumers (Nos.)		Connected Load (MVA)		Energy Sales (MU)	
	Petitioner Submission	Commission Analysis	Petitioner Submission	Commission Analysis	Petitioner Submission	Commission Analysis
LT	0	4	-	-	0	50.26
HTS-1 - 33 kV	150	142	1,102	1,027	7,797.38	6,378.25
HTS-2 (incl. traction) - 132 KV	19	16	655	561	3,021.90	2,888.13
HTS-3 - 220 kV	1	1	70	11	366.66	14.04
TOTAL	170	163	1,827	1,599	11,185.94	9,330.69
Sales in West Bengal Area					7,759.56	7,759.56
Total Energy Sales in DVC					18,945.50	17,090.25

Transmission & Distribution (T&D) Losses & Energy Requirement

Petitioner's Submission

- 7.6 The Petitioner submitted that as it is supplying power in bulk to the WBSEDCL & JSEB and majorly to HT consumers at 33 kV and above voltage level within the Damodar valley area; it incurs very low T&D losses. The T&D loss projected by the Petitioner for FY 2012-13 is 4.5% based on past trend.
- 7.7 Further, in addition to the projected energy sold in the Jharkhand area, the Petitioner also submitted the projected sales in the West Bengal area and the projected energy wheeled from its inter-state transmission system for the purposes of computation of the energy requirement for the entire Damodar Valley area. The projected energy sales in West Bengal area for FY 2012-13 has been submitted as 7760 MU based on the past trend. While the energy wheeled projected during the year is 315 MU.
- 7.8 Based on the total projected energy sales in the Damodar Valley area, the T&D losses and the energy wheeled from the system, the Petitioner submitted the energy requirement for the year as 20169 MU.

Commission's Analysis

- 7.9 The Commission finds that the trend of T&D losses increasing over the previous years is not acceptable. The actual T&D losses in FY 2008-09 were 3.0% only, while that in FY 2011-12 is 4.6%. The increase in T&D losses, and as such higher than 3%, is not acceptable as the Petitioner supplies mostly to the HT consumers. In view of above, the Commission approves the targeted T&D loss for FY 2012-13 to be 3.0%, subject to true up based on actual. However, the Commission directs the Petitioner to make all out efforts to restrict the T&D losses within the targeted level.
- 7.10 Further, to estimate the energy requirement for FY 2012-13, the Commission has considered the energy sales to the West Bengal area and energy wheeled as per the submission made by the Petitioner, subject to true up based on audited annual accounts in the subsequent retail tariff Orders. Accordingly, the total energy requirement as approved by the Commission for FY 2012-13 works out to be 17944 MU.

Table 36: Energy Requirement (MU) for FY 2012-13 as submitted by DVC & as approved by the Commission

Particulars	DVC's Submission	Commission's Analysis
Energy sales within the State of Jharkhand	11186	9331
Energy Sales within the state of WB	7760	7760
Total Energy Sales in DVC Area	18946	17090
Energy Wheeled	315	315
Overall Utilization	19261	17405
T&D Loss (%)	4.50%	3.00%
T&D Loss (MU)	909	538
Total Energy Requirement for DVC	20169	17944

Generation of power from own stations*Petitioner's Submission*

- 7.11 The Petitioner generates power from its own stations to meet the power requirements to be sold to its consumers in the Jharkhand and West Bengal area. The generating stations include both thermal and hydel stations. The power generation projected to be available from own stations during FY 2012-13 based on past trend has been summarised in the following table.

Table 37: Projected Generation of power (MU) from own stations during FY 2012-13 as submitted by DVC

Station Name	Installed Capacity (MW)	Targeted availability (%)	Actual Availability (%)	Aux. Consumption (%)	Net generation (MU)
Thermal Stations					
MTPS U# 1 to 3	630.00	82.00	83.96	9.00	4216.31
BTPS	630.00	75.00	68.00	10.25	3368.32

Station Name	Installed Capacity (MW)	Targeted availability (%)	Actual Availability (%)	Aux. Consumption (%)	Net generation (MU)
CTPS	390.00	60.00	69.99	11.50	2116.04
DTPS	350.00	74.00	72.02	10.50	1976.17
MTPS U# 4	210.00	82.00	83.90	9.00	1404.53
MTPS U# 5 & 6	500.00	80.00	84.00	9.00	669.60
MTPS U# 7 & 8	1000.00	80.00	84.84	6.83	173.11
CTPS U# 7 & 8	500.00	80.00	86.87	9.00	0.00
KTPS U# 1 & 2	1000.00	80.00	84.84	6.83	519.34
Hydel Stations					
MHS	63.20				135.67
PHS	80.00				171.74
THS	4.00				8.59
Total	6357.20				14759.42

Commission's Analysis

7.12 DVC being a statutory body constituted under the DVC Act, 1948 is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003 and the tariff for generation of electricity is to be decided by the CERC. The generation from own sources for FY 2012-13 has been provisionally approved by CERC in its Order dated June 23, 2011 and same has been adopted by the Commission. However, the same shall be subject to true up based on the subsequent Orders of the CERC.

Table 38: Projected Generation of power (MU) from own stations during FY 2012-13 as adopted by the Commission based on the CERC order dated June 23, 2011

Station Name	Net generation (MU)
Thermal Stations	
MTPS U# 1 to 3	4216.31
BTPS	3368.32
CTPS	2116.04
DTPS	1976.17
MTPS U# 4	1404.53
MTPS U# 5 & 6	669.60
MTPS U# 7 & 8	173.11
CTPS U# 7 & 8	0.00
KTPS U# 1 & 2	519.34
Hydel Stations	
MHS	135.67
PHS	171.74
THS	8.59
Total	14759.42

Power Purchase from CSGS and other sources (Other than own generation sources)*Petitioner's Submission*

7.13 The Petitioner submitted that it is also purchasing the power from CSGS and other sources to meet the energy requirements in the DVC area. During FY 2012-13, the Petitioner projected gross power purchase of 5194 MU from NTPC, NHPC, PTC & other central stations (excluding UI sources) based on past trends. The projected power purchase also included purchase of power of 758 MU from RES to meet the RPO obligation for DVC. The net power purchase for the aforementioned years, after considering the eastern region losses @ 2.4%, is 5,070 MU. Further, during the year, the Petitioner has not projected any power purchase/ sale through UI sources.

Commission's Analysis

- 7.14 Based on the approved energy requirement and T&D losses for FY 2012-13, the power purchased requirement from CSGS and other sources (excluding UI) for FY 2012-13 comes out to be 2844 MU and same has been approved by the Commission subject to true up based on actual audited accounts for the year.
- 7.15 The Commission has considered that DVC would purchase the approved quantum of power purchase from various CSGS and other sources (excluding UI) in the proportion of previous year actual availability from these stations. Also, the Commission has considered a RPO target of 2% of energy requirement for FY 2012-13. Thus out of the total power purchase of 2844 MU, 359 MU (17944 * 2%) has to be met through RES during FY 2012-13. Further, the Commission has also not projected any power purchase/ sale through UI sources during FY 2012-13.
- 7.16 The following table summarises the station-wise net power purchase as submitted by the Petitioner and as approved by the Commission for FY 2012-13.

Table 39: Station-wise Power Purchase (MU) for FY 2012-13 as submitted by Petitioner & as approved by the Commission

Name of Station	DVC's Submission	Commission's Analysis
NTPC		
TSTPS	21.00	20.24
FSTPS	257.01	0.00
KSTPS	405.98	0.00
Muzaffarpur	73.13	0.00
NHPC		
Rangeet	33.11	33.11
Teesta	217.81	214.61

Name of Station	DVC's Submission	Commission's Analysis
RPO	757.82	358.87
MPL (Tata Power)	2268.99	1182.73
PTC		
Chukha	185.46	185.46
Kurichu	83.50	83.50
Tala	192.71	192.71
Power exchange	573.56	573.56
Sub-Total	5070.08	2844.13
Net power purchase through UI	0.00	0.00
Total Power Purchase	5070.08	2844.13

Energy Balance

7.17 Based on the projected energy requirement and energy availability from own generation, T&D losses and power purchase from CSGS and other sources, the energy balance for FY 2012-13 as submitted by the Petitioner and as approved by the Commission has been summarised in the following table.

Table 40: Energy Balance for FY 2012-13 (MU)

Name of Station	DVC's Submission	Commission's Analysis
A. Energy Requirement		
Energy sales within the State of Jharkhand	11186	9331
Energy Sales within the state of WB	7760	7760
Total Energy Sales in DVC Area	18946	17090
Energy Wheeled	315	315
Overall Utilization	19261	17405
T&D Loss (%)	4.5%	3.00%
T&D Loss (MU)	909	538
Total Energy Requirement for DVC	20169	17944
B. Energy Availability		
Own generation – Firm sources		
Thermal	14443	14443
Hydel	316	316
Sub-total	14759	14759
Own Generation – Infirm sources	26222	0
Net Power Purchase (incl. UI)	5070	2844
Energy recd. For wheeling	340	340
Less: Energy sold to other licensees	26222	0
Total Energy Available for DVC	20169	17944

Cost of own generation (input cost as per CERC Order) for DVC*Petitioner's Submission*

- 7.18 As mentioned in para 7.12 above, DVC being a statutory body constituted under the DVC Act, 1948 is a PSU as envisaged under Section 79 (1) (a) of the Electricity Act, 2003 and the tariff for generation of electricity is to be decided by the CERC. Accordingly cost of generation for DVC as a whole from own stations has been determined provisionally in accordance with the relevant CERC Orders.
- 7.19 For FY 2012-13, Petitioner has submitted that the own generation cost of DVC has been considered based on the provisional fixed charges as granted by CERC vide its order dated June 23, 2011, commensurate with projected availability of the existing stations (up to MTPS unit # 4). For the upcoming generating station, viz., Koderma TPS, MTPS Ph-II the generating cost has been considered to be the same as approved by Central Commission in respect of MTPS # 5 & 6 for the period 2006-09 vide its order dated December 23, 2009.
- 7.20 Accordingly, the cost of power generation from own thermal & hydel stations as submitted by DVC for FY 2012-13 is Rs.6088 Cr including Rs.3491 Cr on account of energy charges and Rs.2597 Cr. on account of fixed charges.

Commission's Analysis

- 7.21 The Commission after scrutinising the information made available by the Petitioner and perusal of the relevant CERC Orders dated December 23, 2009 and June 23, 2011, provisionally adopts the energy charges on account of own power generation from thermal & hydel stations for DVC for FY 2012-13 based on the aforementioned CERC orders subject to true up based on the subsequent Orders of the CERC. Accordingly the Commission adopts Rs.3490.75 Cr as energy charges for own stations of DVC for FY 2012-13.
- 7.22 However, on perusal of the CERC Tariff Order dated June 23, 2011, the Commission found that the annual fixed charges as decided by CERC is Rs. 2,374.12 Cr pertaining to MTPS Unit # 1 to 4, BTPS, CTPS, DTPS, hydel stations, T&D cost and other cost related to office and subsidiary activities, subject to the targeted availability. Accordingly, for FY 2012-13, the Commission adopts the fixed charges for the above mentioned assets of the Petitioner as Rs. 2374 Cr. Further, the Commission also adopts the provisional fixed charges for MTPS Unit # 5 & 6, in accordance with the CERC Order dated December 23, 2009 and approves Rs. 98.87 Cr, subject to true up based on subsequent orders of the CERC.

- 7.23 The Petitioner has also submitted fixed cost for infirm generation from MTPS Unit # 7 & 8 and KTPS U # 1. However the same has not been considered by the Commission being beyond its jurisdiction. Once the CERC determines the fixed cost for the new generating stations of the DVC, the Commission would adopt the same in its subsequent retail tariff orders.
- 7.24 Thus total cost of power generated from DVC's stations for FY 2012-13 as adopted by Commission based on the aforementioned CERC orders is Rs.5963.74 Cr.
- 7.25 The following table summarises the station-wise own cost of power generation for DVC for FY 2012-13 as submitted by the Petitioner and as adopted by the Commission as per the relevant tariff orders of the CERC.

Table 41: Station-wise cost of own power generation (Rs Cr) for FY 2012-13 as submitted by Petitioner & as adopted by the Commission based on the relevant CERC orders

Name of Station	DVC's Submission	Commission's Analysis
A. Thermal Stations		
MTPS U# 1 to 3	1706.25	1700.27
BTPS	1303.79	1297.82
CTPS	831.13	827.43
DTPS	961.75	958.43
MTPS U#4	567.47	565.48
MTPS U# 5 & 6	279.38	279.38
MTPS U# 7 & 8	72.23	46.67
CTPS U# 7 & 8	0.00	0.00
KTPS U# 1 & 2	216.68	140.00
DSTPS U# 1 & 2	0.00	0.00
Sub-total (Thermal)	5938.68	5815.48
B. Hydel Stations		
Maithon	64.25	63.65
Panchet	81.33	80.57
Tilayia	4.07	4.03
Sub-Total (Hydel)	149.65	148.26
Total Own Generation cost for DVC	6088.33	5963.74
Generation from own stations (MU)	14759	14759
Per unit cost of own generation (Rs./kWh)	4.13	4.04

Power purchase cost of DVC (Other than own generation cost)*Petitioner's Submission*

7.26 The Petitioner submitted that the projected power purchase cost from CGS & other sources (other than own generation cost) during the year as Rs. 1,806.11 Cr. based on past trends. This includes cost of purchase of power from RES as Rs. 444.08 Cr at an average rate of Rs.5.86 /kWh.

Commission's Analysis

7.27 As mentioned in the previous section of energy balance, the energy required to be purchased by the Petitioner from other sources as approved by the Commission is 2844 MU. The Commission has projected the power purchase cost from the CSGS stations, power exchange and other sources by applying the actual station-wise power purchase rate applicable during FY 2011-12 as submitted by the Petitioner as part of additional information on November 6, 2012. In case of RPO, the Commission has estimated that the DVC would meet 0.25% of its RPO target from solar sources which works out to be 45 MU (17944 * 0.25%) and remaining through non-solar sources i.e. 314 MU (17944 * 1.75%). The cost of power purchase for meeting solar RPO has been estimated to be Rs.25 Cr assuming the average power purchase rate of Rs.5.50/kWh, while that for meeting non-solar RPO has been estimated to Rs. 157 Cr at an average rate of Rs.5.00/kWh, subject to true up based on actual.

7.28 Thus, the approved power purchase cost for FY 2012-13 has been approved to be Rs.1004.02 Cr including power purchase cost of meeting RPO of Rs. 182 Cr. However this is subject to true up based on actuals.

Table 42: Source-wise projected power purchase cost (Rs Cr) for FY 2012-13 as submitted by Petitioner & as approved by the Commission

Name of Station	Approved cost for FY 2011-12 based on actual*	FY 2012-13	
		DVC's Submission	Commission's Analysis
NTPC	12.56	346.79	12.56
NHPC	137.15	64.60	136.82
PTC	134.56	98.47	142.34
MPL (Tata Power)	179.80	683.05	397.16
RPO	0.00	444.08	181.68
Power Exchange	5.43	169.11	133.47
UI	85.63	0.00	0.00
Gross power purchase (Rs Cr)	555.13	1,806.11	1004.02
Power purchased units (MU)	1,540	5,070	2,844
<i>Rate of power purchase (Rs./kWh)</i>	3.60	3.56	3.53

Note: * As per actual data submitted by the Petitioner on November 6, 2012

Other Fixed cost components**Input cost (other than power generation cost) for DVC***Petitioner's Submission*

7.29 The Petitioner submitted that other than the energy & capacity charges for own generation, the cost of transmission & distribution of electricity generated from own stations, the contribution made to pension fund & provisions towards sinking fund also constitute the input cost for FY 2012-13. Further, this cost has been included in the cost of own generation as approved by CERC in its Order dated June 23, 2011. Hence, the Petitioner has not projected any cost pertaining to these charges separately.

Commission's Analysis

7.30 The Commission verified the components of input cost of own generation as submitted by the Petitioner from the CERC's Order dated June 23, 2011, and accordingly agrees with the Petitioner that the cost of transmission & distribution of electricity generated from own stations, the contribution made to pension fund & provisions towards sinking fund has been included in the input cost of own generation CERC order dated June 23, 2011. Hence, the Commission has not considered any cost pertaining to these charges separately.

Non-Tariff Income*Petitioner's Submission*

7.31 The Petitioner has not submitted any information regarding non-tariff income pertaining to delayed payment surcharge for the DVC as a whole for FY 2012-13 in the petition submitted by it to the Commission.

Commission's analysis

7.32 The Commission is of the view that the non-tariff income is a legitimate income and should be projected by the Petitioner for the purpose of determining the ARR for FY 2012-13.

7.33 However, in the absence of any projections of non-tariff income by the petitioner, the Commission adopted the methodology used for projecting the non-tariff income for FY 2011-12 i.e. it applied a nominal growth rate of 10% over the previous year value and projected non-tariff income at Rs. 9.23 Cr for FY 2012-13, subject to true up based on the actual data submitted for the year in the subsequent tariff petitions.

Revenue from Sale of Power in the Jharkhand Area

Petitioner's Submission

7.34 The Petitioner has submitted the projected revenue from sale of power within the Jharkhand area to be Rs.4,172.36 Cr, for FY 2012-13 based on the energy sales of 11,185.94 MU projected for FY 2012-13 and the current tariff for retail sale of electricity in DVC area.

Commission's Analysis

7.35 The Commission estimated the revenue from sale of power in Jharkhand area for FY 2012-13 by applying the existing single-part tariff on the projected energy sales of 9331 MU. Accordingly, approved revenue from sale of power for Jharkhand area at current tariffs works out to be Rs. 3742 Cr, subject to true up based on the actual data for FY 2012-13 submitted in the subsequent tariff orders

Interest on Working Capital

Petitioner's Submission

7.36 The Petitioner has estimated the interest on working capital in accordance with the methodology notified in the West Bengal gazette for calculation of Interest on Working Capital wherein Interest on Working Capital for power purchase is calculated @ 15% of the 1/6th of the capital requirement for Power Purchase.

7.37 Accordingly, the Petitioner submitted the interest on working capital required for projected power purchase for the DVC as a whole (i.e. costs pertaining to Jharkhand & West Bengal area) to be Rs.42.26 Cr for FY 2012-13.

Commission's Analysis

7.38 The interest on working capital has to be determined in accordance with the applicable provisions of the JSERC (Distribution Tariff Regulations), 2010 and not as per the methodology notified by the West Bengal gazette.

7.39 As per the JSERC 'Distribution Tariff Regulations, 2010, Interest on Working capital shall be calculated on the basis of the following:

- (a) One-twelfth of the amount of Operation and Maintenance expenses for such financial year; plus
- (b) Maintenance spares at 1% of Opening GFA; plus

- (c) Two months equivalent of the expected revenue from sale of electricity at the prevailing tariffs; minus
- (d) Amount held as security deposits under clause (a) and clause (b) of subsection (1) of Section 47 of the Act from consumers and Distribution System Users; minus
- (e) One month equivalent of cost of power purchased, based on the annual power procurement plan.

7.40 However, the Commission noticed that the GFA and O&M cost of the Petitioner cannot be segregated into that of pertaining to generation and transmission business and that for distribution and retail business at present. Hence, applying the aforementioned methodology for computation of IWC is not possible. Therefore, the Commission decided to continue with the methodology as applied by the Commission for truing up the ARR for FY 2006-07 to FY 2011-12 in this Order.

7.41 Accordingly, the Commission has estimated the working capital requirement for Jharkhand area to be 1% of the projected revenue from sale of power in the Jharkhand area. The interest on working capital has been estimated at the prevailing State Bank of India (SBI) Prime Lending Rate (PLR) as on April 1st of the respective year. The following table summarises the computation of interest on working capital for FY 2012-13 as per the Commission's analysis.

**Table 43: Interest on Working Capital (Rs Cr) for Jharkhand Area for FY 2012-13
as approved by the Commission**

Particulars	FY 2012-13
Revenue from sale of power in Jharkhand Area	3741.61
Working Capital Requirement in Jharkhand Area (@ 1% of Revenue from sale of power)	37.42
Interest Rate (%)	14.75%
Interest on Working Capital for Jharkhand Area	5.52

Tariff Filing and Publication Expenses for Jharkhand Area

Petitioner's Submission

7.42 The Petitioner has projected that Tariff Filing and Publication Expenses for the whole DVC area is Rs. 3.42 Cr for FY 2012-13 based on the part trends.

Commission's Analysis

7.43 The Commission approves the tariff filing fees and publication expenses in line with the approved cost under this head for FY 2011-12, subject to true up based on actual cost incurred. Accordingly, the Commission approves Rs.1.07 Cr as the total tariff filing & publication expenses for Jharkhand area for FY 2012-13.

Table 44: Projected Tariff Filing and Publication Expenses (Rs. Cr.) for Jharkhand Area FY 2012-13 as submitted by Petitioner and as approved by the Commission

Sl. No.	Particulars	DVC's Submission	Commission's Analysis
A.	Tariff filing fees		
	Pertaining to JSERC	3.42	0.25
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio		0.76
	Sub-Total		1.01
B.	Publication fees		
	Pertaining to JSERC	0.06	0.005
	Pertaining to CERC & proportionately allocated to Jharkhand area in sales ratio		0.055
	Sub-Total		0.06
	TOTAL (A+B)	3.42	1.07

Allocation of Costs for DVC as a whole to Jharkhand Area

Petitioner's Submission

7.44 The Petitioner has submitted that the input costs including own generation cost, power purchase cost, other input cost, interest on working capital, etc cannot be segregated into the cost pertaining to Jharkhand and West Bengal area as DVC operates as a single entity. Thus, the Petitioner has submitted that for the purpose of computing retail tariffs pertaining to Jharkhand area, the input cost of DVC may be bifurcated in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

Commission's Analysis

7.45 The Commission directed the petitioner to submit the details of segregated cost of supply for Jharkhand and West Bengal area. However the Petitioner clarified that the transmission and distribution system for the whole Damodar Valley area is an integrated one and cannot be segregated for Jharkhand and West Bengal.

7.46 Thus, in absence of any other methodology for segregation of input costs, the Commission adopts the methodology proposed by the Petitioner i.e. the input cost of DVC has been segregated in the ratio of the energy sales in Jharkhand area to the total sales in the Damodar Valley area.

7.47 The following table summarises the input cost allocated to the Jharkhand area for the period FY 2012-13 as submitted by the Petitioner and as approved by the Commission.

Table 45: Input cost allocated to the Jharkhand area (Rs. Cr.) for FY 2012-13 as submitted by Petitioner and as approved by the Commission

Particulars	DVC's Submission	Commission's Analysis
	FY 2012-13	FY 2012-13
Own Generation cost (A)	6,088.33	5,963.74
Power Purchase cost (B)	1,806.11	1004.02
IWC for power purchase as claimed by DVC (C)	42.26	0.00*
Other Input cost (D)	Included in own power generation cost as given in (A) above	Included in own power generation cost as given in (A) above
Tariff Filing and Petition Fees (E)	3.42	0.00*
Sub-Total (F)	7,940.12	6,967.75
Less: Non-Tariff Income (G)	0.00	9.23
Total ARR for DVC (H = F – G)	7,940.12	6,958.52
Ratio of sales in Jharkhand Area (I)	58%	55%
Allocated input cost to Jharkhand Area (J = H * I)	4,595.40	3,799.12

Note: * Included separately while determining the ARR cost for Jharkhand Area

Summary of ARR for Jharkhand Area for FY 2012-13

7.48 The following table summarizes the ARR for Jharkhand area as per the submission by the Petitioner and that approved by Commission for the period FY 2012-13.

Table 46: Summary of ARR (Rs Cr) for Jharkhand Area for FY 2012-13 as submitted by Petitioner and as approved by Commission

Particulars	DVC's Submission	Commission's Analysis
	FY 2012-13	FY 2012-13
Allocated input cost to Jharkhand Area	4,595.40	3,799.12
Tariff filing & publication expenses	Included in Input Cost to Jharkhand Area	1.07
Add: IWC for Jharkhand Area		5.52
Total ARR for Jharkhand area	4,595.40	3,805.71
Revenue from sale of power in Jharkhand area	4,172.36	3,741.61
Revenue Gap/ (Surplus)	423.04	64.10
Sales (MU)	11186	9331
Average Cost of Supply (Rs/kWh)	4.11	4.08

A8: SUMMARY OF ARR AND REVENUE GAP/ SURPLUS**Summary of Annual Revenue Requirement**

8.1 In view of the above analysis, the Annual Revenue Requirement along with the revenues at existing tariffs and revenue gap from FY 2006-07 till FY 2012-13 are summarized below.

Table 47: Summary of ARR (Rs Cr) for Jharkhand Area from FY 2006-07 to FY 2012-13 as submitted by the Petitioner

Particulars	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12*	2012-13
Allocated input cost to Jharkhand Area	2768.39	2562.42	2735.79	2499.12	2867.60	3497.08	4595.40
Add: Tariff filing & publication expenses	0.24	0.23	0.27	0.63	0.66	1.79	0.00
Total ARR for Jharkhand area	2768.63	2562.65	2736.06	2499.73	2868.25	3498.86	4595.40
Revenue from sale of power in Jharkhand area	1877.64	1759.70	2172.99	2318.50	2023.33	3479.76	4172.36
Revenue Gap/ (Surplus)	890.99	802.95	563.07	181.23	844.92	19.11	423.04
Cumulative Revenue Gap/ (Surplus)							3725.32

Note: * As per Initial petition submitted by DVC

Table 48: Summary of ARR (Rs Cr) for Jharkhand Area from FY 2006-07 to FY 2012-13 as approved by the Commission

Particulars	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Allocated input cost to Jharkhand Area	1853.12	1728.08	1797.30	2488.15	2858.58	3149.93	3799.12
Add: Tariff filing & publication expenses	0.24	0.23	0.27	0.63	0.66	1.07	1.07
Add: IWC for Jharkhand Area	1.92	2.16	2.66	2.84	2.38	4.32	5.52
Total ARR for Jharkhand Area	1855.27	1730.46	1800.22	2491.61	2861.61	3155.31	3805.71
Revenue from sale of power in Jharkhand Area	1877.64	1759.70	2172.99	2318.50	2023.33	3319.37	3741.61
Revenue Gap/ (Surplus)	(22.37)	(29.24)	(372.77)	173.11	838.28	(164.06)	64.10
Cumulative Revenue Gap/ (Surplus)							487.04

A9: TREATMENT OF REVENUE GAP/SURPLUS*Petitioner's Submission*

9.1 The Petitioner has submitted a revenue gap of Rs 3725 Cr from FY 2006-07 upto FY 2012-13. However, the Petitioner has proposed that the current year gap for FY 2012-13 of Rs.423 Cr alone be adjusted through a tariff hike of 2.5% as the true up for previous years i.e. FY 2006-07 to 2008-09 is provisional subject to the final decision of the Hon'ble Supreme Court in its appeal C.A. No. 4881/2010 and should be adjusted once the final decision is made in this regards.

9.2 Also, the Petitioner has proposed a two-part tariff structure over the existing single-part tariff, which has been summarised below.

Table 49: Retail Tariffs for FY 2012-13 as proposed by DVC

Consumer Category	Name of Tariff Scheme	Consumption Slab	Existing Component of Tariff (w/o adjustment of FSA)*		Proposed Component of Tariff (2012-13)	
			Energy Charges	Fixed/Demand Charges	Energy Charges	Fixed/Demand Charges
			(Paise/kWh)	(Paise/kWh)	(Paise/kWh)	(Rs./kVA/Month)
Industries (33 kV)	TOD	Normal (06:00 to 17:00)	202	171	305	670
		Peak (17:00 to 23:00)	202	171	365	
		Off Peak (23:00 to 6:00)	202	171	259	
	Non TOD	All Units	202	171	311	670
Industries (132 kV)	TOD	Normal (06:00 to 17:00)	202	171	302	670
		Peak (17:00 to 23:00)	202	171	362	
		Off Peak (23:00 to 6:00)	202	171	256	
	Non TOD	All Units	202	171	308	670
Traction (132 kV)	Non TOD	All Units	202	171	193	670
Industries (220 kV)	TOD	Normal (06:00 to 17:00)	202	171	295	670
		Peak (17:00 to 23:00)	202	171	354	
		Off Peak (23:00 to 6:00)	202	171	251	

Note: * The existing billing rate as per the applicable tariff rates after adjustment of FSA recoverable in accordance with the CERC's Provisional Tariff Order dated June 23, 2011 is 401 paise/unit comprising of 223 paise/unit as energy charges & 178 paise/unit as fixed charges

Commission's Analysis

- 9.3 The Commission approves a revenue gap of Rs.587.01 Cr based on the true up of ARR for FY 2006-07 to FY 2010-11. The following table summarises the revenue gap from true up of past years.

Table 50: Revenue Gap / (surplus) approved by the Commission for past years (Rs Cr)

FY	Revenue Gap / (Surplus)
2006-07	(22.37)
2007-08	(29.24)
2008-09	(372.77)
2009-10	173.11
2010-11	838.28
Total	587.01

- 9.4 In addition to above, the revenue gap/ (surplus) related to FY 2011-12 and FY 2012-13, as approved by the Commission, is Rs. (164.06) Cr and Rs. 64.10 Cr, respectively. Thus the cumulative revenue gap upto FY 2012-13 for Jharkhand area of DVC, as approved by the Commission has been summarised in following table.

Table 51: Cumulative Revenue Gap/(surplus) approved by the Commission for Jharkhand area of DVC (Rs Cr)

Particulars	Amount
Revenue Gap/ (Surplus) for past years from FY 2006-07 to FY 2010-11	587.01
Revenue Gap/ (Surplus) for FY 2011-12	(164.06)
Revenue Gap/ (Surplus) for FY 2012-13	64.10
Cumulative Revenue Gap/ (Surplus) upto FY 2012-13	487.04

- 9.5 The Commission agrees with the submission of the Petitioner that as the true up for past years is provisional i.e. subject to the final order of the Hon'ble Supreme Court in C.A. No. 4881/2010 in the appeal of DVC against the Order of ATE dated May 10, 2010, the cumulative revenue gap for past years from FY 2006-07 to FY 2011-12 will be adjusted once the final decision is made in this regard. Accordingly, the Commission has adjusted the revenue gap for FY 2012-13 i.e. Rs.64.10 Cr through a tariff hike of 1.7% over the existing tariffs during the year.

- 9.6 Further, the Commission scrutinised the proposal of the Petitioner for approval of two-part tariff structure. The Commission asked the Petitioner to submit sample consumer bills for giving details of contracted demand, consumption & tariffs. On scrutiny of sample bills, the Commission noticed that the present bills do not provide details of contracted demand, actual monthly drawal and applicable power/load factor during the month. In absence of such details, the impact on each consumer of the increase in revenue from applicability of two-part tariff cannot be assessed correctly.
- 9.7 Moreover, only few months are remaining in the current financial year and the next tariff petition is already due and the proposed switch-over to the two-part tariffs needs further examination and analysis in order to protect the interest of consumers, thus the request of the petitioner for two-part tariffs and related terms & conditions of supply including rebates/penalties will be considered with the next tariff petition. For the time being the tariff design and terms & conditions of supply are retained as they are at present and accordingly, the Commission has decided to levy single-part tariff for FY 2012-13.
- 9.8 The approved single-part tariff structure for FY 2012-13 has been summarised in following table.

Table 52: Approved Retail Tariffs for FY 2012-13 as allowed by the Commission

Consumer category/ (Voltage Level)	Existing rates* (Rs/kWh)		Approved Rates (Rs/kWh)	
	Energy Charges	Fixed Charges	Energy Charges	Fixed Charges
Industries (33 kV)	2.23	1.78	2.28	1.81
Industries (132 kV)	2.23	1.78	2.27	1.81
Industries (220 kV)	2.23	1.78	2.26	1.81
Traction (132 kV)	2.23	1.78	2.27	1.81

Note: * Existing billing rates includes recovery of FSA

- 9.9 The following table summarises the consumer category-wise average cost of supply, average revenue realised at existing tariffs and at approved tariffs for FY 2012-13.

Table 53: Average CoS (Rs/kWh) vs. Average Revenue for FY 2012-13 (Rs/kWh)

Consumer Category	Average Cost of Supply	Average Revenue @ Existing Tariff *	Average Revenue @ Approved Tariff	% increase
Industries (33 kV)	4.08	4.01	4.09	2.0%
Industries (132 kV)	4.08	4.01	4.07	1.6%
Industries (220 kV)	4.08	4.01	4.07	1.5%
Traction (132 kV)	4.08	4.01	4.07	1.6%
Total	4.08	4.01	4.08	1.7%

Note: * Including recovery of FSA

A10: TARIFF RELATED OTHER ISSUES*Petitioner's Submission*

10.1 Besides the proposal for revision of retail tariffs, the Petitioner has also submitted following proposal for tariff related other issues:

- (a) **Implementation of TOD Tariff** - The Petitioner has considered the projected consumption for different category of consumers commensurate with their respective power factor and load factor along with apportionment between Time of the Day (TOD) and Non-TOD in line with the actual load pattern for the year 2009-10.

Thus, the petitioner submits that the time strata is proposed to be from 06 00 hrs. to 17 00 hrs. for Normal Period, from 17 00 hrs. to 23 00 hrs. for Peak Period and from 23 00 hrs. to 06 00 hrs. for Off Peak Period in order to maintain the identical tariff structure in both the command area of DVC spreading over two contiguous States, viz., West Bengal & Jharkhand.

Hence, the petitioner requests the Commission to implement the TOD tariff as per the above proposed time strata.

- (b) **Demand Charges** - The Petitioner proposes to levy Demand Charge on the basis of maximum demand, recorded during the month or 85% of the contract demands whichever is higher.
- (c) **Penalty for exceeding Billing / Contract Demand** - The Petitioner proposes to levy extra charges if a consumer consumes power in excess of his contract demand in accordance with following stipulations:
- If the highest demand of any non-TOD consumer recorded in a month exceeds his contract demand, he shall be liable to pay demand charge at the applicable rate for that non-TOD consumer in question on highest demand for that month. In addition, he will be also liable to pay an additional demand charge @ 60% of the demand charge for the additional demand being the difference between the recorded highest demand and his contract demand.

- In case the highest demand of any consumer under TOD tariff exceeds the contract demand in any month, the demand charge as mentioned in the tariff schedule of the tariff order for any year shall apply on highest demand for that month. In addition, the demand of power in excess of sanctioned contract demand in any period of time shall attract the additional demand charge for the said excess demand for such consumer, and the same shall be calculated according to the following formulae:

- I. In case the highest demand during normal period exceeds the contract demand

$$\text{ADCED} = 0.2 \times (\text{Dact} - \text{Dcont}) \times \text{DC}$$

- II. In case the highest demand during peak period exceeds the contract demand

$$\text{ADCED} = 0.5 \times (\text{Dact} - \text{Dcont}) \times \text{DC}$$

- III. In case the highest demand during off-peak period exceeds the contract demand

When $\text{Dact} > \text{Dcont}$ and $\text{Dact} \leq 1.3 \times \text{Dcont}$

$$\text{ADCED} = 0.01 \times (\text{Dact} - \text{Dcont}) \times \text{DC}$$

When $\text{Dact} > 1.3 \times \text{Dcont}$ and $\text{Dact} \leq 1.5 \times \text{Dcont}$

$$\text{ADCED} = [0.01 \times 0.3 \times \text{Dcont} + 0.1 \times (\text{Dact} - 1.3 \times \text{Dcont})] \times \text{DC}$$

When $\text{Dact} > 1.5 \times \text{Dcont}$

$$\text{ADCED} = [0.01 \times 0.3 \times \text{Dcont} + 0.1 \times 0.2 \times \text{Dcont} + 0.2 \times (\text{Dact} - 1.5 \times \text{Dcont})] \times \text{DC}$$

In the formulae A, B & C mentioned above, the abbreviations have the meaning as given below:

ADCED = Additional Demand Charge for demand of power in excess of sanctioned contract demand during the billing period.

Dact = Actual highest demand of power in respective time period.

Dcont = Sanctioned Contract Demand of the consumer.

DC = Rate of Demand Charge as per the tariff order for the relevant category of consumer.

IV. In case demand of power exceeds sanctioned contract demand in more than one time period, computation of Additional Demand Charge (ADCED) shall be done for each such time period and the highest among such computed additional demand charge for different time periods shall be chargeable.

- (d) **Voltage Rebate for Industrial consumers at 132 kV and 220 kV** - The Petitioner has proposed to reduce the energy charge for industrial consumers at 132 KV and 220KV by allowing rebate for encouraging high voltage consumers which in turn reduce loss level of system. The proposed voltage rebate submitted by the Petitioner is given as below:

Table 54: Voltage Rebate as proposed by DVC

Voltage Level	Details of Rebate
33 kV	No rebate
132 kV	4% of Energy Charge
132 kV Traction	4% of Energy Charge
220 kV	7% of Energy Charge

- (e) **Minimum Charges for HV Consumers** - In order to ensure recovery of the entire fixed charges of own generating station including composite T & D network of DVC, the Petitioner proposes a provision for Minimum charges in the tariff design. The minimum charge rate is proposed to be applicable on the contract demand when the sum of the energy charge and demand charge including rebate and surcharge, if any, is less than the minimum charge. Minimum charges excluding taxes, levies etc. and arrears as proposed by the petitioner is:

Table 55: Minimum Charges as proposed by DVC

Financial Year	Minimum Charges (Rs. / kVA / Month)
2011-12	651
2012-13	670
2013-14	677

- (f) **Power Factor Rebate / Surcharge** - The Petitioner proposed to apply the Power Factor Rebate for Power Factor $\geq 94\%$ in different steps but the same percentage of rebate at different steps has for consumers of all voltage level.

The Petitioner also proposes to apply the Power Factor Surcharge for Power Factor < 94% in different steps but the same percentage of rebate at different steps has for consumers of all voltage level.

The Power Factor Rebate / Surcharge as proposed by the petitioner is:

Table 56: Power Factor Rebate as proposed by DVC

Power Factor	Rebate in % of Energy Charge	Surcharge in % of Energy Charge
< 0.85	0	7
≥ 0.85 to < 0.86	0	6.5
≥ 0.86 to < 0.87	0	6
≥ 0.87 to < 0.88	0	5.5
≥ 0.88 to < 0.89	0	5
≥ 0.89 to < 0.90	0	4
≥ 0.90 to < 0.91	0	3
≥ 0.91 to < 0.92	0	2
≥ 0.92 to < 0.93	0	1
≥ 0.93 to < 0.94	0	0
≥ 0.94 to < 0.95	1	0
≥ 0.95 to < 0.96	2	0
≥ 0.96 to < 0.97	3	0
≥ 0.97 to < 0.98	4	0
≥ 0.98 to < 0.99	5	0
≥ 0.99	6	0

- (g) **Load Factor Rebate** - The petitioner proposed to implement the Load Factor (LF) rebate beyond LF of 65% in different steps based on load profile in the preceding year as a whole in DVC command area.

The Petitioner has also proposed a new formula for computation of load factor for the purpose of billing as follows:-

$$\text{Load Factor (\%)} = \frac{(\text{Energy Consumed in Kwh for the billing period} \times 100)}{((H - \sum Hi) \times MD + \sum (Hi \times RD_i))}$$

Where,

- H = Total hours in the billing period
- MD = Maximum Demand for Load Factor Calculation = Recorded Maximum Demand in the billing period or 85% of the Contract Demand whichever is higher
- Hi = The duration involved for ith incidence of interruption / total shed / partial restriction on load in supplying power to the consumer by the licensee.
- RDi = Restricted load imposed on the consumers corresponding to the ith incidence of actual drawal during the period of such restriction whichever is higher

Load Factor Rebate as proposed by the petitioner is:

Table 57: Load Factor Rebate as proposed by DVC

Load Factor	33 kV	132 kV	220 kV
65 – 70	1	2	3
70 – 75	3	4	5
75 – 80	5	6	7
80 – 85	7	8	9
86 – 90	10	12	14
> 90	13	16	19

- (h) **Load Factor Surcharge** - The Petitioner also proposed to apply Load Factor surcharge on the Industrial Consumers if the load factor falls below 30%.

The surcharge amount proposed for the load factor less than 30% but equal to or above 25% shall be 5 paise/kWh for the amount of energy by which consumption falls short of energy corresponding to load factor of 30%.

The surcharge amount proposed for the load factor below 25% shall be 30 paise/kWh and shall be applicable only for the amount of energy by which the consumption falls short of energy corresponding to a load factor of 25% but not less than the amount of surcharge that would have been payable for load factor at 25% computed @ 5 paise/kWh.

- (i) **Prompt Payment Rebate** - The Petitioner also proposed to apply Prompt Payment Rebate to be varying with the date of payment starting from 2% for payment within 2 days from the date of presentation of the bill and reducing thereafter in stages and discontinuation of such rebate for payment beyond 28 days from the date of presentation of the bill. Prompt Payment Rebate as proposed by the petitioner is:

Table 58: Prompt Payment Rebate as proposed by DVC

No. of days from the date of presentation of the bill	% Rebate
Within 2 days	2.00
3 days to 5 days	1.67
6 days to 12 days	1.20
13 days to 20 days	0.67
21 days to 28 days	0.13
29 days to 30 days	0.00

Commission's Analysis

- 10.2 As mentioned in para 9.7 of this Tariff Order, as only few months are remaining in the current financial year and the next tariff petition is already due and as such the proposed switch-over to the two-part tariffs needs further examination and analysis in order to protect the interest of consumers, the request of the petitioner for two-part tariffs and related terms & conditions of supply including rebates/penalties will be considered with the next tariff petition. For the time being the tariff design and terms & conditions of supply are retained as they are at present.

A11: TARIFF SCHEDULE**APPLICABLE FROM 1ST NOVEMBER 2012¹****THIS IS A PROVISIONAL TARIFF ORDER SUBJECT TO FINAL OUTCOME OF THE MATTER PENDING BEFORE SUPREME COURT.****High Tension (HT) Industries at 33 kV****Applicability:**

The schedule shall apply for consumers connected at 33 kV.

Service Character:

50 Cycles, 3 Phase at 33 kV

Tariff:

Consumer Category	Energy Charges	Fixed Charges
	Rate (Rs/kWh)	Rate (Rs/kWh)
HT Industries at 33 kV	2.28	1.81

Delayed Payment Surcharge: In accordance with Clause I of Terms & Conditions of Supply as provided in Section 12 of this Tariff Order.**High Tension (HT) Industries at 132 kV****Applicability:**

The schedule shall apply for consumers connected at 132 kV.

Service Character:

50 Cycles, 3 Phase at 132 kV

¹ This schedule shall remain in force till March 31, 2013 or till the next tariff schedule is issued by the Commission, whichever is later.

Tariff:

Consumer Category	Energy Charges	Fixed Charges
	Rate (Rs/kWh)	Rate (Rs/kWh)
HT Industries at 132 kV	2.27	1.81

Delayed Payment Surcharge: In accordance with Clause I of Terms & Conditions of Supply as provided in Section 12 of this Tariff Order.

High Tension (HT) Industries at 220 kV & above**Applicability:**

The schedule shall apply for consumers connected at 220 kV & above.

Service Character:

50 Cycles, 3 Phase at 220 kV & above

Tariff:

Consumer Category	Energy Charges	Fixed Charges
	Rate (Rs/kWh)	Rate (Rs/kWh)
HT Industries at 220 kV	2.26	1.81

Delayed Payment Surcharge: In accordance with Clause I of Terms & Conditions of Supply as provided in Section 12 of this Tariff Order.

Traction**Applicability**

This tariff schedule shall apply for use of railway traction only.

Service Character:

AC, 50 cycles, Single phase at 132 kV.

Tariff:

Consumer Category	Energy Charges	Fixed Charges
	Rate (Rs/kWh)	Rate (Rs/kWh)
Traction at 132 kV	2.27	1.81

Delayed Payment Surcharge

The delayed payment surcharge will be at the rate of 1.5% per month and part thereof. The due date for making payment of energy bills or other charges shall be fifteen days from the date of serving of bill. The bill should be generated and delivered on monthly basis. In case, the licensee defaults in generating and delivering bills on monthly basis, DPS will not be charged for the period of default by licensee.

A12: TERMS AND CONDITIONS OF SUPPLY

Besides the Terms and Conditions provided in the JSERC (Electricity Supply Code), Regulations, 2005 and as amended from time to time, the Commission approves the following additional terms & conditions of supply.

Clause I: Interest on Delayed payment

For High tension consumers, the Delayed Payment Surcharge will be charged on a weekly basis at the rate of 0.4% per week. The due date for making payment of energy bills or other charges shall be fifteen days from date of serving of bill. The bill should be generated and delivered on monthly basis. In case, the licensee defaults in generating and delivering bills on monthly basis, DPS will not be charged for the period of default by licensee.

Clause II: Jharkhand Electricity Duty

The charges in this tariff schedule do not include charges on account of Electricity Duty/ Surcharge to the consumers under the Jharkhand Electricity Duty Act, 1948 and the rules framed there under as amended from time to time and any other Statutory levy which may take effect from time to time after making corrections for the loss in the distribution system.

Clause III: Other Terms & Conditions**Point of Supply**

The Power supply shall normally be provided at a single point for the entire premises. In certain categories like coal mines power may be supplied at more than one point on request of consumer subject to technical feasibility. But in such cases metering and billing shall be done separately for each point.

Dishonoured Cheques

In the event of dishonored cheque for payment against a particular bill, the Licensee shall charge a minimum of Rs 300 or 0.5% of the billed amount, whichever is higher. The DPS shall be levied extra as per the applicable terms and conditions of DPS for the respective category.

Stopped/ defective meters

In case of existing consumers with previous consumption pattern, the provisional average bill shall be issued on the basis of average of previous twelve months consumption.

In case of meter being out of order from the period before which no pattern of consumption is available, the provisional average bill shall be issued on the basis of sanctioned/ contract load on following load factor applicable to respective categories, as shown below:

Consumer Category	Load Factor
HT Industries	
33 kV	0.30
132 kV	0.50
220 kV & above	0.50
RTS	0.25

Sale of energy

No consumer shall be allowed to sell the electricity purchased from the Licensee to any other person/ entity.

Prompt Payment Rebate

The Commission has approved the prompt payment rebate as per the proposal submitted by the Petitioner. The applicable prompt payment rebate has been summarized in table below:

Table 59: Prompt Payment Rebate

No. of days from the date of presentation of the bill	% Rebate
Within 2 days	2.00
3 days to 5 days	1.67
6 days to 12 days	1.20
13 days to 20 days	0.67
21 days to 28 days	0.13
29 days to 30 days	0.00

Release of new connections

No new connections shall be provided without appropriate meter. The tariff for un-metered connections shall be applicable only to the existing un-metered connections, until they are metered.

Minimum Charges

The Commission does not allow for levy and recovery of minimum charges by any other distribution licensee in the state. Thus for keeping uniformity in terms & conditions of supply across licensees, the Commission rejects the proposal submitted by the Petitioner regarding levy of minimum charges.

A13: DIRECTIVES

Tariff for Low Voltage Consumers

- 13.1 The Commission observed that the Petitioner has been undertaking LT supply at voltage below 33 kV to meet its own colony consumption as well as to meet the lighting load of Bokaro and Waria railway stations which are located in and around DVC area, however the Petitioner did not submit detailed data for such consumers for the purposes of separate tariff determination.
- 13.2 Thus, the Commission directs the petitioner to file separate details for consumers below 33 kV along with tariff proposal for such consumers with the next ARR & retail tariff petitions.

Fault Redressal Mechanism

- 13.3 The Commission directs the Petitioner to carry out an assessment of its present fault redressal mechanism system and benchmark it against the fault redressal systems of other distribution utilities in the State and to submit the report within 6 months of issue of this order.
- 13.4 The Commission also directs the Petitioner to submit quarterly progress report on the implementation of standard of performance as per the JSERC (Distribution Standard of Performance) Regulations, 2005 as amended from time to time.

Energy Accounting

- 13.5 The Commission directs the Petitioner to implement the energy accounting measures in the DVC area at all voltage levels and to submit the quarterly reports of the same to the Commission.

Notice for Load shedding

- 13.6 The Commission directs the Petitioner to implement the energy accounting measures in the DVC area at all voltage levels and to submit the quarterly reports of the same to the Commission.

Power Supply below 33 kV

- 13.7 The Commission directs the Petitioner to implement the energy accounting measures in the DVC area at all voltage levels and to submit the quarterly reports of the same to the Commission.

Two-part tariff structure

- 13.8 The Commission directs the Petitioner to submit a detailed proposal for levying two-part tariff including the revenue implication on the existing consumers of the proposed change in tariff structure with the next tariff petition.

Data adequacy in the next Tariff Petition

13.9 The Commission has observed that the tariff petition filed by the petitioner has many data gaps and discrepancies. It is pertinent to mention that the inadequacy of data delays the determination of ARR by the Commission and thereby the tariff order which not only impacts the revenues of the Petitioner but is also a hindrance in regulatory stability from the consumer's perspective. The Commission directs the Petitioner to maintain the data adequacy and consistency in the subsequent tariff petitions.

This Order is signed and issued by the Jharkhand State Electricity Regulatory Commission on this the 22nd day of November, 2012.

Date: 22 November, 2012

Place: Ranchi

Sd/-
(T.MUNIKRISHNAIAH)
MEMBER (E)

Sd/-
(MUKHTIAR SINGH)
CHAIRPERSON

ANNEXURE-I**List of participating members of public in the public hearing**

Sl. No.	Name	Address / Organisation if any
1	J. Datta	DVC, Kolkata
2	D. Halder	DVC, Maithon
3	B.P. Singh	Chairperson CGRF, DVC, Maithon
4	H.K. Budhia	BFCL, Ranchi
5	Ajay Kumar	D.G.M. (T.E.), SAIL/BSL
6	B.N.P. Singh	SE-3, Aanoda Apartment, SOP, Doranda, Ranchi
7	Rahul Choudhury	Jamshedpur
8	Y. Prasad	Jamshedpur
9	P. Jena	I.O. DVC/Kolkata
10	S.B. Saha	Dy. GM, DVC, Maithon
11	A. Biswas	Sr. ACAO, DVC, Kolkata
12	G.C. Mukharjee	Circle-II, DVC, Maithon
13	R.D. Gupta	Adviser, DVC
14	A. Nayak	Chief Engineer, (C&D), DVC
15	S. Ganguly	SE (E), Commercial, DVC
16	R.Y.P. Singh	GM-cum-Chief Engineer, JSEB, Dhanbad
17	S.C. Thakur	ESE, Elect., Supply Circle, JSEB, Dhanbad
18	M. Bisum	DVC, HQ, DVC (E)
19	H.P. Barnwal	AEE/Area Board Dhanbad
20	Kailash Chandra Goyal	Secretary, Dhanbad Zila Flour Mill Association, Dhanbad
21	Tapan Kumar Mandal	DVC, CLD
22	Dhananjay Kumar	Maihar Alloys, Ramgarh
23	Anil Agarwal	Yash Alloys (P) Ltd.
24	Sanjeeb Sharma	Radha Casting Metallic (P) Ltd.
25	D.K. Aich	DY. CE(Coml), DVC
26	S.Z. Hossein	PA to CE (CLD), DVC, Maithon
27	Subhakaran Chourdia	EE (CPH) & Secretary, CGRF, DVC, Maithon
28	P.N. Sinha	Controller (E), CPH, Maithon

Sl. No.	Name	Address / Organisation if any
29	Manoj Kumar Agarwal	M.D.a. Projects India (P) Ltd.
30	Sanjeev Shrivastav	CC (SIP) DVC, Maithon
31	P.K. Chaudhuri	CE (Coml), DVC, Kolkata
32	A.K. Sinha	Press Reporter, Maithon
33	Dr. P. Kundan	OSD-AR, Maithon
34	S. K. Pal, SDE	CLD, DVC
35	K. G. Ajay Kumar	Electrical
36	Pradeep Kumar	Udann News
37	Bithu Singh	D. News
38	Santosh Kumar Sarwagi	Gridih
39	Manoj Kumar Pandey	Giridih
40	Nimain	Giridih
41	S. Agarwal	Gridih
42	Asokh Kumar Singh	Adi Ispat, Gridih
43	Amarjeet Singh Saluja	Saluja Steel & Power (P) Ltd., Gridih
44	Gunwant Singh Saluja	Mongia Steel, Gridih