

**Application for
Annual performance Review (FY09-10)**

&

Tariff Petition

For

FY 2011-2012

For

Kota Super Thermal Power Station (KSTPS)

Submitted to

Rajasthan Electricity Regulatory Commission

Jaipur

by

Rajasthan Rajya Vidyut Utpadan Nigam Limited

Vidyut Bhavan, Janpath, Jaipur

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DEFINITIONS

Act	The Electricity Act, 2003
Application	This Petition for APR FY-08-09 and Tariff for FY-10-11 for Rajasthan Rajya Vidyut Utpadan Nigam Limited, Jaipur
Auxiliary Consumption (Aux. Con.)	Auxiliary Consumption in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station and transformer losses within the generating station, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station
Availability	Availability shall have the same meaning as defined in Section 1(7) of the RERC Tariff Regulations 2009.
Distribution Company / Discoms	Discoms or Distribution Company shall mean a company engaged primarily in the business of distribution & supply of electricity in its area of supply including Jaipur Vidyut Vitran Nigam Ltd. (JVVN), Ajmer Vidyut Vitran Nigam Ltd. (AVVN) and Jodhpur Vidyut Vitran Nigam Ltd. (JdVVN).
Gross Calorific Value (GCV)	Gross Calorific Value in relation to a thermal power generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be.
Regulation	The Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2009 notified by RERC on Jan-23, 2009
State	The State of Rajasthan.
Gross Station Heat Rate	Station Heat Rate (SHR) means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals.
Unit	Unit in relation to a generating station means electric generator, its prime mover and auxiliaries and in relation to a combined cycle thermal power generating station includes combustion turbine – generators, associated waste heat recovery boilers, connected steam turbine-generator and auxiliaries

ABBREVIATIONS

ABT	Availability Based Tariff
ARR	Aggregate Revenue Requirement
Ajmer Discom	Ajmer Vidyut Vitran Nigam Limited
CERC	Central Electricity Regulatory Commission
FRP	Financial Restructuring Plan
FY	Financial Year
FY - 10	Financial Year 2009-2010
FY - 11	Financial Year 2010-2011
FY - 12	Financial Year 2011-2012
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
GoI	Government of India
GoR	Government of Rajasthan
Jaipur Discom	Jaipur Vidyut Vitran Nigam Limited
Jodhpur Discom	Jodhpur Vidyut Vitran Nigam Limited
KWh	Kilo Watt Hour or Unit
MU	Million Units
MW	Megawatts
NRLDC	Northern Regional Load Despatch Centre
PLF	Plant Load Factor
PPA	Power Purchase Agreement
R&M	Repairs and Maintenance
RERC/ Commission	Rajasthan Electricity Regulatory Commission
RVUN	Rajasthan Rajya Vidyut Utpadan Nigam Limited
RVPN	Rajasthan Rajya Vidyut Prasaran Nigam Limited
Rs.	Indian Rupees
SHR	Station Heat Rate
Transfer Scheme	The Rajasthan Power Sector Reforms Transfer Scheme, 2000

A1: BACKGROUND

- 1.1 Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RVUN) was incorporated under the Companies Act 1956, as one of the five successor companies of erstwhile Rajasthan State Electricity Board (RSEB) to take over the electricity generation business in the state of Rajasthan. The existing power stations and those under commissioning in the state sector were transferred to RVUN as per the Rajasthan Power Sector Reforms Transfer Scheme, 2000 notified by State Government provisionally on 19th July 2000 and finally on 18th January 2002.
- 1.2 RVUN had entered into a Power Purchase Agreement (PPA) with RVPN on 20th October 2001. As per the provisions of the PPA, the RVPN was responsible for purchase of all the generation from RVUN plants. The PPA was for the period upto 31.03.2003 with a provision to extend the same with mutual agreement
- 1.3 From 1st April 2004 onwards, RVPN is no longer responsible for the bulk purchase of power in Rajasthan. The capacity allocated to RVPN from RVUN generating stations has been reallocated to the three Discoms (Jaipur, Ajmer and Jodhpur) in the ratio of 38:31:31 or as modified by competent authority from time to time. RVUN has entered into Long Term Power supply-Purchase Agreements (PPA) in respect of existing and future power projects for 25 Years with the three Discoms on 28.09.06 , 07.06.2007 and further supplementary PPA was signed on dt 18.5.10 which includes KTPS Unit 1 to 7(1240MW).
- 1.4 The Commission passed tariff order for FY 2009-10 & FY2010-11 vide order dated 27.5.10 for STPS Unit#6 & KTPS Unit#7 .As per section 2.6 tariff order 27.5.10, the commission view ,the ARR so determined would be merged with the ARR already approved for KTPS and STPS for purpose of future determination of tariff/truing up. RVUN to file its petition for Annual performance Review for 2009-10 and/or determination of tariff for 2011-12 in accordance with provision of RERC tariff regulation 2009 by 30.11.10. Accordingly this petition is being submitted for Unit 1 to 6 of KTPS to RERC for tariff determination.

A2: GENERATION FORECAST

- 2.1 The installed capacity of KTPS unit 1 to 7 is 1500 MW as on 31.10.10 .The KTPS unit#7 was started commercial operation w.e.f 31.12.2009.The Actual figures / estimated figures of Gross generation , PLF & net energy sale to three Discoms from KTPS station of RVUN for the period FY10, FY11 and FY12 are as shown in table 1 below:

Table 1: Gross generation, PLF & Ex-bus energy sale from KTPS Station

Particular	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual (audit)	As per tariff order	Estimated	estimated
Capacity (MW)			1240	1240	1240
PLF (%)			89.67	88.84	87.22
Gross generation (MU)			9740.31	9650	9500
Aux Cons. (%)			9.27	9.6	9.27
Ex-Bus Generation (MU)			8837.93	8723.60	8619.72

2.2 The fixed cost elements as detailed hereunder for KTPS for the period FY10, FY11 and FY12 are as below.

FIXED CHARGES

- Depreciation
- Interest on Term Loans & Transitional Loan
- Interest on Working Capital
- Operation & Maintenance Expenses
- Recovery of ARR & Tariff Petition Fees
- Inter Unit Account Balance Written off
- Unfunded liability of pension and gratuity

A3: KTPS FIXED CHARGE

3.1 The details of various components of the fixed cost areas under:

Depreciation:-

3.2 Depreciation of KTPS, for period FY09 to FY11 have been calculated based on the clause No.23(s) of RERC Tariff Regulations 2009. Actual figures and estimated figures of depreciation for period FY09 to FY11 are summarised in Table below.

Table 2: Depreciation (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
				10414	10414

Interest on Loans:-

3.3 The loan-wise interest expenses have been worked-out and taken as part of fixed cost. In addition, there are other finance charges comprising of the bank charges, guarantee commission etc. Further, RVUN has restructured many of the loans upto FY06. This has brought down the interest liability in ensuing years. The premium on account of restructuring of term loans has been taken as a part of other finance and bank Charges.

3.4 Actual and estimated figures for the period under review (FY 09 to FY 11) are summarised in Table below:

Table 3: Interest on Loans (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
Term loan	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
				8428	8428
Transitional loan			1379	1379	920

Interest on working Capital

- 3.5 The requirement of working capital loan has been computed on the norms defined under clause No.49 of RERC Tariff regulation 2009 and rate of interest on WLC has taken equal to the short interest prime landing of SBI as on 1.4.09.
- 3.6 Actual and estimated figures for the period FY 2008-09 to FY 2010-11 are summarised in Table below:

Table 04: Interest on working Capital (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			6547	5653	5859

Operation & Maintenance Expenses

- 3.7 The Operation & Maintenance Expenses have been computed as per the norms prescribed under new RERC Regulation 2009.
- 3.8 The Actual and estimated figures for the period FY 2008-09 to FY 2010-11 are summarised in Table below.

Table 05: O & M Expenses (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			15954	15954	16867

Recovery of ARR & Tariff Petition Fees

- 3.9 The Hon'ble Commission vide order dated 10.03.08 has allowed to pass through the fees levied for filling up of ARR & tariff petition, as expenses in the ARR. Accordingly, RVUN has claim the fee for FY 11 as under. The Commission may consider and allow the same.
- 3.10 The ARR & Tariff Petition Fees for FY 2008-09 and for FY 10 to FY 11 are summarised in Table below.

Table 6: Recovery of ARR & Tariff Petition Fees (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			62	62	62

Inter Unit account Balance Written Off

- 3.11 The BOD of RVUN in its 137th Meeting held on 13.05.08 accorded approval to carry out the adjustment for write-off of the balance under the head " Inter Unit Transaction" pertaining to erstwhile RSEB period received as opening balance of FRP in five equal instalments wef FY 08-09, aggregating to Rs. 78.83 Crores. Similarly, RVPN is also writing off the debit balance of Rs. 81.96 Crores in five Aggregate instalments wef FY 03-04.
- 3.12 The BOD further accorded its approval to allow for inclusion of the above adjustment in the tariff petition to be filed for year FY 08-09 and onwards with the Hon'ble Commission for allowing the increase in cost of generation consequent upon such adjustments. Accordingly, an amount of Rs. 15.77 Crores has been considered written off during the FY 11.
- 3.13 The station wise figures for FY 2008-09 and figures for the period (FY 2009-10 to FY 2010-11) are summarised in Table below.

Table 7: Inter Unit account Balance Written off (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			1001	1001	1001

Unfunded Liability of Pension and Gratuity

- 3.14 The Actual and estimated figures for the period FY 2009-10 to FY 2010-11 are summarised in Table below.

Table 8: Unfunded Liability of Pension and Gratuity (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			1454	1454	1454

A4: NON-TARIFF INCOME

- 4.1 The following are the main head of accounts of Non tariff income:
- Sale of Scrap
 - Interest on FD/ Staff Loans
 - Miscellaneous receipts (rebates etc)
- 4.2 The Actual (Audited) figures and estimated figures of Non Tariff Income for the Period FY-08 to FY11 are summarised in Table below.

Table 09: Non-Tariff Income (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
KTPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	estimated
			610	610	560

As per the RERC Regulations 2009, the non-tariff income has been deducted from the fixed charges computed and only the net fixed charges are to be recovered from the three Discoms.

Late Payment Surcharge

- 4.3 The late payment Surcharge leviable to Discoms has not been included, as we cannot anticipate future delay in payment of energy bill by Discoms.

A5: KTPS ACTUAL /ESTIMATED CAPACITY CHARGES (FIXED) FOR FY09, FY 10 AND FY11

The net fixed charges are computed for FY09, FY 10 and FY11 in Table 11.

Table10: Net Capacity Charges for FY09, FY 10 and FY11 (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual (audited)	As per tariff order	Estimated	Estimated
Dep.			10414	10414	10414
Int. on Loans			8428	8428	8414
Int. on Working Cap.			6547	5653	5859
O&M Exp.			15954	15954	16867
Int. on Transitional Loan			1379	1379	920
Inter-unit account balance written off			1001	1001	1001
Recovery of ARR & Tariff Petition Fees			62	62	62
Unfunded Liability of Pension and Gratuity			1454	1454	1454
Gross Fixed charge			45241	44346	44990
Less Non-Tariff Income			610	610	560
Net Fixed. Charges			44631	43736	44430

A6: VARIABLE CHARGES

Kota Thermal Power Station (KTPS)

- 6.1 The new Tariff Regulations, 2009 allows SHR 3000 kcal/kWh 2500 Kcal/kwh and 2450 Kcal/kwh for 100 MW, 210,195 units 1 to 6 and 195MW Unit#7 respectively. The weighted average of SHR for unit# 1 to 7 works out to be 2491.66 Kcal/kwh and and Aux. Consumption as 9.0 % for 195/210 MW units and 10.5% for the two units of 110 MW. The weighted average of SHR works out to be 2581 Kcal/kwh and Aux. Consumption 9.27% for FY 11-12. These figures have considered in the calculations.
- 6.2 Due to shortage of Indigenous coal in coming years, Ministry of power, Govt of India has directed to import 1.46Million ton coal during FY 11 and for next few years. As such, after pro data allocation of total Quantity of coal in STPS, KTPS, and CTPP, impact of blending of imported coal is to be approx. 10% has been proposed for a period FY12. It is added that any variation in the cost of generation due to change of Qty. /quality of coal will be adjusted in fuel price adjustment (FPA) formula prescribed by the Commission.
- 6.3 For estimates of FY12, the average Gross calorific value of the coal/oil and the average rate of coal/oil supply have been calculated on the basis of receipts of previous three months during June , July & August 10 as per Commission's formats. For FY 2011-12, GCV of indigenous coal has been considered as 4018 Kcal/kg and the price of indigenous coal has been taken as Rs. 2340/MT. Wt. average GCV of secondary fuel (OIL) been considered as 9932.92 Kcal/ltr. and price of the secondary fuel(oil) has been taken as Rs. 26849 /KL for FY-12.
- 6.4 As regards Imported Coal, the average GCV has been considered as 6600 Kcal/Kg for FY 2011-12 and the price has been taken as Rs. 7030/MT FY 2011-12. The base price & GCV of Imported Coal has been considered on the basis of latest purchase order placed on dt.

The overall Actual figures / estimated figures of variable Cost for the period under consideration, are summarised in Table 15 below.

Table11: Variable Cost

(Rs. in Lakhs)

Parameter	FY 2009-10		FY 2010-11			FY 2011-12
	As per tariff order	Actual	As per tariff order (U1 to 6)	As per tariff order (U#7)	Estimated	Estimated
Capacity (MW)			1045	195	1240	1240
PLF (%)			90	90	88.8386	87.2187
Gross Generation (MU)			8238	1502.31	9650.00	9500.00
Aux Cons. (%)			9.32	0.090	9.6	9.27
Net Generation (MU)			7470	1367.93	8723.60	8619.72
SHR (Kcal/KWh)			2605	2450	2669	2581
Sp. Oil Cons. (ml/kWh)			0.85/0.15	1	0.654	1.00
Sp. Ind. Coal consumption (Kg/KWh)			0.6507	0.6446	0.625	0.543
Sp. Imported Coal consumption (Kg/KWh)			0.0409		0.023	0.059
GCV of oil (Kcal / litre)			9938.49	9923	9943	9932.92
GCV of Ind. coal (Kcal / Kg)			3573	3590	4018	4018.49
GCV of Impotrd coal (Kcal / Kg)			6600	6600	6600	6600
Heat contributed by oil (Kcal/KWh)				9.923	6.50	9.93
Heat contributed by indian coal (Kcal/KWh)				2440.077	2512.70	2182.72
Heat contributed by imported coal (Kcal/KWh)					150.20	388.19
Price of Imported coal (Rs./MT)			7032	7100.8	7030.00	7030.00
Price of coal (Rs./MT)			2244	2287	2340	2340
Oil Price (Rs./ kL.)			26556/29348	31697	26779	26849
Coal Cost (Rs.in lacs)					141212.7	120746.5
Oil Cost (Rs.in lacs)					1690.04	2550.65
Imported Coal Cost (Rs.in lacs)					15438.58	39281.21
Total Variable Cost			146230.5	25669	158341.29	162578.32
Variable Cost (Rs/KWh sent out)			1.9573	1.8764	1.8151	1.8861

A7: ACTUAL/ ESTIMATED ANNUAL PERFORMANCE REVIEW AND ARR FOR FY08, FY09 AND TARIFF FOR FY-11

THE RECOVERY OF ARR PROPOSED FOR KTPS IS SUMMARISED IN TABLE 16 BELOW

TABLE12: KTPS ARR FOR FY08, FY09 AND FY11

(RS. IN LAKHS)

Parameter	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual (audited)	As per tariff order	Estimated	Estimated
Capacity(fixed) Charges			44631	43736	44430
Variable Cost			171899	158341	162578
Aggregate Revenue Requirement			216529	202077	207009

A8: KTPS ACTUAL/ESTIMATED TARIFF FOR FY 08 TO FY14

8.1 Total per unit charge in Rs. / kwh is given in given table below:-

Table13: KTPS TARIFF for FY08 to FY11

Parameter	FY 09-10		FY 10-11		Y 11-12
	As per tariff order	Actual	As per tariff order	Estimated	Estimated
Ex-Bus Generation (MU)			8837.93	8723.6	8619.72
Capacity charges /Fixed charge (in lacs)			44631	43736	44430
Variable Cost (in lacs)			171899	158341	162578
Fixed cost (Rs/KWh sent out)			0.505	0.5014	0.5155
Variable Cost (Rs/KWh sent out)			1.9450	1.8151	1.8861
Total cost (Rs/KWh sent out)			2.45	2.3164	2.4016

A9: FUEL COST ADJUSTMENT FORMULA

9.1 As per RERC Tariff Regulation 2009 Clause No.54(4) there is provision of fuel cost adjustment formula on account of fuel related costs of electricity generation to take care of any variation in the variable cost. The fuel cost adjustment will be made accordingly.

A10: INCENTIVE

- 10.1 As per RERC Regulations 2009, Coal/Lignite and Gas based stations are allowed to be paid an incentive at a flat rate of 25.0 paise/kWh for ex-bus scheduled energy corresponding to target Plant Load Factor, which is 82% for KSTPS thermal power station.
- 10.2 RVUN proposes recovery of incentive as per the Regulations.

A11: MVARH TARIFF

- 11.1 The Commission has provided that MVARH generation at the power stations shall be as per directions of SLDC. The tariff for MVARh generation was allowed. 5.75 paise /kVARh for FY 2009-10 escalated at 0.25paise/kVARh aggregately in subsequent years, unless otherwise revised by Commission. It is however submitted that RVUN has been declaring its day ahead capacity both in terms of MW and MVAR as well as MU/MVARh. However SLDC is not including reactive generation in its day ahead generation schedules. In absence of such directives from SLDC, the machines are allowed to float and adapt the system voltage conditions. The reactive generation as a consequence of such conditions is being charged by the power stations as per rates allowed by the commission. The Discoms are disallowing such claims on the pretext of absence of reactive generation scheduling by SLDC. The commission may impart suitable directions in the matter while allowing MVARh tariff.

A12: PETITION FOR ANNUAL PERFORMANCE REVIEW/TRUING UP OF ARR/ TARIFF FOR FY 09:-

- 12.1 The data for Annual performance review/truing up of ARR/tariff for FY09 will be filed as supplementary petition after actual/audited figures of account are finalized.

A13: RESPONDENTS:-

- 13.1 All the three Discom's (i.e JVNL/AVNL/ Jd.VNL) Jaipur/ Ajmer/ Jodhpur are respondents for the above petition.

A14: PRAYER

RVUN humbly requests the Hon'ble Commission to:

- ◆ Approval of Annual Performance review / truing up of ARR/tariff for FY-2009-10 on the basis of Audited data to be submitted in supplementary petition.
- ◆ Approval of ARR & tariff for FY-2011-12.
- ◆ To allow provisional tariff w.e.f 1.4.11 for FY2011-12 till final tariff order is issued as proposed in the petition.
- ◆ And pass such other further orders as are deemed fit and proper in the facts and Circumstances of the case.

(S.K.Rajpurawala)
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(A. K. Purohit)
Chief Engineer (PPM&C)