

Application for
Annual performance Review (FY09-10)
&
Tariff Petition
For
FY 2011-2012
For
Suratgarh Super Thermal Power Station
(SSTPS)

Submitted to
Rajasthan Electricity Regulatory Commission
Jaipur

By
Rajasthan Rajya Vidyut Utpadan Nigam Limited
Vidyut Bhavan, Janpath, Jaipur

November-2010

TABLE OF CONTENTS		
A1:	BACKGROUND.....	7
A2:	GENERATION FORECAST.....	7
	GROSS GENERATION, PLF AND ENERGY SALE TO DISCOMS.....	
A3:	STPS FIXED CHARGES.....	8 to10
	DEPRECIATION Interest on Loans Interest on working Capital O & M Expenses Interest on Transitional Loans Recovery of ARR & tariff petition fees Inter Unit account Balance Written Off Unfunded Liability of Pension and Gratuity	
A4:	NON-TARIFF INCOME	10
A5:	ACTUAL/ESTIMATED CAPACITY CHARGES FOR FY10 to FY12	11
A6:	VARIABLES CHARGES FOR FY10 to FY12	12,13
A7:	Actual/estimated Aggregate revenue requirement for FY10 to FY12	14
A8:	Actual/estimated tariff FY10 to FY12	14
A09:	Fuel Cost Adjustment Formula	14
A10:	Incentive	15
A11:	MVArh Tariff.....	15
A12:	PETETION FOR TRUING UP OF ARR /TARIFF FY10	15
A13:	RESPONDENTS	15
A14:	Prayer	15

TABLES				
TABLE	1	:	Gross generation, PLF & Ex-bus energy sale from STPS	7
TABLE	2	:	Depreciation	8
TABLE	3	:	Interest on Loans & Transitional Loans	8
TABLE	4	:	Interest on working Capital	9
TABLE	5	:	O & M Expenses	9
TABLE	6	:	Recovery of ARR & Tariff Petition Fees	9
TABLE	7	:	Inter Unit account Balance Written Off	10
TABLE	8	:	Unfunded Liability of Pension and Gratuity	10
TABLE	9	:	Non-Tariff Income	10
TABLE	10	:	Net Capacity Charges for FY10, FY 11 and FY12	11
TABLE	11	:	Variable Cost	13
TABLE	12	:	ARR for FY10, FY11 and FY12	14
TABLE	13	:	TARIFF for FY10 to FY12	14

Form No.	ANNEXURES	PAGE No.
Form G 1.1	Summary of Tariff proposal	16
Form G 1.2	Aggregate Revenue Requirement	17
Form G 2.1	Plant characteristics	18
Form G 2.2	Operational Parameters - Generation	19
Form G 2.4	Planned & Forced Outage	20,21
Form G 3.1	Revenue from sale of power	22
Form G 3.2	Income from Investment & Other Non tariff Income	25
Form G 4.1	O&M Expenses	26
Form G 5.1	Details/ Information to be submitted in respect of Indian coal/oil for computation of Energy charges for FPA	27,28,29
Form G 5.2	Energy Charges for Thermal Generation	30,31
Form G 6.15	Interest on Working capital	32
	Statement showing repayment of term and transitional loan	33
Form G 7.1	Proposed improvement in performance	34
	Ministry of power letter regarding imported coal	35
	Imported coal purchased order	37,42

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 STPS Unit 1 to 6(1500MW).
- 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 STPS to RERC for tariff determination.

A2: GENERATION FORECAST

- 2.1 The installed capacity of STPS unit 1 to 6 is 1500 MW as on 31.10.10 .The STPS unit#6 was started commercial operation w.e.f 30.12.2009.The Actual figures / estimated figures of Gross generation , PLF & net energy sale to three Discoms from STPS 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 STPS Station

Particular	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual	As per tariff order	Estimated	estimated
Capacity (MW)			1500	1500	1500
PLF (%)			88	78.309	82
Gross generation (MU)			11563.20	10289.74	10804.32
Aux Cons. (%)			9	9.27	9
Ex-Bus Generation (MU)			10522.51	9336.25	9831.93

2.2 The fixed cost elements as detailed hereunder for STPS 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: STPS FIXED CHARGES

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

DEPRECIATION:-

3.2 Depreciation of STPS, for period FY11 and FY12 have been claimed according to tariff order for FY-11 and MYT tariff order passed by the commission and the are summarised in Table below.

Table 2: Depreciation (Rs. in Lakhs)

Station	FY 09-10		FY 10-11		FY 11-12
STPS	As per tariff order	Actual (audited)	As per tariff order	Estimated	Estimated
			28090	28090	26284

INTEREST ON LOANS:-

3.3 The interest on term loans and transitional loan has been calculated according to Clause NO.22 of RERC tariff Regulation-2009 and details calculation for the same is enclosed as annexure

3.4 Estimated figures for the period under review (FY11 and FY12) are summarised in Table below:

Table 3: Interest on Loans (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
Term loans			18062	18062	15302
Transitional loan			7518	7518	6968

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 1.4.10.

3.6 Estimated figures for the period FY11 and FY12 are summarised in Table below:

Table 04: Interest on working Capital (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
STPS			9465	7925	8504

OPERATION & MAINTENANCE EXPENSES

3.7 The Operation & Maintenance Expenses have been computed as per the norms prescribed under RERC tariff Regulation 2009.

3.8 Estimated figures for the period FY11 and FY12 are summarised in Table below.

Table 05: O & M Expenses (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
STPS			19299	19299	20403

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 12 as under. The Commission may consider and allow the same.

3.10 The ARR & Tariff Petition Fees for FY11 and FY12 are summarised in Table below.

Table 06: Recovery of ARR & Tariff Petition Fees (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
STPS			75	75	75

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 and FY12.

3.13 The station wise figures for FY 11 and FY12 are summarised in Table below.

Table 07: Inter Unit account Balance Written Off (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
STPS			496	496	496

UNFUNDED LIABILITY OF PENSION AND GRATUITY

3.14 Estimated figures for the period FY 2010-11 and FY 2011-12 are summarised in Table below.

Table 08: Unfunded Liability of Pension and Gratuity (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
STPS			1739	1739	1739

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)

Estimated figures of Non Tariff Income for the Period FY-11 and FY12 are summarised in Table below.

Table 09: Non-Tariff Income (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
STPS			815	815	765

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

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

A5: STPS ACTUAL /ESTIMATED CAPACITY CHARGES (FIXED) FOR FY10, FY 11 AND FY12

The net fixed charges are computed for FY10, FY 11 and FY12 in Table 11.

Table10: Net Capacity Charges for FY10, FY 11 and FY12 (Rs. in Lakhs)

Particular	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual (audited)	As per tariff order	Estimated	Estimated
Dep.			28090	28090	26284
Int. on Loans			18062	18062	15302
Int. on Working Cap.			9465	7925	8504
O&M Exp.			19299	19299	20403
Int. on Transitional Loan			7518	7518	6968
Inter-unit account balance written off			496	496	496
Recovery of ARR & Tariff Petition Fees			75	75	75
Unfunded Liability of Pension and Gratuity			1739	1739	1739
Gross Fixed charge			84744	83204	79770
Less Non-Tariff Income			815	815	765
Net Fixed. Charges			83929	82389	79005

A6: VARIABLE CHARGES

SURATGARH THERMAL POWER STATION (STPS)

- 6.1 The new Tariff Regulations, 2009 allows SHR for 2500 Kcal/kwh, 2450 Kcal/kwh for 250 MW units 1 to 5 and UNIT#6 respectively and Aux. Consumption as 9.0 % for 250 MW units. The weighted average of SHR for unit# 1 to 6 works out to be 2491.66 Kcal/kwh and Aux. Consumption 9.0% for FY 2011-12. 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 JULY, AUGUST & SEPTEMBER-10 as per Commission's formats. For FY 2011-12, GCV of indigenous coal has been considered as 3704 Kcal/kg and the price of indigenous coal has been taken as Rs. 2885.5/MT . Wt. average GCV of secondary fuel (OIL) been considered as 9491.5 Kcal/ltr. and the price of secondary fuel has been taken as Rs. 30154.75 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. 7233/MT FY 2011-12. The base price & GCV of Imported Coal has been considered on the basis of latest purchase order placed on dt.
- 6.5 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	FY2009-10		FY-2010-11			FY11-12
	As per tariff order	Actual	As per tariff order(U#1 to 5)	As per tariff order(U#6)	Estimated	Estimated
Capacity (MW)			1250	250	1500	1500.00
PLF (%) / Normative			88	88.00	78.309	82.00
Gross Generation (MU)			9636	1927.20	10289.748	10804.32
Aux Consumption (%)			9	9.000	9.27	9.000
Net Generation (MU)			8769	1753.8	9336.25	9831.931
Station Heat rate (Kcal/KWh)			2500	2450	2491.667	2491.667
Sp. Oil Cons. (ml/kWh)			0.95/.05	1.00	1.38	1.000
Sp. Coal consumption (Kg/KWh)			0.648707	0.6677	0.617	0.559
Sp. Imported Coal consumption (Kg/KWh)			0.0345		0.029	0.063
GCV of oil (Kcal / litre)			10000/10000	10220	9519.91	9491.50
GCV of coal (Kcal / Kg)			3487	3449	3704	3704.00
GCV of Imported coal (Kcal / Kg)			6600	6600	6600	6600.00
Heat contributed by oil (Kcal/KWh)				10.22	13.14	9.49
Heat contributed by indian coal (Kcal/KWh)				2439.78	2286.10	2069.27
Heat contributed by imported coal (Kcal/KWh)					192.42	412.90
Price of coal (Rs./MT)			2857	2844	2885	2885.50
Oil Price (Rs. / kL.)			28117/45306	19712	29995.05	30154.75
Price of imported coal (Rs./MT)			7161	7233	7233.00	7233.00
Coal Cost Rs.in lacs)					183202	174166.90
Oil Cost (Rs.in lacs)					4259	3258.02
Imported Coal Cost (Rs.in lacs)					21699.0	48889.72
Fuel cost (Total Variable Cost) (Rs. In Lacs)			205251.3	40647.6	209160	226314.63
Variable Cost (Rs/KWh sent out)			2.3406	2.3178	2.240	2.302

A7: ACTUAL/ ESTIMATED ANNUAL PERFORMANCE REVIEW, ARR AND TARIFF FOR FY-10 TO FY-12

THE RECOVERY OF ARR PROPOSED FOR STPS IS SUMMARISED IN TABLE BELOW

Table12: STPS ARR for FY10, FY11 AND FY12 (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			83929	82389	79005
Variable Cost			245899	209160	226315
Aggregate Revenue Requirement			329828	291549	305320

A8: ACTUAL/ESTIMATED TARIFF FOR FY 10 TO FY12

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

Table13: STPS TARIFF for FY10 to FY12

Parameter	FY 09-10		FY 10-11		FY 11-12
	As per tariff order	Actual (audited)	As per tariff order	Estimated	Estimated
Ex-Bus Generation (MU)			10552.51	9336.25	9831.93
Capacity charges /Fixed charge (in lacs)			83929	82389	79005
Variable Cost (in lacs)			245899	209160	226315
Fixed cost (Rs/KWh sent out)			0.7976	0.8825	0.8036
Variable Cost (Rs/KWh sent out)			2.3369	2.2403	2.3018
Total cost (Rs/KWh sent out)			3.1345	3.1228	3.1054

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 Suratgarh Super 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 10:-

12.1 The data for Annual performance review/truing up of ARR/tariff for FY10 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, as proposed in the petition, w.e.f 1.4.11 to till final tariff order is issued.
- And pass such other further orders as are deemed fit and proper in the facts and Circumstances of the case.

(S.K.Rajpurawala)
Chief Accounts Officer (W&M)

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