

**Petition for  
Aggregate Revenue Requirement (ARR) and Tariff  
for FY 2017-18 For  
Kota Thermal Power Station (KTPS)  
Unit (1 to 7)**

Submitted to  
Rajasthan Electricity Regulatory Commission  
Jaipur  
by  
Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Vidyut Bhavan, Janpath, Jaipur

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## Definitions

<b>Act</b>	The Electricity Act, 2003
<b>Application</b>	This ARR and Tariff Petition for FY-2016-17 for Kota Thermal Power Station of Rajasthan Rajya Vidyut Utpadan Nigam Limited, Jaipur
<b>Auxiliary Consumption (Aux. Con.)</b>	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
<b>Availability</b>	Availability shall have the same meaning as defined in Section 2(7) of the RERC Tariff Regulations 2014.
<b>Distribution Company / Discoms</b>	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).
<b>Gross Calorific Value (GCV)</b>	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.
<b>Regulation</b>	The Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2014 notified by RERC on March- 27, 2014
<b>State</b>	The State of Rajasthan.
<b>Gross Station Heat Rate</b>	Heat energy input in kCal required to generate one unit (kWh) of electrical energy at generator terminals.
<b>Unit</b>	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**

ARR	Aggregate Revenue Requirement
Ajmer Discom	Ajmer Vidyut Vitran Nigam Limited
CSR	Corporate Social Responsibility
FRP	Financial Restructuring Plan
FY	Financial Year
FY – 16	Financial Year 2015-2016
FY – 17	Financial Year 2016-2017
FY – 18	Financial Year 2017-2018
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
Gol	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 <sup>0</sup>
MW	Megawatts
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

### **Notes:**

#### **In this Petition:**

**All currency figures used in this Application, unless specifically stated otherwise, are in Rs Crores.**

**Capacity figures used in this Application, unless specifically stated otherwise, are in Megawatt (MW).**

**All energy unit figures used in this Application, unless specifically stated otherwise, are in Million Units (MU).**

## 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 From 1<sup>st</sup> 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 39:29:32 from October 2011, 40:28:32 from June 2015 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, 18.05.2010 and further supplementary PPA was signed on date 29.06.2015 which includes KTPS Unit 1 to 7 (1240MW).
- 1.3 RVUN have to file its petition for determination of Tariff and ARR Petition for 2017-18 in accordance with provision of RERC Tariff Regulation 2014. Accordingly, this petition is being submitted for KTPS (unit 1 to 7) for FY 2017-18 before RERC for ARR and Tariff determination.

## A2: GENERATION FORECAST

- 2.1 The installed capacity of KTPS (Unit-1 to 7) is 1240 MW. The estimated figures of Gross generation, PLF & net energy sale to three Discoms from KTPS station of RVUN for the period FY 2015-16, FY 2016-17 and FY 2017-18 are as shown in table below:

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

Particulars	Units	FY 2015-16	FY 2016-17	FY 2017-18
		Actual/Audited	Anticipated	Anticipated
		Unit 1-7	Unit 1-7	Unit 1-7
<b>Operational Parameters</b>				
Total Capacity	MW	1240	1240	1240.00
Availability	%	89.89%	82.00%	82.00%
PLF	%	70.45%	72.00%	82.00%
<b>Gross Generation</b>	<b>MU</b>	<b>7769.540</b>	<b>7904.62</b>	<b>8907.17</b>
Auxiliary Energy Consumption	%	10.39%	10.23%	9.27%
Auxiliary Energy Consumption	MU	807.220	808.60	825.69
<b>Net Generation</b>	<b>MU</b>	<b>6962.320</b>	<b>7096.02</b>	<b>8081.47</b>

- 2.2 The fixed cost elements are detailed hereunder for KTPS for the FY 2015-16, FY 2016-17 and FY 2017-18 are as below.

### FIXED CHARGES

#### A3: KTPS (UNIT 1 TO 7) ANNUAL CAPACITY (FIXED) CHARGES FOR 2017-18

- 3.1 The details of various components of the annual capacity (fixed) charges are as under:-

#### Depreciation:-

- 3.2 Unit 1-6: For the purpose of Computation of depreciation, the capital cost as claimed in true up petition of FY 2014-15 as on 1.04.2015 considered is Rs. 1190.93 Crore.
- 3.3 Similarly, as per true up petition of FY 2014-15, the approved capital cost of KTPS Unit 7 as on 01.04.2015 has been considered as Rs. 851.85 Crore.
- 3.4 Further During FY 2015-16, RVUN has incurred additional capitalisation of Rs. 66.99 Cr. under units 1-6 and Rs. 8.91 Crore under 7 of KTPS power Station as per regulation (19) of RERC, Tariff Regulations, 2009. The detail of additional capitalization is as follows:

**Table 2: Additions is Fixed Assets under unit 1-7 (Rs. in Crore)**

S. No.	Particular	Unit 1-6	Unit 7
		Additions during the year	Additions during the year
1	Land & land rights	0.00	0.00
1A	Building & Civil works of Power plant	0.00	4.97
2	Hydraulic works	0.00	0.00
3	Other Civil works	24.25	0.00
4	Plant & machinery	42.34	3.94
5	Lines and Cable Networks	0.00	0.00
6	Vehicles	0.00	0.00
7	Furniture & fixtures	0.00	0.00
8	Office Equipments	0.00	0.00
9	Capital spares	0.00	0.00
	<b>Total (1) to (11)</b>	<b>66.99</b>	<b>8.91</b>

The above capital expenditure of unit 1-7 for FY 20115-16 has been incurred as per regulation 17 of RERC Tariff Regulation 2014 as follows:

**FY 2015-16**

- 3.5 During FY 15-16 RVUN has booked additional capitalisation of Rs. 66.99 Cr. under the R&M scheme approved by commission vide order dated 10.5.2012 & 22.04.2013 for Unit 1-6. Copy of work order are enclosed with true-up petition of FY 2015-16 and details are as under:

**Table 3: Detail of additions is Fixed Assets under unit 1-6**

(Rs. in Crore)

CAPITAL HEAD	NAME OF FIRM	WORK ORDER NO.	AMOUNT	RERC Order
10.559 Generator control & relay panel	ABB FARIDABAD	457/30.4.14	23611236.00	Approved by commission vide order dated 10.5.2012
10.576 Air Conditioning Plant	ASTHA AIRTECH PVT.LTD.	1155/2.2.15	1872529.66	
10.503 Turbine Generator Steam P.Gen.	BHEL	315/23.3.15	61592204.06	
	SIEMENS LTD.GURGAON	394/22.3.14	187470027.4	
	BEMCO HYDROULICS	93/21.8.13	1618978.82	
10.521 Control & Instrumentation	ABB INDIA LTD.	2264/9.7.13	83432154.12	
10.557 Switchyard	ALSTOM T&D INDIA LTD.	448/24.4.14	60018675.80	
10.542 Other Transformers	ABHISHEK ENTERPRISES	430/10.4.14	7774266.62	
10.401 PACCA ROAD	UIT Kota for construction of ROB		242500000.0	vide order dated 22.04.2013
<b>TOTAL</b>			<b>669890072.48</b>	

- 3.6 During FY 15-16 RVUN has incurred Rs. 8.91 Cr as additional capitalisation for Unit -7 which was the under the original scope of work. The details are as under:

**Table 4: Detail of additions is Fixed Assets under unit 7**

(Rs. In Cr.)

Name of package/ contract	Estimated capital cost approved by BOD	RVUN incurred FY 2015-16	Remark
Main plant BGT package (BHEL)	506.00	1.40	Work was in the original scope of work and assets transferred from CWIP
BOP (Tata projects Ltd.)	269.95	2.49	
Station C&I (M/s I.L., Kota)	11.00	0.04	

Initial/ capital spares (BHEL)	4.50	-	Work was in the original scope of work and assets transferred from CWIP
PA and communication system	1.00	0.01	
Consulting Engineering	3.50	-	
Residential building in colony	13.00	-	
CHP state I and II augmentation work	8.00	-	
Pollution control service	2.00	-	
Misc. Works(mechanical)	1.00	-	
Misc. Civil work	2.00		
Integrated computerized plant management	6.00		
Contingency	6.06		
IDC and financing charges	122.74		
Administrative and other charges	5.15		
Gross total	<b>961.90</b>	<b>8.91</b>	

3.7 While calculating Depreciation (Form 6.1) the above capital cost and additions have been considered and accordingly calculation of Fixed Asset and Depreciation for Unit 1 to 7 has been shown in Form 6.1.

3.8 Based on the above, estimated figures of depreciation for FY 2015-16, FY 2016-17 and FY 2017-18 as computed under format 6.1 are summarised in table below:

**Table 5: Depreciation (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Depreciation	83.47	83.66	83.66

**Interest on Loans:-**

3.9 The loan-wise interest expenses & finance charges which include term loans as well as transitional loans have been worked-out and taken as part of fixed cost. The loan repayment amount for term loans and transitional loans combined has been taken equal to the depreciation figure envisaged for FY 2015-16, FY 2016-17 and FY 2017-18.

3.10 Estimated figures for interest on term loan, transitional loan and finance charges are summarised in table below:

**Table 6: Interest on Loans (Rs. In Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Interest (Term Loan + Transitional Loan) and finance charges	50.46	47.10	39.51
<b>Total</b>	<b>50.46</b>	<b>47.10</b>	<b>39.51</b>

**Interest on working Capital**

3.11 The interest on working capital loan for FY 2015-16, FY 2016-17 and FY 2017-18 has been computed as per the norms defined under clause No.27 of RERC Tariff regulation 2014. FY 2015-16, FY 2016-17 and FY 2017-18, the rate of interest on WLC has taken equal to 250 basis points higher than the average Base Rate of State Bank of India prevalent during first six months of the previous year. Estimated figure of Interest on Working Capital is summarised as below:

**Table 7: Interest on working Capital (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Interest on Working Capital	122.48	77.80	81.90

**Operation & Maintenance Expenses**

3.12 The Operation & Maintenance Expenses have been computed as per the norms prescribed under Regulation 47 of RERC Tariff Regulation 2014 respectively.

3.13 Estimated figures for the period FY 2015-16, FY 2016-17 and FY 2017-18 are summarised in Table below.

**Table 8: O & M Expenses (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Operation and Maintenance	229.32	223.54	236.62

**Recovery of ARR & Tariff Petition Fees**

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

3.15 The ARR & Tariff Petition Fees for FY 2015-16, FY 2016-17 and FY 2017-18 are summarised in table below :

**Table 9: Recovery of ARR & Tariff Petition Fees (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Petition Fee	0.62	0.62	0.62

### Insurance Charges

3.16 RVUN is claiming the insurance charges for KTPS for the year 2015-16 based on the estimates of actual insurance charges paid in preceding year with an increment of 5% YoY (year on year). The details are shown in the table below.

**Table 10: Insurance Charges (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Insurance Charges	2.84	2.99	3.14

### Return on Equity (ROE)

3.17 The Return on Equity have been computed as per the norms prescribed under Regulation 20 of RERC Tariff Regulation 2014.

3.18 The Return on Equity (ROE) for FY 2015-16, FY 2016-17 and FY 2017-18 are summarised in Table below:

**Table 11: Return on Equity (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
ROE	25.11	79.61	79.61

### Non-Tariff Income

3.19 The following are the main head of accounts of Non tariff income:

- a) Sale of Scrap
- b) Interest on FD/ Staff Loans
- c) Miscellaneous receipts (rebates etc)

3.20 Estimated figures of Non Tariff Income for FY 2015-16, FY 2016-17 and FY 2017-18 are summarised in table below:

**Table 12: Non-Tariff Income (Rs. in Crore)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Non Tariff Income	16.03	17.33	18.19

3.21 As per the RERC Tariff Regulations 2014, 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 distribution companies.

#### A4: KTPS ESTIMATED CAPACITY CHARGES (FIXED)

4.1 The net fixed charges is computed for FY 2015-16, FY 2016-17 and FY 2017-18 in the Table below:

**Table 13: Net Capacity Charges for KTPS (Rs. in Crore)**

KTPS	FY15-16	FY 16-17	FY 17-18
Fixed Charge			
Depreciation	83.47	83.66	83.66
Interest on term Loan & Transitional Loan	50.46	47.10	39.51
Return on Equity	25.11	79.61	79.61
Interest on Working Capital	122.48	77.80	81.90
O & M Expenses	229.32	223.54	236.62
Insurance Charges	2.84	2.99	3.14
Tax on ROE	0.00	0.00	0.00
Recovery of ARR and Tariff Petition Fee	0.62	0.62	0.62
Prior Period	1.00		
<b>Total Fixed Charge</b>	<b>515.30</b>	<b>515.32</b>	<b>525.06</b>
Less: Non-Tariff Income	16.03	17.33	18.19
<b>Net Fixed Charge</b>	<b>499.27</b>	<b>498.00</b>	<b>506.87</b>

#### A5: VARIABLE CHARGES

##### PLF ,Auxiliary Consumption ,SHR,Coal GCV, Price and Cost

5.1 Regulation 45 (3) of RERC Tariff Regulation 2014 on SHR is reproduced as below:

(a) Existing coal & Gas based Thermal Generating Stations/ units achieving COD prior to 01.04.2009:

Stations/ Unit	Gross Station Heat Rate (kcal/kWh)	
Kota TPS (Unit 1 to Unit 6)	2605.26	
Suratgarh TPS (Unit 1 to Unit 5)	2500.00	
Ramgarh GTPS (Unit 1 to 3)	Combined Cycle	1950.00
	Open Cycle	2850.00*
Dholpur CCPP (Unit 1 to 3)	Combined Cycle	1950.00
	Open Cycle	2830.00

\*With annual reduction of 10 kcal/kWh till target Gross Heat Rate of 2830 kcal/kWh

(b) Gross Station Heat Rate for new Thermal Generating stations/units achieving COD on or after 01.04.2009 till 31.03.2014:  
Coal and lignite based thermal power generating stations

$$= 1.045 \times \text{Design Heat Rate (kcal/kWh)}$$

Where the Design Heat Rate of a Unit means the Unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:

- 5.2 At the time of filing ARR and Tariff petition for FY 2014-15. The design heat rate of KTPS Unit 7 was submitted as 2228 kCal/kWh and further vide additional data reply dated 22.08.2014, the detail computation of SHR had been submitted as follows:

Particular		Station Heat Rate
DESIGN HEAT RATE OF TURBINE (kCal/kWh)	A	1966.00
BIOLER EFFICIENCY (%)	B	86.06%
		2284.45
DESIGN HEAT RATE (kCal/kWh)	C=A/B	
Regulation 45 3 (b)	D	1.045
Station Heat Rate	E=CXD	2387.25

- 5.3 The Commission has computed the SHR of KTPS unit 7 based design heat rate of 2228 kCal/KWh i.e.  $2228 \times 1.045 = 2328.26$  kCal/kWh, RVUN would like to mention here that the data as submitted of 2228 Kcal/kWh was the inadvertent error on the part of RVUN while submitting the Data.
- 5.4 Therefore, RVUN request the Commission to considered the SHR 2387.25 kCal/kW has computed above, in due compliance to Regulation 45 (3) of RERC tariff 2014, for KTPS unit 7. The OEM document for design heat rate is enclosed as **Annexure-A**.
- 5.5 The station heat rate (SHR) of KTPS Unit 1-7 has been considered 2570.98 kCal/kWh weighted average of unit 1-6 and unit 7 ( $\frac{2605.26 \times 1045 + 2387.25 \times 195}{1240}$ ).
- 5.6 PLF and Auxiliary Consumption has been considered normative for unit 1-7 that is 82% and 9.27% respectively.
- 5.7 For FY 2017-18, the average Gross calorific value and average rate of oil supply have been calculated on the basis of receipts of previous three months during April, May and June of 2016 as per Commission's formats.
- 5.8 The GCV of indigenous coal has been considered as 3930 kCal/kg, GCV of secondary fuel (OIL) been considered as 9548 kCal/ltr. Price of the indigenous coal has been taken Rs. 3852.62 per MT and for HFO and LDO has been taken as Rs. 26818/kl.
- 5.9 Based on past usage of imported coal, the use of imported coal is considered as nil for FY 2017-18.
- 5.10 The overall estimated figures of variable Cost for the period under consideration, are summarised in Table below.

**Table 14: Variable Cost (Rs. in Crore)**

Particulars	Units	FY 2015-16	FY 2016-17	FY 2017-18
		Actual/Audited	Anticipated	Anticipated
		Unit 1-7	Unit 1-7	Unit 1-7
2	3	4		8
<b>Operational Parameters</b>				
Total Capacity	MW	1240	1240	1240.00
Availability	%	89.89%	82.00%	82.00%
PLF	%	70.45%	72.00%	82.00%
<b>Gross Generation</b>	<b>MU</b>	<b>7769.540</b>	<b>7904.62</b>	<b>8907.17</b>
Auxiliary Energy Consumption	%	10.39%	10.23%	9.27%
Auxiliary Energy Consumption	MU	807.220	808.60	825.69
<b>Net Generation</b>	<b>MU</b>	<b>6962.320</b>	<b>7096.02</b>	<b>8081.47</b>
Heat Rate	kcal/kWh	2805	2609.13	2570.98
<b>Fuel Parameters (for each primary and secondary fuel)</b>				
<b>Gross Calorific Value</b>				
Fuel - 1 (Indegineous Coal)	kcal/Kg	4131	3930	3930
Fuel - 2 (Oil)	kcal/Ltr.	9544	9548	9548
Fuel - 3(Imported Coal)	kcal/Kg	6305	0	0
<b>Landed Fuel Price per unit (Please specify the fuel)</b>				
Fuel - 1 (Indegineous Coal)	Rs/MT	3944	3852.62	3852.62
Fuel - 2 (Oil)	Rs/KL	33004	26818	26818
Fuel - 3 (Imported Coal)	Rs/MT	7745	0	0
<b>Fuel Consumption and Heat Contribution (for each fuel separately)</b>				
Specific Fuel Consumption				
Fuel - 1 (Indegineous Coal)	Kg/ kWh	0.64	0.66	0.65
Fuel - 2 (Oil)	MI/ kWh	0.79	0.82	0.5
Fuel - 3 (Imported Coal)	Kg/ kWh	0.03	0.00	0.00

<b>Total Fuel Consumption</b>				
Fuel - 1 (Indegineous Coal)	MT	4963077	5232127.78	5816190.32
Fuel - 2 (Oil)	KL	6176.061	6482.55	4453.58
Fuel - 3 (Imported Coal)	MT	195325	0.00	0.00
<b>Heat Content (each fuel separately)</b>				
Fuel - 1 (Indegineous Coal)	Million kcal	20504605.21	20562262.16	22857627.96
Fuel - 2 (Oil)	Million kcal	58944.33	61895.40	42522.82
Fuel - 3 (Imported Coal)	Million kcal	1231506.55	0.00	0.00
Total Heat Content		21795056.08	20624157.56	22900150.78
Total Fuel Cost				
Fuel 1 (Indegineous Coal) (2.2.1 x 3.2.1)	Rs Crore	1957.58	2015.74	2240.76
Fuel - 2 (Oil) (2.2.2 x 3.2.2)	Rs Crore	20.38	17.38	11.94
Fuel 3 (Imported Coal) (2.2.4 x 3.2.4)	Rs Crore	151.28	0.00	0.00
<b>Total Fuel Cost</b>	<b>Rs Crore</b>	<b>2129.24</b>	2033.12	<b>2252.70</b>
<b>Other Charges and Adjustments</b>		10.32	0	0
<b>Total Cost (4+5)</b>	<b>Rs Crore</b>	<b>2139.56</b>	<b>2033.12</b>	<b>2252.70</b>
<b>Cost of Generation per unit (at Generation Terminal) (6/1.4)</b>	<b>Rs/kWh</b>	<b>2.754</b>	<b>2.572</b>	<b>2.529</b>
<b>Energy Charge per unit (ex-bus) (6/1.7)</b>		<b>3.073</b>	<b>2.865</b>	<b>2.787</b>

#### A6: ESTIMATED ARR FOR KTPS

6.1 The recovery of ARR proposed for KTPS is summarised in table below

**Table 15: ARR for KTPS (Rs. in Crores)**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Capacity (Fixed Charges)	499.27	498.00	506.87
Variable Cost	2139.56	2033.12	2252.70
Aggregate Revenue Requirement	2638.84	2531.12	2759.57

**A7: KTPS ESTIMATED TARIFF**

7.1 Total per Unit charge in Rs. / kWh is given in given table below:-

**Table 16: KTPS ESTIMATED TARIFF**

Station	FY15-16	FY 16-17	FY 17-18
<b>KTPS</b>			
Ex-Bus Generation (MU)	6962.32	7096.02	8081.47
Capacity(fixed) Charges	499.27	498.00	506.87
Variable Cost	2139.56	2033.12	2252.70
Rate of Fixed Charge(Rs/kwh)	0.717	0.702	0.627
Rate of Variable Charge(Rs/kwh)	3.073	2.865	2.787
Rate of Sale of Energy (Rs/kwh)	3.790	3.567	3.415

**A8: FUEL COST ADJUSTMENT**

As per RERC Tariff Regulation 2014, there is provision of fuel cost adjustment 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 after a drop down in GCV of 150 kCal/kWh.

**A9: RESPONDENTS:-**

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

**A10: PRAYER**

10.1 RVUN humbly requests the Hon'ble Commission to:

- ◆ Approval of ARR & Tariff for FY-2017-18.
- ◆ To allow adhoc tariff w.e.f. 1.4.17 for FY 2017-18 till final tariff order is issued as proposed in the petition.
- ◆ To condone any inadvertent omissions/errors/rounding off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required by the Hon'ble Commission; and
- ◆ And pass such other further orders as are deemed fit and proper in the facts and circumstances of the case.

(Y.K.Upadhyay)  
Chief Accounts Officer (IA&C)  
RVUN, Jaipur.

(A.K. Saxena)  
Chief Engineer (PPMC & IT)  
RVUN, Jaipur.



## Form G 1.1 Summary of Tariff Proposal

Name of the Petitioner

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station /Unit :

Kota Super Thermal Power Station

(Rs. Crore)

S.No.	Particulars	Ref.of Form No	FY 2015-16	FY 2016-17			FY 2017-18	Remark
			Actual	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	Anticipated	
1	2	3		5	6	7	8	9
<b>1</b>	<b>Capacity (Fixed) Charge</b>							
1.1	Depreciation	6.1	83.47	72.80	41.83	41.83	83.66	
1.2	Interest on term Loan & Transitional Loan	6.2	50.46	48.31	23.55	23.55	39.51	
1.3	Return on Equity	6.9	25.11	75.99	39.81	39.81	79.61	
1.4	Interest on Working Capital	6.11	122.48	78.16	37.28	40.52	81.90	
1.5	O & M Expenses	4.1	229.32	223.54	111.77	111.77	236.62	
1.6	Insurance Charges	6.12	2.84	3.00	1.49	1.49	3.14	
1.7	Tax on ROE	6.13	0.00	0.00	0.00	0.00	0.00	
1.8	Recovery of ARR and Tariff Petition Fee		0.62	0.62	0.31	0.31	0.62	
	Prior Period		1.00					
1.9	Less: Non-Tariff income	3.2	16.03	4.38	8.66	8.66	18.19	
1.1	Less: adjustment of excess depreciation			18.38				
	<b>Total (1)- Capacity (Fixed Charges)</b>		<b>499.27</b>	<b>479.66</b>	<b>247.38</b>	<b>250.62</b>	<b>506.87</b>	
<b>2</b>	<b>Total- Energy (variable ) charges</b>		<b>2139.56</b>	<b>2054.10</b>	<b>909.86</b>	<b>1123.26</b>	<b>2252.70</b>	
<b>3</b>	<b>Units sold to Discoms (MU)</b>		<b>6962.32</b>	<b>8081.47</b>	<b>3066.36</b>	<b>4029.67</b>	<b>8081.47</b>	
<b>4</b>	<b>Rate of Fixed Charges. ( 1/3)</b>		<b>0.717</b>	<b>0.594</b>	<b>0.807</b>	<b>0.622</b>	<b>0.627</b>	
<b>5</b>	<b>Rate of Variable Charges.</b>							
5.1	Rate of Energy Charge from Primary Fuel (REC) <sub>p</sub>	5.1						
	(i) Coal/ Lignite		2.812		2.930	2.773	2.773	
	(ii) Imported Coal		0.217		0.000	0.000	0.000	
	(iii) Any Other fuel							
	Total 2.1							
5.2	Rate of Energy Charge from Secondary Fuel (REC) <sub>s</sub>	5.1	0.029		0.037	0.015	0.015	
5.3	Total-(2) Rate of Energy Charge ex-bus(REC) <sup>3A,3B,3C</sup>	5.1	3.775	2.542	3.774	3.409	3.415	

Name of the Petitioner  
Name of the Power Station/Unit:

**Form G 1.2**  
**Aggregate Revenue Requirement**  
**Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.**  
**Kota Super Thermal Power Station**

(Rs. Crore)

S.No.	Particulars	Reference Form	FY 2015-16	FY 2016-17			FY 2017-18	Remarks
			Actual/Audited	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	Anticipated	
1	2	3	4	5	6	7	9	10
<b>A</b>	<b>Receipts</b>							
1	Revenue from Sale of Power (Tariff income)	3.1	2638.84	2552.14	1265.56	1265.56	2759.57	
2	Non Tariff income	3.2	16.50	4.38	8.66	8.66	18.19	
3	Adjustment for excess depreciation			18.38				
	<b>Total- (A)</b>		<b>2658.98</b>	<b>2556.52</b>	<b>1189.45</b>	<b>1406.09</b>	<b>2558.18</b>	
<b>B</b>	<b>Expenditure</b>							
1	Variable Costs, including Fuel Cost	5.3	2139.56	2054.10	909.86	1123.26	2033.12	
2	Depreciation	6.1	83.47	72.80	41.83	41.83	83.66	
3	Interest on term Loan & Finance charges	6.2	50.46	48.31	47.10	47.10	39.51	
4	Return on Equity	6.9	25.11	75.99	39.81	39.81	79.61	
5	Tax on ROE	6.15	0.00	0.00	0.00	0.00	0.00	
6	Interest on Working Capital	6.11	125.51	78.16	37.28	40.52	81.90	
7	O & M Expenses	4.1	229.32	223.54	111.77	111.77	236.62	
8	Insurance Charges	6.12	2.84	3.00	1.49	1.49	3.14	
9	Recovery of ARR and Tariff Petition Fee	1.1	0.62	0.62	0.31	0.31	0.62	
10	Prior Period Expenses		2.08					
<b>C</b>	<b>Total- (B) Expenditure</b>		<b>2658.98</b>	<b>2556.52</b>	<b>1189.45</b>	<b>1406.09</b>	<b>2558.18</b>	
<b>D</b>	<b>A.R.R. (C-A.2)</b>		<b>2642.48</b>	<b>2533.76</b>	<b>1180.79</b>	<b>1397.43</b>	<b>2539.99</b>	

## Plant Characteristics

Name of the Petitioner	Rajasthan Rajya Vidut Utpadan Nigam Limited,Jaipur (Raj.)
Name of the Power Station/Unit:	KotaThermal Power Station

Basic characteristics of the plant <sup>1</sup>	Coal Based Thermal Power Plant (conventional steam generator)						
Special Features of the Plant							
Site Specific Features <sup>2</sup>	Intake Water System from IGNP						
Special Technological Features <sup>3</sup>	Once through cooling system for Unit # 1 to 5 & Cooling-Tower(closed cycle) for Unit # 6 to 7 and intake/makeup water from Kota barrage						
Environmental Regulation related features <sup>4</sup>	ESPs of 99.886% efficiency installed for regulation of SPM						
Any other special features							
Fuel Details <sup>5</sup>							
	Primary Fuel			Secondary Fuel		Alternate Fuels	
Details	COAL			HFO/ HSD & LDO			
	Module number or Unit number						
	Unit # 1	Unit # 2	Unit # 3	Unit # 4	Unit # 5	Unit # 6	Unit # 7
Installed Capacity (IC)	110	110	210	210	210	195	195
Date of Commercial Operation (COD)	1.04.83	1.04.84	11.03.89	16.01.90	18.07.95	01.08.04	31/12/2009
Type of cooling system <sup>6</sup>	Once-Through				Closed circuit cooling		
Type of Boiler Feed Pump <sup>7</sup>	Electric Motor driven						
Pressure (kg/cm <sup>2</sup> )	130	130	147.1	147.1	147.1	147.1	147.1
Temperature 0C							
-At Superheater Outlet	545 Deg C						
-At Reheater Outlet	545 Deg C						
Turbine Cycle heat Rate(Kcal/ Kwh)							
Boiler Efficiency (%)							
Guaranteed Design Heat rate (kCal/kWh) <sup>8</sup>	2517	2517	2307	2307	2309	2287	2284.45
Conditions on which guaranteed							
% MCR	3						
% Makeup	3						
Design Fuel	4450	4450	4278	4278	3500	3500	3500
Design cooling water Temperature	30 Deg C						
Back Pressure	0.88						

<sup>1</sup> Describe the basic characteristics of the plant, e.g., in the case of a coal based plant whether it is a conventional steam generator or circulating fluidized bed combustion generator or sub-critical once through steam generator etc.

<sup>2</sup> Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features.

<sup>3</sup> Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.

<sup>4</sup> Environmental regulation related features like FGD, ESP etc.

<sup>5</sup> Coal or natural gas or naphtha or lignite etc.

<sup>6</sup> Closed circuit cooling, once through cooling, sea cooling etc.

<sup>7</sup> Motor driven, Steam turbine driven etc.

<sup>8</sup> In case guaranteed unit heat rate is not available then furnish the guaranteed turbine cycle heat rate and guaranteed boiler efficiency separately along with condition of guarantee.

## Operational Parameters - Generation

Name of the Petitioner  
Name of the Station/Unit:

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

S. No.	Particulars	Units	FY 2015-16	FY 2016-17			FY 2017-18	Remarks
			Actual/Audited	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	Anticipated	
1	2	3	5	5	6	7	8	9
2	<b>Operational Parameters - Thermal</b>							
2.1	Total Capacity	MW	1240	1240.00	1240	1240	0	
2.2	Availability	%	89.89%		82.41%	82.00%	82.00%	
2.3	Plant Load Factor	%	70.45%	82.00%	62.06%	82.00%	82.00%	
2.4	Gross Generation	MU	7769.54	8907.17	3463.24	4441.38	8907.17	
2.5	Auxiliary Energy Consumption	%	10.39%	9.27%	11.46%	9.27%	9.27%	
2.6	Auxiliary Energy Consumption	MU	807.22	825.69	396.88	411.72	825.69	
2.7	Net Generation	MU	6962.32	8081.47	3066.36	4029.67	8081.47	
2.6	Heat Rate	Kcal/Kwh)	2805.19	2561.70	2658.05	2570.98	2570.98	

## Revenue from Sale of Power

Name of the Company  
Name of the Power Station :

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

FY 2015-16

Rs. Crore

S.No.	Particulars	Allocation (in %)	Unit Sold	% of total	Demand/fix	Energy	Others, if any	Total (6+7+8)	Average'	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)									
1	Dist.Licensee/trader/ consumers									
(a)	JVVNL		2715.30	39.0%	194.716053	834.4		1029.15	379.02	
(b)	AVVNL		2019.07	29.0%	144.7888599	620.5		765.26	379.02	
(c)	JDVVNL		2227.94	32.0%	159.7670178	684.7		844.43	379.02	
2	Other recoveries									
3	Gross Revenue From Sale of Power		6962.32		499.2719307	2139.56		2638.84		

FY 2016-17

Rs. Crore

S.No.	Particulars	Allocation (in % ) /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average' rate/kWh (paisa/kWh)	Existing Tariff
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)									
1	Dist.Licensee/trader/ consumers									
(a)	JVVNL		2838.41	40.0%	199.1982004	813.2		1012.45	356.70	254.17
(b)	AVVNL		1986.89	28.0%	139.4387403	569.3		708.71	356.70	254.17
(c)	JDVVNL		2270.73	32.0%	159.3585603	650.6		809.96	356.70	254.17
2	Other recoveries									
3	Gross Revenue From Sale of Power		7096.02		497.995501	2033.12		2531.12		254.17

FY 2017-18

Rs. Crore

S.No.	Particulars	Allocation (in % ) /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average' rate/kWh (paisa/kWh)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)									
1	Dist.Licensee/trader/ consumers									
(a)	JVVNL		3232.59	40.0%	202.7464413	901.1		1103.83	341.47	
(b)	AVVNL		2262.81	28.0%	141.9225089	630.8		772.68	341.47	
(c)	JDVVNL		2586.07	32.0%	162.1971531	720.9		883.06	341.47	
2	Other recoveries									
3	Gross Revenue From Sale of Power		8081.47		506.8661034	2252.70		2759.57		

## NON-TARIFF INCOME

Name of the Petitioner  
Name of the Power Station/ Unit:

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

Rs. Crore

S.No	Particulars	FY 2015-16	FY 2016-17			FY 2017-18	Remarks
		(Actuals/audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)	
1	2	3	4	5	6	7	8
	<b>Non-tariff income</b>						
i.	Intt on Govt. Subsidy	0.000		0.000	0.000	0.000	
ii.	Interest on Loans and Advances to Staff	0.000		0.000	0.000	0.000	
iii.	House Building Advance	0.000		0.000	0.000	0.000	
iv.	Income from F.D.R. with Banks	0.000		0.000	0.000	0.000	
v.	Sale of scrap	0.000		0.000	0.000	0.000	
vi.	MISCELLANEOUS RECEIPTS	16.500		8.663	8.663	18.191	
	<b>Total non-tariff income</b>	<b>16.50</b>	<b>4.38</b>	<b>8.66</b>	<b>8.66</b>	<b>18.19</b>	

## REVENUE SUBSIDIES &amp; GRANTS

Name of the Petitioner: Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
 Name of the Power Station/Unit : Kota Super Thermal Power Station

S. No.	Particulars	Previous year (n-1)	Current Year (n)			Ensuing Year (n+1)	Remarks
		(Actuals/audited)	Approved by the Commission	Apr-Sep (Actual)	Estimated for the year	(Anticipated)	
1	2	3	4	5	6	7	8
A)	<b>Revenue Subsidies &amp; Grants</b>	N.A.					
1	Subvention from State Government towards sale of electricity						
2	State Govt. Grant against addl. Intt. Liability on Company						
3	Any Other item						
	<b>Total</b>						

Form G 3.4

Capital Subsidies and Grants

Name of the Petitioner:  
Name of the Power Station/Unit :

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

Rs. Crore

S. No.	Particulars	Previous year	Current Year			Ensuing Year (Anticipated)	Remarks
		(Actuals / audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)	
1	2	3	4	5	6	7	8
A	Capital Cost						
	Subsidy towards cost of Capitals Asset						
	Grant towards cost of Capitals Assets				N.A		
	Receipts from State Govt. under any scheme as grant/subsidy						
	<b>Total</b>						

Form G 4.1

O&M Expenses

Name of the Petitioner:  
Name of the Station/Unit:

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

(Rs. Crore)

S.No.	Particulars	FY 2015-16	FY 2016-17			FY 2017-18
		(Actuals/audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)
1	2	3		5	6	8
1	O&M Expense norms (Rs. per MW)	0.18		0.18	0.18	0.19
2	Total Capacity in MW	1240		1240	1240	1240.00
3	O&M expense	229.32	223.54	111.77	111.77	236.62
4	Special O&M expense for Water pipe lines>50 km					
a	Details of Water pumping Stations beyond 50 K.M. from Water intake point					
b	<b><u>Pumping Station No.1 :-</u></b>					
b.1	Power consumption Cost					
b.2	Repair / Maintenance / Employee / other Cost					
b.3	Sub total (b)					
c	<b><u>Pumping Station No.2 :-</u></b>					
	and so on .....					
d	Total (4) Special O&M Expenses					
5	<b>Totsl O&amp;M expenses</b>	<b>229.32</b>	<b>223.54</b>	<b>111.77</b>	<b>111.77</b>	<b>236.62</b>

**Details/Information in respect of Fuel for Computation of Energy Charges<sup>1</sup>**

Name of the Petitioner: \_\_\_\_\_

F. 5.1

Name of the Power Station/unit: \_\_\_\_\_

KOTA NSUPER THERMAL POWER STATION,KOTA

S.No	Particulars	Unit	APRIL'16	MAY'16	JUNE'16	Average for # Months
			Domestic coal	Domestic coal	Domestic coal	Domestic coal
1	2	3	4	6		8
1	Quantity of coal/lignite in stock at the beg	(MMT)	582762	290409	101738	582762.00
2	Quantity of Coal/Lignite supplied by Coal/Lignite Company	(MMT)	110661	269571	519078	899310.00
	QUANTITY OF COAL (PKCL)	(MT)	0	0	44784	44784.00
3	Adjustment (+/-) in quantity supplied made by Coal/Lignite Company for diversion of wagons etc.	(MT)	0	0	0	0.00
4	Coal supplied by Coal/Lignite Company (2+3)	(MT)	110661	269571	563862	944094.00
	Normative Transit & Handling Losses (For coal/Lignite based Projects)	(MT)				7552.75
5	Actual Transit & Handling Losses (For coal/Lignite based Projects)	(MT)	396	2008	3551	5955.00
6	Net coal / Lignite Supplied (4-5)	(MT)	110265	267563	560311	938139.00
7	Total coal (Receipts & Opening Stock) (1)+(6)by cosidering Actual transit loss	(MT)				1520901.00
8	Coal/lignite burnt/consumed	(MT)	402618	456234	517744	1376596.00
9	Coal/lignite in stock at the end of the month (7)-(8)	(MT)	290409	101738	144305	144305.00
10	Value of coal/lignite in stock	(Rs.)	21313	10650	3839	21313.00
11	Amount charged by the Coal /Lignite Company	(Rs.)	2280	6092	12900	22298.00
12	Adjustment (+/-) in amount charged made by Coal/Lignite Company	(Rs.)	0	0	1026	0.00
13	Total amount Charged (11+12)	(Rs.)	2280	5814	13023	21117.00
14	Transportation charges by rail/ship/road transport	(Rs.)	1822	4587	9969	16378.00
15	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)	0	0	0	0.00
16	Demurrage Charges, if any	(Rs.)	0	6	11	17.00
17	Cost of diesel in transporting coal through MGR system, if applicable	(Rs.)	0	0	0	0.00
18	Total Transportation Charges (14+15+16+17)	(Rs.)	1822	4593	9980	16394.00
19	Total amount Charged for coal/lignite supplied including Transportation (13+18)	(Rs.)	4102	10407	23002	37511.00
20	Average cost of coal/lignite (Opening stock + receipts) (19/7)	(Rs./MMT)	3667	3774	4054	3852.62
21	Cost of coal in stock at the end of the month (20)x(9)	(Rs.)	10650	3839	5851	5559.53
22	Weighted average GCV of coal/ Lignite as Received	(kCal/Kg)	4048	3750	3998	3930.00
22	Weighted average GCV of coal/ Lignite as fired	(kCal/Kg)				
23	Weighted average Sulphur content	(%)	0.5		0.50	,0.5

**COST OF OIL FOR THE CALCULATION OF FPA**

Name of company

RRVUNL

F. 5.1 (OIL)

Name of power station

KTPS

S.N.	PARTICULARS	Unit	April.2016		May.2016		Jun-16		Quarter Ending June-2016	
			FO	HSD	FO	HSD	FO	HSD	FO	HSD
1	Quantity of Sec.Fueloil(FO,HSD,LDO) in stock at the begning of the month	KL	2260.144	175.463	1967.696	159.165	1603.940	156.021	2260.144	175.463
2	Quantity of Sec. Fuel oil(FO, HSD,LDO) supplied by company	KL	4.400	36.00	0.000	24.00	0	12.00	4.40	72.00
3	Adjustment (+/-) in quantity of Sec. Fuel oil (FO, HSD,LDO) supplied by company	KL	0	0	0	0	0	0	0	0
4	Oil(FO, HSD,LDO) supplied by company(2+3)	KL	4.4	36	0.000	24.00	0	12	4.400	72.00
5	Normative/Transit Loss	KL	0	0	0	0	0	0	0	0
6	Oil(FO, HSD,LDO) supplied by company(4-5)	KL	4.4	36	0.000	24	0	12	4.400	72.000
7	Total oil receipt & in stock (1+6)	KL	2264.544	211.463	1967.696	183.165	1603.94	168.021	2264.544	247.463
8	OIL Consumed	KL	296.848	52.298	363.756	27.144	183.270	8.463	843.874	87.905
9	Oil in stock at the end of month	KL	1967.696	159.165	1603.940	156.021	1420.670	159.558	1420.670	159.558
10	Value of oil in stock	RS	56760749.18	7462016.190	49409091.68	6781501.78	40275133.21	6732215.75	56760749.18	7462016.19
11	Amount charged by company	RS	102232.7636	1547732.88	0	1121961.84	0	560980.92	102232.7636	3230675.64
12	Adjustment (+/-) in Amount charged by company	RS	0	0	0	0	0	0	0	0
13	Total amount charged(10+11+12)	RS	56862981.94	9009749.07	49409091.68	7903463.62	40275133.21	7293196.67	56862981.94	10692691.83
14	Transportation charges	RS	0	0	0	0	0	0	0	0
15	Adjustment (+/-) in Transportation charges	RS	0	0	0	0	0	0	0	0
16	Demmorage charges if any	RS	0	0	0	0	0	0	0	0
17	Cost of diesel in transporting oil through MGR System if applicable	RS	0	0	0	0	0	0	0	0
18	Total Transportation charges(14+15+16+17)	RS	0	0	0	0	0	0	0	0
19	Total amount charged for oil including Transportation(13+18)	RS	56862981.94	9009749.07	49409091.68	7903463.62	40275133.21	7293196.67	56862981.94	10692691.83
20	Avarage cost of oil(in stock+receipt)(19/7)	Rs/KL	25110.12	42606.74	25110.12	43149.42	25110.12	43406.46	25110.12	43209.25
21	Cost of Oil in stock at the end of month	RS	49409091.68	6781501.78	40275133.21	6732215.75	35673200.68	6925847.81	35673200.68	6925847.81
22	WTG AVG GCV of oil fired	(Kcal/ltr)	<b>9542.031</b>		<b>9551.080</b>		<b>9553.929</b>		<b>9548.275</b>	

## Energy Charges for Thermal Generation

Name of the Petitioner: **RVUN**  
 Name of the Power Station/Unit: **KTPS**

S.No.	Particulars	Units	FY 2015-16	FY 2016-17	FY 2017-18
			Actual/Audited	April-march	Anticipated
			Unit 1-7	(Estimated)	Unit 1-7
1	2	3	4		8
<b>1</b>	<b>Operational Parameters</b>				
1.1	Total Capacity	MW	1240	1240	1240.00
1.2	Availability	%	89.89%	82.00%	82.00%
1.3	PLF	%	70.45%	72.00%	82.00%
<b>1.4</b>	<b>Gross Generation</b>	<b>MU</b>	<b>7769.540</b>	<b>7904.62</b>	<b>8907.17</b>
1.5	Auxiliary Energy Consumption	%	10.39%	10.23%	9.27%
1.6	Auxiliary Energy Consumption	MU	807.220	808.60	825.69
<b>1.7</b>	<b>Net Generation</b>	<b>MU</b>	<b>6962.320</b>	<b>7096.02</b>	<b>8081.47</b>
1.8	Heat Rate	kcal/kWh	2805	2609.13	2570.98
<b>2</b>	<b>Fuel Parameters (for each primary and secondary fuel)</b>				
<b>2.1</b>	<b>Gross Calorific Value</b>				
2.1.1	Fuel - 1 (Indegineous Coal)	kcal/Kg	4131	3930	3930
2.1.2	Fuel - 2 (Oil)	kcal/Ltr.	9544	9548	9548
2.1.4	Fuel - 3(Imported Coal)	kcal/Kg	6305	0	0
<b>2.2</b>	<b>Landed Fuel Price per unit (Please specify the fuel)</b>				
2.2.1	Fuel - 1 (Indegineous Coal)	Rs/MT	3944	3852.62	3852.62
2.2.2	Fuel - 2 (Oil)	Rs/KL	33004	26818	26818
2.2.4	Fuel - 3 (Imported Coal)	Rs/MT	7745	0	0

<b>3</b>	<b>Fuel Consumption and Heat Contribution (for each fuel separately)</b>				
3.1	Specific Fuel Consumption				
3.1.1	Fuel - 1 (Indegineous Coal)	Kg/ kWh	0.64	0.66	0.65
3.1.2	Fuel - 2 (Oil)	ML/ kWh	0.79	0.82	0.5
3.1.4	Fuel - 3 (Imported Coal)	Kg/ kWh	0.03	0.00	0.00
<b>3.2</b>	<b>Total Fuel Consumption</b>				
3.2.1	Fuel - 1 (Indegineous Coal)	MT	4963077	5232127.78	5816190.32
3.2.2	Fuel - 2 (Oil)	KL	6176.061	6482.55	4453.58
3.2.4	Fuel - 3 (Imported Coal)	MT	195325	0.00	0.00
<b>3.3</b>	<b>Heat Content (each fuel separately)</b>				
3.3.1	Fuel - 1 (Indegineous Coal)	Million	20504605.21	20562262.16	22857627.96
3.3.2	Fuel - 2 (Oil)	Million	58944.33	61895.40	42522.82
3.3.4	Fuel - 3 (Imported Coal)	Million kcal	1231506.55	0.00	0.00
	Total Heat Content		21795056.08	20624157.56	22900150.78
<b>4</b>	<b>Total Fuel Cost</b>				
4.1.1	Fuel 1 (Indegineous Coal) (2.2.1 x 3.2.1)	Rs Crore	1957.58	2015.74	2240.76
4.1.2	Fuel - 2 (Oil) (2.2.2 x 3.2.2)	Rs Crore	20.38	17.38	11.94
4.1.4	Fuel 3 (Imported Coal) (2.2.4 x 3.2.4)	Rs Crore	151.28	0.00	0.00
	<b>Total Fuel Cost</b>	<b>Rs Crore</b>	<b>2129.24</b>	<b>2033.12</b>	<b>2252.70</b>
<b>5</b>	<b>Other Charges and Adjustments</b>		10.32	0	0
<b>6</b>	<b>Total Cost (4+5)</b>	<b>Rs Crore</b>	<b>2139.56</b>	<b>2033.12</b>	<b>2252.70</b>
<b>7</b>	<b>Cost of Generation per unit (at Generation)</b>	<b>Rs/kWh</b>	<b>2.754</b>	<b>2.572</b>	<b>2.529</b>
<b>8</b>	<b>Energy Charge per unit (ex-bus) (6/1.7)</b>		<b>3.073</b>	<b>2.865</b>	<b>2.787</b>

## Fixed assets &amp; provisions for depreciation

Name of the Petitioner Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station : Kota Super Thermal Power Station

Unit 1-6

2015-16

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the begining of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	NIL	3.32	0.00	0.00	3.32	1.82	0.00	0.00	1.82	1.50	1.50
1A	Building & Civil works of Power plant	3.34	182.27	24.25	0.00	206.52	113.45	2.71	0.00	116.15	68.83	90.37
2	Hydraulic works	5.28	5.50	0.00	0.00	5.50	3.02	0.18	0.00	3.20	2.48	2.31
3	Other Civil works	3.34	33.77	0.00	0.00	33.77	18.55	3.48	0.00	22.03	15.22	11.74
4	Plant & machinery	5.28	889.99	42.74	0.00	932.73	512.35	34.05	0.00	546.40	377.63	386.32
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.90	0.00	0.00	0.90	0.50	0.00	0.00	0.50	0.41	0.41
7	Furniture & fixtures	6.33	0.21	0.00	0.00	0.21	0.11	0.00	0.00	0.12	0.09	0.09
8	Office Equipments	6.33	0.24	0.00	0.00	0.24	0.13	0.01	0.00	0.14	0.11	0.10
9	Capital spares	5.28	74.47	0.00	0.00	74.47	40.90	0.30	0.00	41.21	33.56	33.26
	<b>Total (1) to (11)</b>		<b>1190.67</b>	<b>66.99</b>	<b>0.00</b>	<b>1257.66</b>	<b>690.84</b>	<b>40.73</b>	<b>0.00</b>	<b>731.57</b>	<b>499.83</b>	<b>526.09</b>

Name of the Petitioner

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station :

Kota Super Thermal Power Station

Unit 7

2015-16

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1A	Building & Civil works of Power plant	3.34	120.83	4.97	0.00	125.80	26.05	4.12	0.00	30.17	94.78	95.63
2	Hydraulic works	5.28	11.93	0.00	0.00	11.93	2.47	0.63	0.00	3.10	9.46	8.83
3	Other Civil works	3.34	3.93	0.00	0.00	3.93	0.81	0.13	0.00	0.95	3.12	2.99
4	Plant & machinery	5.28	709.73	3.94	0.00	713.67	147.80	37.58	0.00	185.38	561.93	528.30
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Furniture & fixtures	6.33	0.05	0.00	0.00	0.05	0.01	0.00	0.00	0.01	0.04	0.03
8	Office Equipments	6.33	0.06	0.00	0.00	0.06	0.01	0.00	0.00	0.02	0.05	0.05
9	Capital spares	5.28	5.31	0.00	0.00	5.31	1.10	0.28	0.00	1.38	4.21	3.93
	<b>Total (1) to (11)</b>		<b>851.85</b>	<b>8.91</b>	<b>0.00</b>	<b>860.76</b>	<b>178.26</b>	<b>42.75</b>	<b>0.00</b>	<b>221.01</b>	<b>673.58</b>	<b>639.75</b>

## Fixed assets &amp; provisions for depreciation

Name of the Petitioner Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station : Kota Super Thermal Power Station

Unit 1-6

2016-17

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the begining of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	NIL	3.32	0.00	0.00	3.32	1.82	0.00	0.00	1.82	1.50	1.50
1A	Building & Civil works of Power plant	3.34	206.52	0.00	0.00	206.52	116.15	2.71	0.00	118.86	90.37	87.66
2	Hydraulic works	5.28	5.50	0.00	0.00	5.50	3.20	0.18	0.00	3.37	2.31	2.13
3	Other Civil works	3.34	33.77	0.00	0.00	33.77	22.03	3.48	0.00	25.50	11.74	8.27
4	Plant & machinery	5.28	932.73	0.00	0.00	932.73	546.40	34.05	0.00	580.45	386.32	352.27
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.90	0.00	0.00	0.90	0.50	0.00	0.00	0.50	0.41	0.40
7	Furniture & fixtures	6.33	0.21	0.00	0.00	0.21	0.12	0.00	0.00	0.12	0.09	0.09
8	Office Equipments	6.33	0.24	0.00	0.00	0.24	0.14	0.01	0.00	0.15	0.10	0.09
9	Capital spares	5.28	74.47	0.00	0.00	74.47	41.21	0.30	0.00	41.51	33.26	32.96
	<b>Total (1) to (11)</b>		<b>1257.66</b>	<b>0.00</b>	<b>0.00</b>	<b>1257.66</b>	<b>731.57</b>	<b>40.73</b>	<b>0.00</b>	<b>772.29</b>	<b>526.09</b>	<b>485.36</b>

## Fixed assets &amp; provisions for depreciation

Name of the Petitioner Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
 Name of the Power Station : Kota Super Thermal Power Station Unit 7 2016-17

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the begining of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1A	Building & Civil works of Power plant	3.34	125.80	0.00	0.00	125.80	30.17	4.20	0.00	34.37	95.63	91.43
2	Hydraulic works	5.28	11.93	0.00	0.00	11.93	3.10	0.63	0.00	3.73	8.83	8.20
3	Other Civil works	3.34	3.93	0.00	0.00	3.93	0.95	0.13	0.00	1.08	2.99	2.86
4	Plant & machinery	5.28	713.67	0.00	0.00	713.67	185.38	37.68	0.00	223.06	528.30	490.61
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Furniture & fixtures	6.33	0.05	0.00	0.00	0.05	0.01	0.00	0.00	0.02	0.03	0.03
8	Office Equipments	6.33	0.06	0.00	0.00	0.06	0.02	0.00	0.00	0.02	0.05	0.04
9	Capital spares	5.28	5.31	0.00	0.00	5.31	1.38	0.28	0.00	1.66	3.93	3.65
	<b>Total (1) to (11)</b>		<b>860.76</b>	<b>0.00</b>	<b>0.00</b>	<b>860.76</b>	<b>221.01</b>	<b>42.93</b>	<b>0.00</b>	<b>263.94</b>	<b>639.75</b>	<b>596.82</b>

## Fixed assets &amp; provisions for depreciation

Name of the Petitioner **Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.**  
 Name of the Power Station : **Kota Super Thermal Power Station** Unit 1-6 2017-18

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	NIL	3.32	0.00	0.00	3.32	1.82	0.00	0.00	1.82	1.50	1.50
1A	Building & Civil works of Power plant	3.34	206.52	0.00	0.00	206.52	118.86	2.71	0.00	121.57	87.66	84.95
2	Hydraulic works	5.28	5.50	0.00	0.00	5.50	3.37	0.18	0.00	3.55	2.13	1.96
3	Other Civil works	3.34	33.77	0.00	0.00	33.77	25.50	3.48	0.00	28.98	8.27	4.79
4	Plant & machinery	5.28	932.73	0.00	0.00	932.73	580.45	34.05	0.00	614.50	352.27	318.22
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.90	0.00	0.00	0.90	0.50	0.00	0.00	0.50	0.40	0.40
7	Furniture & fixtures	6.33	0.21	0.00	0.00	0.21	0.12	0.00	0.00	0.12	0.09	0.09
8	Office Equipments	6.33	0.24	0.00	0.00	0.24	0.15	0.01	0.00	0.16	0.09	0.08
9	Capital spares	5.28	74.47	0.00	0.00	74.47	41.51	0.30	0.00	41.81	32.96	32.65
	<b>Total (1) to (11)</b>		<b>1257.66</b>	<b>0.00</b>	<b>0.00</b>	<b>1257.66</b>	<b>772.29</b>	<b>40.73</b>	<b>0.00</b>	<b>813.02</b>	<b>485.36</b>	<b>444.64</b>

Name of the Petitioner **Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.**  
 Name of the Power Station : **Kota Super Thermal Power Station** Unit 7 2017-18

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deducitons	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1A	Building & Civil works of Power plant	3.34	125.80	0.00	0.00	125.80	34.37	4.20	0.00	38.57	91.43	87.22
2	Hydraulic works	5.28	11.93	0.00	0.00	11.93	3.73	0.63	0.00	4.36	8.20	7.57
3	Other Civil works	3.34	3.93	0.00	0.00	3.93	1.08	0.13	0.00	1.21	2.86	2.72
4	Plant & machinery	5.28	713.67	0.00	0.00	713.67	223.06	37.68	0.00	260.74	490.61	452.93
5	Lines and Cable Networks	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Vehicles	9.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Furniture & fixtures	6.33	0.05	0.00	0.00	0.05	0.02	0.00	0.00	0.02	0.03	0.03
8	Office Equipments	6.33	0.06	0.00	0.00	0.06	0.02	0.00	0.00	0.03	0.04	0.04
9	Capital spares	5.28	5.31	0.00	0.00	5.31	1.66	0.28	0.00	1.94	3.65	3.37
	<b>Total (1) to (11)</b>		<b>860.76</b>	<b>0.00</b>	<b>0.00</b>	<b>860.76</b>	<b>263.94</b>	<b>42.93</b>	<b>0.00</b>	<b>306.87</b>	<b>596.82</b>	<b>553.89</b>

## Form G 6.2

## LOAN REPAYMENT &amp; INTREST LIABILITY

Name of the Petitioner

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station :

Kota Super Thermal Power Station

## UNIT 1-7

Year (2015-16)												Rs. Crore
S. No.	Source (loan)	Currency	Opening Balance	Anticipated Receipts	Anticipated Repayment	Interest rate		Closing Balance	Average Rate of Interest#	Liability of Interest during the year	Financial charges	Total interest & finance charges
						Fixed	Floating					
1	2	2A	3	4	5	6	7	8	9	10	11	12
1	Term Loan + Transitional Loan	Indian	560.28	60.17	67.17	9.07%		553.27	9.07%	50.19	0.27	50.46
<b>Total (for Station)</b>			<b>560.28</b>	<b>60.17</b>	<b>67.17</b>			<b>553.27</b>		<b>50.19</b>	<b>0.27</b>	<b>50.46</b>

Year (2016-17)												Rs. Crore
S. No.	Source (loan)	Currency	Opening Balance	Anticipated Receipts	Anticipated Repayment	Interest rate		Closing Balance	Average Rate of Interest#	Liability of Interest during the year	Financial charges	Total interest & finance charges
						Fixed	Floating					
1	2	2A	3	4	5	6	7	8	9	10	11	12
1	Term Loan + Transitional Loan	Indian	553.27	0.00	83.66	9.07%		469.62	9.07%	46.40	0.70	47.10
<b>Total (for Station)</b>			<b>553.27</b>	<b>0.00</b>	<b>83.66</b>			<b>469.62</b>		<b>46.40</b>	<b>0.70</b>	<b>47.10</b>

Year (2017-18)												Rs. Crore
S. No.	Source (loan)	Currency	Opening Balance	Anticipated Receipts	Anticipated Repayment	Interest rate		Closing Balance	Average Rate of Interest#	Liability of Interest during the year	Financial charges	Total interest & finance charges
						Fixed	Floating					
1	2	2A	3	4	5	6	7	8	9	10	11	12
1	Term Loan + Transitional Loan	Indian	469.62	0.00	83.66	9.07%		385.96	9.07%	38.81	0.70	39.51
<b>Total (for Station)</b>			<b>469.62</b>	<b>0.00</b>	<b>83.66</b>			<b>385.96</b>		<b>38.81</b>	<b>0.70</b>	<b>39.51</b>

Form G 6.3

Details of Project Specific Loans

Name of the Petitioner

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station

Kota Super Thermal Power Station

Commercial Operation Date

2012-13

Rs. Crore

Particulars	Package1	Package2	Package3	Package4	Package5	Package6
1	2	3	4	5	6	7
Source of Loan <sup>1</sup>	PFC, SLR Bond and NCRPB Loan					
Currency <sup>2</sup>	Indian					
Amount of Loan sanctioned						
Amount of Gross Loan drawn upto previous year/during current/ensuing year/COD <sup>3,4,5,13,15</sup>	849					
Interest Type <sup>6</sup>						
Fixed Interest Rate, if applicable	Floating					
Base Rate, if Floating Interest <sup>7</sup>						
Margin, if Floating Interest <sup>8</sup>	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Are there any Caps/Floor <sup>9</sup>						
If above is yes,specify caps/floor						
Moratorium Period <sup>10</sup>						
Moratorium effective from						
Repayment Period <sup>11</sup>						
Repayment effective from						
Repayment Frequency <sup>12</sup>						
Repayment Instalment <sup>13,14</sup>						
Base Exchange Rate <sup>16</sup>						

## Consolidated report on additions to Fixed Assets during the year

Name of the Petitioner  
Name of the Power Station :

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

(Rs. in crores)

S.No.	Asset Description	Asset Code	2015-16							2016-17							2017-18							2016-17						
			(Actuals/audited)							(Actuals & Anticipated)							(Anticipated)							(Anticipated)						
			Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	Date of commissioning	Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	Date of commissioning	Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	Date of commissioning	Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	Date of commissioning
4	5	6	7	8	9	10	11	12	13	14	15	16	17	11	12	13	14	15	16	17	11	12	13	14	15	16	17			
1	Land & land rights	10.1 XX	0.00							0																				
1A	Building & Civil works of Power plant	10.2 XX	29.22							0																				
2	Hydraulic works	10.3 XX	0.00							0																				
3	Other Civil works	10.4 XX	0.00							0																				
4	Plant & machinery	10.5 XX	46.68							0																				
5	Lines and Cable Networks	10.6 XX	0.00							0																				
6	Vehicles	10.7 XX	0.00							0																				
7	Furniture & fixtures	10.8 XX	0.00							0																				
8	Office Equipments	10.9 XX	0.00							0																				
9	Capital spares	10.10 XX	0.00							0																				
			75.902																											

**Form G 6.5**

**Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects**

Name of the Petitioner :	Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.						
Name of the Power Station :	Kota Super Thermal Power Station						
New Projects							
Capital Cost Estimates							
Board of Director/ Agency approving the Capital cost estimates:							
Date of approval of the Capital cost estimates:							
	<b>Present Day Cost</b>			<b>Completed Cost</b>			
Price level of approved estimates	As of End of _____ Qtr. Of the year			As on Scheduled COD of the Station			
Foreign Exchange rate considered for the Capital cost estimates	NA						
<b>Capital Cost excluding IDC &amp; FC</b>							
Foreign Component, if any (In Million US \$ or the relevant Currency)							
Domestic Component (Rs. Cr.)							
<b>Capital cost excluding IDC &amp; FC (Rs. Cr)</b>							
<b>IDC &amp; FC</b>							
Foreign Component, if any (In Million US \$ or the relevant Currency)							
Domestic Component (Rs. Cr.)							
<b>Total IDC &amp; FC (Rs.Cr.)</b>							
Rate of taxes & duties considered							
<b>Capital cost Including IDC &amp; FC</b>							
Foreign Component, if any (In Million US \$ or the relevant Currency)							
Domestic Component (Rs. Cr.)							
<b>Capital cost Including IDC &amp; FC (Rs. Cr)</b>							
<b>Schedule of Commissioning</b>							
COD of Unit-I/Block-I							
COD of Unit-II/Block-II							
-----							
-----							
COD of last Unit/Block							
Note:							
1. Copy of approval letter should be enclosed.							
2. Details of Capital cost are to be furnished in relevant forms							
3. Details of IDC & Financing Charges are to be furnished in relevant form							

**Break-up of Capital Cost for Coal / Lignite / gas / liquid fuel based projects**

Form G 6.6

Name of the Petitioner:  
Name of the Power Station :

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

Rs. Crore.

S.No.	Break Down	Cost in Rs. Crores			Variation (Rs. Cr.)	Reasons for Variation	Admitted Cost (Rs. Cr.)
		As per original Estimates	Actual Expenditure as on COD	Liabilities/Provisions			
1	2	3	4	5	6	7	8
1.0	Land & Site Development						
2.0	Access road						
3.0	Temporary construction and enabling works						
4	Water storage system						
5.0	Water transportation system						
6.0	Railway system						
7.0	Steam generator / Boiler Island						
8.0	Steam Turbine Generator island including taxes, duties etc.						
<b>9.0</b>	<b>Balance of Plant</b>						
9.1	Mechanical BOP						
9.1.1	Coal handling system / fuel handling system and storage						
9.1.2	Ash handling system						
9.1.3	CW System						
9.1.4	DM Plant						
9.1.5	Raw water system						
9.1.6	Effluent treatment Plant						
9.1.7	Station Piping System						
9.1.8	Fire Fighting System						
9.1.9	Compressed Air System						
9.1.10	Air Conditioning and Ventilation System						
9.1.11	Misc. items including EOT cranes, hoist and elevators etc.						
9.1.12	Tax, Duties, F&I						
9.1.13	Spares						
<b>9.2</b>	<b>Electrical BOP</b>						
9.2.1	Power Transformers						
9.2.2	Switchyard						
9.2.3	Bus Duct						
9.2.4	HT Switchgear						
9.2.5	LT Switchgear						
9.2.6	DC Power System						
9.2.7	Power and Control Cables						
9.2.8	Control and Relay Panels						
9.2.9	Station Lighting						
9.2.10	DG Set						
9.2.11	Electrical equipment erection, cabling and grounding						
9.2.12	Other Misc. items						
9.2.13	Taxes, Duties and F&I						
9.2.14	ETC and spares						
<b>9.3</b>	<b>Total BOP Civil Works</b>						
9.3.1	Main Power house building						
9.3.2	Plant water system						
9.3.3	Chimney						
9.3.4	Permanent Township						
9.3.5	Ash dyke						
9.3.6	Misc. plant buildings						
9.3.7	Temp. sheds						
10.0	Control and Instrumentation						
11.0	Operator Training						
12.0	Start up fuel						
13.0	Construction insurance						
14.0	Special T&P						
15.0	Total Cost of Works (sum of items 1 to 15 above)						
<b>16.0</b>	<b>Overheads</b>						
16.1	Development Expenses						
16.2	Legal Expenses						
16.3	Establishment/Construction supervision						
16.4	Consultancy and Engineering						
16.5	Audit and Account						
16.6	Contingency						
16.7	Sub-total of Item 16						
<b>17.0</b>	<b>Capital cost excluding IDC &amp; FC</b>						
18	Interest During Construction (IDC)						
19	Financing Charges (FC)						
<b>20.0</b>	<b>Capital cost including IDC &amp; FC</b>						
21	Cost per MW						
Note: 1. Above list is illustrative 2. In case of time & Cost over run, a detailed note giving reasons of such time and cost over run should be submitted clearly bring out the agency responsible and whether such time & cost over run was beyond the control of the generating company.							

NA

**Form G 6.7**  
**Break-up of Construction / Supply / Service packages**

Name of the Petitioner :  
Name of the Power Station :

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

S.No.	Name/No. of Construction / Supply / Service Package	Scope of works <sup>1</sup> (in line with head of cost break-ups as applicable)	Whether awarded through ICB/DCB/ Departmentally/ Deposit Work	No. of bids received	Date of Award	Date of Start of work	Date of Completion of Work	Value of Award <sup>2</sup> in (Rs. Cr.)	Reason for change in Price	Variation on account of change in Scope of Work (Rs. Cr.)	Reason for Change in Scope of Work
1	2	3	4	5	6	7	8	9	16	17	18
1											
2											
3											
4											
5											
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32											

NA

<sup>1</sup> The scope of work in any package should be indicated in conformity of Capital cost break-up for the coal/lignite based plants to the extent possible. In case of Gas/Liquid fuel based projects, break down in the similar manner in the relevant heads.

<sup>2</sup> If there is any package, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately alongwith the currency, the exchange rate and the date e.g. Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say 4.1.1999.

Form G 6.8

Draw Down Schedule for Calculation of IDC & Financing Charges (year wise from commencement of works to COD)

Name of the Petitioner:

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station

Kota Super Thermal Power Station

Rs. Crore

S.No.	Draw Down Particulars	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	<b>Loans</b>												
1.1	<b>Total Foreign Loans</b>												
	Draw down Amount												
	IDC												
	Financing charges												
1.2	<b>Indian Loans</b>												
	Draw down Amount												
	IDC												
	Financing charges												
1	<b>Total of Loans drawn</b>												
	IDC												
	Financing charges												
2	<b>Equity</b>												
2.1	<b>Foreign equity drawn</b>												
2.2	<b>Indian equity drawn</b>												
	<b>Total equity deployed</b>												

NA

Form G 6.9

RETURN ON EQUITY

Name of the Petitioner: Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
 Name of the Power Station : Kota Super Thermal Power Station

Rs. Crore

S.No.	Particulars	Reference	FY 2015-16	FY 2016-17			FY 2017-18	Remarks
			(Actuals/audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)	
1	2	3	4	5	6	7 = 5+6	9	
1	Equity at the beginning of the year		490.87	0	513.64	513.64	513.64	
2	Capitalisation		75.90	0		0	0.00	
3	Equity portion of capitalisation		22.77	0		0.00	0.00	
4	Equity at the end of the year		513.64	0	513.64	513.64	513.64	
	<b>Return Computation</b>							
5	Return on Equity at the beginning of the year	ROI For 2016-17 is 15.50% & 15% for 2015-16	24.54	0	39.81	39.81	79.61	
6	Return on Equity portion of capitalisation (on pro-rata basis)	ROI For 2016-17 is 15.50% & 15% for 2015-16	0.57	0		0.00	0.00	
7	<b>Total Return on Equity</b>	(5)+(6)	25.11	75.99	39.81	39.81	79.61	

**Note:**  
 Station-wise RoE (or basis of allocation for each Station) has to be provided



**Form G 6.11  
Interest on Working Capital**

Name of the Petitioner  
Name of the Power Station

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
Kota Super Thermal Power Station

Rs. Crore

S. No.	Particulars		FY 2015-16	FY 2016-17			FY 2017-18	Remarks
			(Actuals / audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)	
1	2		3	4	5	6 = 4+5	7	8
1	Coal Cost ( Non pit head)	1½ Month	263.61		112.30	139.66	280.09	
2	Coal Cost ( Pit head)	Half month	NA		NA	NA	NA	
3	Cost of Gas	Half month	NA		NA	NA	NA	
4	Sec.Fuel Oil	Two month	3.40		1.90	0.99	1.99	
5	Liquid Fuel Stock	Half month	NA		NA	NA	NA	
6	O & M expenses	One month	19.11		9.31	9.31	19.72	
	Maintenance Spares	20% of O&M	45.86		22.35	22.35	47.32	
	Recievables	1½ Month	329.86		158.20	158.20	344.95	
	<b>Total Working Capital</b>		<b>661.84</b>		<b>304.07</b>	<b>330.52</b>	<b>694.07</b>	
	Rate of Interest (as per norms)		12.50%		12.26%	12.26%	11.80%	
	<b>Interest on Working Capital</b>		<b>82.73</b>	<b>78.16</b>	<b>37.28</b>	<b>40.52</b>	<b>81.90</b>	

## Form G 6.12

## Insurance Expenses

Name of the Petitioner: Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.  
 Name of the Power Station : Kota Super Thermal Power Station

Rs. Crore

S. No.	Particulars	Previous Year	Current Year (n)			FY	Remarks
		2015-16	2016-17			2017-18	
		(Actuals/audited)	Approved by the Commission	Apr-Sep (Actual)	Oct-March (Estimated)	(Anticipated)	
1	2	4	5	6	7=6+5	9	10
	<b>Insurance Expenses</b>						
a)	Provision made/ proposed for the year	2.84	3.00	1.49	1.49	3.14	
b)	Actual insurance expenses incurred	2.84					
c)	Average Net Fixed Assets	1169.63		1124.01	1124.01	1040.36	

## Tax on R.O.E.

Name of the Petitioner:

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station :

Kota Super Thermal Power Station

Rs.

S. No.	Particulars	FY 2015-16	FY 2016-17	FY 2017-18	Remarks
		(Actuals/audited)	Actual/ Estimated	Proposed to be recovered	
1	2	3	4	5	7
A)	Advance Tax assessed & deposited on----				
a)	for Quarter I & deposited on 15 th June.				
b)	for Quarter II & deposited on 15 th Sept.				
c)	for Quarter III & deposited on 15 th Dec.				
d)	for Quarter IV & deposited on 15 th March.				
	Total---(A)				
B)	Deffered tax liability before 01.04.2009				

Note:- Tax calculated should be only for the generation business and should not include income from any other income stream like efficiency gain & incentive etc.

Form G 7.1

Proposed improvement in performance

Name of the Petitioner

Rajasthan Rajya Vidhyut Utpadan Nigam Ltd.

Name of the Power Station :

Kota Super Thermal Power Station

Rs. Crore

S.No.	Particulars	Previous year	Current year			MYT Control Period					Remarks
		FY 2015-16 (Actuals/ audited)	FY 2016-17			FY 2017-18	n+2	n+3	n+4	n+5	
			Apr-Sep (Actual)	Oct-Mar (Estimated)	Total (April - March) 6 = 4+5	(Anticipated)					
1	2	3	4	5	6 = 4+5	7	8	9	10	11	12
1	Plant load factor	70.45%	62.06%	82.00%		82.00%					
2	Auxiliary consumption	10.39%	11.46%	9.27%		9.27%					
3	Specific fuel consumption										
(i)	coal, kg / kWh	0.64	0.67	0.65		0.65					
ii)	gas, SCM / kWh										
(iii)	oil, ml / kWh	0.82	1.23	0.50		0.50					
(iv)	Limestone kg / kWh										
(v)	any other fuel										
4	Station heat rate, kcal / kWh	2805.19	2658.05	2570.98		2570.98					
5	Annual Maintenance shut down days										
6	Forced / planned shut down except annual shut down										
(i)	number / year										
(ii)	cumulative duration, hours / year										
7	Fly ash utilisation, %	100%	100%	100%		100%					
8	Other bye product utilisation(give list)										
9	Outstanding dues, days of receivables										
10	Availability	89.89%	82.41%	82.00%		82.00%					