

**Rajasthan Electricity Regulatory Commission**

**NOTIFICATION**

**Jaipur, 17<sup>th</sup> February , 2007**

No.RERC/Secy/Reg - 62 In exercise of the powers conferred on it by section 61 read with section 181 of the Electricity Act 2003 (No.36 of 2003), the Rajasthan Electricity Regulatory Commission, after previous publication, makes the following Regulations, namely:

**1. Short title and commencement**

(1) These Regulations may be called 'The Rajasthan Electricity Regulatory Commission (tariff for Captive Power Plants) Regulations, 2007', in short RERC (CPP) Regulations'. These Regulations shall come into force from the date of their publication in the official gazette.

(2) These Regulations will be applicable on captive Power plants excluding power plants based on Renewable Energy Sources.

**2. Definitions**

(1) 'Act' means the Electricity Act, 2003.

(2) 'Captive Power Plant' or 'CPP' or "Captive Generating Plant" means a power plant set up by any person to generate electricity primarily for his own use and includes a power plant set up by a co-operative society or association of persons for generating electricity primarily for the use of members of such a co-operative society or association having the eligibility specified as hereinafter.

(3) 'Firm power supply' (FP) means a contracted capacity to be supplied for the contracted time of the day basis or on whole day basis (round the clock), which a CPP on the basis of its declared availability is obliged to deliver to the Licensee on 'take or pay basis' within variation range of +/- 20% of the contracted capacity, for a period of not less than one year, however the load factor of power supply for the settlement period, determined on contracted capacity, shall not be less than 70%. For the purpose of this:-

$$\text{Load Factor \%} = \frac{\text{energy supplied during the month in kWh} \times 100}{(\text{Capacity contracted during the month in kW}) \times (\text{agreed hours of supply during the day}) \times (\text{No. of Days in the Month})}$$

(4) "Non firm power supply" (NFP) means the contracted capacity to be supplied, on whole day basis or specified time of day basis, by the CPP to the licensee for the specified duration of contract period not less than a week (i.e. 7days) within a permissible variation of ± 50% of contracted capacity but does not fulfill the requirement of firm power supply and which can be stopped by licensee/CPP at short notice.

(5) "Inadvertent power supply" means unrestricted flow of power from CPP on account of inevitable mis-match between generation and load, and which can not be stopped by licensee/CPP. Inadvertent supply will however, be unscheduled, non contractual and uninterrupted.

(6) Existing Captive Power Plants' means CPPs in operation prior to date of notification of these Regulations including CPPs whose PPAs have been signed and approved (or pending before the Commission by that date).

(7)'Peak hours' means 18:00 hours to 22:00 hours of the day or such other hours of the day as may be notified by the licensee in its area of supply.

(8)'Off-Peak' hours means 22:00hours to 6:00 hours of the day or such other hours of the day as may be notified by the licensee in its area of supply.

(9)'Normal hours' means hours other than Off Peak hours & Peak hours.

(10)"Despatch Schedule" means the ex-power plant net MW output of a CPP, scheduled to be exported to the grid from time to time.

(11)"Stand by Supply" means supply required by the industrial unit of CPP, contracted with the distribution licensee to cater the demand during the period of outage of the CPP.

(12)"Start up Supply" means essential load of the CPP required during outage as well as for start up load of the CPP as contracted with the distribution licensee. Start-up supply thus includes stand by supply for CPP.

(13)"Month" means a calendar month commencing from 00:00 hours of the first day of the month and ending on 24:00 hours of the last day of the month.

The words or expression in these Regulations, which are not defined herein, shall have the same meaning as defined in the rules, regulations & Act in the order specified hereunder.

(a)Ministry Of Power Rules ref. GSR 379(E) notified on June 8, 2005.

(b)RERC (Terms & Conditions for determination of tariff) Regulation 2004 [RERC (T&C for tariff) Regulation].

(c)The Electricity Act 2003 (the Act).

### **3. Eligibility for CPP**

A Captive Generating Plant established under section 9 of the Act shall qualify as a CPP for the purpose of these Regulations if,

(1) in case of a power plant:-

(a) not less than twenty six percent of the ownership is held by the captive user(s), and

(b) not less than fifty one percent of the aggregate electricity generated in such plant, determined on an annual basis, is consumed for the captive use:

Provided that in case of power plant set up by registered cooperative society, the conditions mentioned under paragraphs at (a) and (b) above shall be satisfied collectively by the members of the co-operative society:

Provided further that in case of power plant setup by association of persons, the captive user(s) shall hold not less than twenty six percent of the ownership of the plant in aggregate and such captive user(s) shall consume not less than fifty one percent of the electricity generated, determined on an annual basis, in proportion to their shares in ownership of the power plant.

(2) in case of a generating station owned by a company, formed as special purpose vehicle for such generating station herein a unit or units of such generating station identified for captive use, and not the entire generating station, shall satisfy the conditions contained in paragraphs (a) and (b) of sub-clause (1) above, provided that -

(a) The electricity required to be consumed by captive users shall be determined with reference to such generating unit or units in aggregate identified for captive use and not with reference to generating station as a whole; and

- (b) The equity shares to be held by the captive user(s) in the generating station shall not be less than twenty six per cent of the proportionate of the equity of the company related to the generating unit or units identified as the captive generating plant.

Illustration: if a generating station with two units of 50 MW each namely Units A and B, one unit of 50 MW, namely Unit A, may be identified as the Captive Generating Plant. The captive users shall hold not less than thirteen percent of the equity shares in the company (being the twenty six percent proportionate to Unit A of 50 MW) and not less than fifty one percent of the electricity generated in Unit A determined on an annual basis is to be consumed by the captive users.

- (c) It shall be the obligation of the captive users to ensure that the consumption by the Captive Users at the percentages mentioned in sub-clauses (1) above is maintained and in case the minimum percentage of captive use is not complied within any year, the entire electricity generated shall be treated as if it is a supply of electricity by a generating company.

#### **4. Options for Sale of Power by CPP**

- (1) The Captive Power Plant, after meeting requirement of captive use by its industrial unit, shall have option for sale of electricity available after fulfilling eligibility criteria of CPP:
  - (a). to Distribution licensee within the state under different mode of commercial arrangements
  - (b). balance, after meeting requirement at serial number (a); to third party, or to other than the distribution licensee within the State, through open access which shall be governed by RERC (Terms & Condition for Open Access) Regulations, 2004 (Open Access Regulations).
- (2) The CPP, shall convey its willingness to sale power to distribution licensee by giving at least 10 day's notice to choose either of the two options, viz.,
  - (a) Firm power, (FP)
  - (b) Non firm power, (NFP)

Provided that:

- (i) The firm power will automatically get converted into Non firm power, if its conditionalities are not met but non firm power, whether contracted or not, will not be convertible to firm power unless there is agreement to sell firm power and corrective steps are taken and firm power conditionalities are restored for 24 Hrs, with advance notice.
- (ii) Supply of power, whether against FP or NFP contract, with a variation beyond  $\pm 50\%$  shall be treated like inadvertent supply but shall be interruptible/ stoppable.

#### **5. Tariff for sale by CPP to licensee under "Firm Power" supply**

- (1) A CPP, irrespective of any saleable capacity, having installed capacity of 60 MW and above, will have option to either get the tariff determined for firm supply on case to case basis as a generating company by filing petition or may opt for normative fixed charges (levelised) and normative variable charges as determined by the Commission under these regulation. Fixed charges shall be the

- levelised fixed charges on per kWh basis and variable charges per kWh for supply during different time of the day shall be admissible as under:-
- (a) during off peak hours: full variable charges and no fixed charges,
  - (b) during normal supply hours: full variable charges plus 90% of fixed charges and
  - (c) during peak hours for supply: full variable charges plus 90% of fixed charges and incentive @ 50 paisa per kWh.
- (2) Alternatively the tariff, determined through transparent competitive bidding, may be as adopted by the Commission under section 63 of the Act. In case the tariff is determined by such bidding process, the provisions of CPP Regulation for determination of tariff will not apply.
- (3) The Commission shall determine Tariff for procurement of power by licensee from CPP under firm power supply arrangement subject to following conditions:
- (a) The contract period shall be one year or more.
  - (b) The variation in contracted capacity to be declared as day ahead schedule shall not exceed  $\pm 20\%$  of contracted capacity. The load factor of power supply for the settlement period determined on contracted capacity shall not be less than 70%.
  - (c) The variable charge component shall be determined in accordance with sub-regulation (4) below.
  - (d) Fixed charge component shall be payable for the average of Ex-works power delivered during each time block and shall be determined in accordance with sub-regulation (1) above read with sub-regulation (5) below.
- (4) Variable charge component shall cover fuel costs and shall be worked out on the basis of ex-bus energy delivered from the generating station as per following formula:
- (a) Variable Charge (VC) in Rs/ kWh, shall be the sum of the cost of normative quantities of primary and secondary fuel for delivering ex-bus one kWh of electricity in Rs/kWh and shall be computed as under:

$$VC = \frac{100 \times \{P_p \times (Q_p)_n + P_s \times (Q_s)_n\}}{(100 - (AUX)_n)}$$

Where,

$P_p$  = Price of primary fuel namely coal or lignite, as the case may be, in Rs/kg.

$(Q_p)_n$  = Normative Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in kg and shall be computed on the basis of normative gross Station Heat Rate (less heat contributed by secondary fuel oil for coal/lignite based generating stations) and gross calorific value of coal/lignite as fired.

$P_s$  = Price of Secondary fuel oil in Rs./ml,

$(Q_s)_n$  = Normative Quantity of Secondary fuel oil in ml/kWh, and

$AUX_n$  = Normative Auxiliary Energy Consumption as % of gross generation.

Provided that  $P_p$  &  $P_s$ , for the year shall be based on audited figures of previous year & shall be subjected to prudence check by the Commission.

- (b) Station-wise energy charges will be worked out for the purpose of billing based on weighted average rate of actual units generated
- (c) Adjustment to variable charge on account of variation in price of fuels shall be carried out on quarterly basis based on actual cost of fuel and calorific value of fuel, during immediate preceding quarter. Provided that for any variation in REC exceeding 10% of that approved by the Commission during fiscal year, shall be subject to approval of the Commission for which necessary calculations with supporting documents shall be provided in support of the claim.
- (d) Normative performance parameters for the determination of variable charge component under these Regulations shall be as under:

Parameters	Units	Unit Size of CPP (MW)		
		3.00	2.50	2.00
Specific Oil Consumption	ml/kWh	3.00	2.50	2.00

Note:- In case of CPP having number of units of different rating, their average rating will be considered.

- (5) (a) As per RERC (Terms & Conditions for determination of tariff) Regulations 2004 as modified, fixed charge component shall comprise of various annual fixed costs converted to rate per kWh of energy corresponding to delivery/ sale of energy at 80% PLF and levelised for the life of the plant in determining the annual fixed cost.
  - (i) The pre-tax return on equity shall be computed at the rate of 14% of equity component.
  - (ii) Income Tax and minimum alternate tax (MAT) during normal hours for determination of the fixed cost and interest charge on outstanding loan based on next five years average shall be allowed.
  - (iii) Advance against depreciation (AAD) shall not be allowed.
- (b) Annual Fixed Charge (AFC) will comprise of total annual expenses of CPP computed on the basis of expenses and return allowed in terms of Part II read with Regulations 40, 42 & 43 of the RERC (Terms and Conditions for determination of Tariff) Regulations, 2004 to the extent modified in these Regulations.

Provided that for determination of tariff, on case to case basis, for CPPs with installed capacity of 60 MW and above, capital cost shall be considered as capital cost actually incurred or Rs 4 Crore per MW of installed capacity, whichever is lower.

Provided further that for the determination of normative tariff for CPPs having installed capacity less than 60 MW, capital cost shall be considered as Rs 4 Crore per MW of installed capacity.

- (c) Payment of Fixed Charges shall be made on monthly basis and based on delivered energy.

(d) Normative parameters vide sub-regulation(a) &(b) above shall be subject to review at the end of tariff period.

**6. Tariff for sale by CPP to licensee under Non Firm Power (NFP) supply**

The tariff for sale of NFP supply by it for specific time of the day will be 90% of tariff specified for "Firm Power" supply for corresponding time of the day i.e normal hours, peak hours and off peak hours.

**7. Tariff for sale by CPP to licensee for inadvertent power arrangement**

(1) The inadvertent power injection by CPP beyond 1% of the installed capacity of CPP or injection in violation of SLDC's intimations for deemed inadvertent power vide regulation 4(2)(ii), shall neither be paid nor banked.

(2) The UI rate, as applicable at 50.0 Hz, shall be applicable for net inadvertent power injection at the end of six months settlement period.

**8. Banking**

The banking of electricity supplied by CPP shall be effected on the following basis:-

(i) Net injection (i.e. export less import) during each time zone will be banked and will be available @ 80% during next monthly billing period and will be permitted for drawl as per CPPs drawl schedule, as under:-

(a) During respective time zone of injection, and

(b) During other than respective time zone as under:-

(i) Energy Banked during peak load hours shall be permitted for drawl during normal & off peak load hours time zones.

(ii) Energy Banked during other than peak hours shall be permitted for drawl during off peak hour's time zone.

(ii) Banked energy shall be adjusted against the drawl only to the extent net drawl is not below minimum billing.

(iii) Banked energy at the end of six months will be settled at the interstate ABT rate at 50 Hz.

(iv) Energy accounting period may be a month or a shorter period (e.g a week to 15 days), for non firm power as mutually agreed. In latter case, instead of 80% at Sr.No.(i), 90% of net energy banked will be available during next accounting period.

(v) Drawl, including energy banked, shall not exceed contract demand.

**9. Other charges**

**(1) Grid connectivity charges**

(a) The connectivity of CPP to Grid or State transmission system shall be governed by the connection conditions stipulated under State Grid Code and Connectivity Regulations of Central Electricity Authority, as & when notified in accordance with sub-section (b) of Section 73 of the Electricity Act 2003.

- (b) The Commission shall specify from time to time the 'Grid connectivity charges' to be applicable for parallel operation of the CPP with the grid separately.

(2) **Charges for Reactive Energy Exchanges**

- (a) The CPP shall strive to maintain the power factor close to unity.
- (b) Reactive power tariff for injection / drawl of reactive power below 97% of rated voltage and that above 103% of rated voltage shall be applicable to CPP, as per para 22(B)(10) of the Commission's order dated 31.3.06 on transmission tariff and provisions referred to therein (including regulation 21 of Open Access Regulations).
- (c) Till meters as per sub-regulation (b) are installed, reactive energy charges shall be levied on net reactive energy drawl/ injection by the CPP.
- (d) Above mechanism of terms of reactive energy charges shall be applicable as interim arrangement till the RVPN undertake reactive energy planning studies and ascertain reactive power compensation requirement of the Grid as per State Grid Code.

(3) **State Load Despatch Centre fee and charges**

SLDC fee and charges including scheduling and operating charges shall be payable as specified in the Rajasthan Electricity Regulatory Commission (Levy of fee and charges by SLDC) Regulations, 2004.

(4) **Charges for Standby and start-up supply (Optional for CPP)**

- (a) Stand by supply and start up supply shall be effected at the request of CPP or as per agreement with CPP by the distribution licensee. These will be available only during outages for annual planned maintenance, other maintenance and forced outage. Annual planned maintenance schedule will be given by 15<sup>th</sup> November, to be finalized by SLDC/NRLDC. Other planned maintenance shall be effected with 2 days advance notice, except in unforeseen circumstances such intimation may be sent within 30 minutes of unit outage.
- (b) Standby and start up supply during a month shall be billed at temporary supply tariff on daily basis as per tariff for supply of electricity notified by the distribution licensee with the approval of the Commission as applicable to HT large industrial supply service. Contracted standby start up supplies shall be subject to minimum annual drawl for 42 days in a financial year.
- (c) In case CPP does not contract for standby or start-up supply, it can apply for temporary supply as and when break down occurs as per prevailing terms & conditions of supply of the distribution licensee.

**10. Minimum billing**

- (1) Provisions of minimum billing, if applicable, on consumers with embedded CPP (i.e CPP and its industrial unit located in same premises) shall be reduced by the energy charges to the extent of net energy supply effected under FP & NFP contract.

- (2) CPP will be allowed to reduce the contract demand of its industrial unit with the licensee/Discom at one month notice normally not more than once in a year.

## **11. Applicability of ABT**

As compensation to CPP is linked to 'actual energy delivered' by CPP and not linked to 'energy schedules' furnished by CPP, the provisions of Intra state ABT Regulations as notified in the RERC (Intra state ABT) Regulations 2006 shall not be applicable to CPP. However, in case CPP is required to sell any or part of its capacity outside the State of Rajasthan then provisions of RERC (Intra-State ABT) Regulations 2006 shall be applicable to such CPP to the extent feasible.

## **12. Scheduling**

CPPs with installed capacity of 25 MW and above, and effecting supply under FP or NFP supply agreement shall be subject to 'Scheduling and Despatch Code' as stipulated under State Grid Code and relevant Regulations. The methodology of scheduling and availability shall be as provided in the State Grid Code Regulations. However, it is clarified that the CPPs shall furnish schedules to SLDC for monitoring, co-ordination and control purposes alone; the payment to CPPs shall be based on actual energy delivered by CPP and not linked to schedules furnished by CPP.

## **13. Metering and Accounting**

- (1) Metering arrangements, including installation, testing and operation and maintenance of meters shall be as per the Central Electricity Authority (CEA) (Installation and Operation of Meters) Regulations, 2006.
- (2) In case, CPP and its industrial unit are located within the same premises (i.e embedded CPP) then there should be adequate arrangement of separate metering system for CPP and its industrial unit, if industrial unit is also a consumer of the licensee and there is sale of power by the CPP through the grid.
- (3) Collection, transmission and processing of data required for accounting of energy exchanges on the basis of normal hour, peak hour and off-peak hour supply shall be organised by the State Transmission Utility/ State Load Despatch Centre.

## **14. Commercial Arrangement**

### **(1) Agreement for FP**

A Power Purchase Agreement for FP will be signed between the licensee and the CPP for supply of firm power which will clearly indicate the capacity in MW contracted for supply and the agreed time zone during which supply shall be effected. It shall provide payment security mechanism as mutually agreed between licensee and CPP.

### **(2) Agreement for NFP**

Supply of Non firm power shall be either through PPA or contract established by exchange of letters, which will clearly indicate the capacity in MW contracted for supply and the agreed time zone during



which supply shall be effected and shall provide payment security mechanism as mutually agreed between licensee and CPP.

(3) **Billing and Payment**

- (a) The bills for supply of FP shall be raised by CPP on monthly basis for the power supplied during the month to the Distribution Licensee, in whose area the CPP is located.
- (b) The bills for NFP shall be raised by CPP on monthly or fortnightly or weekly basis as mutually agreed depending upon the contract duration to the Distribution Licensee, in whose area the CPP is located.
- (c) The bills for supply of IP shall be raised by CPP on six monthly period basis (April to September & October to March) for the net power supplied during the six months period to the Distribution Licensee, in whose area the CPP is located.
- (d) The Distribution licensee shall raise the bill of power supply made to CPP and the CPP shall raise the bill for power supplied by it at the end of each month. In case the distribution licensee needs to make payment to the CPP, the same will be done after adjusting for amount payable by CPP for the bills in respect of the energy consumed by the CPP and/ or other charges due to the distribution licensee. The monthly billing shall be subject to interest charges for delay in payment as specified at regulation 34 of RERC (T&C for determination of tariff) Regulation, 2004.

**15. Power to remove difficulties**

If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission may by general or special order, direct the State Transmission Utility, State Load Despatch Centre, CPP and licensees to take such action, as may appear to the Commission to be necessary or expedient for the purpose of removing difficulties.

R.K.Sharma  
Secretary