

## RAJASTHAN ELECTRICITY REGULATORY COMMISSION

### NOTIFICATION

Jaipur, January 23, 2009

No. RERC/Secy/ Reg. -76 - In exercise of the powers conferred on it by Section 42, Section 61 and Section 62 read with Section 181 of the Electricity Act, 2003 (No. 36 of 2003), the Rajasthan Electricity Regulatory Commission, after previous publication, hereby makes the following Regulations, namely:

#### Part I Preliminary

#### 1. Short title, Extent and commencement

- (1) These Regulations shall be called

**'The Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2009', in short, RERC Tariff Regulations, 2009.**

- (2) These Regulations shall extend to the whole of the State of Rajasthan. These Regulations shall be applicable for determination of tariff in all cases covered under these Regulations from FY 2009-10, i.e., April 1, 2009 and onwards up to FY 2013-14 i.e. March 31, 2014. However, for all purposes including the review matters pertaining to the period till FY 2008-09, the issues related to determination of tariff shall be governed by RERC (Terms and Conditions for Determination of Tariff) Regulations, 2004, including amendments thereto.
- (3) These Regulations shall come into force from the date of their publication in the official gazette.

#### 2. Definitions

In these Regulations, unless the context otherwise requires:

- (1) "Accounting Statement" means for each financial year, the following statements, namely-
- (i) Balance sheet, prepared in accordance with the form contained in Part I of Schedule VI to the Companies Act, 1956;
  - (ii) Profit and loss account, complying with the requirements contained in Part II of Schedule VI to the Companies Act, 1956;
  - (iii) Cash flow statement, prepared in accordance with the Accounting Standard on Cash Flow Statement (AS-3) of the Institute of Chartered Accountants of India;
  - (iv) Report of the statutory auditors';
  - (v) Cost records prescribed by the Central Government under Section 209(1) (d) of the Companies Act, 1956;
- together with notes thereto, and such other supporting statements and information as the Commission may direct from time to time;
- Provided that in case of any local authority engaged in the business of distribution of electricity, the Accounting Statement shall mean the items, as mentioned above, prepared and maintained in accordance with the relevant Acts or Statutes as applicable to such local authority.
- (2) "Act" means the Electricity Act, 2003 (36 of 2003), including amendments thereto,
- (3) "Allocation Statement" means for each financial year, a statement in respect of each of the separate businesses of the Licensee/Generating Company, showing the

amounts of any revenue, cost, asset, liability, reserve or provision, which has been either;

(i) Charged from or to each such separate business together with a description of the basis of that charge; or

(ii) Determined by apportionment or allocation between the Licensed/Regulated Business and every other separate business of the Licensee/Generation Company, together with a description of the basis of the apportionment or allocation;

Provided that such allocation statement in respect of a generating station shall be maintained in a manner so as to enable tariff determination, stage-wise, unit-wise or for the whole generating station.

- (4) "Aggregate Revenue Requirement" means the requirement of the Licensee or Generating Company for recovery, through tariffs, of allowable expenses and return on equity capital pertaining to his Licensed/Regulated Business, in accordance with these Regulations;
- (5) "Applicant" means a Licensee or Generating Company who has made an application/Petition for determination of Aggregate Revenue Requirement and/or tariff or an application for annual performance review in accordance with the Act and these Regulations and includes a Licensee or Generating Company whose tariff is the subject of a review by the Commission either suo motu or on a petition filed by any interested or affected person or as part of an annual performance review;
- (6) "Auxiliary Energy 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;
- (7) "Availability" in relation to a **generating station** for any period means the average of the daily average declared capacities for all the days during that period expressed as a percentage of the installed capacity of the generating station minus normative auxiliary consumption in MW, as specified in these Regulations, and shall be computed in accordance with the following formula:

$$\text{Availability} = 10000 \times \frac{\sum_{i=1}^N DC_i}{\{N \times IC \times (100 - AUX_n)\}} \%$$

where, N = number of days during the given period

DC<sub>i</sub> = Average Declared Capacity for the i<sup>th</sup> day in such period

IC = Installed Capacity of the generating station in MW

AUX<sub>n</sub> = Normative Auxiliary Consumption in MW, expressed as a percentage of gross generation

- (8) "Availability" in relation to a **transmission system** for a given period means the time in hours during that period in which the transmission system is capable of transmitting electricity at its rated voltage to the delivery point and shall be expressed in percentage of total hours in the given period;
- (9) "Bank rate" means the bank rate of Reserve Bank of India as on April 1, of the relevant year,
- (10) "Beneficiary" in relation to a generating company means a person sharing the capacity charges under these Regulations,
- (11) "CERC" means the Central Electricity Regulatory Commission;
- (12) "Commission" shall mean the Rajasthan Electricity Regulatory Commission,
- (13) "Contracted Power" means the power in MW which the Applicant has agreed to transmit/wheel/supply, between importing entity and exporting entity as per agreement.
- (14) "Control Period" means a period comprising one or more financial years, as may be stipulated by the Commission, for submission of forecast;

- (15) "Conventional Power Plants" means lignite, coal or gas based thermal, or hydro generating stations of 25 MW and above.
- (16) "Cut-off Date" means the date of the first financial year closing after three hundred and sixty-five (365) days of the date of commissioning of a generating station;
- (17) "Daily Capacity Index" means the declared capacity expressed as a percentage of the maximum available capacity for the day and shall be calculated in accordance with the following formula:  

$$\text{Daily Capacity Index} = \frac{\text{Declared Capacity (MW)} \times 100}{\text{Maximum Available Capacity (MW)}}$$
Daily Capacity Index shall be limited to 100%.  
and the term "Capacity Index" for any period shall be the average of the daily capacity indices calculated as above, for such period;
- (18) "Date of Commercial operation" (COD)
- (i) in case of a generating company, means the date declared by the generator
    - (a) in relation to a unit, after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run for 72 Hrs after notice to the distribution licensees and
    - (b) in relation to the generating station the date of commercial operation of the last unit of the generating station;
  - (ii) in case of a transmission licensee means the date of charging the transmission line or substation of transmission licensee to its rated voltage level or seven days after the date on which it is declared ready for charging by the transmission licensee, but not able to charge for reasons not attributable to it,
  - (iii) in case of a distribution licensee, means the date of charging the electric line or substation of a distribution licensee to its rated voltage level or seven days after the date on which it is declared ready for charging by the distribution licensee, but not able to charge for reasons not attributable to its suppliers or contractors:

Provided that the date of commercial operation shall not be a date prior to the scheduled date of commercial operation mentioned in power purchase agreement or the implementation agreement or the transmission service agreement or wheeling agreement or the investment approval, as the case may be, unless mutually agreed to by all parties,

- (19) "Declared Capacity" means-
- (i) for a thermal generating station, the capability of the generating station to deliver ex-bus electricity in MW declared by such generating station in relation to any period of the day or whole of the day, duly taking into account the availability of fuel:

Provided that in case of a gas turbine generating station or a combined cycle generating station, the generating station shall declare the capacity for Units and Modules on gas fuel and liquid fuel separately, and these shall be scheduled separately. Total declared capacity and total scheduled generation for the generating station shall be the sum of the declared capacity and scheduled generation for gas fuel and liquid fuel for the purpose of computation of Availability and Plant Load Factor, respectively;

- (ii) for run-of-river hydro power generating stations with pondage and storage-type power stations, the ex-bus capacity in MW expected to be available from the generating station over the peaking hours of the next day, as declared by the generating station, taking into account the availability of water, optimum use of water and availability of machines and for this purpose, the peaking hours shall not be less than three (3) hours within a twenty-four (24) hour period;

(iii) for run-of-river hydro power generating stations without pondage, the ex-bus capacity in MW expected to be available from the generating station during the next day, as declared by the generating station, taking into account the availability of water, optimum use of water and availability of machines;

- (20) "Deemed Generation" means the energy which a hydro power generating station was capable of generating but could not generate due to reasons beyond the control of the generating station or on account of non-availability of Transmission Licensee's transmission lines or on receipt of backing down instructions from the State Load Dispatch Centre resulting in spillage of water;
- (21) "Design Energy" in relation to a hydro power generating station means the quantum of energy which could be generated in a 90 per cent dependable year with 95 per cent installed capacity of the generating station;
- (22) "Distribution Business" means the business of operating and maintaining a distribution system for supplying electricity in the area of the supply of the Distribution Licensee;
- (23) "Distribution Loss" means the energy losses in the distribution system of a distribution licensee including auxiliary power consumption in the sub-station for the purpose of air-conditioning, lighting, battery charging, accessories of sub-station equipments, etc., and shall be accounted for separately;
- (24) "Existing Generating Station" means a generating station which has achieved COD prior to the date of notification of these Regulations;
- (25) "Expected Revenue from Tariff and Charges" means the revenue estimated to accrue to the Licensee/Generating Company from the Licensed/Regulated Business at the prevailing tariffs;
- (26) "Force Majeure Event" means, with respect to any party, any event or circumstance which is not within the reasonable control of, or due to an act or omission of, that party and which, by the exercise of reasonable care and diligence, that party is not able to prevent, including, without limiting the generality of the foregoing:
- (i) acts of God, including but not limited to lightning, storm, action of the elements, earthquakes, flood, drought and natural disaster;
  - (ii) strikes, lockouts, go-slow, bandh or other industrial disturbances;
  - (iii) acts of public enemy, wars (declared or undeclared), blockades, insurrections, riots, revolution, sabotage, vandalism and civil disturbance;
  - (iv) unavoidable accident, including but not limited to fire, explosion, radioactive contamination and toxic dangerous chemical contamination;
  - (v) any shutdown or interruption of the grid, which is required or directed by the State or Central Government or by the Commission or the State Load Dispatch Centre; and any shut down or interruption, which is required to avoid serious and immediate risks of a significant plant or equipment failure;
- (27) "Financial Year" means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
- (28) "Generation Business" means the business of production of electricity from a generating station for the purpose of giving supply to any beneficiary or enabling a supply to be so given;
- (29) "Generation Tariff" means tariff for ex-bus supply of electricity from a generating station,
- (30) "Gross Calorific Value" in relation to a thermal generating station means the heat produced in kilocalories 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;

- (31) "Gross Station Heat Rate" means the heat energy input in kilocalories required to generate one kWh of electrical energy at generator terminals;
- (32) "Infirm Power" means electricity generated prior to commercial operation of the Unit of a generating station;
- (33) "Installed Capacity" means the summation of the name plate capacities of all the Units of the generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the Commission from time to time;
- (34) "Interconnection Point" means a point at EHV substation of transmission licensee or HV sub-station of distribution licensee, as the case may be, where the electricity produced from the generating station is injected into the Rajasthan Grid or the point of interconnection between the transmission network and distribution network.
- (35) "Licensee" includes a person deemed to be a licensee under Section 14 of the Act,
- (36) "Maximum Available Capacity" for hydro stations means the following:  
 (a) Run-of-river power station with pondage and storage type power stations:  
 The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows, over the peaking hours of next day,  
 Provided that the peaking hours for this purpose shall not be less than 3 hours within a 24 hours period.  
 (b) run-of-river power stations without pondage:  
 The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows over the next day.
- (37) "Maximum Continuous Rating" (MCR) in relation to a unit of the generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters.
- (38) "New Generating Station" means a generating station with a COD on or after the date of notification of these Regulations;
- (39) "Nodal agency" means Rajasthan Renewable Energy Corporation Limited (RREC) or any other agency designated by Government of Rajasthan for promotion of electricity generation from renewable energy sources.
- (40) "Non-firm power" means the power generated from renewable sources, the hourly variation of which is dependent upon nature's phenomenon like sun, cloud, wind, etc. that cannot be correctly predicted.
- (41) "Non-Tariff Income" means income other than from income from tariff, excluding any income from Other Business and, in case of the Retail Supply Business of a Distribution Licensee, excluding income from wheeling and receipts on account of cross-subsidy surcharge and additional surcharge on charges of wheeling;
- (42) "Other Business" means any business engaged in by a Transmission Licensee under Section 41 of the Act or by a Distribution Licensee under Section 51 of the Act for optimum utilization of the assets of such Transmission Licensee or of such Distribution Licensee;
- (43) "Plant Load Factor", for a given period, means the total sent-out energy corresponding to scheduled generation during such period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$\text{Plant Load Factor (\%)} = \frac{10000 \times \sum_{i=1}^N \text{AG}_i}{\{N \times \text{IC} \times (100 - \text{AUX}_n)\}} \%$$

where - N = number of time blocks in the given period

AG<sub>i</sub> = Actual Generation in MW for the ith time block in such period

IC = Installed Capacity of the generating station in MW

AUX<sub>n</sub> = Normative Auxiliary Consumption in MW, expressed as a percentage of gross generation

- (44) "Primary Energy" means the quantum of energy generated annually from hydel station up to the design energy ;
- (45) "Rated Voltage" means the design voltage at which the transmission or distribution system is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with long-term transmission customers or Users;
- (46) "Renewable Energy/Power" means the grid quality energy/power generated from renewable energy sources.
- (47) "Renewable Energy Power Plants" means the power plants other than the conventional power plants generating grid quality electricity from renewable energy sources.
- (48) "Renewable Energy Sources" means and includes non-conventional renewable generating sources such as mini hydel, wind, solar including its integration with combined cycle, biomass, bio fuel cogeneration, urban/municipal waste and other such sources as approved by the Ministry of Non-conventional Energy Sources, Government of India, excluding the nuclear power stations and hydel power stations of capacity above 25 MW.
- (49) "Retail Supply Business" means the business of sale of electricity by a Distribution Licensee to his consumers in accordance with the terms of his licence;
- (50) "Run-of-river power station" means a hydro power generating station with or without upstream pondage;
- (51) "Retail Supply Tariff" is the rate charged by the Distribution Licensee for supply to Non-open access Customers which includes charges for Wheeling and Retail Supply;
- (52) "Saleable Primary Energy" means the quantum of primary energy available for sale (ex-bus)
- (53) "Saleable Secondary Energy" means the quantum of secondary energy available for sale (ex-bus)
- (54) "Scheduled Generation" or 'SG' at any time or for any period or time block means schedule of generation in MW ex-bus given by the State Load Despatch Centre;

Note

For the gas turbine generating station or a combined cycle generating station if the average frequency for any time block, is below 49.52 Hz but not below 49.02 Hz and the scheduled generation is more than 98.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 98.5% of the declared capacity, and if the average frequency for any time block is below 49.02 Hz and the scheduled generation is more than 96.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 96.5% of the declared capacity.

- (55) "Secondary Energy" means the quantum of energy generated annually in excess of the design energy at the hydel generating station;
- (56) "State Load Dispatch Centre" or 'SLDC' means the centre established by the State Government for purposes of exercising the powers and discharging the functions under Section 31 of the Act;
- (57) "State Power Committee" (SPC) means the State Power Committee set up under grid code specified by the Commission.
- (58) "Storage type power station" means a hydro power generating station associated with large storage capacity to enable variation in generation of electricity according to demand;
- (59) "Tariff" means the schedule of charges for generation, transmission, wheeling and supply of electricity together with terms and conditions for application thereof,
- (60) "Tariff period" means the period for which tariff or the annual revenue requirement is determined by the Commission under these Regulations,
- (61) "Time Block" means a block of 15 minutes starting from 00.00 hrs, unless the context requires otherwise:

- (62) "Total consumption" means contracted purchase of electricity by a distribution licensee from all sources, i.e., generating companies and licensees for sale to consumers.
- (63) "Trading Business" means the business of purchase of electricity by the Distribution Licensee for resale of electricity to other Licensee or consumers or category of consumers outside the area of supply of the Distribution Licensee;
- (64) "Transaction of Business Regulations" means the Rajasthan Electricity Regulatory Commission (Transaction of Business) Regulations, 2005;
- (65) "Transmission Business" means the business of establishing or operating transmission lines;
- (66) "Transmission Loss" means the energy losses in the transmission system of a transmission licensee including auxiliary power consumption in the sub-station for the purpose of air-conditioning, lighting, battery charging, accessories of sub-station equipments, etc., and shall be accounted for separately;
- (67) "Transmission Service Agreement" means the agreement, contract, memorandum of understanding, or any such covenants, entered into between the transmission licensee and the user of the transmission service/lines;
- (68) "Transmit" means conveyance of electricity by means of transmission lines and the expression "transmission" shall be construed accordingly;
- (69) "Unit" in relation to a generating station means electric generator, its prime mover, and auxiliaries and in relation to a combined cycle thermal generating station includes combustion turbine – generators, associated waste heat recovery boilers, connected steam turbine – generator and auxiliaries;
- (70) "Unscheduled interchange" (UI) means unscheduled interchanges as defined in Indian Electricity Grid Code,
- (71) "Useful Life" in relation to a unit of a generating station, transmission system and distribution system from the COD shall mean the following, namely:-
- |   |          |
|---|----------|
| (a) Coal/Lignite based thermal generating station:    | 25 years |
| (b) Gas/Liquid fuel based thermal generating station: | 25 years |
| (c) AC and DC Sub-station:                            | 25 years |
| (d) Hydro generating station:                         | 35 years |
| (e) Transmission line and Transmission System:        | 35 years |
| (f) Distribution lines and Distribution system:       | 35 years |
| (g) Wind energy / solar & other RE power project:     | 25 years |
| (h) Biomass power project:                            | 20 years |
- (72) "User" means a transmission or distribution licensee, a generating company, a person who has set up a captive generating plant or a consumer availing open access, utilizing the transmission system of a transmission licensee or distribution system of a distribution licensee.
- (73) "Wheeling" means the operation whereby the distribution system and associated facilities of a transmission licensee or distribution licensee, as the case may be, are used by another person for the conveyance of electricity on payment of charges to be determined under Section 62 of the Act;
- (74) "Wheeling Business" means the business of wheeling of electricity by way of operating and maintaining a distribution system for conveyance of electricity in the area of supply of the Distribution Licensee.
- (75) "Year" means financial year ending on 31st March, and
- i) "Current Year" shall mean the year in which the statement of annual accounts or petition for determination of tariff is filed,
  - ii) "Previous Year" shall mean the year immediately preceding the current year,
  - iii) "Ensuing Year" shall mean the year next following the current year,

Words or expressions occurring in these Regulations and not defined shall bear the same meaning as in the Act. Abbreviations used in the Regulations shall have meaning as **Annex-1**.

### **3. Scope of Regulations**

(1) These Regulations shall apply in respect of the following cases:-

(a) Supply of electricity by a Generating Company to a Distribution Licensee:

Provided that the Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in pursuance of an agreement, entered into between a Generating Company and a Licensee or between Licensees, for a period not exceeding one year to ensure reasonable prices of electricity;

(b) Intra-State transmission of electricity;

(c) Wheeling of electricity;

(d) Retail sale of electricity;

Provided that in case of distribution of electricity in the same area by two or more Distribution Licensees, the Commission may, for promoting competition among Distribution Licensees, fix only maximum ceiling of tariff for retail sale of electricity;

(e) Surcharge in addition to the charges for wheeling for availing open access;

(f) Additional surcharge on the charges for wheeling for availing open access.

(2) Notwithstanding anything contained in these Regulations, the Commission shall adopt the tariff if such tariff has been determined through a transparent process of bidding in accordance with the guidelines issued by the Central Government.

### **Part II General Principles**

#### **4. Control Period**

The Control Period under these Regulations shall be of five (5) financial years; the first application under these Regulations shall be made for the Control Period of five (5) financial years from April 1, 2009 to March 31, 2014.

#### **5. Preparation & submission of Annual Accounts, Reports etc.**

(1) Every transmission licensee and distribution licensee and generating company shall prepare annual statement of accounts and also prepare annual reports and statistics, giving an account of its activities during the current and previous year and likely to be undertaken in the remaining years of the MYT Control Period, including the ensuing year. The report of activities also indicate targets and achievements in respect of various performance parameters. These reports shall be furnished to the Commission in duplicate, by 30<sup>th</sup> November every year.

(2) The Commission may also direct that, in addition to submission of the annual statements of accounts, a transmission licensee or distribution licensee or a generating company shall submit to the Commission or such other authority as it may designate in this behalf, such additional information as the Commission may require for the performance of its functions.



- (3) The Commission at an appropriate time may prescribe the forms for preparation of separate regulatory accounts.

## 6. Forecast of Aggregate Revenue Requirement for the Control Period

- (1) The applicant shall submit the forecast of aggregate revenue requirement and expected revenue from tariff for each year of the Control Period, accompanied by fees applicable, latest by 30th November of the year previous to the start of the Control Period in the format prescribed by the Commission by Order separately.
- (2) Forecast of aggregate revenue requirement
  - (a) The applicant shall develop the forecast of aggregate revenue requirement using any one of the following two methodologies:
    - (i) Assumptions relating to the behaviour of individual variables that comprise the aggregate revenue requirement during the Control Period; or
    - (ii) Assumptions relating to-
      - (a) Percentage annual change in a suitable macro-economic or market index, or combination thereof, to which the aggregate revenue requirement of the applicant is correlated; and
      - (b) Percentage annual reduction in aggregate revenue requirement due to efficiency or productivity gains proposed to be achieved by the applicant during the Control Period:
  - (b) Where, for any Control Period, the applicant seeks to change the methodology for forecasting the aggregate revenue requirement, he shall apply to the Commission for approval of change of methodology along with the rationale thereof and such other details as the Commission may require, at least six (6) months before the commencement of such Control Period.
  - (c) The Commission may, upon scrutiny of such application and after hearing the affected parties, either
    - (i) pass an order approving the change of method, subject to such conditions as it may specify in the said order; or
    - (ii) reject the application for reasons to be recorded in writing, if it is not in accordance with the principles contained in Section 61 of the Act or these Regulations.
- (3) Forecast of expected revenue from tariff and charges

The applicant shall develop the forecast of expected revenue from tariff and charges based on the following:

  - (i) In the case of a Generating Company, estimates of capacity allocated to Distribution Licensees and expected energy generation for each financial year within the Control Period;
  - (ii) In the case of a Transmission Licensee, estimates of transmission capacity allocated to Transmission System Users for each financial year within the Control Period;
  - (iii) In the case of a Distribution Licensee, estimates of quantum of electricity supplied to consumers and wheeled on behalf of Distribution System Users for each financial year within the Control Period;
  - (iv) Prevailing tariffs as at the date of making the application.
- (4) Upon studying the application, the Commission shall either-
  - (a) pass an order approving the forecast of aggregate revenue requirement and expected revenue from tariff and charges for the Control Period, subject to such modifications and conditions as it may specify in the said Order; or
  - (b) Reject the application for reasons to be recorded in writing.

- (5) In its MYT Order, the Commission shall specify the variables comprised in the aggregate revenue requirement and expected revenue from tariff and charges of the applicant that shall be reviewed by the Commission as part of the annual performance review;

Provided that such variables shall be limited to the major items of cost and revenue forecast of the applicant that, in the Commission's opinion, could have a material impact on the cost of supply of electricity to consumers in the State over the Control Period:

Provided further that the variables, as may be stipulated by the Commission under Regulations below, shall form part of the annual performance review, unless exempted by the Commission from such review in its Order.

#### **7. Specific Trajectory for Certain Variables**

- (1) The Commission may stipulate a trajectory for certain variables having regard to the past performance:

Provided that the variables for which a trajectory may be stipulated include, but are not limited to, generating station availability, auxiliary consumption, secondary fuel oil consumption, transit losses, station heat rate, transmission losses, distribution losses and collection efficiency:

Provided further that this trajectory should provide for sharing of gains and losses with the consumers on account of superior and inferior performance as against the targets defined:

Provided further that the Commission shall review the trajectory at the beginning of each Control Period and consider the performance achieved by the licensee/Generating Company during the last Control Period.

- (2) The trajectory stipulated by the Commission in accordance with these Regulations shall be incorporated by the applicant in his forecast of aggregate revenue requirement and/or expected revenue from tariff and charges in accordance with Regulation 6.

#### **8. Annual Review of Performance**

- (1) Where the aggregate revenue requirement and expected revenue from tariff and charges of a Generating Company or Licensee is covered under a multi-year tariff framework, then such Generating Company or Licensee, as the case may be, shall be subject to an annual performance review during the Control Period in accordance with this Regulation.

- (2) The Licensee or Generating Company shall make an application for annual performance review by November 30<sup>th</sup> of every year:

Provided that the Licensee or Generating Company, as the case may be, submit to the Commission information in such form as may be stipulated by the Commission from time to time, together with the Accounting Statements, extracts of books of account and such other details as the Commission may require to assess the reasons for and extent of any variation in financial performance from the approved forecast of aggregate revenue requirement and expected revenue from tariff and charges:

Provided further that the application for annual performance review shall be submitted to and dealt with by the Commission in the manner provided under the procedure for Determination of Tariff under these Regulations for submission of and dealing with an

application for determination of tariff and within the time limit specified in the Regulations for such application.

- (3) The scope of the Annual Performance Review shall be a comparison of the performance of the Generating Company or Licensee with the approved forecast of aggregate revenue requirement and expected revenue from tariff and charges and shall comprise the following:
  - (a) A comparison of the audited performance of the applicant for the previous financial year with the approved forecast for such previous financial year and truing up of expenses and revenue subject to prudent check including pass through of impact of uncontrollable factors ;
  - (b) Computation of the sharing of gains and losses on account of controllable factors for the previous year ;
  - (c) Revision of estimates for the ensuing financial year, if required, based on audited financial results for the previous financial year.
- (4) The applicant shall submit the information required for APR in such form as may be stipulated by the Commission from time to time.
- (5) Upon completion of the review, the Commission shall attribute any variations or expected variations in performance, for variables stipulated under this Regulation, to factors within the control of the applicant (controllable factors) or to factors beyond the control of the applicant (uncontrollable factors):

Provided, however, that where the applicant or any interested or affected party believes, for any variable not stipulated while specifying this Regulation, that there is a material variation or expected variation in performance, for any financial year, on account of uncontrollable factors, such applicant or interested or affected party may apply to the Commission for inclusion of such variable, at the Commission's discretion, in the review under this Regulation above for such financial year.

- (6) The "uncontrollable factors" shall include the following factors which were beyond the control of, and could not be mitigated by, the applicant, as determined by the Commission. Some examples of uncontrollable factors are as follows:
  - (a) Force Majeure events, such as acts of war, fire, natural calamities, etc.;
  - (b) Change in law, judicial pronouncements and Orders of the Central Government, State Government or Commission;
  - (c) Economy wide influences such as unforeseen changes in inflation rate, market interest rates, taxes and statutory levies;
  - (d) Variation in fuel cost on account of variation in coal, oil and all primary-secondary fuel prices;
  - (e) Variation in power purchase expenses for the distribution licensees;
  - (f) Variation in freight rates;
  - (g) Variation on account of change in hydro-thermal mix due to adverse natural events; and
  - (h) Variation in number or mix of consumers or quantities of electricity supplied to the consumers.
- (7) Some illustrative variations or expected variations in the performance of the applicant which may be attributed by the Commission to controllable factors include, but are not limited to, the following:
  - (a) Variations in capital expenditure on account of time and/or cost overruns/ efficiencies in the implementation of a capital expenditure project not attributable to an approved change in scope of such project, change in statutory levies or force majeure events;

- (b) Variations in technical and commercial losses, including bad debts;
  - (c) Variations in performance parameters;
  - (d) Variations in working capital requirements;
  - (e) Failure to meet the standards specified in the RERC (Standards of Performance) Regulations, except where exempted in accordance with those Regulations;
  - (f) Variations in labour productivity;
  - (g) Variation in operation & maintenance expenses;
  - (h) Variation in financing pattern due to variation in capital expenditure;
  - (i) Variation in quality of supply;
  - (j) Coal transit losses.
- (8) A Generating Company or Licensee may, as a result of additional information not previously known or available to him at the time the forecast under Regulation 6 was developed, apply for a modification in the approved forecast of aggregate revenue requirement and expected revenue from tariff and charges for the remainder of the Control Period, as part of the annual performance review:

Provided that the Generating Company or Licensee may be allowed a modification of the approved forecast under this Regulation not more than once in each Control Period.

- (9) The Commission may, as a result of additional information not previously known or available to the Commission at the time the forecast under Regulation 6 was developed, if it so deems appropriate, either suo motu or on an application made by any interested or affected party, modify the approved forecast of aggregate revenue requirement and expected revenue from tariff and charges for the remainder of the Control Period, as part of the annual performance review.
- (10) The Commission shall review an application made to it under Regulation 6 and Regulation 8 above in the same manner as the original application for determination of tariff and upon completion of such review, either approve the proposed modification with such changes as it deems appropriate or reject the application made for reasons to be recorded in writing.
- (11) Upon completion of the annual performance review, the Commission pass an order recording-
- (a) The approved aggregate gain or loss to the Generating Company or Licensee on account of uncontrollable factors and the mechanism by which the Generating Company or Licensee shall pass through such gains or losses in accordance with Regulation 9;
  - (b) The approved aggregate gain or loss to the Generating Company or Licensee on account of controllable factors and the amount of such gains or such losses that may be shared in accordance with Regulation 10
  - (c) The approved modifications to the forecast of the Generating Company or Licensee for the ensuing year, if any;
- (12) The cumulative surplus/deficit determined by the Commission in accordance with these Regulations on account of truing up of the ARR of a generating company or a licensee for the last year of the Control Period shall be carried forward to the next Control Period.

#### **9. Sharing of Gains and Losses on account of Uncontrollable factors**

- (1) The approved aggregate gain or loss to the Generating Company or Licensee on account of uncontrollable factors shall be passed through as an adjustment in the tariff of the Generating Company or Licensee over such period as may be specified in the Order of the Commission passed under Regulation 8:

- (2) Nothing contained in sub-regulation (1) above shall apply in respect of any gain or loss arising out of variations in the price of fuel, which shall be dealt with as specified under other Parts of the Regulations.

**10. Sharing of Gains and Losses on account of Controllable factors**

- (1) The approved aggregate gain to the Applicant on account of controllable factors shall be dealt with in the following manner:
  - (a) 50% of such gain shall be passed on as a rebate in tariffs over such period as may be specified in the Order of the Commission;
  - (b) The balance amount of gain may be utilized at the discretion of the Applicant.
- (2) The approved aggregate loss to the Applicant on account of controllable factors shall be dealt with in the following manner:
  - (a) 50% of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be specified in the Order of the Commission under; and
  - (b) The balance amount of loss shall be absorbed by the Applicant.

**11. Periodicity of tariff determination**

- (1) The Commission shall determine the tariff of a Generating Company, except Captive Power Plants (CPP) and Renewable Energy Power Plants, or Licensee covered under a multi-year tariff framework for each financial year during the Control Period, at the commencement of such financial year, having regard to the following:
  - (a) The MYT principles specified under these Regulations;
  - (b) The approved forecast of aggregate revenue requirement and expected revenue from tariff and charges for such financial year, including approved modifications to such forecast;
  - (c) Impact of truing up for previous financial year; and
  - (d) Approved gains and losses to be passed through in tariffs, following the annual performance review.
- (2) The tariff for a transmission or distribution licensee or a generating company shall ordinarily be determined not more than once in a year, except in case of fuel cost adjustment, wherever applicable.
- (3) The tariff for CPP shall be determined as per RERC (CPP) Regulations whereas the tariff for RE power generating stations, shall be determined as per Part VII of these Regulations.

**12. Petition for determination of tariff**

- (1) The format for furnishing information for calculating expected revenue and expenditure and for determining tariff shall be as laid down by the Commission from time to time by a separate order.
- (2) A petition for determination of tariff shall be accompanied by specified fee and information in forms stipulated by the Commission for the previous year, current year and the ensuing year(s). The information for the previous year should be based on audited accounts and in case audited accounts for previous year are not available, audited accounts for the immediately preceding previous year should also be filed along with unaudited accounts for the previous year.
- (3) The petition shall include the following:
  - (a) A statement of the current tariff and all applicable terms and conditions and expected revenue from the current tariff for the ensuing year or the period for which the tariff is to be determined.

- (b) A statement containing full details of calculation of any subsidy received, due or assumed to be due from the State Govt., the consumers to whom it is directed, and showing how the subsidy is reflected in the current and proposed tariff applicable to those consumers. This statement shall also include the tariff calculated without consideration of the subsidy for those consumers. The subsidy calculations shall also compare the situation for the period for which the tariff is to be implemented.
  - (c) A statement of the estimated change in annual revenues that would result from the proposed tariff changes in the period in which they are to be implemented.
  - (d) In case of a distribution licensee, if the proposed tariff is to be introduced after the start of a financial year, a statement of the proportion of revenue expected and quantities of electricity supplied under each proposed tariff modification during the remaining months of the financial year shall be included.
  - (e) In case of a distribution licensee, detailed calculations of voltage wise cost of supply, exclusive of external subsidies and cross subsidies in respect of each category of consumer.
  - (f) In case of a distribution licensee, a statement showing calculations of the amount of cross subsidy in the existing tariff and in the proposed tariff. Such determination shall be as per the guidelines issued by the Commission.
  - (g) An explanatory note giving rationale for the proposed tariff changes, including justification for the return on equity being requested.
  - (h) If Generating company or licensee is engaged in any other Business, as specified under Regulation 41, the generating company or licensee shall submit the following information:
    - (1) Name and description of all Other Business that the generating company or licensee is engaged in;
    - (2) For each such Other Business, amount of revenue generated in the previous year, estimated during the current year and projected for the ensuing year;
    - (3) Assets of generating business or licensed business used by the Licensee to generate the above revenue;
    - (4) Expenses incurred to generate the above revenue, separately for each Other Business;
    - (5) Whether these expenses have already been included in the ARR of the Licensee? Fully or partly? If partly, proportion and basis of apportionment to be submitted.
  - (i) Any other information, as required by the relevant licence or specified by the Commission.
- (4) If a person holds more than one licence and /or deemed to be licensee for more than one area of distribution or transmission, he shall submit separate calculations as above in respect of each licence or area of transmission or distribution. Similarly, a generating company shall submit generating station wise calculations.
- (5) A transmission licensee or distribution licensee owning and operating a generating station shall maintain and submit separate accounts of generation, its licensed business, and other business.
- (6) The generating company or transmission licensee may file petition for in-principle approval of capital cost in a manner specified in Regulation 18(2):

Provided that where the Commission has given an 'in principle' acceptance to the estimated capital cost and financing plan, this be the guiding factor for applying prudent check on the actual capital expenditure.

- (7) Petition for determination of transfer price or landed price of fuel
- (a) Any person who owns or allotted captive mine for fuel supply to thermal power plant, may petition to the Commission for determination of fuel transfer price at

mine mouth if it is not determinable by the Government or Government approved mechanism or by fuel regulator. The petition shall contain salient features of the project along with approved mining plan and other requisite information e.g. annual mining capacity, mine reserve, period of availability of fuel, washing/beneficiary plan, financial package, performance parameters, reference price levels, amortization of initial costs, etc.

- (b) Petition may also be filed for provisional determination of transfer price at mine mouth, before taking up mining. Such provisional determination shall be the guiding factor for determination of final transfer price.

- (8) In case the transmission or distribution licensee does not file petition under this regulation within one and half months (that is by 15th January) of submission of Annual Accounts, reports etc. under Regulation 5, the Commission may, on its own initiate proceedings for tariff determination:

Provided that the tariff determined for a particular financial year of a Control Period shall remain applicable only till end of such financial year, unless otherwise the Commission approves the continuation of such Tariff for subsequent financial years.

- (9) Tariff petitions be submitted in English shall be accompanied by its Hindi version or vice versa. Soft copy of this also be submitted to the Commission.

### 13. Orders by Commission

- (1) The Commission, after the petition has been registered as per Regulation 32 of RERC (Transaction of Business) Regulations, 2005, may within 21 days require the transmission or distribution licensee or generating company to furnish:

- (a) any further information, particulars and documents as the Commission may consider appropriate to enable the Commission to assess the petitioner's calculations; or

- (b) A revised petition, if the Commission does not consider the petitioner's calculation to be in accordance with the provisions of these Regulations.

- (2) After receipt of information or otherwise, the Commission may make appropriate orders regarding initiation of proceedings in accordance with the provisions of the Rajasthan Electricity Regulatory Commission (Transaction of Business) Regulations, 2005.

- (3) After acceptance of tariff petition, the Applicant shall within the time specified by the Commission publish the salient features of the Petition, in two daily newspapers, one Hindi and one English, having wide circulation in its area of supply and in case of a generating company, having wide circulation in the State. The formats for publication of the MYT Petition to be submitted and Petition to be submitted every year during the Control Period by Generating Company, Transmission Licensee and Distribution Licensee be stipulated separately by the Commission. The data and information to be published in the formats stipulated be the minimum information and the Commission may ask the Applicant to publish the additional information, if required and the Applicant can also add to the information to be published.

- (4) Thereafter, the Commission determine the ARR and the tariff as per provisions of the Act and these Regulations. The tariff so determined by the Commission shall be without considering the subsidy commitment by the State Government. The Commission also determine the subsidized tariff arrived at after considering the subsidy commitment of the State Government **given in advance** for the categories of consumers indicated

### 14. Treatment of Government subsidy

- (1) If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the Commission, the State Government shall pay in

advance the amount to compensate the Licensee/ person affected by the grant of subsidy in the manner specified in this Regulation, with prior approval of the Commission.

- (2) If the amount of subsidy is more than Rs 5 Crore, the payment of subsidy shall be done on monthly basis. If the subsidy amount is less than Rs 5 Crore but more than Rs 1 Crore, the payment of subsidy may be done on quarterly basis while annual payment of subsidy shall be done if the amount is less than Rs 1 Crore.

#### **15. Publication of tariff**

The Applicant within specified time in the order of the Commission, publish the salient features of tariff, in two daily newspapers, one Hindi and one English having wide circulation in its area of supply and in case of a generating company, having wide circulation in the State. Tariff shall come into force only after such publication and shall remain in force until any amendment to the tariff is approved by the Commission and published by the transmission or distribution licensee or the generating company.

#### **16. Communication of tariff orders**

The Commission shall, within seven days of making the order, send a copy of the order to the Government of Rajasthan, the Central Electricity Authority, applicant and respondents. The Commission shall also make available copy of the said order to any person on payment of a fee fixed by the Commission.

### **Part III**

#### **Financial principles for computing costs and return**

#### **17. Debt-equity ratio**

For the purpose of determination of tariff, debt-equity ratio on aggregate basis shall be 70:30 for existing generating stations, existing assets of transmission licensee and distribution licensees. For a new generating station, transmission licensee or distribution licensee, the debt-equity ratio shall be 70:30 for each generating station, transmission and distribution line or substation, commissioned or capacity expanded on and/or after 1.4.2009. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan. Where actual equity employed is less than 30%, the actual equity shall be considered.

#### **18. Capital Cost and capital structure**

- (1) In case of a generating company, transmission or distribution licensee, investments made prior to 1.4.2009 shall be accepted on the basis of audited accounts, and on the basis of the principles specified in these Regulations.
- (2) Petition for 'in principle' approval of capital cost  
Any person intending to establish, operate and maintain a generating station or transmission system may make an application to the Commission for 'in principle' approval of the project capital cost and financing plan before taking up a project through a separate petition. The petition shall have the salient features of the project including capacity, location, site specific features, fuel, beneficiaries, break up of capital cost, financial package, performance parameters, commissioning schedule, reference price level, estimated completion cost including foreign exchange component, if any, consent of beneficiary licensees to whom the electricity is proposed to be sold, environment standards prescribed and to be achieved, etc:



Provided that where the Commission has given an 'in principle' approval to the estimated capital cost and financing plan, this be the guiding factor for applying prudent check on the actual capital expenditure.

- (3) The approved Capital Cost shall be considered for tariff determination, and if sufficient justification is provided for any escalation in the Project Cost, the same may be considered by the Commission subject to prudent check:

Provided that in case the actual capital cost is lower than the approved capital cost, then the actual capital cost be considered for determination of tariff and the Licensee be entitled to earn an incentive due to reduction in capital cost.

- (4) The actual capital expenditure as on COD for the original scope of work based on audited accounts of the company limited to original cost may be considered subject to prudent check by the Commission.
- (5) Where power purchase agreement or transmission or wheeling agreement provides for a ceiling of capital cost, the capital cost to be considered shall not exceed such ceiling.
- (6) The capital cost may include capitalised initial spares for a maximum of first five years of operation as follows:
- (a) upto 2.5% of original capital cost in case of coal based/ lignite fired generating stations,
  - (b) upto 4.0% of original capital cost in case of gas turbine/ combined cycle generating stations,
  - (c) upto 1.5% of original capital cost in case of hydro-generating stations and
  - (d) upto 1.5% of original capital cost in case of transmission and distribution licensees.
- (7) Scrutiny of the cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology, and such other matters for determination of tariff.
- (8) Swapping of foreign currency loans be permitted. Cost of swapping and interest rate charges thereafter, be considered by the Commission after prudent check. The generating company or transmission or distribution licensee shall provide full particulars of the swapped loans. Cost of swapping be considered towards interest and finance charges.
- (9) Restructuring of capital in terms of relative share of equity and loan shall be permitted during the tariff period provided it does not affect tariff adversely. Any benefit from such restructuring shall be passed on to persons sharing the capacity charge in case of a generating company and to long term intrastate open access customers of transmission or distribution licensee or consumers in case of such licensees.

#### **19. Additional capitalization**

- (1) The following capital expenditure, actually incurred after the date of commercial operation and duly audited, may be considered by the Commission, subject to prudent check
- (a) Due to deferred liabilities within the original scope of work,
  - (b) On works within the original scope of work, deferred for execution
  - (c) To meet award of arbitration or satisfaction of order or decree of a court arising out of original scope of works,
  - (d) On account of change in law,
  - (e) On procurement of initial spares included in the original project costs subject to the ceiling norm laid down in Regulation 18,

- (f) Any additional works/ services, which have become necessary for efficient and successful operation of a generating station or a transmission or a distribution system but not included in the original capital cost:

Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff:

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.

#### Note 1

Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio specified in Regulation 17.

#### Note 2

Any expenditure on replacement of old assets net of written down/ salvage value shall be considered after writing off the gross value of the original assets from the original cost.

#### Note 3

Any expenditure admitted by the Commission for determination of tariff on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio specified in Regulation 17.

#### Note 4

Any expenditure admitted by the Commission for determination of tariff on renovation, modernization, life extension and restoration of assets damaged due to natural calamities shall be serviced on normative debt-equity ratio specified in Regulation 17 after writing off the original amount of the replaced assets from the original cost.

- (2) Impact of additional capitalization on tariff may be considered twice in a tariff period.

### **20. Consumer contribution, Deposit work and Grant**

- (1) The following nature of work carried out by the licensee shall be classified under this category:
- (a) Works after obtaining a part or all of the funds from the users in the context of consumer contribution, deposit works, and grant.
  - (b) Capital works undertaken by utilising grants received from the State and Central Governments, including funds under RGGVY, APDRP, etc.
- (2) Principles for treatment of the expenses on such capital expenditure shall be as follows:
- (a) Normative O&M expense as specified in these Regulations shall be allowed.
  - (b) Provisions related to Depreciation, as specified in **Regulation 23**, shall not be applicable to the extent of financial support provided through consumer contribution, deposit work and grant. The licensee or generating company, as the case may be, shall be allowed to claim depreciation to the extent of financial support, including the loan and equity contribution, provided by them. .
  - (c) Provisions related to return on equity, as specified in **Regulation 21** shall be applicable to the extent of normative debt: equity mix of 70:30 or actual equity,

whichever is less, on the contribution made by the licensee or generating company, as the case may be.

## 21. Return on Equity

- (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 17.
- (2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% for conventional generating stations and transmission licensee, and 16% for distribution licensee and renewable energy generating stations, to be grossed up as per sub-regulation (3) of this regulation:
- (3) The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the year 2008-09 applicable to the concerned conventional generating station, transmission licensee, distribution licensee, as the case may be:

Provided that return on equity with respect to the actual tax rate applicable to the concerned conventional generating station, transmission licensee, distribution licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up for each year of the Control period during the Annual Performance Review.

- (4) In case of renewable energy generating stations, the rate of return on equity shall be computed by grossing up the base rate with the tax rate equivalent to Minimum Alternative Tax (MAT) for first 10 years from COD and normal tax rate for remaining years of project life.
- (5) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where t is the applicable tax rate in accordance with clause (3) of this regulation.

### Illustration:

- i. In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 11.33% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1-0.1133) = 17.481\%$$

- ii. In case of generating company or the transmission licensee paying normal corporate tax @ 33.99% including surcharge and cess:

$$\text{Rate of return on equity} = 15.50 / (1-0.3399) = 23.481\%$$

## 22. Interest and finance charges on loan capital

- (1) The loans arrived at in the manner indicated in Regulation 17 shall be considered as gross normative loan for calculation of interest on loan.
- (2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.
- (3) The repayment for each year of the Control period shall be deemed to be equal to the depreciation allowed for that year:

- (4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee or by the distribution licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.
- (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system or the distribution system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee or the distribution licensee as a whole shall be considered.

- (6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
- (7) The generating company or the transmission licensee or the distribution licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings on interest shall be shared between the beneficiaries and the generating company or the transmission licensee or the distribution licensee, as the case may be, in the ratio of 2:1.
- (8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.
- (9) In case of dispute, any of the parties may make an application in accordance with the Rajasthan Electricity Regulatory Commission (Transaction of Business) Regulations, 2005, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission and distribution customers shall not withhold any payment, on account of the interest claimed by the generating company or the transmission licensee or distribution licensee, during the pendency of any dispute arising out of re-financing of loan.

### **23. Depreciation**

- (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
- (2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

- (3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
- (4) Depreciation shall be calculated annually based on Straight Line Method (SLM) and at rates specified in Appendix-I to these regulations for the assets of the generating station, transmission system and distribution system:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

- (5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.
- (6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.
- (7) Depreciation against assets relating to environmental protection shall be allowed on case to case basis at the time of fixation of tariff subject to the condition that the environmental standards as prescribed have been complied with during the previous tariff period.

#### **24. Lease charges**

Lease charges for assets taken on lease by a generating company or a transmission or distribution licensee shall be considered as per lease agreement provided they are considered reasonable by the Commission.

#### **25. Operation & Maintenance expenses**

- (1) 'Operation and Maintenance or O&M expenses' shall mean repair and maintenance (R&M), establishment, and administrative and general expenses.
- (2) Operation and maintenance expenses shall be determined for the tariff period based on normative O&M expenses specified by the Commission subsequently in these Regulations for the base year, that is, the year immediately preceding the tariff period.
- (3) O&M expenses of assets taken on lease and those created out of consumer's contributions shall be considered, if the transmission or distribution licensee or the generating company has the responsibility for its O&M and bears O&M expenses.
- (4) Normative O&M expenses allowed at the commencement of the Control Period (i.e. FY 2009-10) under these Regulations shall be escalated at the rate of 5.72% per annum. Further, the same shall be subject to revision on account of annual escalation linked to WPI in the subsequent years for the purpose of true-up.
- (5) In case of considerable variance between the normative expenses and the actual expenses in the base year, the Commission may allow the transmission or distribution licensee or the generating company to achieve the normative level over a period of time.
- (6) Annual O&M expenses for gross fixed assets added during the year shall be considered from the date of commissioning
- (7) Increase in O&M charges on account of war, insurgency, change in laws, or like eventualities may be considered by the Commission for a specified period.
- (8) Any saving achieved by generating company or a transmission or distribution licensee in any year shall be shared with the distribution licensee or user, as applicable, in the ratio specified in Regulation 10. The loss to the generating company or the transmission or

distribution licensee if he exceeds the targeted O&M expenses for that year be shared with the distribution licensee or user, as applicable, in the ratio in Regulation 10.

**26. Bad and doubtful debts**

The Commission may consider a provision for writing off of bad and doubtful debts up to 0.25% of receivables subject to writing off of bad and doubtful debts in the previous year in accordance with procedure laid down by the licensee and generating company.

**27. Insurance and contingency reserve charge**

The Commission may consider allowing actual insurance charges or provision for contingency reserve up to 0.25% to 0.50% of approved capital cost considered for O&M expenses. The contingency reserve so created shall not be drawn except to meet such charges as may be approved by the Commission as being:

- (a) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;
- (b) Expenses on replacement or removal of plant or works other than expenses requisite for normal maintenance or renewal; and
- (c) Compensation payable under any law for the time being in force and for which no provision is made:

Provided further that such drawal from Contingency Reserve shall be computed after making the adjustments for any other compensation that may been received by Generating Company/Licensee as part of an insurance cover:

Provided further that the Generation Company or Licensee shall submit documentary proof of investment of the amount allowed towards contingency reserve, if any, in Government approved securities under the Indian Trusts Act, and in case the documentary proof of investment is not submitted, the contingency reserve allowed in previous year shall be reduced as a part of truing up and the Commission may also disallow contingency reserve for the ensuing year.

**28. Interest charges on working capital**

Rate of interest on working capital to be computed as provided subsequently in these Regulations shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on April 1 of the relevant year. The interest on working capital shall be computed on normative basis notwithstanding that the transmission or distribution licensee or the generating company has not taken working capital loan from any outside agency. The variation in normative working capital interest and actual working capital interest shall be considered as part of gain/loss on account of controllable factors.

**29. Foreign Exchange Rate Variation (FERV)**

- (1) Cost of hedging for foreign exchange variation towards interest payment and loan repayment shall be allowed on year-to-year basis and shall be payable until due date of payments and be subject to prudent check of the Commission. The Applicant shall provide full particulars of such cost of hedging to the Commission.
- (2) In case hedging has not been arranged due to valid reasons, FERV shall be provisionally estimated by the Commission for the purpose of determining tariff and shall be subject to adjustment as per actuals.

**30. Tax on income**

Tax on the income streams of the generating company (conventional generating station and renewable generating station) or the transmission licensee or the distribution licensee, as the case may be, shall not be recovered from the beneficiaries, or the long-term transmission customers or the consumers, as the case may be:

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2009 whenever it materializes, shall be recoverable from the beneficiaries and the long-term customers or consumers, as the case may be.

**31. Unfunded liability of pension and gratuity**

The amount of unfunded liability of pension and gratuity in respect of employees of erstwhile RSEB shall be specified by the Commission to meet the actuarial liability as on 20.7.2000, towards pension and gratuity of such employees. Such amount shall be treated as an expense for the licensee to whom the liability has been assigned by the State Government.

**32. Refund of excess amount**

A transmission or distribution licensee or generating company shall recover the charges as per the tariff determined by the Commission. If any transmission or distribution licensee or generating company recovers the charges exceeding the tariff determined by the Commission, the excess amount shall be refunded to the person who has paid such excess charges, along with interest equivalent to the bank rate without prejudice to any other liability incurred by the transmission or distribution licensee or generating company.

**33. Charges for delayed payments**

Any charges paid by a transmission or distribution licensee or a generating company for delay in payment of its dues to others arising out of reasons beyond his control shall be treated as expenses.

**34. Norms of operation**

Norms of operation specified in these Regulations are the ceiling norms and the generating company and the licensees and the user may agree to improved norms. In such a case the improved norms on the basis of their agreement shall be considered for the purpose of tariff determination.

**Part IV  
Revenues**

**35. Tariff income**

Income from all charges determined by the Commission for generation, transmission, wheeling or supply of electricity shall be considered as tariff income.

Provided that the in case of electricity distribution, the revenue realised for unauthorised use of electricity and 50% of the amount recovered against electricity theft shall be considered as tariff income.

**36. Other revenue**

- (1) The remaining 50% of the amount recovered against electricity theft shall be considered as other income.

- (2) All revenues including but not limited to transformer rent, income from fixed deposit/ investment(s) etc. shall be considered as non-tariff income.
- (3) For the electricity supply to the housing colonies or townships for its operating staff drawn from the Power Station/ Sub Station bus bar, a separate account be maintained by the generating company/ transmission licensee for such energy supply, and revenue thereof be reported annually to the Commission in the ARR/ tariff petition, wherever applicable.
- (4) While determining the generation/ transmission tariff, revenue so realised i.e. the revenue as per generation tariff in respect of generating company or consumer category tariff of distribution licensee where the sub-station is situated in respect of transmission licensee, be considered by the Commission as one of the components of other income of the generating company/ transmission licensee.
- (5) Generating company/ transmission licensee comply with the provisions of the Act, IEGC or Rajasthan Electricity Grid Code, as applicable, CEA's regulations, RERC's metering code for respective distribution licensee & other terms & conditions as may be specified by the Commission.

**37. Surcharge and additional surcharge**

- (1) Surcharge and additional surcharge under Sections 39, 40 and 42 of the Act shall be considered as income and treated as directed by the Commission.
- (2) Revenue from other business shall be treated as income to the extent authorized by the Commission under Sections 41 and 51 of the Act.

**38. Late payment surcharge**

- (1) In case the payment of bills of transmission charges, wheeling charges or charges for electricity purchased by a person other than a consumer is delayed beyond a period of 1.5 month from the date of billing, a late payment surcharge at the rate of 1.25% per month on daily basis shall be levied by a generating company or a transmission or distribution licensee.
- (2) For delay in payment of bill by a consumer beyond the period specified by the Commission a late payment surcharge as laid down by the Commission from time to time shall be payable to the transmission or distribution licensee.
- (3) The amount recovered as late payment surcharge by a generating company or a transmission or distribution licensee shall be considered as income from tariff.

**39. Rebate Earned by Generating Companies & Licensees**

Any rebate earned by a generating company or a licensee on account of payment of its dues before specified date shall be treated as tariff income.

**40. Rebate for prompt payment**

For payment of bills of capacity charges and energy charges of generation tariff or of transmission charges or of wheeling charges effected through the letter of credit or by cash/ cheque within 3 days of presentation of bills, a rebate of 2% shall be allowed. If payments are made beyond 3 days through letter of credit or by cash/ cheque but within a period of one month of presentation of bills, a rebate of 1% shall be allowed:

Provided that above provision shall not be applicable in case of renewable energy power plant commissioned prior to the commencement of this Control Period.



**41. Income from Other Business**

- (1) Revenue from other business shall be treated as income to the extent authorized by the Commission.
- (2) The generating company, transmission licensee and distribution licensee shall submit the information, as specified under Regulation 12(3)(h) along with the Petition to the Commission if,;
  - (a) the generating company is engaged in any other business:
  - (b) the Licensee is engaged in any other business within the meaning prescribed under Sections 41 and 51 of the EA 2003.

**42. Sharing of Clean Development Mechanism (CDM) credit**

Sharing of Clean Development Mechanism (i.e. CDM) credit during the current Control Period, shall be in the ratio 25:75 between distribution licensee and project developer respectively.

Provided that the share of 25% obtained by the distribution licensee shall be fully passed on to the consumers. In case the distribution licensee itself is the project developer, then 75% shall be retained by the distribution licensee and balance 25% shall be passed on to the consumers.

**Part -V  
Tariff for Thermal Power Generating Stations**

**43. Applicability**

- (1) The Regulations specified in this Part V shall apply for determining the tariff for supply of electricity to a Distribution Licensee from conventional sources of generation:

Provided that determination of tariff for supply of electricity to a Distribution Licensee from renewable sources of generation shall be in accordance with terms and conditions as stipulated in Part VII of these Regulations.

- (2) The Commission shall be guided by the terms and conditions contained in this Part in determining the tariff for supply of electricity by a Generating Company to a Distribution Licensee in the following cases:
  - (a) where such tariff is pursuant to a power purchase agreement or arrangement entered into subsequent to the commencement of Control Period; or
  - (b) where such tariff is pursuant to a power purchase agreement or arrangement entered into prior to the commencement of Control Period; or
  - (c) where such tariff is pursuant to a power purchase agreement or arrangement, which is the subject of a review by the Commission under sub-Regulation b) above; or
  - (d) where the Distribution Licensee is engaged in the business of generation of electricity, in determining the transfer price at which electricity is supplied by the Generation Business of the Distribution Licensee to its Retail Supply Business; or
  - (e) Captive Power Projects of capacity more than 110 MW and above supplying Firm Power as defined in RERC (CPP) Regulations to Distribution Licensee on long term basis, i.e., more than 1 year:

Provided that the Commission may deviate from the norms contained in this Part or specify alternative norms for particular cases, where it so deems appropriate, having regard to the circumstances of the case:

Provided further that the reasons for such deviation(s) shall be recorded in writing.

#### **44. Petition for determination of generation tariff (thermal)**

- (1) A generating company may file petition for determination of tariff for supply of electricity to distribution licensees complying with the provisions of Part II of these Regulations.
- (2) Tariff in respect of a generating station under these Regulations may be determined stage-wise, Unit-wise or for the whole generating station. The terms and conditions for determination of tariff for generating stations specified in this Part shall apply in like manner to stages or Units, as the case may be, as to generating stations.
- (3) Where the tariff is being determined for stage or Unit of a generating station, the Generating Company shall adopt a reasonable basis for allocation of capital cost relating to common facilities and allocation of joint and common costs across all stages or Units, as the case may be:

Provided that the Generating Company shall maintain an Allocation Statement providing the basis for allocation of such costs, and submit such statement to the Commission along with the application for determination of tariff.

- (4) A generating company may make petition for determination of provisional tariff in advance of the anticipated date of commissioning of Unit or Stage or Generating Station as a whole, as the case may be, based on the capital expenditure actually incurred up to the date of making the petition or a date prior to making of the petition, duly audited and certified by the statutory auditors and the provisional tariff shall be charged from the date of commercial operation of such Unit or Stage or Generating Station, as the case may be.
- (5) A generating company shall make a fresh petition as per these Regulations, for determination of final tariff based on actual capital expenditure incurred up to the date of commercial operation of the generating station duly certified by the statutory auditors based on annual audited accounts.
- (6) Any difference in provisional tariff and the final tariff determined by the Commission and not attributable to the generating company may be adjusted in the tariff for the following year as directed by the Commission.

#### **45. Components of tariff**

- (1) Tariff for sale of electricity from a thermal power generating station shall comprise of two parts, namely, the recovery of annual capacity (fixed) charges and energy (variable) charges to be worked out in the manner provided hereinafter.
- (2) The annual capacity charge component shall comprise the following elements:
  - (a) Interest and finance charges on Long Term Loan
  - (b) Depreciation
  - (c) Operation & Maintenance Expenses
  - (d) Return on Equity
  - (e) Interest on Working Capital

**Less**

- (a) Other Income

- (3) The energy charges, in case of thermal generating station, shall cover fuel cost and lime stone cost if applicable , and shall be computed as specified in Regulation 54.

**46. Norms of operation**

The norms of operation as given hereunder shall apply:

- (1) Target Availability for recovery of full Capacity (Fixed) charges for thermal power stations

- |     |   |       |
|-----|---|-------|
| (a) | (i) Kota TPS and Suratgarh TPS                                    | 82%   |
|     | (ii) Other coal, lignite and gas based thermal power stations     | 80%   |
|     | (iii) Lignite fired thermal power stations using CFBC technology: |       |
|     | For the first year of operation                                   | 70%   |
|     | For second year of operation                                      | 72.5% |
|     | For third year of operation                                       | 75.0% |
|     | For Fourth year of operation                                      | 77.5% |
|     | Fifth year and onwards  | 80.0% |

- |     |                                    |     |
|-----|------------------------------------|-----|
| (b) | Ramgarh Gas thermal power stations | 70% |
|-----|------------------------------------|-----|

- (2) Target Plant Load Factor for Incentive

- |     |   |       |
|-----|---|-------|
| (a) | (i) Kota TPS and Suratgarh TPS                                    | 82%   |
|     | (ii) Other coal, lignite and gas based thermal power stations     | 80%   |
|     | (iii) Lignite fired thermal power stations using CFBC technology: |       |
|     | For the first year of operation                                   | 70%   |
|     | For second year of operation                                      | 72.5% |
|     | For third year of operation                                       | 75.0% |
|     | For Fourth year of operation                                      | 77.5% |
|     | Fifth year and onwards  | 80.0% |

- |     |                                    |                             |
|-----|------------------------------------|-----------------------------|
| (b) | Ramgarh Gas thermal power stations | 70%                         |
|     |                                    | (based on gas availability) |

- (3) Gross Station Heat Rate – For existing stations

- (a) Coal-based thermal power generating stations.

Sl.	Unit Size	Gross Station Heat Rate (kCal/kWh)
1.	110 MW	3000 kCal/kWh
2.	More than 110 MW and upto 250 MW	2500 kCal/kWh

- (b) Lignite-fired thermal power generating stations

The gross station heat rates specified under clause (a) above for coal-based thermal power generating stations shall be corrected, using multiplying factors as given below:

- (i) For lignite having 50% moisture: Multiplying factor of 1.10
- (ii) For lignite having 40% moisture: Multiplying factor of 1.07
- (iii) For lignite having 30% moisture: Multiplying factor of 1.04
- (iv) For other values of moisture content, multiplying factor shall be pro-rated for moisture content between 30-40 and 40-50 depending upon the rated

values of multiplying factor for the respective range given under sub-clauses (i) to (iii) above.

(v) Moisture content be determined at the stage of firing.

(c) (i) Gas Turbine/Combined Cycle generating stations

Open cycle - 2830 kCal/kWh  
 Combined cycle - 1950 kCal/kWh

(ii) Ramgarh GTPS

Open Cycle -2925 kCal/ kWh for FY 2009-10 with annual reduction of 15 kCal/kWh  
 Combined Cycle -1950 kCal/kWh for FY 2009-10 with annual reduction of 10 kCal/kWh

Note: The annual reduction be applicable till the target heat rate as mentioned at (i) above is achieved.

(4) Gross Station Heat Rate – For new Generating stations,

(a) Coal and lignite based thermal power generating stations

$$= 1.065 \times \text{Design Heat Rate (kCal/kWh)}$$

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.

Provided that the Design Heat Rate shall not exceed the limit as specified under Regulation 26(ii)(B)(a) of CERC (Terms and Conditions of Tariff) Regulations, 2009 including amendments thereof shall be applicable. **(Appendix-2)**

(b) Gas-based / Liquid-based thermal generating unit(s)

= 1.05 X Design Heat Rate of the unit for Natural Gas and RLNG (kCal/kWh)  
 = 1.071 X Design Heat Rate of the unit for Liquid Fuel (kCal/kWh)

Where the Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR and at site ambient conditions; and the Design Heat Rate of a unit shall mean the guaranteed heat rate for a unit at 100% MCR, site ambient conditions, zero percent make up, design cooling water temperature/back pressure.

(5) Secondary fuel oil consumption

(a) Coal-based generating stations: 1.0 ml/kWh  
 (b) Lignite-fired generating stations: 3.0 ml/kwh

(6) Lime stone consumption

Normative lime stone consumption for lignite based generating station using CFBC technology shall be computed in the following manner:

$$\text{Limestone consumption (kg/kWh)} = 0.056 \times \text{normative specific lignite consumption (kg/kWh)} \times S_{\text{avg}}(\%)$$

$S_{\text{avg}}$  = Weighted Average inorganic sulphur content in lignite

(7) Auxiliary Energy Consumption

(a) Coal-based generating stations:  
 i. For above 110 MW and up to 250 MW units

- (i) With cooling towers 9.0 %
    - (ii) Without cooling towers 8.5 %
  - ii. For 110 MW capacity units at KTPS 10.5%
  - iii. For 195 to 250 MW units at KTPS and STPS 9.0 %
  - iv. 500 MW units
    - i. Steam driven boiler feed pumps
      - (i) With cooling towers 7.0%
      - (ii) Without cooling towers 6.5%
    - ii. Electrically driven boiler feed pumps
      - (i) With cooling towers 8.5%
      - (ii) Without cooling towers 8.0%
- (b) Gas Turbine/Combined cycle generating stations:
  - (i) Combined cycle 3.0%
  - (ii) Open cycle 1.0%

Note: For Ramgarh GTPS additional auxiliary consumption of 3% for open cycle and 2% for combined cycle for number of days gas compressors are used.

- (c) Lignite-fired thermal power generating stations:
  - i. The auxiliary energy consumption norms shall be 0.5 percentage point more than the above auxiliary energy consumption norms of coal-based generating stations at (6) (a) (I) above.
  - ii. Lignite based generating station with CFBC technology 11.5%

Note: The auxiliary consumption shall include electricity consumption towards water pumping operation up to the pipeline distance of 50 Kms. The treatment for additional energy consumption and cost thereof for pipeline beyond 50 km shall be in accordance with the Regulation 48.

(8) Transit Losses

Normative transit and handling losses for fuel based generating stations, as a percentage of quantity of fuel dispatched by the fuel supply Company during the month:

- a) Coal/lignite supply
  - (i) Pit head generating stations- 0.15%

(ii) Non-pit head generating stations

2009-10	2010-11	2011-12	2012-13	2013-14
1.5%	1.3%	1.1%	0.9%	0.8%

- b) Liquid or any other fuel - 0%

- (9) In case of considerable variance in the norms and actual value in the year immediately preceding the tariff period, the Commission may allow the generating company to achieve the normative level over a period of time.

**47. Capital cost and sale of Infirm Power**

- (1) The capital cost of a generating company shall be worked out in accordance with the provisions of Regulation 18.
- (2) The tariff for sale of infirm power from the thermal generating station to the distribution licensee shall be equivalent to the actual fuel cost, including the lime stone cost, as the case may be, incurred during that period.

- (3) Any revenue other than the recovery of fuel cost earned by the generating company from sale of infirm power shall be taken as reduction in capital cost and shall not be treated as revenue.

#### 48. Operation and maintenance expenses

- (a) For coal based generating stations:
- i. 110 MW and above and up to 250 MW Unit size - Rs. 12.17 lakh per MW for 2009-10
  - ii. Above 250 MW unit size – Rs 10.95 lakh/MW for 2009-10
- (b) For lignite based generating stations: Rs 16.00 Lakh per MW for FY 2009-10
- (c) Gas Turbine/Combined Cycle generating stations

Particulars	Gas Turbine/Combined Cycle Generating Stations for FY 2009-10		Small Gas Turbine Generating Stations (less than 50 MW unit size) for FY 2009-10
	With warranty spares for 10 years	Without warranty Spares	Without warranty Spares
O&M Expenses for FY 2008-09	Rs 6.08 Lakh/MW	Rs 9.12 Lakh/MW	Rs 11.07 Lakh/MW

Provided that in case the process water is required to be transported over a distance of more than 50 km, then appropriate special O&M expenses, subject to the prudent check by the Commission, shall be allowed, in addition to the above O&M expenses. It shall include O&M expenses related to pipe line beyond 50 km and water pumping station operation cost, and additional power consumption for such Stations.

#### 49. Working capital

The Working capital shall cover:

- (1) For coal based/Lignite-fired generating stations
- (a) Landed Cost of coal or lignite for ½ (half) month for pit-head generating stations and 1½ (one and a half) months for non-pit-head generating stations, corresponding to the target availability;
  - (b) Landed cost of limestone for 1½ (one and a half) month wherever applicable;
  - (c) Cost of secondary fuel oil for two months corresponding to the target availability and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
  - (d) Operation and Maintenance expenses for one month;
  - (e) Maintenance spares @ 20% of operation and maintenance expenses specified in Regulation 48; and
  - (f) Receivables equivalent to 1½ (one and a half) months of fixed and variable charges for sale of electricity calculated on the target availability.
- (2) For Gas Turbine/Combined Cycle generating stations
- (a) Landed fuel cost for ½ (half) month corresponding to the target availability duly taking into account the mode of operation of the generating station on gas fuel and liquid fuel;
  - (b) Liquid fuel stock for ½ (half) month corresponding to the target availability, and in case of use of more than one liquid fuel, cost of main liquid fuel;
  - (c) Operation and maintenance expenses for one month;

- (d) Maintenance spares @ 30% of operation and maintenance expenses specified in regulation 19; and
- (e) Receivables equivalent to 1½ (one and a half) months of fixed and variable charges for sale of electricity calculated on target availability.

**50. SLDC Fee and Charges and transmission charges**

SLDC charges as determined by the Commission shall be considered as expenses. SLDC and transmission charges paid for energy sold outside the state shall not be considered as expenses for determining generation tariff.

**51. Other income**

Income other than income from sale of electricity including UI charges shall be grouped as other income.

**52. Computation of capacity (fixed) charges**

- (1) The total annual expenses and expected return on equity of a generating company shall be worked out on the basis of expenses and return allowed in terms of Part III read with Regulations 46 to 50 of these Regulations.
- (2) The annual capacity charges recoverable by a generating company shall be worked out by deducting its other income as per provision of Regulation 51 from the total annual expenses and return worked out under clause (1) above.

**53. Recovery of capacity charges**

- (1) Full capacity charges shall be recoverable at target availability specified in Regulation 46. Recovery of capacity charges below the level of target availability be on pro rata basis. At zero availability, no capacity charges shall be payable.
- (2) Payment of capacity charges shall be on monthly basis in proportion to allocated/contracted capacity.

**54. Energy charges**

The energy (variable) charges shall cover landed fuel costs and shall be computed as follows:

- (1) Generating stations covered under ABT  
Energy (variable) Charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy scheduled to be sent out from the generating station as per the following formula:

Energy Charges (Rs) = Rate of Energy Charges in Rs/kWh X Scheduled Energy (ex-bus) for the month in kWh corresponding to scheduled generation.

- (2) Generating stations other than those covered under ABT  
Energy (variable) charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy delivered from the generating station as per the following formula:

Energy Charges (Rs) = Rate of Energy Charges in Rs/ kWh X Energy delivered (ex-bus) for the month in kWh

- (3) Rate of Energy Charges (REC) 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:

$$REC = \frac{100\{P_p \times (Q_p)_n + P_s \times (Q_s)_n\}}{(100 - (AUX)_n)} \quad (\text{Rs/kWh})$$

Where,  $P_p$  = Price of primary fuel namely coal or lignite or gas or liquid fuel and lime stone, if applicable, in Rs/kg or Rs/cum or Rs./litre, as the case may be.

$(Q_p)_n$  = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in kg or litre or cum, as the case may be, 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 or gas or liquid fuel as fired.

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

$(Q_s)_n$  = Normative Quantity of Secondary fuel oil in ml/kWh as per Regulation 46 (5), as the case may be, and

$AUX_n$  = Normative Auxiliary Energy Consumption as % of gross generation as per Regulation 46 (6), as the case may be.

Energy charges, for the purpose of billing/Fuel Surcharge be worked out station wise based on weighted average rate based on actual generation from the Units of each Station

- (4) Adjustment of rate of energy charge (REC) on account of variation in price or heat value of fuels

Initially, Gross Calorific Value of coal/lignite or gas or liquid fuel shall be taken as per actuals of the preceding three months. Any variation shall be adjusted on month to month basis on the basis of average Gross Calorific Value of coal/lignite or gas or liquid fuel in stock, received and burnt and weighted average landed cost incurred by the generating company for procurement of coal/lignite, oil, or gas or liquid fuel, as the case may be for a power station. In its bills, the generating company shall indicate rate of energy charges at base price of primary and secondary fuel specified by the commission and the Fuel Surcharge to it separately. The generating company should submit the computation to the Commission on quarterly basis for post-facto approval of Fuel Surcharge adjustment.

- (5) Landed Cost of fuel

The landed cost of fuel shall include price of fuel corresponding to the grade/quality/calorific value of fuel inclusive of royalty, taxes and duties as applicable, transportation cost by rail/road/gas pipe line or any other means, and, for the purpose of computation of energy charges, shall be arrived at after considering normative transit and handling losses as percentage of the quantity of fuel dispatched by the fuel supply company during the month as specified in Regulation 46 (7).

## 55. Incentive

Incentive shall be payable by the beneficiary at a flat rate of 25.0 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to target Plant Load Factor.

## 56. Unscheduled Interchange (UI) charges

- (1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted as per RERC (Intra-State ABT) Regulations through Unscheduled Interchange (UI) Charges.



(2)

- (a) Any generation up to 105% of the declared capacity in any time block of 15 minutes and averaging up to 102.5% of the average declared capacity over a day shall not be construed as gaming, and the generator shall be entitled to UI charges for such excess generation above the scheduled generation (SG).
- (b) For any generation beyond the prescribed limits, the State Load Despatch Centre shall investigate so as to ensure that there is no gaming, and if gaming is found by the State Load Despatch Centre, the corresponding UI charges due to the generating station on account of such extra generation shall be reduced to zero and the amount shall be adjusted in UI account of beneficiaries in the ratio of their capacity share in the generating station.

#### **57. Scheduling**

The methodology of scheduling and availability shall be as specified in the Rajasthan Electricity Grid Code notified by the Commission

#### **58. Demonstration of declared capability**

- (1) The generating company may be required to demonstrate the declared capability of its generating station as and when asked by the State Load Despatch Centre. In the event of the generating company failing to demonstrate the declared capability, the capacity charges due to the generator shall be reduced as a measure of penalty.
- (2) The quantum of penalty for the first mis-declaration for any duration/block in a day shall be the charges corresponding to two days fixed charges. For the second mis-declaration the penalty shall be equivalent to fixed charges for four days and for subsequent mis-declarations in the year, the penalty shall be multiplied in the geometrical progression.
- (3) The operating logbooks of the generating station shall be available for review by the State Power Committee, as the case may be. These books shall keep record of machine operation and maintenance.

#### **59. Metering and Accounting**

Metering arrangements, including installation, testing and operation and maintenance of meters and collection, transportation and processing of data required for accounting of energy exchanges and average frequency on 15 minute time block basis shall be organised by the State Transmission Utility, State Load Despatch Centres. All concerned entities (in whose premises the special energy meters are installed), shall fully cooperate with the State Transmission Utility/ state Load Despatch Centre and extend the necessary assistance by taking weekly meter readings and transmitting them to the State Load Despatch Centre. Processed data of meters along with data relating to declared capability and schedules etc., shall be supplied by the State Load Despatch Centres to the State Power Committee and the State Power Committee shall issue the Accounts for energy on monthly basis as well as UI charges on weekly basis. UI accounting procedures shall be governed by the orders of the Commission.

#### **60. Billing and payment of capacity charges**

Billing and payment of capacity charges shall be done on a monthly basis in the following manner:-

- (1) The distribution licensees and persons having power purchase agreement for firm power for more than one year shall pay the capacity charges in proportion to their percentage share, allocation or contract in the installed capacity of a generating station.

- (2) A distribution licensee or a person having power purchase agreement for firm power for more than one year may surrender his share in installed capacity in favour of another distribution licensee within the State. In such circumstances, the capacity charges payable shall be revised in accordance with capacity surrendered and additional capacity acquired. Any such reallocation shall be notified by the SLDC or State Power Committee in advance, at least 3 days prior to such reallocation taking effect.
- (3) If any capacity remains unrequisioned in any period, full capacity charges shall be shareable by the persons mentioned in sub clause (1) above, subject to sub clause (4).
- (4) If any capacity remains unrequisioned in any period, the generating company shall be free to sell electricity to any person including a person outside the State and such person to whom electricity is sold shall also share the capacity charges in addition to persons mentioned in sub clause (i) above in proportion to the capacity utilized by such person.
- (5) In case a generating company exceeds targeted availability and sells electricity to persons other than those mentioned in sub clause (1) above, such persons shall, in addition to persons mentioned in sub clause (1) share the capacity charges determined on the basis of target availability, in the same proportion in which the actual capacity is utilized by them.
- (6) Unscheduled interchange of electricity shall not be considered as sale for the purpose of payment of capacity charges.
- (7) The capacity charges shall be paid by the persons covered under (1), (2), (3), (4) & (5) above including those outside the State to the generating company every month in accordance with the following formula:

- a) Total Capacity charges payable to the thermal power generating company for the:

$$\begin{aligned}
 1^{\text{st}} \text{ month} &= (1 \times \text{ACC1})/12 \\
 2^{\text{nd}} \text{ month} &= (2 \times \text{ACC2} - 1 \times \text{ACC1})/12 \\
 3^{\text{rd}} \text{ month} &= (3 \times \text{ACC3} - 2 \times \text{ACC2})/12 \\
 4^{\text{th}} \text{ month} &= (4 \times \text{ACC4} - 3 \times \text{ACC3})/12 \\
 5^{\text{th}} \text{ month} &= (5 \times \text{ACC5} - 4 \times \text{ACC4})/12 \\
 6^{\text{th}} \text{ month} &= (6 \times \text{ACC5} - 5 \times \text{ACC5})/12 \\
 7^{\text{th}} \text{ month} &= (7 \times \text{ACC7} - 6 \times \text{ACC6})/12 \\
 8^{\text{th}} \text{ month} &= (8 \times \text{ACC8} - 7 \times \text{ACC7})/12 \\
 9^{\text{th}} \text{ month} &= (9 \times \text{ACC9} - 8 \times \text{ACC8})/12 \\
 10^{\text{th}} \text{ month} &= (10 \times \text{ACC10} - 9 \times \text{ACC9})/12 \\
 11^{\text{th}} \text{ month} &= (11 \times \text{ACC11} - 10 \times \text{ACC10})/12 \\
 12^{\text{th}} \text{ month} &= (12 \times \text{ACC12} - 11 \times \text{ACC11})/12
 \end{aligned}$$

- b) Each person having firm share in capacity of the generating station shall pay for the:

$$\begin{aligned}
 1^{\text{st}} \text{ month} &= [\text{ACC1} \times \text{WB1}]/1200 \\
 2^{\text{nd}} \text{ month} &= [2 \times \text{ACC2} \times \text{WB2} - 1 \times \text{ACC1} \times \text{WB1}]/1200 \\
 3^{\text{rd}} \text{ month} &= [3 \times \text{ACC3} \times \text{WB3} - 2 \times \text{ACC2} \times \text{WB2}]/1200 \\
 4^{\text{th}} \text{ month} &= [4 \times \text{ACC4} \times \text{WB4} - 3 \times \text{ACC3} \times \text{WB3}]/1200 \\
 5^{\text{th}} \text{ month} &= [5 \times \text{ACC5} \times \text{WB5} - 4 \times \text{ACC4} \times \text{WB4}]/1200 \\
 6^{\text{th}} \text{ month} &= [6 \times \text{ACC5} \times \text{WB6} - 5 \times \text{ACC5} \times \text{WB5}]/1200 \\
 7^{\text{th}} \text{ month} &= [7 \times \text{ACC7} \times \text{WB7} - 6 \times \text{ACC6} \times \text{WB6}]/1200 \\
 8^{\text{th}} \text{ month} &= [8 \times \text{ACC8} \times \text{WB8} - 7 \times \text{ACC7} \times \text{WB7}]/1200 \\
 9^{\text{th}} \text{ month} &= [9 \times \text{ACC9} \times \text{WB9} - 8 \times \text{ACC8} \times \text{WB8}]/1200 \\
 10^{\text{th}} \text{ month} &= [10 \times \text{ACC10} \times \text{WB10} - 9 \times \text{ACC9} \times \text{WB9}]/1200 \\
 11^{\text{th}} \text{ month} &= [11 \times \text{ACC11} \times \text{WB11} - 10 \times \text{ACC10} \times \text{WB10}]/1200 \\
 12^{\text{th}} \text{ month} &= [12 \times \text{ACC12} \times \text{WB12} - 11 \times \text{ACC11} \times \text{WB11}]/1200
 \end{aligned}$$

Where,

ACC1, ACC2, ACC3, ACC4, ACC5 ACC6, ACC7, ACC8, ACC9, ACC10, ACC11 and ACC12 are the amount of Annual Capacity Charge corresponding to 'Target Availability' for the cumulative period up to the end of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> months respectively.

And, WB1, WB2, WB3, WB4, WB5, WB6, WB7, WB8, WB9, WB10, WB11 and WB12 are the weighted average of percentage of shared capacity during the cumulative period up to 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> month respectively.

#### 61. Reactive Energy Charges

A generating station shall inject/absorb the reactive energy as per the directions of state load dispatch centre. Such injection/absorption shall be undertaken on the basis of machine capability and in accordance with the directions issued by SLDC. A rate of charge/payment for shortfall in reactive energy exchange (injection or absorption) shall be levied on generating station at rate 5.75 paise/kVARh for FY 2009-10 escalated at 0.25 paise/kVARh annually in subsequent years, unless otherwise revised by Commission.

### Part VI

#### Tariff for Hydro Power Generating Stations

#### 62. Petition for determination of generation tariff (Hydro)

The provisions of Regulation 44 shall apply mutatis mutandis, to a petition for determination of tariff of hydro generating stations.

#### 63. Components of tariff

Tariff for sale of electricity from a hydro power generating station shall comprise of two parts, namely, the recovery of annual capacity charges and energy charges to be workout in the manner provided hereinafter.

#### 64. Norms of operation

The norms of operation shall be as under, namely:

- (1) Normative capacity index for recovery of full capacity charges
  - (a) During first year of commercial operation of the generating station
    - (i) Run-of-river power stations without pondage 85%
    - (ii) Storage type and Run-of-river power stations with pondage 80%
  - (b) After first year of commercial operation of the generating station
    - (i) Run-of-river power stations without pondage 90%
    - (ii) Storage type and Run-of-river power stations with pondage 85%
  - (c) There shall be pro-rata recovery of capacity charges in case the generating station achieves capacity index below the prescribed normative levels. At Zero capacity index, no capacity charges shall be payable to the generating station.
- (2) Auxiliary energy consumption:
  - (a) Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft 0.2% of energy generated
  - (b) Surface hydro electric power generating stations with static excitation system 0.5% of energy generated
  - (c) Auxiliary energy consumption for existing hydro power station
    - i. Mahi PH 2 - 3.0 lakh units per annum + 0.75% of energy generated

- ii. Mahi PH 1 – 4.0 lakh units per annum + 0.65% of energy generated
- iii. For new Mini/ Micro (MMH) Power Station – On actuals subject to maximum of 10% of energy generated

- (3) Transformation losses  
From generation voltage to transmission voltage : 0.5% of energy generated.

**65. Capital Cost and sale of infirm power**

- (1) Capital cost of hydro power generating station, including the complete hydro power generating facility covering all components such as dam, intake, water conductor system, power generating station and generating units of the scheme as apportioned to power generation, shall be determined in accordance with Part III of these Regulations.
- (2) Any revenue earned by the generating company from sale of infirm power, shall be taken as reduction in capital cost of the generating station and shall not be treated as revenue. The rate for infirm power shall be same as the primary energy rate of the generating station.

**66. Operation and maintenance expenses**

- (1) For existing stations:  
Operation & Maintenance expenses for Mahi I & Mahi II hydro power stations shall be Rs. 7.5 lakh per MW for 2009-10.
- (2) In case of the hydro electric generating stations, which have not been in operation for a period of five years, the operation and maintenance expenses shall be fixed at 1.0% of the capital cost as admitted by the Commission.

**67. Working capital**

The Working Capital shall cover:

- (1) Operation and Maintenance expenses for one month;
- (2) Maintenance spares @ 15% of operation and maintenance expenses specified in Regulation 66; and
- (3) Receivables equivalent to one and a half (1½) months of fixed charges for sale of electricity, calculated on normative capacity index.

**68. SLDC and transmission charges**

SLDC charges as determined by the Commission shall be considered as expenses. SLDC and transmission charges paid for energy sold under bilateral agreements out side the state shall not be considered as expenses to determine generation tariff.

**69. Other income**

All Income other than income from sale of electricity shall be grouped as other income.

**70. Computation of annual capacity charges**

The two-part tariff for sale of electricity from a hydro power generating station shall comprise of recovery of annual capacity charge and primary energy charges:

- (1) Capacity Charge: The capacity charge shall be computed in accordance with the following formula:

$$\text{Capacity charge} = (\text{annual fixed charge} - \text{primary energy charge})$$

Note: Recovery through Primary energy charge shall not be more than Annual Fixed Charge.

- (2) Annual Fixed Charges: Annual Fixed Charges shall be worked out as follows:
- (a) The total annual expenses and return on equity shall be worked out on the basis of expenses and return allowed in terms of **Part III** read with Regulations 64 to 68 of these Regulations.
  - (b) The annual fixed charges shall be worked out by deducting other income specified in Regulation 69 from the annual expenses and return worked out under clause (a) above.

**71. Recovery of capacity charges**

- (1) Full capacity charges shall be recoverable at normative capacity index specified in Regulation 64 above. Recovery of capacity (fixed) charges below the level of target availability shall be on *pro rata* basis. At zero availability, no capacity charges shall be payable.
- (2) The payment of capacity charges shall be on monthly basis in proportion to the allocated/ contracted capacity.

**72. Primary and secondary energy charges**

- (1) Primary energy charge shall be worked out on the basis of paise per kWh rate on ex-bus energy scheduled to be sent out from the hydro electric power generating station. Rate of Primary energy for hydro power stations, be 50% of cost of generation or incentive rate applicable for thermal power stations, whichever is less.
- (2) The primary energy charge shall be computed based on the primary energy rate and saleable energy of the station.

Provided that in case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual Fixed Charge of a generating station, the primary energy rate for such generating station shall be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charge}}{\text{Saleable Primary Energy}}$$

- (3) Primary Energy Charge = Saleable Primary Energy x Primary Energy Rate
- (4) Secondary Energy Rate shall be equal to Primary Energy Rate.  
Secondary Energy Charge = Saleable Secondary Energy x Secondary Energy Rate.
- (5) Above provisions shall not be applicable to existing mini micro hydel power stations.

**73. Incentive**

- (1) Incentive shall be payable in case of all the generating stations, including in case of new generating stations in the first year of operation, when the capacity Index (CI) exceeds 90% for run-of-river power generating stations without pondage and 85% for run-of-river power station with pondage or storage type power generating stations and incentive shall accrue up to a maximum capacity index of 100%.
- (2) Incentive shall be payable to the generating company in accordance with the following formula:

Incentive =  $0.65 \times \text{Annual Fixed Charge} \times (\text{CI}_A - \text{CI}_N)/100$  (If incentive is negative, it shall be set to zero.)

Where,  $\text{CI}_A$  is the Capacity Index achieved and  $\text{CI}_N$  is the normative capacity index whose values are 90% for run of the river hydro stations without pondage and 85% for pondage/storage type hydro generating stations.

- (3) The incentives on account of capacity index and payment for secondary energy shall be payable on monthly basis, subject to cumulative adjustment in each month of the financial year, separately in respect of each item, and final adjustment shall be made at the end of the financial year.
- (4) The total incentive payment calculated on annual basis shall be borne by the beneficiaries based on the allocated/ contracted capacity.

#### **74. Deemed generation**

- (1) In case of reduced generation due to the reasons beyond the control of generating company or on account of non-availability of transmission licensee's transmission lines or on receipt of backing down instructions from the concerned State Load Despatch Centre resulting in spillage of water, the energy charges on account of such spillage shall be payable to the generating company. Apportionment of energy charges for such spillage among the beneficiaries shall be in proportion of their shares in saleable capacity of the generating station.
- (2) Energy charges on the above account shall not be admissible if the energy generated during the year is equal to or more than the design energy.

#### **75. Scheduling**

Scheduling shall be as specified in the grid code approved by the Commission. Hydro power plants of capacity below 1 MW not be subject to scheduling.

Declaration of available capacity should also include limitation on generation during specific time periods, if any, on account of restriction(s) on water use due to irrigation, drinking water, industrial, environmental considerations etc.

It is clarified that:

- (1) For run-of-river power stations without pondage:

Since variation of generation in such stations may lead to spillage, these shall be treated as must run stations. The maximum available capacity, duly taking into account the over load capability, must be equal to or greater than that required to make full use of the available water.

- (2) For run-of-river power station with pondage and storage type power stations:

These hydro stations are designed to operate during peak hours to meet system peak demand. Maximum available capacity of the station declared for the day shall be equal to the installed capacity including overload capability, minus auxiliary consumption and transformation losses, corrected for the reservoir level. The State Load Despatch Centre shall ensure that generation schedules of such type of stations are prepared and the stations dispatched for optimum utilization of available hydro energy except in the event of specific system requirements/constraints.

**76. Demonstration of Declared Capability**

The provisions of Regulation 58 shall be applicable for hydro power stations of capacity exceeding 1 MW also.

**77. Metering and Accounting**

The provisions of Regulation 59 shall apply for hydro power stations also. However hydro power stations may not be provided with Special energy meters.

**78. Billing and Payment of Capacity Charges**

Billing and payment of capacity charges shall be done on a monthly basis,

- (1) The capacity charges shall be paid by the distribution licensee and person having PPA for more than one year to the generating company every month in accordance with the following formulas and in proportion to their respective shares in the concerned generating station:

$$\begin{aligned}
 ACC_1 &= AFC - (SPE_1 + DE_{2^{nd} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_2 &= AFC - (SPE_2 + DE_{3^{rd} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_3 &= AFC - (SPE_3 + DE_{4^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_4 &= AFC - (SPE_4 + DE_{5^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_5 &= AFC - (SPE_5 + DE_{6^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_6 &= AFC - (SPE_6 + DE_{7^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_7 &= AFC - (SPE_7 + DE_{8^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_8 &= AFC - (SPE_8 + DE_{9^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_9 &= AFC - (SPE_9 + DE_{10^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_{10} &= AFC - (SPE_{10} + DE_{11^{th} \text{ to } 12^{th} \text{ months}}) * \text{Primary Energy Rate} \\
 ACC_{11} &= AFC - (SPE_{11} + DE_{12^{th} \text{ month}}) * \text{Primary Energy Rate} \\
 ACC_{12} &= (AFC - SPE_{12}) * \text{Primary Energy Rate}
 \end{aligned}$$

Where,

AFC = Annual Fixed Charges

ACC<sub>1</sub>, ACC<sub>2</sub>, ACC<sub>3</sub>, ACC<sub>4</sub>, ACC<sub>5</sub>, ACC<sub>6</sub>, ACC<sub>7</sub>, ACC<sub>8</sub>, ACC<sub>9</sub>, ACC<sub>10</sub>, ACC<sub>11</sub> and ACC<sub>12</sub> are the amount of Annual Capacity Charge for the cumulative period up to the end of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> months respectively.

SPE<sub>1</sub>, SPE<sub>2</sub>, SPE<sub>3</sub>,..... SPE<sub>12</sub> are the ex-bus scheduled primary energy values up to 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> .....12<sup>th</sup> months of the year respectively.

CC<sub>1</sub>, CC<sub>2</sub>, CC<sub>3</sub>,.....CC<sub>12</sub> is the monthly capacity charge up to 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> .....12<sup>th</sup> months of the year respectively determined as under:

DE = Annual Design Energy

DE<sub>1</sub>, DE<sub>2</sub>, DE<sub>3</sub>, .....DE<sub>12</sub> are the ex-bus design energy values up to 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> .....12<sup>th</sup> months of the year respectively.

$$\begin{aligned}
 CC_1 &= ACC_1 \times \frac{DE_1}{DE} \\
 CC_2 &= ACC_2 \times \frac{DE_2}{DE} \\
 CC_3 &= ACC_3 \times \frac{DE_3}{DE} \\
 CC_4 &= ACC_4 \times \frac{DE_4}{DE} \\
 CC_5 &= ACC_5 \times \frac{DE_5}{DE}
 \end{aligned}$$

$$\begin{aligned}
CC6 &= ACC_6 \times \frac{DE6}{DE} \\
CC7 &= ACC_7 \times \frac{DE7}{DE} \\
CC8 &= ACC_8 \times \frac{DE8}{DE} \\
CC9 &= ACC_9 \times \frac{DE9}{DE} \\
CC10 &= ACC_{10} \times \frac{DE10}{DE} \\
CC11 &= ACC_{11} \times \frac{DE11}{DE} \\
CC12 &= ACC_{12} \times \frac{DE12}{DE}
\end{aligned}$$

Total capacity charges payable to the generator for the:

$$\begin{aligned}
1^{st} \text{ month} &= (CC1) \\
2^{nd} \text{ month} &= (CC2 - CC1) \\
3^{rd} \text{ month} &= (CC3 - CC2) \\
4^{th} \text{ month} &= (CC4 - CC3) \\
5^{th} \text{ month} &= (CC5 - CC4) \\
6^{th} \text{ month} &= (CC6 - CC5) \\
7^{th} \text{ month} &= (CC7 - CC6) \\
8^{th} \text{ month} &= (CC8 - CC7) \\
9^{th} \text{ month} &= (CC9 - CC8) \\
10^{th} \text{ month} &= (CC10 - CC9) \\
11^{th} \text{ month} &= (CC11 - CC10) \\
12^{th} \text{ month} &= (CC12 - CC11)
\end{aligned}$$

and, each beneficiary having firm allocation in capacity of the generating station shall pay for the :

$$\begin{aligned}
1^{st} \text{ month} &= [ CC1 \times WB1 ]/100 \\
2^{nd} \text{ month} &= [CC2 \times WB2 - CC1 \times WB1]/100 \\
3^{rd} \text{ month} &= [CC3 \times WB3 - CC2 \times WB2]/100 \\
4^{th} \text{ month} &= [CC4 \times WB4 - CC3 \times WB3]/100 \\
5^{th} \text{ month} &= [CC5 \times WB5 - CC4 \times WB4]/100 \\
6^{th} \text{ month} &= [CC6 \times WB6 - CC5 \times WB5]/100 \\
7^{th} \text{ month} &= [CC7 \times WB7 - CC6 \times WB6]/100 \\
8^{th} \text{ month} &= [CC8 \times WB8 - CC7 \times WB7]/100 \\
9^{th} \text{ month} &= [CC9 \times WB9 - CC8 \times WB8]/100 \\
10^{th} \text{ month} &= [CC10 \times WB10 - CC9 \times WB9]/100 \\
11^{th} \text{ month} &= [CC11 \times WB11 - CC10 \times WB10]/100 \\
12^{th} \text{ month} &= [CC12 \times WB12 - CC11 \times WB11]/100
\end{aligned}$$

Where,

And, WB1, WB2, WB3, WB4, WB5, WB6, WB7, WB8, WB9, WB10, WB11 and WB12 are the weighted average of percentage allocated capacity share of the beneficiary during the cumulative period up to 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> month respectively.

#### 79. Reactive Energy Charges

The provisions of Regulations 61 shall apply mutatis mutandis for applicability of reactive



energy charges in case of hydro generating stations.

**Part VII**  
**Tariff for Renewable Energy Generating Stations**

**80. Applicability**

- (1) The Regulations specified in this Part VII shall apply for determining the tariff for procurement of power by distribution licensees within Rajasthan from Renewable Energy (RE) based Generating Stations located within Rajasthan
- (2) The Commission shall be guided by the terms and conditions contained in this Part in determining the tariff for supply of electricity by a Renewable Energy based Generating Company to a Distribution Licensee in the following cases:
  - (a) where such tariff is pursuant to a power purchase agreement or arrangement entered into subsequent to the date of notification of these Regulations; or
  - (b) where such tariff is pursuant to a power purchase agreement or arrangement entered into prior to the date of notification of these Regulations and the Commission has not previously approved such agreement/ arrangement or adopted the tariff contained therein; or
  - (c) where such tariff is pursuant to a power purchase agreement or arrangement, which is the subject of a review by the Commission:

Provided that the Commission may deviate from the norms contained in this Part or specify alternative norms for particular cases, where it so deems appropriate, having regard to the circumstances of the case:

Provided that the reasons for such deviation(s) shall be recorded in writing.

**81. Petition for Tariff determination for Renewable Energy Generating Station(s)**

The provisions of **Part II** shall apply mutatis mutandis, to a petition for Tariff determination for Renewable Energy (RE) Generating Stations. Further, the Commission may initiate process for determination of Generic Tariff for Renewable Energy generating stations on suo-moto basis or on the basis of Petition filed by Nodal Agency.

**82. Tariff for existing Renewable Energy Generating stations:**

- (1) **As per Government of Rajasthan Policies**
- (a) Tariff for electricity supply to the distribution licensee by renewable energy sources power plants, for which Power Purchase Agreements (PPA) have been executed under GoR policy of 1999 & 2000 and power plants which are commissioned by 31.3.07 (for wind power plants) and 30.9.08 (for biomass power plants), shall be as hereunder for a period of 10 years from the date of signing of Power Purchase Agreements beyond which, tariff shall be specified by the Commission.

Sr. No.	Renewable Energy Generation during the year	Tariff in Rs. Per kWh under GoR policy of	
		11.3.99 (Wind & biomass)	4.2.2000 (for wind power plant only)
1-	1998-99	2.7500	-
2-	1999-00	2.8875	-
3-	2000-01	3.0319	3.0300
4-	2001-02	3.1835	3.1815
5-	2002-03	3.3426	3.3406
6-	2003-04	3.5098	3.5076
7-	2004-05	3.6853	3.6830
8-	2005-06	3.8695	3.8671
9-	2006-07	4.0630	4.0605

10-	2007-08	4.2662	4.2635
11-	2008-09	4.4795	4.4767
12-	2009-10	4.7034	4.7005
13-	2010-11	4.9386	4.9356
14-	2011-12	5.1855	5.1823
15-	2012-13	5.4448	5.4414
16-	2013-14	5.7171	5.7135

- (b) The tariff for electricity supply to the distribution licensee by renewable energy power plants other than those covered by sub regulation (1) and which are commissioned upto 31.3.07(for wind power plant) and 30.09.08(for biomass power plants) under GoR policies of 2003 & 2004 (original as well as revised) shall be as follows:

Sr. No.	Renewable energy generation during the year	Tariff in (Rs. per kWh) as per policy dated			
		30.4.03 For wind power plant	25.10.04 For wind power plant	25.10.04 For biomass power plant	25.10.04 For wind power plant (amended on 24.2.06)
1	2003-04	3.3200	-	-	-
2	2004-05	3.3864	2.91	3.32	-
3	2005-06	3.4528	2.96	3.39	3.25
4	2006-07	3.5192	3.01	3.45	3.31
5	2007-08	3.5856	3.06	3.52	3.37
6	2008-09	3.6520	3.11	3.59	3.43
7	2009-10	3.7184	3.16	3.65	3.49
8	2010-11	3.7848	3.21	3.72	3.55
9	2011-12	3.8512	3.26	3.78	3.61
10	2012-13	3.9176	3.31	3.85	3.67
11	2013-14	3.9200	3.36	3.92	3.73
12	2014-15	3.9200	3.36	3.92	3.79
13	2015-16	3.9200	3.36	3.92	3.79
14	2016-17	3.9200	3.36	3.92	3.79
15	2017-18	3.9200	3.36	3.92	3.79
16	2018-19	3.9200	3.36	3.92	3.79
17	2019-20	3.9200	3.36	3.92	3.79
18	2020-21	3.9200	3.36	3.92	3.79
19	2021-22	3.9200	3.36	3.92	3.79
20	2022-23	3.9200	3.36	3.92	3.79
21	2023-24	3.9200	3.36	3.92	3.79

- (c) After first ten operational years, renewable energy power station, mentioned at (a) & (b) above, shall have the option to terminate the Power Purchase Agreement and supply the energy generated to open access consumers, captive power station or other licensees or traders within or outside the State.

Provided that in case the electricity is continued to be sold to the distribution licensee after 10 years, the tariff for corresponding year of the Policy shall continue.

(2) **As per the Commission's order**

- (a) For **wind energy** projects commissioned **after 31.03.2007 and upto 31.03.2009** within Rajasthan, the Tariff Rates shall be as follows:

**Schedule A: Tariff for wind projects**

Year of operation	Jaisalmer, Barmer, Jodhpur Distts.		Other Distts.	
	Voltage	EHV	33/11 kV	EHV
	Rs./kWh			
1	3.59	3.48	3.67	3.56
2	3.61	3.5	3.71	3.6
3	3.63	3.52	3.75	3.64
4	3.65	3.54	3.79	3.68
5	3.67	3.56	3.83	3.72
6	3.69	3.58	3.87	3.76
7	3.71	3.6	3.91	3.8
8	3.73	3.62	3.95	3.84
9	3.75	3.64	3.99	3.88
10	3.77	3.66	4.03	3.92
11	3.79	3.68	4.04	3.93
12	3.81	3.7	4.05	3.94
13	3.82	3.71	4.06	3.95
14	3.83	3.72	4.07	3.96
15	3.84	3.73	4.08	3.97
16	3.85	3.74	4.09	3.98
17	3.86	3.75	4.1	3.99
18	3.87	3.76	4.11	4
19	3.88	3.77	4.12	4.01
20	3.89	3.78	4.13	4.02
<b>Levelling</b>	<b>3.71</b>	<b>3.6</b>	<b>3.89</b>	<b>3.78</b>

Note: The tariff under column EHV is for injection of power for up to 50 km line length. If the line length is more than 50 km, additional 2 paise per kWh would be allowed.

- (b) For **biomass power** projects to be commissioned **after 30.09.2008 and upto 31.03.2009** within Rajasthan, the Tariff Rates shall be as follows:

**Schedule B: Fixed charges and tariff to be paid for Biomass projects**

Year of operation	Water Cooled			Air Cooled		
	Fixed Charges (Rs./kWh)	Variable Charges (Rs./kWh)	Total Charges (Rs./kWh)	Fixed Charges (Rs./kWh)	Variable Charges (Rs./kWh)	Total Charges (Rs./kWh)
1	1.97	1.63	3.60	2.20	1.76	3.96
2	1.95	1.69	3.64	2.17	1.82	3.99
3	1.93	1.77	3.70	2.14	1.91	4.05
4	1.91	1.86	3.77	2.11	2.01	4.12
5	1.89	1.95	3.84	2.08	2.11	4.19
6	1.87	2.05	3.92	2.05	2.22	4.27
7	1.85	2.15	4.00	2.02	2.33	4.35
8	1.83	2.26	4.09	1.99	2.44	4.43
9	1.81	2.37	4.18	1.96	2.56	4.52

Year of operation	Water Cooled			Air Cooled		
	Fixed Charges (Rs./kWh)	Variable Charges (Rs./kWh)	Total Charges (Rs./kWh)	Fixed Charges (Rs./kWh)	Variable Charges (Rs./kWh)	Total Charges (Rs./kWh)
10	1.79	2.49	4.28	1.93	2.69	4.62
11	1.82	2.62	4.44	1.97	2.83	4.80
12	1.85	2.75	4.60	2.01	2.97	4.98
13	1.88	2.88	4.76	2.05	3.12	5.17
14	1.91	3.03	4.94	2.09	3.27	5.36
15	1.94	3.18	5.12	2.13	3.44	5.57
16	1.97	3.34	5.31	2.17	3.61	5.78
17	2.00	3.50	5.50	2.21	3.79	6.00
18	2.03	3.68	5.71	2.25	3.98	6.23
19	2.06	3.86	5.92	2.29	4.18	6.47
20	2.09	4.06	6.15	2.33	4.39	6.72
<b>Levelised</b>			<b>4.17</b>			<b>4.55</b>

Note:

- a. First year tariff for 2008-09 is based on biomass fuel price of Rs.1158/MT having GCV of 3400 kCal/kg and for subsequent years escalation worked out as per variable cost adjustment formula specified in the Regulations shall be payable.
  - b. The Biomass power plant developer may opt at the time of execution of PPA the variable charges as per this schedule.
- (c) Solar Power Projects (For projects to be commissioned under Generation based incentive scheme of Govt of India)
- (i) The total tariff, inclusive of generation incentive on solar power payable by Gol to the solar power producer, shall be as under and all conditions of Gol policy shall be applicable for them.

Sl.	Particulars	SPV Technology	CSP Technology
1.	Solar power plants commissioned up to 31.12.2009	Rs.15.78 /kWh	Rs.13.78 /kWh
2.	Solar power plants commissioned after 31.12.2009 but by 31.3.2010	Rs.15.18 /kWh	Rs.13.18 /kWh

- (ii) The above tariff for solar power project is for ten years only, but the PPA can be executed for 20 years or life of the plant. The tariff after 10 years shall be determined separately for the next tariff Control Period as per the prevailing Regulations at that time.
- (d) Tariff for existing Mini and Micro Hydel Generation Plants  
The tariff for mini and micro Hydel plant for next 5 (five) year period shall be Rs 3.78 per kWh.

**83. Tariff determination for New renewable energy generating stations to be commissioned during Control Period under these Regulations**

**Generic Tariff determination for Wind Energy Projects and Biomass Power Projects**

- (1) The preferential feed-in tariff for all wind power plants and biomass power plants, whose tariff is not fixed by the competitive bidding and are commissioned after 31.3.09, shall be determined by the Commission with the performance parameters specified in sub-regulation (6) and (7) below for each tariff period, *and* tariff so fixed shall be applicable for the power plants commissioned during this Control Period.

**'Project Specific' Tariff determination for Wind Energy Projects**

- (2) A wind energy generating company shall file Petition for determination of 'Project Specific' tariff for a particular wind energy project of Project size more than 50 MW. The Commission shall determine 'Project Specific' tariff in such cases, provided generating company proposes a 'Specific Wind Farm Scheme' (say, under IPP mode), which represents optimal utilisation of Wind resource at a specified Site location.

Provided that the norms specified for determining the generic feed-in tariff, except the norms for interest rate, capacity utilisation factor, energy losses, and new turbine technology shall be the ceiling parameters while determining the parameters for project specific tariff.

**Generic Tariff determination for Solar Power Projects**

- (3) In case of solar power plants to be established in the State, not covered under generation based incentive scheme of Government of India, the Commission shall specify the normative cost parameters and determine generic tariff as may be necessary, through a separate Order.
- (4) Once the solar generation capacity of 10 MW envisaged under the MNRE Policy and as per RERC Solar Tariff Order dated April 2, 2008 comes up in the State of Rajasthan, and operational data becomes available, the Commission revisit the tariff applicable for solar generation projects on the basis of such operational data, capital cost data obtained by solar manufacturers' and expert opinion. Accordingly, the Commission may determine generic tariff, as may be necessary, through separate Order.

**Project Specific Tariff determination for Solar Power Projects**

- (5) The Solar Energy generator or investor would have the option to adopt either 'Generic Tariff' or 'Project Specific route' for determination of applicable tariff for Solar Power project. In case of 'Project Specific' tariff determination, the Commission shall take into consideration the manufacturer's recommendations and shall invite expert opinion. The developers/investors have to submit 'detailed project report' for the proposed project scheme along with the Application for tariff determination. The Commission shall scrutinise case specific parameters for prudent check before determining tariff through regulatory process.

**Norms for Generic Tariff determination for Wind Energy Projects**

- (6) The performance parameters for tariff determination of wind power plants for the base year of MYT Control Period FY 2009-10 shall be as under:-
- (a) For the purpose of tariff determination for Wind Energy projects under Control Period, the financial principles as stipulated under **Part III** of these Regulations, such as norms for debt: equity, interest on loan capital, return on equity capital and and escalation factors for O&M expenses etc. shall be applicable.
- (b) Other normative parameters for generic tariff determination of wind energy projects under Control Period shall be as under:

- (i) **Base Capital Cost:** Base Capital cost at the beginning of Control Period (i.e. as on 01-04-2009) shall be Rs. 525 lakh/MW towards power plant, of which Rs. 2 lakh per MW is for connectivity charges payable to Rajasthan Rajya Vidyut Prasaran Nigam Ltd.

Base Capital Cost shall include Rs 15 lakh/MW towards cost of wind energy evacuation upto and including pooling station and Rs 2 lakh/MW payable to RVPN for interconnection. Wind Energy Developer shall be responsible for development of evacuation and dedicated transmission arrangement upto pooling station. RVPN/transmission licensee be responsible for development of evacuation system beyond pooling stations till the nearest Grid sub-station. Alternatively if Wind Energy Developer wants to develop the evacuation system beyond Pooling Station upto Grid Substation, the Commission separately determine the transmission tariff for the same on case-to-case basis.

Indexation formula as outlined under Regulation 85 shall be applicable for determining tariff for the plants commissioned in each subsequent year during the Control Period.

- (ii) **CUF :** 21% (for Jaisalmer, Jodhpur and Barmer districts) and;  
20% for other districts
- (iii) **Deration in CUF:** De-ration in plant load factor/capacity utilization factor shall be 1.25% of CUF from 6th, 10th, 14th & 18th year.
- (iv) **O&M Expenses:**  
For Power Plant: 1.25% of Base Capital Cost  
For transmission lines: 3% of cost of transmission line
- (v) **Project Life:** As defined under 'Useful Life'
- (vi) **Depreciation:** As per Regulation 23 and Appendix-1
- (vii) **Working Capital:**  
(a) Operation & Maintenance expense for one month,  
(b) Receivables equivalent to 1½ (one and a half) months of fixed and variable charges for sale of electricity calculated on the target CUF.  
(c) Maintenance spare @ 15% of operation and maintenance expenses specified in Regulation 83(6)(iv).
- Further, Interest on Working Capital shall be at interest rate equivalent to State Bank of India short term PLR prevalent as on January 31, 2009.
- (viii) **Interest on Long term loan:** 100 basis points higher than State Bank of India long term PLR prevalent as on January 31, 2009.

**Note:**

- i. For metering at the premises of licensee, following line losses be considered
  - o 1% for metering at 33 kV system.
  - o 4% for metering at 132 kV or 220 kV system.
- ii. On the basis of above parameters, the tariff corresponding to the levellised tariff for twenty years shall be determined. Such levellised tariff shall be effective for the wind power projects commissioned during First year of the Control Period i.e. FY 2009-10.

**Norms for Generic Tariff determination for Biomass Power Projects**

- (7) The performance parameters for tariff determination of biomass power plants for the base year of MYT Control Period FY 2010-11 shall be as under ,the fixed charges of which be the same for FY 2009-10:-
- (a) For the purpose of tariff determination for Biomass Power projects under Control Period, the financial principles as stipulated under **Part III** of these Regulations, such as norms for debt: equity, interest on loan capital, return on equity capital and escalation factors for O&M expenses etc. shall be applicable with the stabilisation period of six (6) months.
- (b) Other normative parameters for generic tariff determination of biomass power projects based on **Water Cooled Condenser** and **Air Cooled Condenser** under Control Period shall be as under:

Parameters	Water Cooled Condenser	Air Cooled Condenser
(i) Base Capital Cost*	Rs 540 Lakh per MW	Rs 585 Lakh per MW
(ii) Station Heat Rate	4300 kCal/kWh (during stabilisation) 4200 kCal/kWh (after stabilisation)	4540 kCal/kWh (during stabilisation) 4440 kCal/kWh (after stabilisation)
(iii) Auxiliary Consumption Factor	10.5% (during stabilisation) 10% (after stabilisation)	12.5% (during stabilisation) 12% (after stabilisation)

\*Note: Normative Capital Cost at Sr no (i) is the average cost during calendar year 2008 (1<sup>st</sup> January,2008 to 31<sup>st</sup> December,2008) applicable for determining Fixed charges for the base year 2010-11 and the same includes

- Exclusive transmission system cost of Rs. 13 Lakh/MW and;
- Connectivity charges of Rs 2 Lakh/MW.

(iv) **Plant Load Factor (PLF):** Threshold Plant Load Factor for determining fixed charge shall be:

- |  |     |
|--|-----|
| (i) During stabilization,                          | 60% |
| (ii) During the first year after stabilization and | 70% |
| (iii) From Year-2 onwards                          | 75% |

(v) **Biomass Fuel Price:** Biomass Fuel Price shall be Rs 1216/MT for FY 2009-10 as base and linked to index formula as outlined under Regulation 84 for subsequent year of control period alternatively with normative escalation of 5% per annum at the option of producer.

(vi) **Gross Calorific Value (GCV):** Gross Calorific Value for the biomass fuel shall be considered as 3400 kCal/kg.

(vii) **O&M Expenses:**

For Biomass Power Plant: 6.50% of Base Capital Cost

For transmission lines: 3% of cost of transmission lines

(viii) **Project Life:** As defined under 'Useful Life'.

(ix) **Depreciation:** As per Regulation 23 and Appendix-1

(x) **Working Capital:**

- (a) Fuel costs for four months equivalent to threshold PLF



- (b) Operation & Maintenance expense for one month,
- (c) Receivables equivalent to 1½ (one and a half) months of fixed and variable charges for sale of electricity calculated on the target CUF.
- (d) Maintenance spare @ 20% of operation and maintenance expenses specified in regulation 83(7)(vii).

Further, Interest on Working Capital shall be at interest rate equivalent to average State Bank of India short term PLR prevalent for the period 1<sup>st</sup> Jan 2008 to 31<sup>st</sup> December 2008.

- (xi) **Interest on Long term Loan:** Interest rate for long term loan shall be equivalent to 100 basis points higher than average State Bank of India long term PLR prevalent for the period 1<sup>st</sup> Jan 2008 to 31<sup>st</sup> December 2008..

**Note:**

- i. The tariff for biomass based power plants comprise of fixed charges & variable charges.
- ii. Fixed cost of tariff so worked out shall be levelled for 20 years corresponding to which levelled tariff shall be determined. Such levelled fixed component of tariff shall be effective for the biomass power projects commissioned during First year of the Control Period i.e. FY 2009-10.
- iii. For metering of energy at the premises of distribution licensee at 33 kV 1% line loss be considered
- iv. Above norms shall be applicable for biomass power projects based on rankine cycle technology. Further, tariff so determined shall also be applicable for biomass gassifier based power projects until separate norms and separate tariff for such biomass gassifier based projects is notified.

**84. Tariff Indexing Mechanism for Biomass Power Projects:**

- (1) In case of Biomass energy projects, the following indexing mechanism for adjustment of fuel prices for each year of operation be applicable for determination of applicable Variable Charge Component of Tariff, in case developer wishes to opt for indexing mechanism:

$$P_n = P_{n-1} \times [a \times (WPI_n/WPI_{n-1}) + b \times (1+IRC)_{n-1} + c \times (Pd_n/Pd_{n-1})]$$

1)] Where

$P_n$  = Price per ton of biomass for the nth year to be considered for tariff determination

$P_{n-1}$  = Price per ton of biomass for the (n-1)th year to be considered for tariff determination.

In case of n=1,  $P_{n-1}$  shall be equal to  $P_o$ .

a = Factor representing labour cost

b = Factor representing fuel cost

c = Factor representing transportation cost

$IRC_{n-1}$  = Average Annual Inflation Rate for indexed energy charge component in case of captive coal mine source (in %) to be applicable for (n-1)th year, as may be specified by CERC for 'Payment purpose' as per Competitive Bidding Guidelines

$Pd_n$  = Weighted average price of HSD at 'R' Power Station for nth year.

$Pd_{n-1}$  = Weighted average price of HSD at 'R' Power Station for (n-1)th year.

$WPI_n$  = Whole sale price index for the month of April of nth year

$WPI_{n-1}$  = Wholesale price index for month of April of (n-1)th year.

R = Any Arbitrary Thermal Power Station near to the Project Site.

Where a, b & c be specified by the Commission from time to time. For first 2 years and in default these be 0.2, 0.6 & 0.2 respectively.

- (2) Variable Charge for the nth year shall be determined as under:

$$\text{i.e. } VC_n = VC_0 \times (P_n / P_0) \text{ or } VC_0 \times (1.05)^{n-1} \text{ (optional)}$$

where,  $VC_0$  represents the Variable Charge for FY 2009-10 based on Biomass Price  $P_0$  for FY 2009-10 i.e. first year of Control Period and shall be determined as under:

$$VC_0 = \frac{\text{Station Heat Rate (SHR)}}{\text{Gross Calorific Value (GCV)}} \times \frac{1}{(1 - \text{Aux Consum. Factor})} \times \frac{P_0}{1000}$$

$$P_0 = \text{Rs.1216 per Metric Tonne for FY 2009-10}$$

- (3) Under Generic Tariff determination mechanism, automatic tariff revision for Fixed charge component of tariff through Tariff Indexation Mechanism as outlined below, shall be allowed by the Commission for biomass power projects to be commissioned during the Control Period. The parameters for indexation shall be 'normative capital cost' and long term PLR of State Bank of India. Under these Regulations, the Commission has specified 'normative capital cost for the base year of Control Period which shall be applicable for the projects to be commissioned in Base Year of Control Period. The Fixed charges component of Tariff for plants commissioned during each subsequent year of control period shall be indexed as under:

$$FC_n = FC_1 * (1 + d_n) + [0.03 * [LTPLR_n - LTPLR_0]$$

$$], d_n = [a * (SI_{n-2}/SI_0 - 1) + b * (CI_{n-2}/CI_0 - 1)] /$$

(a+b) Where,

$FC_1$  = Base Levellised Fixed Charge component of Tariff determined for the Biomass projects commissioned in second year of the Control Period i.e. FY 2010-11 (in Rs/kWh).

$FC_n$  = Levellised Fixed Charge component of Tariff to be applicable for Biomass projects commissioned during the financial year (n) of the Control Period (in Rs/kWh).

$d_n$  = Capital cost escalation factor applicable for year (n) of the Control Period

$a$  = Constant to be determined by Commission from time to time, (in default it is 0.70) for weightage to Steel Index

$SI_{n-2}$  = Average WPI Steel index prevalent for calendar year (n-2) of the Control Period

$SI_0$  = Average WPI Steel Index prevalent for Calendar year (0) i.e. Jan-2008 to Dec-2008

$b$  = Constant to be determined by Commission from time to time, (in default it is 0.30) for weightage to Cement Index

$CI_{n-2}$  = Average WPI Cement Index prevalent for calendar year (n-2) of the Control Period

$CI_0$  = Average WPI Cement Index prevalent for Calendar year (0) i.e. Jan-2008 to Dec-2008

$LTPLR(n-2)$  = Average long term prime lending rate (in %) of State Bank of India as prevalent for the calendar year of n-2 th year of the Control Period.

$LTPLR(0)$  = Average Long term prime lending rate (in %) of State Bank of India as prevalent for the period 1<sup>st</sup> Jan 2008 to 31<sup>st</sup> December 2008.

**Note:**

- (a) Since there be a lag of about 2 years between financial closure of the project and its commissioning, prices for the calendar year "n-2" is relevant and may be applied to the fixed charge of tariff of year "n". Thus, for projects commissioned on or after 1/4/2011 the applicable tariff be adjusted with the price information available for the period 1/1/2008 to 31/12/2008 as base with indexing mechanism considering FY 2011-12 as nth year and corresponding calendar year n-2 shall be from 1.01.2009 to 31.12.2009 for pricing.

- (b) The indexation linked to interest rate is 3 paise/kWh per percentage point change in long term prime lending rate of State Bank of India.

#### 85. Tariff Indexing Mechanism for Wind Energy Projects:

- (1) Under Generic Tariff determination mechanism, automatic tariff revision through Tariff Indexation Mechanism as outlined below, shall be allowed by the Commission for wind energy projects to be commissioned during the Control Period. The parameters for indexation shall be 'normative capital cost' and long term PLR of State Bank of India. Under these Regulations, the Commission has specified 'normative capital cost for the base year of Control Period and corresponding Tariff to be applicable for the projects to be commissioned in Base Year of Control Period. The 'Tariff' for wind Projects for commissioning during each subsequent year of control period shall be indexed as per formula outlined under these Regulations.

In case of Wind Energy projects, the following Indexing Mechanism for adjustment of tariff with the change in Wholesale Price Index for Cement and Steel, and change in long term prime lending rate (LTPLR) be applicable as under:

$$T_n = T_1 * (1 + d_n) + [0.08 * [LTPLR_i - LTPLR_0] ]$$

$$d_n = [a * (SI_{n-1}/SI_0 - 1) + b * (CI_{n-1}/CI_0 - 1)] / (a+b)$$

Where,

$T_1$  = Base levelled Tariff determined for the WEG projects commissioned in first year of the Control Period (i.e. FY 2009-10) (in Rs/kWh).

$T_n$  = Levelled Tariff to be applicable for WEG projects commissioned during the financial year (n) of the Control Period (in Rs/kWh).

$d_n$  = Capital cost escalation factor applicable for year (n) of the Control Period

$a$  = Constant to be determined by Commission from time to time, (in default it is 0.70) for weightage to Steel Index

$SI_{n-1}$  = Average WPI Steel index prevalent for calendar year (n-1) of the Control Period  
 $SI_0$  = Average WPI Steel Index prevalent for Calendar year (0) i.e. Jan-2008 to Dec-2008

$b$  = Constant to be determined by Commission, (in default it is 0.30) for weightage to Cement Index

$CI_{n-1}$  = Average WPI Cement Index prevalent for fiscal year (n-1) of the Control Period

$CI_0$  = Average WPI Cement Index prevalent for Calendar year (0) i.e. Jan-2008 to Dec-2008.

$LTPLR(n)$  = Long term prime lending rate (in %) of State Bank of India as prevalent as on 31<sup>st</sup> January of each calendar year prior to nth year of the Control Period.

$LTPLR(0)$  = Long term prime lending rate (in %) of State Bank of India as prevalent as on 31<sup>st</sup> January 2009.

#### Note:

- (a) Since there will be a lag of one year within which the power plant can be commissioned, prices for the calendar year "n-1" is relevant and may be applied to the tariff of year "n". Thus, for projects commissioned after FY 2009-10 the applicable tariff be indexed on the price information available for the period 1/1/2008 to 31/12/2008 as base with indexing mechanism considering FY 2010-11 as Year n and corresponding calendar year year n-1 shall be 1.01.2009 to 31.12.2009 for pricing.
- (b) The indexation linked to interest rate is 8 paise/kWh per percentage point change in long term prime lending rate of State Bank of India.

## 86. Tariff for all new Renewable Technologies

The tariff for all new renewable technologies for whom no tariff has been determined by the Commission, such as geothermal, Municipal Solid Waste, etc., be determined for each case either on suo-motu basis or on the basis of Petition filed by concerned RE developer or licensee, as the case may be.

## 87. General competitive bidding

- (1) The Commission shall adopt the tariff for RE power projects where tariff has been determined through the transparent process of Competitive Bidding, as envisaged under Section 63 of the Act.
  - (2) For the purpose of competitive bidding process, until the Central Government notifies the competitive bidding guidelines including the Standard Bid Documents as applicable for RE projects, the Commission shall approve the bid documents or deviations applicable for conventional power plant under case-2 for each type of RE sources separately.
  - (3) The distribution licensee/State Nodal Agency/Agency authorised by distribution licensee can initiate the process of competitive bidding for RE purchase after prior approval of the Commission in respect of each type of RE source separately.
88. The Commission may effect changes in parameters and methodology of tariff determination based on the relevant guidelines prescribed by the Central Commission.

## 89. Grid Connectivity

- (1) Capacity augmentation of a substation and backup transmission system for power evacuation to the load centre shall be planned and carried out by the State Transmission Utility (STU) as per investment plan approved by the Commission. For this purpose, STU prepare a perspective plan for power evacuation from RE power stations proposed to be set up in the next 5 years. Such plan be revised every year and be submitted to the Commission each year by 30<sup>th</sup> September, along with estimated cost.
- (2) The following grid connectivity charges be paid by the RE power producer to the STU.
  - (a) Wind & biomass power plants: Rs.2 lakh per MW
  - (b) Solar & other power plants: NIL up to total installed capacity of 50 MW in the State. Thereafter, as per (a) above.
- (3) The Non-firm power injection into the State grid shall be limited to the capacity indicated below.

Provided that for short line length, the envisaged capacity of the line may be considered about 1.2 to 2.0 times the Surge Impedance Loading (SIL) of the line.

S. no.	Total Power fed through a feeder (in MW)				
		11 kV	33 kV	132 kV	220 kV
1	ACSR Panther conductor	3 MW	12 MW	50 MW	-
2	ACSR Dog conductor	2 MW	6 MW	-	-
3	ACSR Raccoon conductor	1 MW	2 MW	-	-
4	ACSR Zebra	-	-	-	Above 50 MW & up to 150

S. no.	Total Power fed through a feeder (in MW)				
		11 kV	33 kV	132 kV	220 kV
					MW
5	As per SIL for short line	-	-	90 MW	180 MW

## 90. Other Charges

### (1) Start-up power:

Energy drawn during start up and backing down up to a maximum of 42 days in a financial year be set off against the energy sale to the distribution licensee within state thereafter energy drawn be billed at temporary tariff on daily basis. Where sale to distribution licensee is not affected, such drawal be billed on daily basis.

### (2) kVArh charges:

Net kVArh drawal by RE power plant from the Grid be billed @ 5.75 Paise/ kVArh w.e.f. 01.04.2009 escalated at 0.25 paise/kVArh, unless otherwise revised by the Commission by Order.

### (3) Transmission & wheeling charges:

In case of third party sale or for captive use both within the State, the transmission & the wheeling charges be recovered in cash and in kind as follows:

(a) The transmission charges (in cash) applicable to RES power stations be half (i.e. 50%) of the transmission charges, specified by the Commission for open access consumer.

However, where distribution licensee network below 132 kV level is utilized, the wheeling charges (in cash) applicable to RES power stations, be 50% of normal charges, as applicable & specified for 33 kV by the Commission, irrespective of the voltage at which electricity is supplied.

(b) These charges (in kind) i.e. transmission & wheeling losses shall be as detailed at regulation 91.

Provided, in case of Power Purchase Agreements executed and plants commissioned upto 31.03.2007, under the State Government policies specified in regulation 82, the wheeling charges as per policy shall be applicable as for transmission and wheeling charges (in cash and kind) as specified above unless RE power plant opts otherwise.

### (4) SLDC Fee & Charges:

SLDC fee & charges shall be as specified in RERC (Levy of fee and charges by the State Load Despatch Centre) Regulations, 2004

### (5) Surcharge:

The Cross-subsidy surcharge as determined by Commission from time to time shall not be applicable in case of open access wheeling transactions based on renewable energy sources. For the purpose of open access wheeling based on renewable energy sources, the cross-subsidy surcharge shall be 'nil'.

## 91. Losses

(1) Technical losses of transmission & distribution system shall be as specified by the Commission for RVPN's system and for the discom's distribution system upto 33 kV.

- (2) Technical losses for open access transaction of renewable energy during this MYT control period shall be as follows:

For direct supply to consumer on transmission system	4.4%
For the supply using distribution network of distribution licensee below 132 kV	3.6% (i.e. the losses applicable for 33 kV system)
For the supply using both EHV transmission & distribution system	8.0%

## 92. Banking

- (1) Energy shall be allowed to be banked at consumption end within the State only.  
 (2) Period of banking;  
 (a) In respect of third party sale and/or captive use of non firm energy, the banking and drawal shall be on six monthly basis i.e. April to September and October to March.

However, during the months of December, January & February utilisation of the banked energy shall not be permitted.

- (b) For firm energy from biomass power plants banking and drawal be accounted for in the same month.

(3) Energy accounting and treatment of banked energy at consumption end within the State in case of Non-Firm RE power Sources be as hereunder;

- (a) Available energy at the beginning of any particular month shall be the sum of banked energy carried forward from the previous month including energy banked out of generation during previous month and the delivered energy from the generating station during the previous month after accounting for sale to discom and wheeled energy to captive or open access consumer adjusted for applicable wheeling losses, as the case may be.  
 (b) Non-firm RE power station shall intimate to SLDC and to concerned distribution licensee on 1st of every month, out of available energy for that particular month, the quantum of energy;  
 (i) it wishes to bank,  
 (ii) it wishes to distribute amongst third party and  
 (iii) it wishes to captive use during that month out of available energy for that particular month. Where no such intimation is received on or before 1st of the month the intimation last received become applicable for the month.

Where no such intimation is received on or before 1st of the month the intimation last received become applicable for the month.

- (c) The unutilised available energy and the banked energy shall be considered as banked energy as per sub regulation 3(a) above and shall be carried forwarded for the next month.

(4) In case, the energy drawal from the grid is more than the sum of energy banked wherever applicable and energy generated during any month, upon adjustment for applicable wheeling losses, the treatment of such excess energy drawal shall be in accordance with RERC (Terms and Conditions of Open Access) Regulations.

(5) Payment of unutilised banked energy adjusted for applicable wheeling losses shall be settled with RE power generation in the month of April and October of each financial year at the rate of 60% of energy charges including fuel surcharge (if any) applicable for Large Industrial Power tariff.

**Part VIII**  
**Tariff for Transmission**

**93. Applicability**

- (1) The Regulations contained in this Part shall apply in determining tariffs for access to and use of the intra-State transmission system of a Transmission Licensee pursuant to a Bulk Power Transmission Agreement or other arrangement entered into with a Transmission System User.

Provided that the Commission may deviate from the norms contained in this Part or stipulate alternative norms for particular cases, where it so deems appropriate, having regard to the circumstances of the case:

Provided further that the reasons for such deviation shall be recorded in writing:

Provided further that in case of an existing transmission system, the Commission shall determine the tariffs having regard to the historical performance of such transmission system and reasonable opportunities for improvement in performance, if any.

- (2) The Commission shall be guided by the terms and conditions contained in this Part in specifying the rates, charges, terms and conditions for use of intervening transmission facilities pursuant to an application made in this regard by a Licensee under the proviso to Section 36 of the Electricity Act, 2003.

**94. Petition for determination of Transmission tariff**

A transmission licensee shall file a petition for determination of tariff in respect of existing lines or substations or transmission system as a whole complying with provision of Part II of these Regulations.

**95. Capital investment**

- (1) The transmission licensee shall file a detailed capital investment plan in accordance with the RERC (Investment Approval) Regulations, 2006 for the ensuing year and each year till March 31, 2014 for meeting the requirement of power evacuation, load growth, reduction in transmission losses, improvement in quality of supply, reliability, metering, etc. The capital investment plan should be filed at the beginning of the Control Period, before the MYT Petition is filed. The licensee may make upward or downward revision in the annual capital expenditure plan at the time of Annual Performance Review.

Provided that the investment plan shall be an annual rolling plan and the period covered by the plan shall coincide with the period for which forecasts/estimates are being submitted as part of such application.

- (2) The investment plan shall be a least cost plan for undertaking investments on strengthening and augmentation of the intra-State transmission system for meeting the requirement of power evacuation, load growth, reduction in transmission losses, improvement in quality of supply, reliability, metering, etc.
- (3) The investment plan shall cover all capital expenditure projects to be undertaken by the transmission licensee in the MYT control period and shall be in such form as may be stipulated by the Commission from time to time.
- (4) The prior approval of the Commission shall be required for all capital expenditure schemes of a value exceeding Rs (10) Crore.

- (5) The investment plan shall be accompanied by such information, particulars and documents as may be required showing the need for the proposed investments, alternatives considered, cost/benefit analysis and other aspects that may have a bearing on the transmission charges. The investment plan shall also include capitalisation schedule and financing plan.
- (6) The Transmission Licensee shall submit, along with the application for determination of tariff or along with the application for annual performance review, as the case may be, details showing the progress of capital expenditure projects, together with such other information, particulars or documents as the Commission may require for assessing such progress.
- (7) The Commission shall consider and approve the transmission licensee's capital investment plan, with modifications, if necessary. The costs corresponding to the approved investment plan of the transmission licensee for a given year shall be considered for its revenue requirement.
- (8) The proportion for debt and equity for the approved capital investment shall be as per Regulation 17.

#### **96. Norms of operation**

The norms of operation, subject to modifications thereof from time to time shall be as under:

- (1) **Auxiliary Power Consumption in the Sub-Station**  
The auxiliary consumption in the sub-station for the purpose of air-conditioning, lighting, technical consumption, etc. shall be considered as part of transmission losses as per norms to be fixed by the Commission and shall be accounted for separately.
- (2) **Normative Availability of the Transmission System**  
The Normative Availability of the Transmission System shall be as follows:
 

(a) High Voltage AC system	:	98%
(b) High Voltage DC bipole links & HVDC back-to-back stations	:	95%

Availability shall be calculated sub-station wise and integrated for all sub-stations effecting supply to a user in the manner as may be laid down by the Commission in the RERC (Transmission licensee's standards of performance) Regulation 2004.

Note:

Recovery of annual transmission charges below the level of normative availability shall be on pro-rata basis. At zero availability, no transmission charges shall be payable.

#### **97. Annual Transmission Charges**

The annual Transmission Service Charges shall provide for the recovery of the aggregate revenue requirement of the Transmission Licensee for the financial year, as reduced by the amount of non-tariff income and income from Other Business as approved by the Commission and shall be computed in the following manner:

Aggregate revenue requirement, is the sum of:

- (a) Return on equity capital;
- (b) Interest and finance charges on loan capital;
- (c) Depreciation and amortisation of intangible assets;
- (d) Operation and maintenance expenses;



- (e) Interest on working capital and interest payable on deposits from Transmission System Users; and
- (f) Contribution to contingency reserves.

Annual transmission charges = Aggregate revenue requirement, as above,  
minus:

- (a) Non-tariff income; and
- (b) Income from Other Business, to extent specified in these Regulations.

In case of RVPN, the ARR shall include the additional contribution towards pension and gratuity trust as determined by the Commission in terms of Regulations 31 of these Regulations.

#### 98. Operation & maintenance (O&M) expenses

- (1) The norms for O&M expenses have been fixed for the first year of the Control Period (i.e. FY 2009-10 on the basis of circuit kilometre of transmission lines, transformation capacity and number of bays in substation, as given below:

(a) O&M expense per circuit-km		
- 765 kV	:	Rs. 1.08 lakh per ckt-km
- 400 kV	:	Rs. 0.68 lakh per ckt-km
- 220 kV	:	Rs. 0.27 lakh per ckt-km
- 132 kV	:	Rs. 0.16 lakh per ckt-km
(b) O&M expense per MVA capacity	:	Rs. 0.42 lakh per MVA
(c) O&M expense per feeder bay		
- 765 kV	:	Rs. 63.06 lakh per feeder bay
- 400 kV	:	Rs. 42.04 lakh per feeder bay
- 220 kV	:	Rs. 5.86 lakh per feeder bay
- 132 kV	:	Rs. 3.98 lakh per feeder bay

**Note:** MVA capacity includes MVAr.

#### 99. Working capital

Working capital shall cover:

- (1) Operation and maintenance expenses for one month;
- (2) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 98; and
- (3) Receivables equivalent to one and a half (1½) months of transmission charges calculated on target availability level.

#### 100. Annual Revenue Requirement

- (1) The total annual expenses and expected return on equity of a transmission licensee shall be worked out on the basis of expenses and return allowed in terms of **Part III** read with Regulation **95 to 99** of these Regulations.
- (2) The annual revenue requirement of a transmission licensee shall be worked out by deducting the following from its total expenses and return worked out under clause (1) above:
  - (a) The amount of other income of the transmission licensee as per provisions of Regulation **36** of these Regulations.

- (b) Transmission charges recovered from persons entitled to special treatment under the State Government's policy directives in respect of generation of electricity from non-conventional energy sources or captive power plants or from short term intra state open access customers.
  - (c) Revenue from other business mentioned in clause (2) of **Regulation 37**.
- (3) The transmission licensee shall be entitled to recover its annual revenue requirement so worked out as annual transmission charges from licensees and other long term intra-State open access customers.

**101. Payment of transmission charges**

- (1) A transmission licensee may be allowed to recover its annual revenue requirement of transmission charges as one or combination of the following charges:
- (a) Network Access Charge – A fixed charge corresponding to cost recovery for Connection Assets
  - (b) Network Usage Charges - A fixed charge based on capacity contracted or allotted
  - (c) A charge based on energy transmitted
  - (d) Connectivity charge
  - (e) Reactive energy charge
- (2) The transmission losses be determined and shall be borne by the users of the transmission system in kind, as percentage of energy transmitted.

**102. Pooling of Annual Revenue Requirement by STU**

- (1) Total Transmission system Cost (TTSC) for the intra-State transmission system within Rajasthan shall comprise sum of annual revenue requirement of all transmission licensees, as determined based on the principles outlined under these MYT Regulations.

$$TTSC = \sum_{i=1}^n [ARR - NT_i - O_i]$$

Where

- TTSC = Total Transmission System Cost for intra-State Transmission system within Rajasthan to be pooled by STU
- ARR = Aggregate Revenue Requirement of the Transmission Licensee, including all allowable expenses and return on equity capital, as approved by the Commission but shall exclude the transmission system exclusively embedded for generating projects
- NT<sub>i</sub> = Approved level of non-tariff income for each Transmission licensee
- O<sub>i</sub> = Approved level of income from Other Business for each transmission licensee

**103. Allocation of annual transmission charges**

- (1) The Transmission System Users shall share the total transmission cost in such proportion as the transmission capacity rights of each Transmission System User bears to the total transmission capacity rights allotted in the intra-State transmission system:

Provided that the charges payable by the Transmission System Users may also take into consideration factors such as voltage, distance, direction, quantum of flow and time of use, as may be specified by the Commission in its order passed under subsection (3) of Section 64 of the Act:

Provided further that the charges shall be calculated on a daily basis by the Transmission Licensee and shall be billed every month, except where directed by the Commission for any Transmission System User or class of such users.

- (2) The annual Transmission Charges (ATC) payable by a Transmission System User shall be computed in accordance with the following equation:

$$\text{ATC} = \text{TTSC} \times [\text{CL} / \text{SCL}]$$

CL = Allotted Transmission Capacity Rights to the Transmission System User

SCL = Sum of Allotted Transmission Capacity Rights to all Transmission System Users

#### 104. Treatment of losses

Actual Transmission Losses have to be borne by users of the transmission system and energy accounts to be maintained by SLDC shall reflect accordingly.

#### 105. Incentive

- (1) A transmission licensee shall be entitled to incentive on achieving annual availability beyond the target availability of 98%, in accordance with the following formula:

$$\text{Incentive} = \text{Annual Transmission Charges} \times \frac{[\text{Annual availability achieved} - \text{Target Availability}]}{\text{Target Availability}};$$

Where,

Annual transmission Charges shall be the charges worked out under clause (3) of Regulation 100.

Provided that no incentive shall be payable above the availability of 99.75%.

- (2) Incentive to be paid to the transmission licensee shall be shared by the licensees and long-term open access customers.

#### 106. Reactive Energy Charges

The distribution licensee shall provide the adequate capacitor bank at the load side and beyond the point of inter-connection with the transmission system, wherever required, based on the system study carried out by the transmission licensee and maintain the lagging power factor higher than 0.9. The reactive energy charges for low power factor shall be specified by the Commission while specifying the Tariff Order from time to time.

#### 107. Recovery of SLDC expenses

- (1) The Commission shall determine SLDC fees and charges in accordance with RERC (Levy of fees and charges for State Load Despatch Centre) Regulations, 2004. The determination of SLDC fees and charges during each year of the Control Period shall be based on approved SLDC expenses as outlined under sub-regulation (2) below;

- (2) The SLDC expenses shall contain:

(a) Operating expense components shall comprise following:

- (i) Employee expenses
- (ii) Administrative and General Expenses
- (iii) Repair and Maintenance Expenses
- (iv) Interest on Working Capital
- (v) RLDC Fee and Charges

(b) Capital expense components shall comprise following:

- (i) Depreciation
  - (ii) Interest and finance charges on term loan
  - (iii) Return on equity
- (3) For the first year of Control Period, determination of SLDC expenses shall be based on apportionment of approved ARR of RVPN related to SLDC function. For subsequent years of Control Period, the segregated Accounts, duly certified by an auditor or chartered accountant, pertaining to SLDC function shall form the basis for approval of SLDC expenses and determination of SLDC fees and charges thereof in accordance with **Part-III** and Regulation 99 above

**Part - IX**  
**Tariff for Distribution: Wheeling and Retail Supply of Electricity**

**108. Applicability**

- (1) These Regulations shall apply for determination of tariff for retail sale of electricity by a Distribution Licensee to its consumers.
- (2) These Regulations shall also apply in determining tariff payable for wheeling of electricity by a Distribution System User who has been allowed open access to the distribution system of a Distribution Licensee in accordance with the Rajasthan Electricity Regulatory Commission (Open Access) Regulations, 2004:

**109. Petition for determination of Wheeling Charges and Retail Supply Tariff**

- (1) A distribution licensee shall make a petition for determination of wheeling charges and retail tariff complying with the provisions of **Part II** of these Regulations.
- (2) The Commission shall determine annual revenue requirement of a distribution licensee on MYT principles as laid down in these Regulations, for the Control Period specified under these Regulations.
- (3) A tariff petition filed by the distribution licensee for determination of tariff for ensuing year shall contain data for the base year, forecasts and targets for all the years of the Control Period ending March 31, 2014, based on the distribution licensee's business plan and principles contained in these Regulations.

**110. Capital investments**

- (1) The distribution licensee in accordance with the RERC (Investment Approval) Regulations, 2006 shall file a detailed capital investment plan for the ensuing year and subsequent four years for meeting the requirement of load growth, reduction in distribution losses, improvement in quality of supply, reliability, metering etc. The capital investment plan should be filed at the beginning of the Control Period, in accordance with RERC (Investment Approval) Regulations, 2006. The licensee may make upward or downward revision in the annual capital expenditure plan at the time of Annual Performance Review:

Provided that the investment plan shall be an annual rolling plan and the period covered by the plan shall coincide with the period for which forecasts/estimates are being submitted as part of such application.

- (2) The investment plan shall be a least cost plan for undertaking investments on strengthening and augmentation of the distribution system for meeting the requirement of load growth, reduction in distribution losses, improvement in quality of supply, reliability, metering, etc.

- (3) The investment plan shall cover all capital expenditure projects to be undertaken by the distribution licensee in the MYT Control Period and shall be in such form as may be stipulated by the Commission from time to time.
- (4) The prior approval of the Commission shall be required for all capital expenditure schemes of a value exceeding Rs Ten (10) Crore.
- (5) The investment plan shall be accompanied by such information, particulars and documents as may be required showing the need for the proposed investments, alternatives considered, cost/benefit analysis and other aspects that may have a bearing on the wheeling tariff and retail tariffs. The investment plan shall also include capitalisation schedule and financing plan.
- (6) The distribution Licensee shall submit, along with the application for determination of tariff or along with the application for annual performance review, as the case may be, details showing the progress of capital expenditure projects, together with such other information, particulars or documents as the Commission may require for assessing such progress.
- (7) The Commission shall consider and approve the distribution licensee's capital investment plan, with modifications as required. The costs corresponding to the approved investment plan of the distribution licensee for a given year shall be considered for its revenue requirement.
- (8) The proportion of debt and equity for the approved capital investment shall be as per Regulation 17.

#### **111. Estimation of sales**

- (1) The distribution licensee shall submit a monthly forecast of expected demand and sale of electricity for different categories of consumers and to each consumption slab within each tariff category in his area of supply.
- (2) For the purpose of such estimation distribution licensee shall also indicate:
  - (a) Category wise open access consumers, traders and other licensees using its system. The demand and energy wheeled for them shall be shown separately for
    - i. Supply within the area of supply and
    - ii. Supply outside the area of supply.
  - (b) In case of shared generating projects, the energy sold out side the State.
- (3) Sale of electricity, if any, to electricity traders or other distribution licensees shall be separately indicated.
- (4) The sales forecast shall be consistent with the load forecast prepared as part of the long-term power procurement plan as per RERC (Power Purchase and Procurement process of distribution licensee) Regulations, 2004, and shall be based on past data and reasonable assumptions regarding the future requirement.

Provided that where the Commission has stipulated a methodology for forecasting sales to any particular tariff category, the Distribution Licensee shall incorporate such methodology in developing the sales forecast for such tariff category.

- (5) The Commission shall examine the forecasts for reasonableness based on growth in number of consumers and consumption and demand of electricity in previous years and anticipated growth in the next year and any other factor, which the Commission may consider relevant and approve sale of electricity to consumers with such modifications as deemed fit.

#### **112. Monitoring of sale of electricity to consumers**

- (1) On the basis of approved sales forecast, the distribution licensee shall work out requirement of half yearly sales to different consumer categories, taking into account seasonal variations in demand during the year.
- (2) The distribution licensee shall monitor the sales to different consumer categories and ensure that sale to any category of consumer is not unduly restricted.
- (3) The distribution licensee shall send monthly reports to the Commission regarding sale of electricity to different consumer categories.

#### **113. Distribution Losses**

- (1) The distribution licensee shall give information of total and voltage-wise distribution losses in the previous year and current year and the basis on which such losses have been worked out.
- (2) The distribution licensee shall also propose a loss reduction target for the ensuing year as well as for the subsequent years of Control Period giving details of the measures proposed to be taken for achieving the targets proposed, along with the MYT Petition.
- (3) Based on the information furnished and field studies carried out and the loss reduction target proposed by the distribution licensee, the Commission shall fix a target for reduction of distribution losses for the ensuing year.
- (4) The Commission shall also fix a long term target for each year of Control Period for loss reduction specifying targets for intervening years.
- (5) The gains arising out of higher loss reduction than the target fixed for any year by the Commission and the losses on account of distribution licensees' failure to achieve the target set by the Commission be shared in the ratio specified under Regulation 10 for sharing of gains and losses on account of controllable factors.

#### **114. Estimate of power purchase requirement**

- (1) The Distribution Licensee in accordance with the RERC (Power purchase and procurement process of distribution licensee) Regulations, 2004 shall prepare a five-year plan for procurement of power to serve the demand for electricity in its area of supply and submit such plan to the Commission for approval along with the MYT Petition. The long-term procurement plan should be prepared considering the:
  - (a) Quantitative forecast of the unrestricted demand for electricity, within the area of supply, from each tariff category over the Control Period;
  - (b) An estimate of the quantities of electricity supply from the approved sources of generation and power purchase;
  - (c) Measures proposed to be implemented as regards energy conservation and energy efficiency;
  - (d) Minimum share of renewable energy percentage;
  - (e) Requirement for new sources of power generation and/or procurement;
  - (f) Cost estimates for power procurement;
  - (g) Approved level of transmission and distribution losses:

Provided that the long-term power procurement of surplus energy from Captive Power Plants (CPPs) shall be governed under the RERC (CPP) Regulations.

- (2) Any variation, during any half year of a financial year, in the quantum or cost of power procured and any procurement from sources other than that mentioned in the power procurement plan, approved by the Commission, in excess of five (5) percent of the quantum or cost, as the case may be, of power procurement for such half year, as approved by the Commission in the power procurement plan of the Distribution Licensee, shall be done only with the prior approval of the Commission:
- (3) Where there has been a shortfall or failure in the supply of electricity from any approved source of supply during the financial year, the Distribution Licensee may enter into a short-term arrangement or agreement for procurement of power without the prior approval of the Commission where the tariff for power procured under such arrangement or agreement is determined in accordance with:
  - (a) a transparent process of bidding in accordance with competitive bidding guidelines issued by the Central Government
  - (b) The terms and conditions contained in **Part V** of these Regulations
  - (c) When the Commission has specified the minimum and maximum ceiling price for power procurement under any contingency situation and power purchase price is within that band.
  - (d) When the Distribution Licensee has identified a new short-term source of supply from which power can be procured at a tariff that reduces his approved total power procurement cost. Such new sources shall include power procurement from trading licensees as well as power procurement through other trading platforms such as power exchange.
  - (e) Procurement by way of energy exchange under 'banking' transactions provided such procurement through banking unless merit order so warrants, and
  - (f) When faced with emergency conditions that threaten the stability of the distribution system or when directed to do so by the State Load Despatch Centre to prevent grid failure:

Provided that in such cases, the distribution licensee shall intimate the Commission within 15 days of such power procurement for which prior approval was not taken.

- (4) For purchase of electricity from sources outside the state, the transmission loss level agreed to in PPA or worked out from energy accounts of RLDC/SLDC shall be accepted.
- (5) The Commission shall scrutinize and approve the power purchase requirement with such modifications as deemed fit for the ensuing year and for the tariff period.

#### **115. Cost of power purchase**

- (1) The distribution licensee shall procure electricity in accordance with provisions of the Regulations made by the Commission in this regard.
- (2) The cost of power purchased from generating companies and cost of transmission shall be worked out based on tariff determined by the Appropriate Commission.
- (3) The cost of power purchase from traders and other licensees shall be considered based on PPAs subject to clause (1) above.
- (4) Cost of power generated by a distribution licensee and sold by it to consumers shall be worked out based on transfer price determined by the Commission.
- (5) In case of short-term power shortage, the distribution licensee may procure electricity from any sources at an average tariff not exceeding the highest rate approved by the Commission.

Note: The distribution licensee may carry out short term power purchase at a rate higher or lower than the highest rate approved by the Commission. However, on annual basis, the average rate of such short term power purchase should not be more than the highest rate approved by the Commission.

#### **116. Variation in power purchase**

- (1) Any power purchased by distribution licensee over and above the requirement of power approved by the Commission or variation in the mix of power purchased in any year shall be considered by the Commission if it is for reasons beyond the reasonable control of the distribution licensee and the resultant financial loss or gain shall be adjusted in next years' tariff.
- (2) Any financial gain or loss on account of power purchased by the distribution licensee in any year over and above the approved level and not covered by clause (1) shall be borne by the distribution licensee.

#### **117. Transmission charges**

Transmission and wheeling charges to be paid by a licensee for transmission or wheeling of power purchased by it shall be considered as per tariff determined by the appropriate Commission. Transmission and wheeling charges paid for energy sold out side the State shall not be considered as expenses.

#### **118. NLDC/RLDC/SLDC charges**

NLDC/RLDC/SLDC charges as determined by the Appropriate Commission shall be considered as expenses. SLDC charges paid for energy sold out side the State shall not be considered as expenses for determining tariff.

#### **119. Operation and Maintenance expenses.**

The normative gross O&M expenses for distribution licensees for FY 2009-10 in the State shall be as follows:

Employee Expenses	:	26 paise per unit of sale
A&G Expenses	:	3 paise per unit of sale
R&M Expenses	:	6 paise per unit of sale

#### **120. Working capital**

- (1) Working capital for supply of electricity shall consist of:
  - (a) Operation and maintenance expenses for one month;
  - (b) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 119;
  - (c) Receivables equivalent to one and a half (1½) months billing of consumers

**Less**  
Security deposits of consumers.
- (2) Working capital for wheeling of electricity shall consist of
  - (a) Operation and maintenance expenses for one month,
  - (b) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 119;
  - (c) Receivables equivalent to one and a half (1½) months of wheeling charges.

**Less**  
Security deposits of users, if any.

#### **121. Annual Revenue Requirement**

- (1) The total annual expenses and return on equity of the distribution licensee shall be worked out on the basis of expenses and return allowed in terms of **Part III** and Regulation **109 to 120** of these Regulations.
- (2) The retail supply tariff of a Distribution Licensee shall provide for recovery of the aggregate revenue requirement of the Distribution Licensee for the financial year, as reduced by the amount of non-tariff income, income from wheeling, income from Other



Business and receipts on account of cross-subsidy surcharge and additional surcharge, as approved by the Commission, and subsidy from the State Government, if any, and shall comprise the following:

- (a) Return on equity capital;
  - (b) Interest and finance charges on loan capital;
  - (c) Depreciation and amortisation of intangible/Regulatory assets;
  - (d) Cost of power generation for self and partnership projects/ power purchase;
  - (e) Transmission charges;
  - (f) SLDC Charges
  - (g) Operation and Maintenance expenses;
  - (h) Interest on working capital and on consumer security deposits and deposits from Distribution System Users; and
  - (i) Contribution to contingency reserves.
- (3) Net Revenue Requirement from sale of electricity = Aggregate revenue requirement, as above, minus:
- (a) Non-tariff income;
  - (b) Income from wheeling charges recovered from open access consumers;
  - (c) Income from Other Business, to the extent specified in these Regulations;
  - (d) Receipts on account of cross-subsidy surcharge from open access consumers; and
  - (e) Receipts on account of additional surcharge on charges of wheeling from open access consumers.
  - (f) Any revenue grant received from the State Government other than the subsidy under Section 65 of the Act
- (4) The retail supply tariff of the Distribution Licensee shall be determined by the Commission on the basis of an application for determination of tariff made by the Distribution Licensee in accordance with Part II of these Regulations.

## **122. Tariff income**

Income from supply of electricity to consumers shall be assessed based on current tariff applicable to different category of consumers and the quantity of electricity estimated to be sold to them.

## **123. Determination of Wheeling Charge and Retail Supply tariff**

- (1) While determining wheeling charges and tariff for retail supply of electricity, the Commission shall be guided by the provisions of Section 61 and 62 of the Act.
- (2) The Commission, shall not, while determining the tariff, show undue preference to any consumer of electricity but may differentiate according to consumer's load factor, voltage, total consumption of electricity during any specified period or time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.
- (3) The distribution licensee in the tariff petition shall propose the suitable tariff mechanism linked to the time of day use of electricity.

## **124. Cost of supply**

The distribution licensee shall work out the voltage wise cost of supply of electricity. The distribution licensee shall intimate the Commission the basis of allocation of fixed costs to the different voltage levels, energy supplied at each voltage level and prevalent distribution losses at each voltage level within three months of coming into force of these Regulations.

## 125. Rebate mechanism

### (1) Voltage Rebate

The Consumers availing electricity at higher voltage shall be entitled to receive the suitable rebate, as stipulated by the Commission. The rebate mechanism for the ensuing year shall be specified in the retail supply tariff order of that year.

### (2) Advance payment and Pre-paid meter Rebate

The Commission shall consider suitable incentive mechanism for the consumers who make advance payment or avail electricity through pre-paid meters.

## 126. Cross subsidy

- (1) The average cost of supply and realization from a category of consumer shall form the basis of estimating the extent of cross subsidy for that consumer category.
- (2) The Commission shall endeavour to determine the tariff in such a manner that it progressively reflects the average cost of supply and the extent of cross subsidy to any consumer category is within maximum range of +/- 20% of average cost of supply by the year 2010-11:

Provided that consumers below poverty line who consumes below specified level say 50 units per month may receive special support through cross-subsidy. Tariff for such designated group of consumers be at least 50% of the average cost of supply.

## 127. Fuel Surcharge

- (1) The Fuel Surcharge (FS) chargeable by the distribution licensee from its consumers for any quarter, shall be computed as per the following formula:

$$FS = \frac{C}{E} \text{ Rs./ kWh}$$

Where

C (in Rs. Lakh) = {(Weighted Average Variable Cost of all sources of power purchase during previous quarter in Rs/kWh – Base Weighted Average Variable Cost of all sources of power purchase as approved under Tariff Order for the year under operation in Rs/kWh) x Corresponding Power Purchase from all sources during previous quarter in MU}/10.

E (in Lakh Units) = Energy sold (metered plus estimated) during previous quarter.

Note:

- (i) Quarter referred under this formula shall correspond to financial quarter (s) viz. Q1 (Apr. to Jun) Q.2 (Jul to Sept), Q3 (Oct to Dec) and Q4 (Jan to Mar).
- (ii) The variation in power purchase cost due to UI and Hydro based generation and other unapproved purchases shall not be covered under fuel surcharge adjustment.
- (iv) For the generation stations/power purchase sources, which have single part tariff, 1/3 of the tariff shall be considered as fixed charge and 2/3 of the tariff shall be considered as energy charge for adjustment under this formula.

- (v) The cost and quantum of power purchase shall be based on bills paid/credits received during the previous quarter irrespective of period to which it pertains and shall include arrears or refunds, if any, for previous period, not considered earlier.
- (2) The rate of Fuel Surcharge shall be worked out in Rs./kWh rounded off next second decimal place.
- (3) The Fuel Surcharge per unit for any quarter shall not exceed 10% of weighted average power purchase cost approved by the Commission, or such other ceiling as may be stipulated by the Commission from time to time.
- (4) The total Fuel Surcharge recoverable, as per the formula specified above, shall be recovered from the actual sales and in case of un-metered consumers, it shall be recoverable based on estimated sales to such consumers, calculated in accordance with such methodology as may be stipulated by the Commission.

#### **128. Wheeling charges**

- (1) Wheeling charges of a distribution licensee shall be computed by deducting the following amounts from its Net annual revenue requirement worked out under clause (2) of Regulation 120:
  - (a) Cost of power purchase as per Regulation 115, and
  - (b) Interest payable on security deposits of consumers.
  - (c) Transmission charges
  - (d) 10% of O&M expenses
- (2) Wheeling charges so worked out shall be apportioned supply voltage wise on the basis of fixed asset at each voltage level.
- (3) Payment of wheeling charges:  
Wheeling charges may consist of the following or any one or combination thereof:
  - (a) Fixed charge in Rs. per month per KW of contracted power.
  - (b) A charge in Rs. per KWh of energy wheeled separately for
    - (i) Wire business
    - (ii) Installation, operation and maintenance of meters, metering system and any other equipment at consumer's premises.
    - (iii) Billing & collection of payment
    - (iv) Consumer services.
  - (c) Connectivity fee.
  - (d) Reactive energy charge / incentive
- (4) While determining wheeling charges for open access customers, the total electricity wheeled on the licensees distribution system including his own shall be taken into account.
- (5) The average technical losses for each voltage level shall be determined and considered in the determination of wheeling charges and distribution losses as applicable and be applicable in kind to the users of the distribution system of that voltage level.

#### **129. Cross-subsidy Surcharge**

- (1) Cross-subsidy Surcharge:  
The surcharge payable by consumers opting for open access on the network of the distribution licensee or transmission licensee be determined by the Commission as per the following Formula:

$$S = T - [C / (1 - (L / 100)) + D]$$

Where,

S is the surcharge

T is the Tariff payable by the relevant category of consumers;

C is the weighted average cost of power purchase of top 5% at margin excluding liquid fuel source and renewable energy sources

D is the wheeling charge

L is the system losses of distribution licensee for the applicable voltage level, as a percentage

The cross subsidy surcharge determined under the above Formula for FY 2006-07 be considered as the opening level and be reduced as far as possible, linearly in next 4 years i.e. at the rate of 20% every year so as to achieve the specified level by FY 2010-11.

**130. Additional Surcharge**

Additional Surcharge shall be determined on 'case to case' basis and shall be payable only if the distribution licensee is able to conclusively demonstrate the incidence of any stranded costs,

**131. Regulatory Asset**

Regulatory Asset shall be created only under exceptional circumstances, such as force majeure conditions, such as natural calamities, court decree having very high impact, etc., and not to limit the tariff hike in any particular year:

Provided, as and when created, the Regulatory Asset shall be amortised in such a manner that it is co-terminus with the MYT Control Period, as far as possible and carrying cost at Bank Rate or SBI PLR shall be allowed to be added to the revenue requirement of each year till such time the Regulatory Asset is fully amortised.

**132. Grid connectivity Charges**

- (1) 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 notified in accordance with sub-section (b) of Section 73 of the Electricity Act 2003.
- (2) 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.

**Part - X  
Miscellaneous**

**133. Power to amend**

The Commission may, at anytime, vary, alter, modify or amend any provisions of these Regulations, with reasons to be recorded in writing.

**134. Power to remove difficulties**

If any difficulty arises in giving effect to the provisions of these Regulations, the Commission may, by general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.

By Order of the Commission,

(Ashwini Bhagat)  
Secretary

**Depreciation Schedule**

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%)
		SLM
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For cost of clearing the site	3.34%
(c )	Land for reservoir in case of hydro generating station	3.34%
C	Assets purchased new	
(a)	PI & Machinery in generating stations	
(i)	Hydro electric, Wind Energy/solar Projects, Biomass Power projects and other RE projects	5.28%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%
(iii)	Diesel electric and gas plant	5.28%
(b)	Cooling towers & circulating water systems	5.28%
( c )	Hydraulic works forming part of the Hydro-	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and syphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipielines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
(d)	Building & Civil Engineering works of a	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections such as wooden structures	100.00%
(v)	Roads other than Kutcha roads	3.34%
(vi)	Others	3.34%
(e)	Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant	
(i)	Transformers including foundations having rating of 100 kVA and over	5.28%
(ii)	Others	5.28%

Sr. No.	Asset Particulars	Depreciation Rate (Salvage Value=10%)
		SLM
f	Switchgear including cable connections	5.28%
g	Lightning arrestor	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condensor	5.28%
h	Batteries	5.28%
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
i	Overhead lines including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 kV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 kV but not exceeding 66 kV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%
(iv)	Lines on treated wood support	5.28%
j	Meters	5.28%
k	Self propelled vehicles	9.50%
l	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
n	Apparatus let on hire	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
o	Communication equipment	
(i)	Radio and high frequency carrier system	6.33%
(ii)	Telephone lines and telephones	6.33%
p	I. T equipments	15.00%
q	IT / SCADA Software	9.00%
r	Any other assets not covered above	5.28%

**Appendix-2**  
**(Ref. Regulation 46)**

The design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:

Pressure rating (kg/cm <sup>2</sup> )	150	170	170	247	247
SHT/RHT (° C)	535/535	537/537	537/565	537/565	565/593
Type of BFP	Electrical driven	Turbine driven	Turbine driven	Turbine driven	Turbine driven
Maximum turbine cycle heat rate (kCal/kWh)	1955	1950	1935	1900	1850
Min. boiler efficiency					
Sub-bituminous Indian Coal	0.85	0.85	0.85	0.85	0.85
Bituminous Imported Coal	0.89	0.89	0.89	0.89	0.89
Max. Design Unit Heat rate (kCal/kWh)					
Sub-bituminous Indian Coal	2300	2294	2276	2235	2176
Bituminous Imported Coal	2197	2191	2174	2135	2079

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design unit heat rate of the nearest class shall be taken:

Provided also that where unit heat rate has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the unit design heat rate shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that if one or more units were declared under commercial operation prior to 1.4.2009, the heat rate norms for those units as well as units declared under commercial operation on or after 1.4.2009 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the Regulation 46(3)(a):

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in Regulation 46(3)(b).

Note: In respect of units where the boiler feed pumps are electrically operated, the maximum design unit heat rate shall be 40 kCal/kWh lower than the maximum design unit heat rate specified above with turbine driven BFP.

## Abbreviations

ABT	:	Availability Based Tariff as per RERC (Intra-state ABT) Regulations, 2006
AC/DC/HVDC	:	Alternate Current/ Direct Current/ High Voltage Direct Current
APDRP	:	Accelerated Power Development and Reforms Programme
APR	:	Annual Performance Review
ARR	:	Aggregate Revenue Requirement
CDM	:	Clean Development Mechanism
CEA	:	Central Electricity Authority
CFBC	:	Circulating Fluidised Bed Technology
COD	:	Commercial Operation Date
CPP	:	Captive Power Plant
CUF	:	Capacity Utilisation Factor
EHV	:	Extra High Voltage
FY	:	Financial Year
GCV	:	Gross Calorific Value
GOI	:	Government of India
GOR	:	Government of Rajasthan
Hz	:	Hertz or Cycles per Second
IEGC	:	Indian Electricity Grid Code
IPP	:	Independent Power Producer
kCal	:	Kilo Calorie
kV	:	Kilo Volt
kWh	:	Kilo Watt Hour
MCR	:	Maximum Continuous Rating
MMH	:	Mini/Micro Hydel
MNRE	:	Ministry of New and Renewable Energy
MW	:	Mega Watt MT
	:	Metric Tonne
MYT	:	Multi Year Tariff
NLDC	:	National Load Despatch Centre
NRLDC	:	Northern Regional Load Despatch Centre
O&M	:	Operation and Maintenance
PLF	:	Plant Load Factor
PLR	:	Prime Lending Rate
PPA	:	Power Purchase Agreement
RE	:	Renewable Energy
RGVY	:	Rajiv Gandhi Grameen Vidyutikaran Yojana
RLNG	:	Re-liquefied Natural Gas
RSEB	:	Rajasthan State Electricity Board
RVPN	:	Rajasthan Rajya Vidyut Prasaran Nigam Limited
R&M	:	Repair and Maintenance
SLDC	:	State Load Despatch Centre
SLM	:	Straight Line Method
TPS	:	Thermal Power Station
UI	:	Unscheduled Interchange
WPI	:	Wholesale Price Index

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