

“बिजनेस पोस्ट के अन्तर्गत डाक शुल्क के नगद धुगतान (बिना डाक टिकट) के प्रेषण हेतु अनुमत. क्रमांक जी. 2-22-छत्तीसगढ़ गजट/38 सि. से. भिलाई, दिनांक 30-5-2001.”



पंजीयन क्रमांक "छत्तीसगढ़/दुर्ग/  
तक. 114-009/2003/20-1-03."

# छत्तीसगढ़ राजपत्र

( असाधारण )

प्राधिकार से प्रकाशित

क्रमांक 177 ]

रायपुर,, बुधवार,, दिनांक 25 जून 2008 – आषाढ 4, शक 1930

## Chhattisgarh State Electricity Regulatory Commission

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### OBJECTS AND REASON:

Section 61 of the Electricity Act, 2003 mandates that the appropriate Commission, shall specify the terms and conditions for determination of tariff and in doing so shall be guided inter alia by multi-year tariff principle. This Commission has notified the CSERC (Terms and Conditions of determination of Tariff) Regulations in the year 2006. But these Regulations do not embody the methodologies of multi-year tariff in detail. In para 5.3(h) of the Tariff Policy the general approach to determination of tariff in multi-year framework has been laid down. The object of these Regulations is to specify the terms and conditions for the determination of tariffs according to multi-year tariff principles by the Chhattisgarh State Electricity Regulatory Commission for the supply of electricity to a distribution licensee by generating stations; transmission tariff; tariff for wheeling of electricity; and tariff for retail sale of electricity, pending determination of the norms etc by FOR in pursuance of the Tariff Policy.

### **"Chhattisgarh State Electricity Regulatory Commission (Terms and conditions of determination of tariff according to Multi-Year tariff Principles) Regulations, 2008."**

No.26/CSERC/2007. In exercise of powers vested under sub-sections (zd) and (zf) of Section 181 (2), read with Sections 61, 62 and 181(2)(zd) of the Electricity Act 2003 (36 of 2003) the Chhattisgarh State Electricity Regulatory Commission hereby makes the following Regulations:

**PART- I**  
**PRELIMINARY**

**1. SHORT TITLE AND COMMENCEMENT**

- 1.1 These Regulations may be called the "Chhattisgarh State Electricity Regulatory Commission (**Terms and conditions of determination of Tariff according to Multi-Year tariff Principles**) Regulations, 2008."
- 1.2 The Regulations shall come into force from the date as may be notified by the Commission.
- 1.3 The Regulations shall extend to the whole of the state of Chhattisgarh.

**2. SCOPE OF REGULATION AND EXTENT OF APPLICATION**

- 2.1 These Regulations shall apply to the following persons operating in the State of Chhattisgarh:
  - (a) the Chhattisgarh State Electricity Board (CSEB) operating as an STU and a licensee under the transitional provisions contained in Section 172 of the Electricity Act, 2003;
  - (b) All generating companies except generating companies owned or controlled by the Central Government and generating companies with a composite scheme of generation and sale in more than one state, which are subject to the jurisdiction of the Central Electricity Regulatory Commission;
  - (c) intra-state transmission licensee(s); and
  - (d) distribution licensee(s).
- 2.2 Notwithstanding the provisions of these Regulations, where tariff has been determined through a transparent process of bidding in accordance with the guidelines issued by the Central Government, the Commission shall adopt such tariff, as provided in Section 63 of the Act.
- 2.3 The norms of operation specified under these Regulations shall not preclude adoption of improved norms of operation by the generating company / licensee(s) and such improved norms shall be applicable for determination of tariff.
- 2.4 All proceedings under these Regulations shall be governed by the Conduct of Business Regulations.

**3. DEFINITIONS AND INTERPRETATION**

- 3.1 In these Regulations, unless the context otherwise requires:
  - (a) "**Act**" means the Electricity Act, 2003 (36 of 2003), as amended from time to time.
  - (b) "**Aggregate Revenue Requirement**" or "ARR" means the costs pertaining to the licensed and/or regulated business which are permitted, in accordance with these regulations, to be recovered from the tariffs and

charges determined by the Commission.

- (c) **"Applicant"** means a licensee or a generating company who has made an application for determination of tariff or an application for annual performance review in accordance with these Regulations and the Act and includes a licensee or generating company whose tariff is the subject of review by the Commission.
- (d) **"Auxiliary Energy Consumption"** or "AUX" means the quantum of energy consumed by auxiliary equipments of the generating station and transformer losses within the generating station in relation to a specific period, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units, combined or separately of the generating station.

(e) **"Availability":**

- i. In relation to a **thermal generating station**, for any period, means the average of the daily average declared capacities (DCs), 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, and computed in accordance with the following formula:

$$\text{Availability} = 10000 \times \frac{\sum_{i=1}^N \text{DC}_i}{\{N \times \text{IC} \times (100 - \text{AUX}_n)\}} \%$$

Where,

IC = Installed Capacity of the generating station in MW,

DC<sub>i</sub> = Average declared capacity for the i<sup>th</sup> day of the period in MW,

N = Number of days during the period,

AUX<sub>n</sub> = Normative Auxiliary Energy Consumption as a percentage of gross generation, and

Σ= Summation from i = 1 to N.

- ii. 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 designed voltage to the delivery point and expressed as a percentage of the total hours in the given period.
- (f) **"Base Year"** means the financial year immediately preceding the first year of the control period.
  - (g) **"Beneficiary"**
    - i. in relation to a **generating station** means the person buying power generated by such station on payment of annual fixed charges and / or energy charges; and
    - ii. in relation to **transmission system** means both long-term and short-

term open access customers as defined in Chhattisgarh State Electricity Regulatory Commission (Intra-state Open Access in Chhattisgarh) Regulations, 2005, as amended from time to time, and includes distribution licensees who have Transmission Service Agreement with the Transmission Licensee.

- (h) **“Capacity Index”** in relation to hydro-power stations means the average of the daily capacity indices over one year.
- (i) **“CERC”** or **“Central Commission”** means the Central Electricity Regulatory Commission established under Section 76 of the Act.
- (j) **“Commission”** means the Chhattisgarh State Electricity Regulatory Commission.
- (k) **“Conduct of Business Regulations”** means the Chhattisgarh State Electricity Regulatory Commission (Conduct of Business) Regulations, 2004, as amended from time to time.
- (l) **“Control period”** means a multi-year period fixed by the Commission from time to time, typically 3 to 5 years, for which the principles for determination of revenue requirement and tariff will be fixed.
- (m) **“Daily Capacity Index”** in relation to hydro-power stations means the declared capacity, expressed as a percentage, of the maximum available capacity for the day and shall be mathematically expressed as hereunder:

$$\text{Daily Capacity Index} = \frac{\text{Declared Capacity (MW)}}{\text{Maximum Available Capacity (MW)}} \times 100$$

Daily capacity index shall be limited to 100%.

- (n) **“Date of Commercial Operation”** or **“COD”**:
  - i. in relation to a **generating unit** means the date declared by the generator after demonstrating the maximum continuous rating (MCR) or installed capacity (IC) through a successful trial run after notice to the beneficiaries;
  - ii. in relation to the **generating station** means the date of commercial operation of the last unit or block of the generating station in accordance with the clause (i) above;
  - iii. in relation to the **transmission system** means the date of charging the transmission system to its designed voltage level, which shall be certified by the SLDC; and
  - iv. in relation to a **distribution system**, means the date of charging electric lines or substations to its declared voltage level. In cases where line(s)/substation(s) are declared ready for charging but the licensee is not able to charge for reasons not attributable to the licensee, 'date of operation' in respect of such line(s)/substation(s) shall be reckoned as

seven days after the line(s)/substations(s) have been declared ready for charging.

- (o) **"Declared Capacity" or "DC"**
  - i. in relation to ***thermal generating station*** means 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;
  - ii. in relation to ***run-of-river hydro-power stations***, means 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;
  - iii. in relation to ***run-of-river hydro-power station with pondage and storage***, means the ex-bus capacity in MW expected to be available from the generating station over the peaking hours of next day, as declared by the generator, 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 3 hours within 24 hour period;
- (p) **"Distribution loss"** means the energy loss in the distribution system of a licensee;
- (q) **"ERC"** means expected revenue from charges that a licensee is permitted to recover;
- (r) **"Generating Unit"** means turbine-generator and auxiliaries of the power station;
- (s) **"Gross Calorific Value" or "GCV"** in relation to a thermal power generating station means the heat produced in kilo-calories by complete combustion of one kilogram of solid fuel;
- (t) **"Gross Station Heat Rate" or "SHR"** means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals;
- (u) **"Infirm Power"** means electricity generated prior to commercial operation of the unit of a generating station;
- (v) **"Installed Capacity" or "IC"** 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;
- (w) **"Licensee"** means a person who has been granted a license under Section 14 of the Act and includes a person deemed to be a licensee under the same Section of the Act;
- (x) **"Maximum Continuous Rating" or "MCR"** in relation to a unit of the ***thermal power generating station*** means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated

parameters and corrected to 50 Hz grid frequency and specified site conditions;

- (y) **“Maximum Available Capacity”** in relation to **hydro-power stations** shall mean the following:
- i. **Run-of-river 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 next day.
  - ii. **Run-of-river power station with pondage and storage:** 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.
- (z) **“Non-Tariff Income”** means income relating to the licensed business other than from tariff, and excluding any income from other business;
- (aa) **“Other Business”** means any business other than the licensed/regulated business;
- (bb) **“Plant Load Factor”** or “PLF” for a given period, means the total sent out energy corresponding to scheduled generation during the 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:

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

Where:

IC = Installed capacity of the generating station in MW,

SG<sub>i</sub> = Scheduled generation in MW for the i<sup>th</sup> time block of the period,

N = Number of time blocks during the period,

AUX<sub>n</sub> = Normative auxiliary energy consumption as a percentage of gross generation, and

Σ = Summation from i = 1 to N;

- (cc) **“Primary Energy”**, in relation to **hydro-power stations**, means the quantum of energy generated upto the design energy on per year basis, at the generating station; while **“Secondary Energy”** means the quantum of energy generated in excess of the design energy on per year basis at the generating station;
- (dd) **“Regulated Business”** means the functions and activities which the licensee is required to undertake, in terms of the licence granted by the Commission or as a deemed licensee under the Act; and the generating company in terms of the provisions of the Act and the Regulations notified by the Commission;
- (ee) **“Retail Supply Business”** means the business of sale of electricity by a distribution licensee to all categories of consumers within the area of supply, in accordance with the terms of the distribution license;

- (ff) **“Retail Supply Tariff”** is the rate charged by the distribution licensee for supply to consumer and includes charges for wheeling and retail supply services;
- (gg) **“Run-of-river power station”** in relation to *hydro-power stations* means a hydro electric power generating station which has no upstream pondage, while **“Run-of-river power station with pondage”** means a hydro electric power generating station with sufficient pondage for meeting the diurnal variation of power demand;
- (hh) **“Saleable Primary Energy”** in relation to *hydro-power stations* means the quantum of primary energy available for sale (ex-bus);
- (ii) **“Saleable Secondary Energy”** in relation to *hydro-power stations* means the quantum of secondary energy available for sale (ex-bus);
- (jj) **“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;
- (kk) **“Scheduled Energy”** in relation to *hydro-power stations* means the quantum of energy to be generated at the generating station over the 24-hour period, as scheduled by the State Load Despatch Centre;
- (ll) **“State”** means the State of Chhattisgarh;
- (mm) **“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;
- (nn) **“Storage Type Power Station”** in relation to *hydro-power stations* means a hydro electric power generating station associated with large storage capacity to enable variation of generation of power according to demand;
- (oo) **“Transmission Business”** means the business of transmission of electricity by a transmission licensee to a beneficiary, in accordance with the terms of the Transmission Service Agreement;
- (pp) **“Transmission Service Agreement”** means the agreement, contract, memorandum of understanding, or any such covenants, entered into between the transmission licensee and the beneficiary of the transmission system;
- (qq) **“Transmission System”** means a transmission line with associated sub-stations or a group of lines inter-connected together along with associated sub-stations and the term includes equipment associated with transmission lines and sub-stations and used for the purposes of the transmission of electricity;
- (rr) **“Wheeling Business”** means the business of operating and maintaining a distribution system for conveyance of electricity in the area of supply of the distribution licensee; and
- (ss) **“Year”** means the financial year ending on 31<sup>st</sup> March,

- i. "Current Year" means the year in which the statement of annual accounts or application for determination of tariff is filed;
  - ii. "Ensuing Year" means the year next following the current year; and
  - iii. "Previous Year" means the year immediately preceding the current year.
- 3.2 Words and expressions used in these Regulations but not defined here shall have the same meaning as in the Act and other Regulations notified by the Commission.



**PART -II**  
**MULTI-YEAR TARIFF FRAMEWORK AND APPROACH**

**4. MYT FRAMEWORK**

- 4.1 The Commission in specifying these Regulations is guided by the principles contained in Sections 61 and 62 of the Act, the National Electricity Policy and the Tariff Policy notified by the Central Government.
- 4.2 The multi-year tariff framework shall be based on the following for estimation of ARR and ERC:
- (a) A **business plan** submitted by the generating company / licensee and approved by the Commission for a period not less than the control period prior to the start of the control period;
  - (b) Forecast for each year of the control period, based on reasonable assumptions, of the various financial and operational parameters of ARR and ERC to be filed by the generating company / licensee;
  - (c) Trajectory for specific variables as may be stipulated by the Commission, where the performance of the generating company / licensee(s) is sought to be improved through incentives and disincentives;
  - (d) Determination of tariff for each financial year within the control period based on the approved ARR and performance targets.
  - (e) Annual review of performance vis-a-vis the approved forecast and variations in performance of controllable and uncontrollable items;
  - (f) Mechanism for sharing approved gains or losses on account of controllable items;
  - (g) Mechanism for pass through of approved gains or losses on account of uncontrollable items; and
  - (h) Revision in tariff through annual tariff resetting process for each financial year within the control period, based on the results of the annual performance review and true up.

**5. MYT APPROACH**

The MYT framework for estimation of the ARR shall be based on the following approach:

- 5.1 **Control Period:** The first control period under multi-year tariff framework shall be a period of three (3) years and will commence from 1<sup>st</sup> April, 2009; and the subsequent control periods shall normally be a period of five (5) years or such other period as may be specified by the Commission from time to time.
- 5.2 **Base Year:** The values for the base year of the control period will be determined based on the audited accounts available or the best estimate for the relevant years and other factors considered appropriate by the Commission, and after taking into account the controllable or uncontrollable nature of the various items.

- 5.3 **Controllable and Uncontrollable items of ARR:** The items of ARR shall be identified as 'controllable' and 'uncontrollable'. The variation on account of uncontrollable item shall be treated as a pass through. The Commission may also permit pass-through of variations in controllable items on account of factors beyond control of the generating company/ licensee(s), in the ARR for the ensuing year, based on actuals, subject to prudence check. The carrying-cost for such variations may also be permitted. The items in the ARR are to be treated as "controllable" and "uncontrollable" as follows:

ARR Item	"Controllable"/ "Uncontrollable"
Fuel costs	Uncontrollable
Power purchase costs	Uncontrollable
Repair & Maintenance expenses	Controllable
Employee Cost	Controllable
Admn. & General expenses	Controllable
Interest & Finance Charges	Controllable
Return on Equity	Controllable
Depreciation	Controllable
Taxes on Income	Uncontrollable
Non-tariff income	Controllable

**Note:** Fuel cost and power purchase costs shall be uncontrollable items subject to the targets set by the Commission in respect of the operational parameters , and other factors responsible for estimation of these costs.

- 5.4 **Targets:** Targets will be set by the Commission for the items that are 'controllable' as above. Besides, trajectory for specific variables may be stipulated by the Commission where the performance of the applicant is sought to be improved upon through incentives and disincentives.
- 5.5 **Profit-Sharing:** The applicant shall present a statement of gain and loss against each controllable item of the Aggregate Revenue Requirement after making adjustment for any variations on account of uncontrollable factors, if any.
- 5.6 For the purpose of sharing gains and losses with the consumers, only the aggregate net gains or losses will be considered.
- 5.7 There shall be no cap on the profits earned from operational performance, higher than the targets specified by the Commission.
- 5.8 The mechanism for sharing of such gain shall be as under:
- One-third of the aggregate gain shall be passed on to the beneficiary/consumer(s) in the form of rebate in tariff, over such period as decided by the Commission.
  - One-third of the aggregate gain shall be retained as a special reserve for

*the* purpose of absorbing future impact of tariff, if any.

- c) The balance one-third amount of gain shall be retained by the generating company or licensee.

5.9 The aggregate loss, if any, shall be shared as follows:

- a) One third of the aggregate loss shall be passed on to the consumers as additional charge in tariff, over such period as may be decided by the Commission.
- b) The balance amount of loss shall be absorbed by the generating company or licensee.

## **6. BUSINESS PLAN**

6.1 The generating company and licensee shall file for approval of the Commission a business plan on 1<sup>st</sup> April of the year preceding the first year of the control period or any other date as may be specified by the Commission. The business plan should cover the entire control period, with details for each year of the control period.

6.2 The business plan shall contain *inter alia* the capital investment plan, capitalisation schedule, capital structure, financing plan for the proposed investment, sales/demand forecast, load forecast, power procurement plan, quality targets and proposed efficiencies including loss reduction, saving in operating cost and any other information as desired by the Commission.

6.3 The Commission shall scrutinize and approve the business plan taking into consideration the additional information provided by the applicant, if any, and the objections/ suggestions of the stakeholders and the public.

6.4 The business plan shall be approved within a period of 90 days from the date of its filing in order to facilitate the applicant to file the MYT application within the stipulated period.

## **7. MYT FILING**

7.1 The applicant shall file application for approval of ARR and tariff of the entire control period in which ARR and tariff for each year of the control period shall be furnished, not less than 120 days before the commencement of the first year of the control period. The applicant shall also submit a statement on compliance of directives issued by the Commission in its previous orders.

7.2 All filings by licensees should also be in conformity with the provisions of the CSERC (License) Regulations, 2004 and the conditions of license. The multi-year tariff filing shall be in such form and in such manner as may be prescribed by the Commission from time to time.

- 7.3 The application for tariff along with duly filled up formats and explanations will be treated as petition and shall be filed as per the procedure laid down in the Conduct of Business Regulations.
- 7.4 Every application for determination of tariff or for continuation of previously determined tariff shall be accompanied by a fee as specified in the CSERC (Fees and Charges) Regulations, 2004 as amended from time to time.
- 7.5 The Commission may seek clarification and additional information on the application and the applicant shall provide clarifications and additional information within the date stipulated by the Commission.

## **8. TRUING UP FOR THE PERIOD PRIOR TO COMMENCEMENT OF MYT ORDER**

- 8.1 Performance review and adjustment of variations in ARR and revenue from charges of the generating company/ licensee for the years prior to the first tariff order passed by the Commission under these regulations, shall be based on the actual/audited information and prudence check by the Commission.
- 8.2 The manner of sharing of losses and gains as a result of the true up exercise as above shall be decided by the Commission.

## **9. DISPOSAL OF MYT APPLICATION**

- 9.1 The Commission will process the MYT tariff filing of the CSEB /other applicants in accordance with these regulations and the Conduct of Business Regulations.
- 9.2 The applicant shall publish the summary of the proposals, as approved by the Commission for publication, highlighting the salient features of the application that are of interest to various stakeholders, in at least two newspapers, one each in Hindi and English, having wide circulation in the state and the area of the applicant.
- 9.3 Copies of the tariff application shall be available for sale at the Commission's office and in such offices of the applicant as directed by the Commission. The document shall also be posted on the applicant's website in downloadable format for easy accessibility to all stakeholders.
- 9.4 Unless otherwise directed, the Commission shall hold proceedings on the ARR and ERC proposed by the applicant on the basis of prevailing and proposed tariff, and may hear such persons as the Commission considers appropriate, before deciding on such proposals.
- 9.5 Based on the applicant's filings, the Commission may accept the application, with such modifications and/or such conditions as may be deemed just and appropriate and pass orders within 120 days of the receipt of the application after considering all objections/suggestions/comments received from the stakeholders and the general public. The orders shall set *inter alia* the targets for controllable items and state the approved Aggregate Revenue Requirement for applicant's regulated businesses.

- 9.6 The Commission shall determine tariff in accordance with the provisions and objectives of the Act; these Regulations; the Tariff policy and other prevalent policies or regulations, as the case may be.
- 9.7 All orders determining tariff shall indicate the period for which it shall be in force. The Commission may agree to continuation of existing tariff for a period beyond the period stipulated in the order, based on the application filed by the applicant, if the Commission concludes that the grounds for continuation are justified.
- 9.8 The Commission shall, within seven days of making the order, send a copy of the order to the State Government, the Central Electricity Authority and the concerned generating company / licensee.
- 9.9 The applicant shall publish the gist of the order including the approved tariffs, in at least two daily newspapers, one each in Hindi and English, having wide circulation in its area of supply. Such tariff shall take effect only after seven days from the date of such publication.

## **10 ANNUAL REVIEW OF PERFORMANCE AND TARIFF SETTING**

- 10.1 The generating company and licensee shall make an application for annual performance review and tariff resetting not less than 120 days before the close of each financial year of the control period in the form as may be prescribed by the Commission. The licensee / generating company shall provide such information as may be asked for by the Commission with a view to assess the reasons and extent of any variation in the performance from the approved forecast and the need for tariff resetting.
- 10.2 The generating company / licensee may, as a result of additional information not previously known or available to him at the time of forecast under the MYT framework for the control period, apply for modification of the ARR and ERC for the remainder of the control period, as part of the annual performance review.
- 10.3 The Commission may, on account of availability of additional information not previously known or available to it at the time of approval of the forecast under the MYT framework for the control period, either suo motu or on application made by any interested party, modify the approved forecast of ARR and ERC for the remainder of the control period as part of the annual performance review.
- 10.4 In the application, the generating company / licensee shall submit information for the purpose of calculating expected revenue and expenditure along with information on financial and operational performance for the previous year(s), current year and the ensuing year. The information for the previous year should be based on audited accounts and in case audited accounts for the previous year are not available, audited accounts for the latest previous year should be filed along with unaudited accounts for all the succeeding years.

- 10.5 The Commission shall review an application made under 10.1 and / or 10.2 above in the same manner as the original application for determination of ARR and ERC and upon completion of such review, either approve the proposed modification with such changes as it deems appropriate, or reject the application for reasons to be recorded in writing.
- 10.6 The scope of the annual performance review shall be a comparison of the performance of the licensee with the approved forecast of ARR and ERC along with the performance targets. Upon completion of the annual performance review, the Commission shall pass an order recording:
- (a) The approved forecast of ARR and ERC for such financial year including approved modifications, if any.
  - (b) The approved aggregate gain or loss to the licensee on account of uncontrollable items and passing through of such gains or losses.
  - (c) The approved aggregate gain or loss to the licensee on account of controllable items and sharing of such gains or losses as envisaged in clauses 5.8 and 5.9 through tariff.
  - (d) Truing up of ARR items of previous year(s)
  - (e) The approved modifications, if any, to the forecast for the remainder period of the control period.

## **11. TRUE UP**

- 11.1 Truing up of the ARR and revenue earned from charges in the previous year shall be carried out alongwith the annual performance review.
- 11.2 Truing up of uncontrollable items such as fuel price, power purchase cost and income tax will be carried out at the end of each year of the control period through annual tariff resetting.
- 11.3 Truing up of controllable items, for variations beyond the levels as has been decided by the Commission under clause 5.4, on account of uncontrollable factors such as inflation and other factors which are considered uncontrollable by the Commission, shall be done by the Commission.
- 11.4 Truing-up exercise shall be carried out for each year of the control period only once to take care of the variations in performance parameters specified by the Commission. This shall be based on the unaudited / audited accounts and other information submitted by the generating company / licensee. Normally the Commission shall not seek review of the trued up figures. However, since audit of accounts may take time, in case as a result of audit, the variation in ARR or revenue is substantial, true up exercise undertaken earlier may be reviewed by the Commission.

## **12. REVIEW AT THE END OF THE CONTROL PERIOD**

- 12.1 At the end of the control period, the Commission shall review the achievement of objectives and implementation of the principles of MYT laid-

down in these Regulations. To meet the objects of the Act, the National Electricity Policy and Tariff Policy, the Commission may revise the principles of MYT for the second and subsequent control period.

- 12.2 The end of the first control period shall be the beginning of the second control period. The generating company/ licensee(s) shall follow the same procedure unless required otherwise by the Commission. The Commission shall analyse the performance with respect to the targets set out at the beginning of the control period and shall determine the base value for the next control period, based on actual performance achieved, expected improvement and other factors relevant.

## PART-III

### GENERAL FINANCIAL PRINCIPLES FOR DETERMINATION OF ARR & TARIFF

#### 13. DEBT-EQUITY RATIO:

For the purpose of determination of tariff, the normative debt-equity ratio of 70:30 shall be considered.

Provided that where equity employed is more than 30%, the amount of equity for the purpose of determination of tariff shall be limited to 30% and the balance amount shall be considered as loan. The rate of return applicable on the equity above 30% shall be the weighted average rate of interest as applicable to loan.

Provided that the Commission may in appropriate cases consider equity higher than 30% for determination of tariff, where the applicant is able to establish to the satisfaction of the Commission that the deployment of equity higher than 30% is in the interest of general public.

Provided further that where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

#### 14. CAPITAL COST

14.1 The capital investment plan, as approved by the Commission in the business plan, shall be considered for the purpose of determination of ARR and tariff.

14.2 Subject to prudence check by the Commission, the expenditure incurred / proposed to be incurred on capital investment shall form the basis for determination of tariff.

14.3 The capital cost shall include capitalised initial spares subject to the following ceiling norms:

- a) Upto 2.5% and 1.5% of the original project/plant cost, as on the cut off date, of coal based thermal generating stations and hydro-power stations respectively;
- b) Upto 1.5% of the original project/scheme cost of transmission licensee; and
- c) Upto 1.5% of the original scheme cost of distribution licensee.

14.4 Scrutiny of the cost estimates by the Commission shall be with regard to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology, and such other matters for determination of tariff.

14.5 Swapping of loans shall be permitted, provided it does not affect the tariff adversely and the benefits accruing from such swapping is shared between the generating company / licensee and the beneficiaries / consumers in the year following the year of such swapping, in a ratio of **50:50**.

14.6 Restructuring of capital cost, in terms of relative share of equity and loan, shall be permitted provided it does not affect the tariff adversely in the subsequent



period. Any benefit derived from such restructuring shall be shared with the beneficiaries/consumers in a ratio of **50:50**.

14.7 Where the power purchase agreement entered into between the generating company and the licensee(s) provides a ceiling on actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff.

14.8 In the case of existing generating stations, the actual cost of the plant recorded in the books of account of the generating company shall be considered as the original project cost for the purpose of determination of tariff.

Note- *Cut off date means the date of first financial year closing after one year of the date of commercial operation of the generating station or transmission system.*

**15. ADDITIONAL CAPITALIZATION:**

15.1 The following capital expenditure actually incurred within the original scope of work, after the date of commercial operation, may be considered by the Commission, subject to prudence check:

- (a) Deferred liabilities.
- (b) Works deferred for execution.
- (c) Procurement of initial spares included in the original project costs, subject to the ceiling norm laid down in clause 14.3.
- (d) Liabilities to meet award of arbitration or compliance of order or decree of a court.
- (e) Expenditure incurred on account of change in law.
- (f) Any additional works/ services, which have become necessary for efficient and successful operation of the system but not included in the original capital cost.

**Notes**

- I. 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 clause 13.
- II. Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original capital cost. Capital expenditure on replacement of old assets shall be allowed to the extent of total capital expenditure to be incurred less the scrap value of the old assets which will be available to the licensee.

III. 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 clause 13.

IV. 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 clause 13 after writing off the original amount of the replaced assets from the original capital cost.

**16. INTEREST AND FINANCE CHARGES ON LOAN CAPITAL:**

16.1 Interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment, as per the terms and conditions of relevant agreements of loan, bond or debenture.

Provided that interest and finance charges of renegotiated loan agreements shall not be considered, to the extent they result in higher charges.

Provided further that interest and finance charges on works in progress shall be excluded from total interest and financial charges and shall be considered as part of the capital cost.

16.2 In case any moratorium period is availed of, the depreciation allowed in the tariff during the years of moratorium shall be treated as repayment during those years and the loan capital shall be reduced to the extent of depreciation, for the purpose of calculation of interest.

16.3 The generating company/ licensee shall make every effort to swap loans as long as it results in net benefit to the beneficiaries/consumers. Such benefit shall be shared with the beneficiaries/consumers in the ratio of **50:50**.

16.4 Foreign exchange variation risk, if any, shall not be a pass through. Appropriate costs of hedging and swapping to take care of foreign exchange variation will be allowed for debt obtained in foreign currencies, if it results in net benefit.

**17. INTEREST CHARGES ON WORKING CAPITAL:**

17.1 The interest on working capital shall be allowed on normative basis irrespective of the fact whether the generating company / licensee has availed working capital loan from any source or not.

17.2 The rate of interest for working capital shall be equal to the short-term prime lending rate of State Bank of India prevailing as on 1<sup>st</sup> April of the base year.

**18. DEPRECIATION:**

18.1 Depreciation for the purpose of determination of tariff shall be computed in the following manner, namely:

(a) The value base shall be the historical cost of the asset.

(b) Depreciation shall be calculated annually based on straight-line method over the useful life of the asset and at the rates prescribed in **Appendix- I** to these Regulations.

- (c) The residual life of the asset shall be considered as 10% and depreciation shall be allowed upto maximum of 90% of the historical capital cost of the asset.
  - (d) Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset.
- 18.2 Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on *pro rata* basis. The asset considered for depreciation should be commensurate with the approved investment plan and capitalization schedule for each year of the control period.
- 18.3 Depreciation shall not be allowed on assets funded by consumer contribution (i.e., any receipts from consumers that are not treated as revenue) and capital subsidies/grants. Provision for replacement of such assets shall be made in the capital investment plan.
- 18.4 The Commission may consider allowing advance against depreciation to the extent of shortfall of the amount of depreciation computed vis-a-vis the amount of debt repayment for the financial year as per the debt repayment schedule, in line with tariff regulations of the Central Commission.
- 18.5 The benefits of useful value of the assets, after the assets have been fully depreciated, should be available to the consumers.

**19. TAXES ON INCOME:**

- 19.1 Income tax, if any, on the income stream of the regulated business of the applicant shall be treated as an expense and shall be recoverable in tariff. However, the tax on any income, other than from regulated business, shall not constitute a pass-through component in the tariff. Tax on such other income shall be payable by the applicant.
- 19.2 The benefits of tax holiday and the credit for carrying forward losses applicable as per the provisions of the Income Tax Act, 1961 shall be passed on to the beneficiaries/consumers.
- 19.3 Any under-recoveries or over-recoveries of tax on income shall be adjusted every year on the basis of return filed and income tax assessment under the Income Tax Act, 1961.

**PART- IV**  
**GENERATION ARR & TARIFF**

**20. GENERAL CONDITIONS**

- 20.1 The Commission shall be guided by the principles as laid down in section 61 (a) to (h) of the Act, National Electricity Policy, Tariff Policy and follow the principles and methodologies specified by the Central Commission in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (Central Commission Tariff Regulations for short) as amended from time to time, in determination of tariff for a generating company, generating both thermal and hydro power.
- 20.2 Tariff in respect of a generating company shall be determined as a whole or for each generating station, based on the PPA submitted to the Commission for approval. This shall also be applicable to the generating stations of CSEB and/or its successor generating company.
- 20.3 For the purpose of tariff, the capital cost of a project shall be broken up into the project cost of distinct units forming part of the project. Where the unit-wise break up of the capital cost of a generating stations of a project is not available and in case of ongoing projects, the capital cost of common facilities, shall be apportioned on the basis of the installed capacity of the respective units. In relation to multi-purpose hydro-electric project, with irrigation, flood control and power components, the capital cost chargeable to the power component of the project only shall be considered for determination of tariff.

**21. SALE OF INFIRM POWER**

Any revenue earned by the generating company from the sale of infirm power, other than the recovery of fuel cost, shall be taken as reduction in capital cost and shall not be treated as revenue. The rate of infirm power, in case of thermal generating station shall be equal to energy charge as determined under the provision of clause 30.3 and in case of hydro-power plants, it shall be the primary energy rate or as specified by the Central Commission from time to time.

**22. OPERATIONS AND MAINTENANCE EXPENSES**

- 22.1 Operation and Maintenance (O&M) expenses shall mean the total of all expenditure under the following heads:
- (a) Employee costs;
  - (b) Repairs and Maintenance (R & M) expenses; and
  - (c) Administrative and General (A& G) costs.
- 22.2 The licensee in its filings shall submit the consolidated O&M expenses for the base year of the control period and for the two years preceding the base year. The O&M expenses for the base year shall be determined based on latest audited accounts, or unaudited accounts of last financial year, best estimates of licensee of the actual O&M expenses for relevant years and other factors

considered relevant. The O&M expenses for the base year will be used for projecting the expenses for each year of the control period.

22.3 Based on the information submitted by the generating company / CSEB, the Commission may adopt benchmarks of performance for approving O&M expenditure of the existing generating stations. For the base value, actual O&M expenses for the last five years shall be considered after prudence check by the Commission.

22.4 O&M expenses shall be escalated at the rate of 5% per annum to arrive at the expenditure to be considered by the Commission.

22.5 O & M expenses, for the units / stations coming into commercial operation after 01.04.05, shall be in accordance with the norms specified in Central Commission Tariff Regulations.

22.6 The O&M cost shall be subject to review by the Commission at the end of the control period.

### **23. INTEREST AND FINANCE CHARGES:**

23.1 Interest and finance charges on loan capital and working capital shall be computed in accordance with clause 16 and 17 respectively.

23.2 For the purpose of working out interest, working capital shall cover:

(a) For coal-based thermal generating stations:

- i. Cost of coal for 1.5 months for pithead stations and for 2 months for non-pithead stations;
- ii. Cost of secondary fuel oil for 2 months;
- iii. O&M expenses for 1 month;
- iv. Maintenance spares @ 1 % of the original cost, escalated @ 6% per annum from the date of commercial operation;
- v. Receivables equivalent to 2 months of fixed and variable charges for sale of electricity calculated on the target availability.

(b) For hydro power stations:

- i. Operation and Maintenance expenses for one month;
- ii. Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- iii. Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

### **24. DEPRECIATION:**

Depreciation for the assets of generating company shall be computed in accordance with clause 18.

### **25. TAXES ON INCOME**

Taxes on income, if any, of the generating company shall be dealt with in accordance with clause 19.

**26. RETURN ON EQUITY:**

26.1 Return on equity shall be computed on the equity base determined in accordance with clause 13 and shall be at the rate of maximum 14% per annum.

26.2 For the purpose of return on equity, any cash resources available to the licensee from its share premium account or from its internal resources that are used to fund the equity commitments of the project under consideration shall be treated as equity subject to limitation contained in clause 13 above.

26.3 Equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

**27. SLDC CHARGES**

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

**28. OTHER INCOME**

Income other than income from sale of energy and UI charges gained (after introduction of ABT) shall be the other income for generating company. Similarly UI penalties shall not be netted off from other income. The UI penalties shall be borne by the generator.

**29. NORMS OF OPERATION**

29.1 The norms of operation for coal based thermal generating stations shall be as follows:

Target availability for recovery of full capacity (fixed) charge (%)	80%
Target Plant Load Factor (PLF) for incentives (%)	80%

29.2 Gross Station Heat Rate (Kcal/Kwh):

Unit Capacity	≤250 MW >200MW	>250MW
During stabilization period	2600	2550
Subsequent period	2500	2450

For units having capacity less than 200MW, the normative gross station heat rate shall be 5% over the designed SHR of the respective generating units.

29.3 Secondary fuel oil consumption:

During stabilization period	4.5 ml/kWh
Subsequent period	2.0 ml/kWh

29.4 Auxiliary Energy Consumption:

With cooling towers	9.0%
Without cooling towers	8.5%

29.5 Stabilisation Period:

In relation to a unit of coal based thermal generating stations, stabilisation period shall be reckoned at 180 days commencing from the date of commercial operation of that units.

29.6 Transit and handling loss:

Pit head Stations 0.3%

Non-pithead stations 0.8%

29.7 The norms of operation for hydro generating stations shall be as follows:

Normative capacity index for recovery of full capacity charges 85%

Auxiliary energy consumption 0.5%

Transformation loss 0.5%

29.8 The Commission may relax the norms of individual thermal generating station based on the vintage, size and past performance of such generating stations.

29.9 The operational norms for non-conventional energy sources shall be in accordance with the Regulations framed by the Commission for such kinds of generating plants.

29.10 The operational norms for gas based thermal power plants coming into operation after notification of these regulations shall be dealt in accordance with the regulations framed by the central Commission for such kinds of generating plants.

### **30. TARIFF FOR THERMAL POWER GENERATING STATIONS**

#### **30.1 Components of Tariff**

30.1.1 The tariff for sale of electricity from a thermal generating station shall comprise of two parts, namely, the recovery of annual capacity (fixed) charges and energy (variable) charges.

30.1.2 The fixed cost of a generating station eligible for recovery through capacity charges shall include the following elements:

- (a) Operation and maintenance expenses
- (b) Depreciation
- (c) Tax on income
- (d) Interest and finance charges on loan capital
- (e) Return on equity

30.1.3 The energy (variable) charges shall cover fuel and oil costs.

#### **30.2 Recovery of capacity charges**

30.2.1 A generating station can recover full capacity charges at the target availability specified for it by the Commission. Recovery of capacity charges below the level of target availability will be on pro rata basis. No capacity charges shall be payable at zero availability.

30.2.2 Payment of capacity charges shall be on monthly basis in proportion to allocated/contracted capacity.

#### **30.3 Energy Charges**

The energy (variable) charges shall cover fuel costs and would be worked out

on the basis of ex-bus energy delivered / sent out from the generating station as per the following formula:

$$\text{Energy charges (Rs.)} = \text{REC} * \text{DE}_{\text{ex-bus}}$$

Where,

REC is the rate of energy charges in Rs. / kWh determined using the following formula:

$$\text{REC} = \frac{100*[P_p * Q_p + P_s * Q_s]}{[100 - \text{AUX}]}$$

$P_p$  is the price of primary fuel namely coal in Rs./kg.

$Q_p$  is the quantity of primary fuel in Kg required for generation of one kWh of electricity at generator terminals and shall be computed on the basis of normative gross station heat rate (less heat contributed by secondary fuel oil for coal based generating stations) and gross calorific value of coal.

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

$Q_s$  = Normative quantity of secondary fuel oil in ml/kWh as per values approved by the Commission

AUX= Normative auxiliary energy consumption as % of gross generation as per values approved by the Commission, and

$\text{DE}_{\text{ex-bus}}$  is the delivered ex-bus energy for the month in kWh.

### **30.4 Incentive**

In the event of implementation of intra-state Availability Based Tariff (ABT), incentive shall be payable at a flat rate of 25 paise/kWh for ex-bus scheduled energy generation, in excess of the ex-bus energy corresponding to target plant load factor. Till such time, incentive shall be worked out, at the rate specified above, based on actual generation beyond generation corresponding to the target PLF.

### **30.5 Late Payment Surcharge**

In case the payment of bills of capacity charges and energy charges is delayed beyond a period of one month from the date of billing, the generating company may levy a late payment surcharge at the rate of 1.25% per month or part thereof.

### **30.6 Rebate**

For payment of bills of capacity charges and energy charges through a letter of credit on presentation, a rebate of 2% shall be allowed.

### **30.7 Unscheduled Interchange (UI) Charges**

In the event of implementation of intra-state ABT, the generating station may be entitled to receive or shall be required to bear, as the case may be, the charges for deviations between energy sent-out corresponding to scheduled generation and actual energy sent-out, as per the rate approved by the Commission from time to time.



### **30.8 Demonstration of Declared Capability**

30.8.1 The generating company may be required to demonstrate the declared capability of its generating station as and when asked by the State Load Dispatch Centre of the region in which the generating station is situated. 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, the quantum of which shall be decided by the Commission.

30.8.2 The operating log books of the generating station shall be available for review by the SLDC. These books shall keep record of machine operation and maintenance.

## **31. TARIFF FOR HYDRO-POWER GENERATING STATIONS**

### **31.1 Components of tariff**

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

### **31.2 Computation of annual capacity charges**

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

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

Capacity charge = (annual fixed charge - primary energy charge)

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

(ii) Annual Fixed Charges: The total annual expenses and return on equity shall be worked out on the basis of expenses and return allowed in terms of clause 26 of these regulations.

### **31.3 Recovery of capacity charges**

31.3.1 Full capacity charges shall be recoverable at normative capacity index specified in clause 29.7 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.

31.3.2 The payment of capacity charges shall be on monthly basis in proportion to the allocated/contracted capacity.

### **31.4 Primary and secondary energy charges**

31.4.1 Rate of primary energy for all hydro-electric power generating stations shall be equal to the lowest variable charges of the central sector thermal power generating station in the Western Region. 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:

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

Primary energy charge = Saleable primary energy x primary energy rate  
Secondary energy rate shall be equal to primary energy rate.  
Secondary energy charge = Saleable secondary energy x Secondary energy rate.

### **31.5 Incentive**

31.5.1 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 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%.

31.5.2 Incentive shall be payable to the generating company in accordance with the following formula:

$$\text{Incentive} = 0.65 \times \text{Annual Fixed Charge} \times (\text{CIA} - \text{CIN})/100$$

(If incentive is negative, it shall be set to zero.)

Where, CIA is the Capacity Index achieved and CIN is the normative capacity index whose values are 90% for purely run of the river hydro stations and 85% for pondage/storage type hydro generating stations.

31.5.3 The incentives on account of capacity index and secondary energy charges 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.

31.5.4 The total incentive payment calculated on annual basis shall be shared by the beneficiaries based on the allocated/contracted capacity.

### **31.6 Late Payment Surcharge**

In case the payment of bills of capacity charges and energy charges is delayed beyond a period of one month from the date of billing, the generating company may levy a late payment surcharge at the rate of 1.25% per month or part thereof.

### **31.7 Rebate**

For payment of bills of capacity charges and energy charges through a letter of credit on presentation, a rebate of 2% shall be allowed.

**31.8 Deemed generation:**

- 31.8.1 “Deemed Generation” means the energy, which a hydro-power station was capable of generating but could not generate due to the conditions of grid or power system, beyond the control of generating station, resulting in spillage of water.
- 31.8.2 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 allocated capacity of the generating station.
- 31.8.3 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.

**PART- V**  
**DETERMINATION OF TRANSMISSION ARR & TARIFF**

**32. GENERAL**

- 32.1 Transmission tariff shall be determined for the whole transmission system of the licensee.
- 32.2 The State Transmission Utility shall segregate its accounts into licensed business of transmission and SLDC activity, till such time the SLDC starts operating independently. The transmission business revenue requirement would be used for determining transmission charges.
- 32.3 Till such time there is complete segregation of accounts between transmission business and SLDC activity, the ARR for each business shall be supported by an allocation statement containing the apportionment of all costs, revenues, assets, liabilities, reserves and provisions between the transmission business, SLDC activity and any other business of the licensee. The allocation statement shall also contain the methodology used for the apportionment between different businesses.
- 32.4 The cost of transmission licensee as determined by the Commission as annual revenue requirement shall be recovered in the form of transmission charges.
- 32.5 The cost of State Load Despatch Centre as determined by the Commission, as its annual revenue requirement, shall be recovered in the form of SLDC charges. For the purpose of the determination of SLDC charges, no debt-equity ratio will be applied since the SLDC will not be permitted to earn a return on equity.

**33. ARR**

The ARR of the transmission licensee for each year of the control period shall comprise of the following, namely:

- (a) Operation and maintenance expense
- (b) Interest and finance charge
- (c) Return on equity
- (d) Depreciation
- (e) Taxes on Income
- (f) Other expenses, if any
- (g) Less non-tariff income and income from other business.

**34. NORMS OF OPERATION**

- 34.1 **Targets availability:** Target availability for intra-state transmission shall be 98%.
- 34.2 **Auxiliary energy consumption in the sub-station:** The charges for auxiliary energy consumption in the sub-station / offices for the purpose of air-conditioning, lighting, technical consumption, etc. shall be borne by the transmission licensee as part of its normative operation and maintenance expenses.

### 34.3 **Transmission loss and its treatment**

34.3.1 Transmission losses at different voltage levels shall be calculated as the difference between the sum of all energy (X) injected into the transmission system from different interface points and the sum of energy transmitted to distribution licensee(s) and consumer(s)(Y) connected with transmission system. Transmission losses expressed as a percentage at different voltage levels shall be the transmission loss upto that voltage level as a percentage of the total energy injected into the transmission system.

$$\text{Transmission loss (\%)} = \frac{(X - Y) \times 100}{X}$$

34.3.2 Transmission losses at normative levels as approved by the Commission shall be debitable to energy account of users of the transmission system. In case the actual transmission losses exceed the normative loss levels approved by the Commission, such excess loss shall be to the account of the transmission licensee and the transmission licensee shall compensate the users at the weighted average cost of power purchase in that financial year.

## 35. **OPERATION AND MAINTENANCE EXPENSES**

35.1 Operation and Maintenance (O&M) expenses shall mean the total of all expenditure under the following heads:

- (a) Employee costs;
- (b) Repairs and Maintenance (R & M) expenses; and
- (c) Administrative and General (A& G) costs.

35.2 The licensee in its filings shall submit the consolidated O&M expenses for the base year of the control period and for two years preceding the base year. The O&M expenses for the base year shall be determined based on the latest audited accounts, or unaudited accounts of last financial years along with the latest audited accounts, best estimates of licensee of the actual O&M expenses for relevant years and other factors considered relevant. The O&M expenses for the base year, if required, will be used for projecting the expenses for each year of the control period.

35.3 The O & M expenses shall be fixed on the basis of circuit kilometers of transmission lines, transformation capacity and number of bays in substations. For this, the licensee shall also submit the detailed data regarding the length of transmission lines, transformation capacity and sub-station bays available.

## 36. **INTEREST AND FINANCE CHARGES**

36.1 Interest and finance charges on loan capital and working capital shall be computed in accordance with clause 16 and 17 respectively.

36.2 For the purpose of working out interest, working capital of transmission licensee shall cover:

- (a) Operation and maintenance expenses for one month;
- (b) Maintenance spares @ 1 % of the historical cost of assets at the beginning of the year; and
- (c) Receivables equivalent to two month's average revenue.

**37. DEPRECIATION**

Depreciation of the assets of transmission licensee shall be computed in accordance with clause 18.

**38. TAXES ON INCOME**

Taxes on income, if any, of the transmission licensee shall be dealt with in accordance with clause 19.

**39. RETURN ON EQUITY**

39.1 Return on equity shall be computed on the equity base determined in accordance with clause 13 above and shall be a maximum of 14% per annum.

39.2 For the purpose of return on equity, any cash resources available to the licensee from its share premium account or from its internal resources that are used to fund the equity commitments of the project under consideration shall be treated as equity subject to limitation contained in clause 13 above.

39.3 Equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian rupees based on the exchange rate prevailing on the due date of billing.

39.4 No return on equity will be computed for the State Load Despatch Centre.

**40. NON-TARIFF INCOME**

All income incidental to transmission business and derived by the licensee from sources, including, but not limited to, profit derived from disposal of assets, income from investments, rents and any other miscellaneous receipts from users, shall constitute non-tariff income. Parallel operation charge, if any, shall be one of the constituents of this non-tariff income.

**41. TRANSMISSION TARIFF**

41.1 The transmission tariff payable by the distribution licensee and long-term open access customers of the transmission system shall be so designed to recover the Aggregate Revenue Requirement approved by the Commission for each year of the control period.

41.2 Full annual transmission charges shall be recoverable at the target availability approved by the Commission, for each year of the control period and such charges shall be apportioned on monthly basis. Payment of transmission charges below target availability shall be determined on *pro rata* basis for each month. At zero availability, no transmission charges shall be payable.

41.3 The total allotted transmission capacities to long-term open access customers and the distribution licensee shall be the basis for determination of monthly transmission charges.

41.4 The transmission charges so determined shall be applicable to long-term open access customers including distribution licensee(s).

**42. INCENTIVE**

42.1 The transmission licensee shall be entitled to incentive on achieving annual availability beyond the target availability as per clause 34.1, in accordance with the following formula:

Incentive = Annual Transmission Charges x (Annual availability achieved - Target availability) / Target availability.

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

42.2 Half of the Incentive (50%) shall be shared by the long-term customers in the ratio of their average allotted transmission capacity for the year.

**43. REBATE**

For payment of bills of transmission charges through letter of credit on presentation, a rebate of 2% shall be allowed.

**44. LATE PAYMENT SURCHARGE**

In case the payment of bills of transmission charges by the beneficiary (s) is delayed beyond a period of one month from the date of billing a late payment surcharge at the rate of 1.25% per month shall be levied by the transmission licensee.

**45. SLDC CHARGES**

The SLDC shall be allowed to recover its annual revenue requirement as decided by the Commission by means of SLDC charges.

**PART-VI**  
**ARR & TARIFF FOR WHEELING AND RETAIL SUPPLY**

**46. GENERAL**

46.1 The distribution licensee shall segregate its accounts into wheeling business and retail supply business. The ARR for wheeling business would be used to determine wheeling charges and the ARR for retail supply business to determine retail supply tariffs.

46.2 For such period until accounts are segregated, the licensee will prepare an "allocation statement" showing apportionment of costs and revenues to these two businesses. The statement will be supported with an explanation of the methodology used for such allocations.

**47. ESTIMATION OF SALES**

47.1 The licensee shall submit forecast of restricted demand (in MW) and unrestricted demand (in MW) for all consumer categories together and sale of electricity (in MU) for different categories of consumers in his area of supply, for all the years of the control period. The forecasts for category-wise sale of electricity shall generally be worked out on the basis of CAGR.

47.2 The sales forecast for unmetered consumer categories, if any, shall be validated with norms approved by the Commission on the basis of a proper study carried out by the licensee.

47.3 The Commission shall examine the forecasts for their reasonableness based on growth in the number of consumers, pattern of consumption, losses 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 the sales forecast with such modifications as deemed fit.

47.4 Sale of electricity, if any, to electricity traders or other distribution licensees shall be separately indicated.

47.5 The distribution licensee shall also indicate category-wise open access customers. The demand and energy wheeled for them shall be shown separately for -

- (a) supply within its area of supply; and
- (b) supply outside its area of supply.

**48. DISTRIBUTION LOSS AND ITS TREATMENT:**

48.1 The distribution loss at a particular voltage level shall be the difference between the energy injected into the distribution system at that voltage level and the sum of energy sold to all its consumers at that level and the energy delivered to level below that level. Energy sold shall be the sum of metered sales and assessed unmetered sales, if any, based on approved norms.



- 48.2 The licensee shall segregate losses into **technical loss** (i.e., ohmic/core loss in the lines, substations and equipments) and **commercial loss** (i.e, unaccounted energy due to metering inaccuracies/inadequacies, pilferages of energy etc.), supply voltage-wise and consumer category-wise.
- 48.3 The Commission shall approve a realistic and achievable loss target for each year of the control period based on a detailed study to be undertaken by the licensee. In the absence of such study, the Commission shall set such target as it considers reasonable on the basis of information on line losses submitted by the licensee.
- 48.4 The Commission shall also fix targets, both long-term and short-term, for loss reduction to bring down the loss level gradually to acceptable norms of efficiency.
- 48.5 To generate local consensus for effective action for better governance, area/ locality specific surcharge for higher AT&C loss may be considered. The Commission may also encourage suitable local area based incentive and disincentive schemes for the staff of the utilities linked to the reduction of losses, as per the provision of para 8.2.1(2) of the Tariff Policy.
- 48.6 In case the actual distribution loss exceeds the normative loss level approved by the Commission, such excess loss shall be to the account of the distribution licensee.
- 48.7 In case the actual distribution loss is less than the approved loss level, such savings shall be shared between the distribution licensee and the consumers in the ratio of 70:30 during the first control period and in the ratio as may be decided by the Commission in the subsequent control periods.

**49. ESTIMATION OF REQUIREMENT OF PURCHASE OF POWER**

49.1 The estimation of electricity required to be purchased by the licensee shall be worked out based on the estimated energy sales forecast of the licensee and the approved distribution losses for the years of the control period and the transmission losses approved by the Commission for the transmission licensee for the control period.

**49.2** The Commission shall scrutinize and approve the requirement for purchase of power with such modifications as deemed fit, for each year of the control period.

**50. ARR**

The ARR for wheeling business and retail supply business of the distribution licensee for each year of the control period shall comprise of the following, namely:

- (a) Power Purchase Costs } only for Retail Supply Business
- (b) Transmission and SLDC Charges }
- (c) Operation and maintenance expense
- (d) Depreciation

- (e) Interest on loan capital
- (f) Interest on working capital
- (g) Return on equity
- (h) Taxes on income
- (i) Other expenses if any
- (j) Less non-tariff income including income from other business.

## **51. NORMS OF OPERATION & PERFORMANCE TARGETS**

51.1 Based on the proposal, information and data submitted by the distribution licensee, the Commission shall set the following performance targets:

- (a) Accuracy in sales / demand forecast for each consumer category (and sub-categories i.e. slabs);
- (b) Collection efficiency for each year of the control period;
- (c) Aggregate Technical and commercial (**AT & C**) loss reduction trajectory for each year of the control period;
- (d) Reduction in transformer failure;
- (e) Energy efficiency and demand-side management measures.

51.2 The Commission may consider incentivising the licensee for achieving better performance targets.

## **52 COST OF POWER PURCHASE**

52.1 The distribution licensee shall be allowed to recover the cost of power it procures from all sources including the power procured from the State owned generating stations, independent power producers, Central generating stations, renewable energy sources and others, for supply of power to consumers, based on the load forecast approved by the Commission for each year of the control period.

52.2 Approved retail sales level shall be grossed up by normative level of T&D losses as given in the approved loss trajectory for the purpose of arriving at the quantity of power to be purchased.

52.3 While approving the cost of power purchase, the Commission shall determine the quantum of power to be purchased from various sources in accordance with the principles of merit order schedule and despatch based on a ranking of all approved sources of supply in the order of effective cost of power purchase.

52.4 All power purchase costs will be considered legitimate unless it is established that the merit order principle has been violated or power has been purchased at unreasonable rates.

52.5 Foreign exchange variation risk, if any, shall not be a pass through. However, in the case of existing PPAs which provide for payment of foreign exchange rate variation, the same shall be allowed to be included in the power purchase costs during the currency of such contracts.

**53. TRANSMISSION CHARGES AND SLDC CHARGES**

53.1 The distribution licensee shall be allowed to recover transmission charges payable to a transmission licensee for access to and use of intra-state / inter-state transmission system in accordance with the tariff approved by the appropriate Commission.

53.2 The distribution licensee shall also be allowed to recover the expenses at the approved level:

- (a) the charges for intervening transmission facilities;
- (b) wheeling charges for use of distribution system of other distribution licensee/s;
- (c) the charges for access and use of inter-state transmission system in accordance with the tariffs determined by CERC; and
- (d) the fees and charges payable to the RLDC and SLDC as may be specified.

**54. OPERATION AND MAINTENANCE EXPENSES:**

54.1 Operation and maintenance (O & M) expenses shall mean the total of all expenditure under the following heads:

- a. Employee costs;
- b. Repairs and Maintenance (R & M) expenses; and
- c. Administrative and General (A& G) costs.

54.2 The licensee in its filings shall submit the consolidated O&M expenses for the base year of the control period and for the two years preceding the base year. The O&M expenses for the base year shall be determined on the basis of the latest audited accounts, or unaudited accounts of last financial years along with the latest audited accounts, best estimates of licensee of the actual O&M expenses for relevant years and other factors considered relevant. The O&M expenses for the base year, if required, will be used for projecting such expenses for each year of the control period based on appropriate inflation factor. However, the applicant licensee may also propose norms for O&M expenses for the first control period.

**55. INTEREST AND FINANCE CHARGES:**

55.1 Interest and finance charges on loan capital and working capital shall be computed in accordance with clause 16 and 17 respectively.

55.2 For the purpose of working out interest, working capital of distribution licensee shall cover:

- (a) Operation and maintenance expenses for one month;
- (b) Maintenance spares @ 1 % of the historical cost of assets at the beginning of the year; and
- (c) Receivables equivalent to two month's average revenue.

**56. RETURN ON EQUITY:**

56.1 Return on equity shall be computed on the equity base determined in

accordance with clause 13 above and shall be a maximum of 14% per annum.

56.2 For the purpose of return on equity, any cash resources available to the licensee from its share premium account or from its internal resources that are used to fund the equity commitments of the project under consideration, shall be treated as equity subject to limitation contained in clause 13 above.

56.3 Equity invested in foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian rupees based on the exchange rate prevailing on the due date of billing.

**57. DEPRECIATION**

Depreciation of the assets of distribution licensee shall be computed in the manner prescribed in clause 18.

**58. TAXES ON INCOME**

Taxes on Income, if any, of the distribution licensee shall be dealt in accordance with clause 19.

**59. BAD AND DOUBTFUL DEBT**

The Commission may consider a provision for writing off of bad and doubtful debts of distribution licensee. As a normative provision 1% of sales revenue shall be allowed as bad and doubtful debt subject to actual writing off of bad and doubtful debts in the previous year.

**60. NON-TARIFF INCOME**

Any income being incidental to distribution business and derived by the licensee from sources, including but not limited to profit derived from disposal of assets, income from investments, rents, penalties for over/under-utilization of distribution system and any other miscellaneous receipts from users, shall constitute non-tariff income.

**61. RETAIL SUPPLY TARIFF**

61.1 The supply tariff shall be cost reflective and designed to recover the Aggregate Revenue Requirement of the distribution licensee approved by the Commission for each year of the control period.

61.2 The consumer category-wise supply tariff shall be determined on the basis of approved costs and sales/ demand forecast for supply only.

61.3 The Commission may reset the supply tariff annually to rebalance the cross-subsidies.

61.4 To promote demand side management and various energy conservation measures, two part tariffs featuring separate fixed and variable charges and a differential tariff for peak and off-peak hours may be implemented.

61.5 The Commission shall stipulate the broad classification of consumers and time frame for implementation of TOD tariff. While stipulating differential tariffs, the Commission may also indicate the peak, off-peak periods.

61.6 The Commission may provide incentives to encourage metering and billing based on metered tariffs, particularly for consumer categories that are presently unmetered to a large extent.

## **62. WHEELING CHARGES**

62.1 The wheeling charges payable by the users of the distribution system shall be designed to recover the Aggregate Revenue Requirement for wheeling business as approved by the Commission for each year of the control period.

62.2 Wheeling charges so worked out shall be apportioned supply voltage-wise. However, till adequate and reliable information is available, the wheeling charges may have to be determined at a uniform rate irrespective of voltage.

62.3 The wheeling charges shall be determined on the basis of approved costs and sales/ demand forecast. The total contract demand/ connected load may be the basis for determination of wheeling charges to take care of the sales variation.

62.4 The users of the distribution system shall bear the distribution losses at the respective voltage levels to provide for adjustment of losses in the system in kind in addition to the wheeling charges.

## **63. SUBSIDY BY GOVERNMENT**

63.1 If the State Government decides to subsidize any consumer or class of consumers, it shall pay, as per the provisions of Section 65, the amount in advance to compensate the licensee affected by the grant of such subsidy in the manner as specified by the Commission.

Provided that no such direction of the State Government to grant subsidy shall be operative if the payment is not made in accordance with the provisions contained in the Section 65 of the Act and the tariff fixed by the State Commission shall be applicable from the date of issue of orders by the Commission in this regard.

63.2 To ensure implementation of the provision of the Act, the Commission shall determine the tariff initially, without considering the subsidy commitment by the State Government and subsidised tariff shall be arrived at thereafter considering the subsidy by the State Government for the respective categories of consumers.

63.3 The Commission shall enquire from the Government the level of subsidy it proposes to give during each year of the control period based on which the final retail supply tariffs shall be notified by Commission.

**PART - VII**  
**MISCELLANEOUS**

**64. TRANSITIONAL PROVISION**

Till the Chhattisgarh State Electricity Board continues to operate in terms of the provisions of Section 172 of the Act, the CSEB shall submit the tariff filing as per the principles described in these Regulations separately for generation, transmission and distribution.

**65. SAVINGS**

65.1 Nothing in these Regulations shall be deemed to limit or otherwise impede the inherent power of the Commission to revise/review and make such orders as may be necessary, in the absence of sufficient data, to meet ends of justice or to prevent abuses of the process of the Commission.

65.2 Nothing in these Regulations shall impede the Commission from adopting, in conformity with the provisions of the Act, a procedure, which is at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of a matter or class of matters, and for reasons to be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.

**66. POWER TO REMOVE DIFFICULTIES**

If any difficulty arises in giving effect to any of the provisions of these regulations, the Commission may, of its own motion or otherwise by an order and after giving a reasonable opportunity to those likely to be affected by such order, make such provisions, not inconsistent with these regulations or the Act, as may appear to be necessary for removing those difficulties.

**67. POWER TO AMEND**

The Commission may, at any time, add, alter, vary, modify or amend any of the provisions of these Regulations.

**Note:** In case of any difference in the interpretation or understanding of the provisions of the Hindi version of these Regulations with that of the English version (the original version), the later will prevail and in case of any dispute in this regard, the decision of the Commission shall be final and binding.

***By order of the Commission***

***(N.K.Rupwani)***  
***Secretary***

**Appendix-1**  
[Refers to clause-18.1]  
**Depreciation Schedule**

Description of Assets	Useful Life (yrs)	Rate (Calculated w.r.t. 90%)		
		1	2	3=1*2
A. Land owned under full title	Infinity	---		
B. Land held under lease:				
(a) for investment in land.	The period of lease or the period remaining unexpired on the Assignment of the lease.	---		
(b) for cost of clearing site	The period of lease remaining unexpired at the date of clearing the site.	---		
C. Assets:				
Purchased new:				
(a) Plant and machinery in generating stations including plant foundations: -				
(i) Hydro-electric	35	2.57		90
(ii) Steam-electric NHRS & Waste Heat Recovery Boilers/Plants	25	3.60		90
(iii) Diesel-electric & gas plant	15	6.00		90
(b) Cooling towers and circulating water systems	25	3.60		90
(c) Hydraulic works forming Part of hydro-electric system including: -				
(i) Dams, Spilways weirs, canals reinforced concrete Flumes & syphons	50	1.80		90
(ii) Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge (tanks) hydraulic control valves and other hydraulic works.	35	2.57		90
(d) Building & civil engineering works of a Permanent character, not mentioned above: -				
(i) Offices & showrooms	50	1.80		90
(ii) Containing thermo-electric generating plant	25	3.60		90
(iii) Containing hydro- electric generating plant	35	2.57		90
(iv) Temporary erection such as wooden structures	5	18.00		90
(v) Roads other than kutcha roads	50	1.80		90
(vi) Others	50	1.80		90
(e) Transformers, transformer (Kiosk)				

sub-station equipment & other fixed apparatus (including plant foundations)			
(i) Transformers (including foundations) having a rating of 100 kilo volt amperes and over	25	3.60	90
(ii) Others	25	3.60	90
(f) Switchgear, including cable connections	25	3.60	90
(g) Lightning arrestors:			
(i) Station type	25	3.60	90
(ii) Pole type	15	6.00	90
(iii) Synchronous condensor	35	2.57	90
(h) Batteries:			
(i) Underground Cable Including joint boxes and disconnected boxes	35	2.57	90
(ii) Cable duct system	50	1.80	90
(l) Overhead lines including supports			
(i) Lines on fabricated steel operating at nominal voltages higher than 66 KV	35	2.57	90
(ii) Lines on steel supports operating at nominal voltages higher than 13.2 Kilo volts but not exceeding 66 Kilo vols	25	3.60	90
(iii) Lines on steel or reinforced concrete supports	25	3.60	90
(iv) Lines on treated wood supports	25	3.60	90
(j) Meters	15	6.00	90
(k) Self propelled vehicles	5	18.00	90
(l) Air conditioning plants:			
(i) Static	15	6.00	90
(ii) Portable	5	18.00	90
(m) (i) Office furniture and fittings			
(ii) Office equipments:	15	6.00	90
(iii) Internal wiring including fittings and apparatus	15	6.00	90
(iv) Street light fittings	15	6.00	90
(n) Apparatus let on hire:			
(i) Other than motors	5	18.00	90
(ii) Motors	15	6.00	90
(o) Communication equipment:			
(i) Radio and higher frequency carrier system	15	6.00	90
(ii) Telephone and its lines	15	6.00	90
(p) Assets purchased second hand and assets not otherwise provided for in the schedule	Such reasonable period as the competent Government determines in each case having regard to the nature, age and condition of the assets at the time of its acquisition by the owner.		