



JOINT ELECTRICITY REGULATORY COMMISSION FOR MANIPUR AND MIZORAM, AIZAWL

NOTIFICATION

No.H. 11019/6/08-JERC dated 17th June, 2010: Whereas it is expedient to establish procedures for determination of Tariff of the Joint Electricity Regulatory Commission for Manipur and Mizoram. Now, Therefore, in exercise of the powers conferred under section 181 read with sections 45(2), 61 and 62 of the Electricity Act, 2003 (36 of 2003) and all powers enabling it in that behalf, the Joint Electricity Regulatory Commission for Manipur and Mizoram hereby makes the following Regulations for prescribing the terms and conditions for determination of Tariff, namely:

CHAPTER-1

GENERAL

1 Short title, commencement and extent of application

- (1) These Regulations may be called the Joint Electricity Regulatory Commission for Manipur and Mizoram (**Terms and Conditions for Determination of Tariff) Regulations, 2010.**
- (2) These Regulations shall come into force from the date of their publication in the Official Gazettes of Manipur and Mizoram
- (3) These Regulations shall extend to the whole of the States of Manipur and Mizoram and shall apply in relation to all matters falling within the jurisdiction of the Commission.

2 Scope

- (1) The Commission shall determine Tariff including terms and conditions therefore, for all matters for which the Commission has the power under the Act, including in the following cases:-
 - (a) Supply of electricity by a Generating Company to a Distribution Licensee:
Provided that where the Commission believes that a shortage of supply of electricity exists, it may fix the minimum and maximum ceiling of tariff for sale or purchase of electricity in case of an agreement entered into between a Generating Company and a Licensee or between Licensees, for

- a period not exceeding one year;
 - (b) Intra-State transmission of electricity;
 - (c) Rates and charges for use of intervening transmission facilities, where these cannot be mutually agreed upon by the Licensees;
 - (d) Wheeling of electricity;
 - (e) 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:
- (f) Surcharge in addition to the charges for wheeling under the first proviso to sub-section(2) of Section 42 of the Act, in accordance with the Distribution Open Access Regulations;
 - (g) Additional surcharge on the charges for wheeling under sub-section (4) of Section 42 of the Act, in accordance with the Distribution Open Access Regulations.
- (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 Govt.

3 Definitions

- (1) In these Regulations unless the context otherwise requires:-
- (a) **'Act'** means Electricity Act 2003 (36 of 2003) as amended from time to time;
 - (b) **'Authority'** means Central Electricity Authority constituted under Section 70 of the Electricity Act 2003;
 - (c) **'Combined average unit cost of supply'** means the total Revenue Requirement for the year adjusted by the revenue gaps of the previous years divided by the total energy sold during the year;
 - (d) **'Commission'** means the Joint Electricity Regulatory Commission for Manipur and Mizoram constituted by the Government of India vide notification dated 18-01-2005 (under section 83 of the Act);
 - (e) **'Control Period'** means the period before which the long term tariff principles for distribution entities takes effect,
 - (f) **'Current year'** means the year in which petition for determination of tariff is filed;
 - (g) **'Force Majeure Event'** means event beyond the control of the integrated utility or generating company or the licensee, including and not

limited to, earthquake, cyclone, flood, storm, war, terrorist attack, civil commotion or similar other such occurrence that may lead to any act that would involve a breach of relevant provisions in laws or Regulations;

- (h) **'Integrated utility'** means the Mizoram and Manipur Electricity Departments in their present form or the successor entity of the Departments performing one or more of the functions of generation, transmission, distribution and trading after restructuring and/or Corporatisation of the Department(s).
 - (i) **'Licensee'** means a person who has been granted a license under section 14 of the Act; and the Integrated Utility.
 - (j) **'Regulations'** means Regulations for determination of Tariff notified by the Joint Electricity Regulatory Commission for Manipur and Mizoram contained in these Regulations,
 - (k) **'State Government'** means either the Governments of Manipur and Mizoram or both.
 - (l) **'Tariff'** means schedule of charges for different functions of generation, transmission, distribution and trading of electricity as well as various charges for providing open access of electricity, or for the combination of all functions as determined by the Commission from time to time;
 - (m) **'Year'** means financial year;
- (2) The definitions, specifically applicable to various functions such as generation, transmission, distribution etc have been defined in the respective chapters detailed hereunder;
- (3) Words and expressions not defined in these Regulations but defined in the Act shall have the meaning assigned to them under the Act.

CHAPTER-2
PROCEDURE FOR MAKING APPLICATION FOR
DETERMINATION OF TARIFF

4 Application for determination of Tariff

- (1) Every year, by November 30th, every generating company and licensee shall file with the Commission, a tariff application with statements containing the expected revenues from the tariff and the charges including miscellaneous charges in the ensuing financial year, under its currently approved tariff and charges including miscellaneous charges, along with detailed explanations for assumptions made.
- (2) The generating companies and licensees along with their applications shall file information in the following formats:
 - (a) Formats for Generating Company as provided in Appendix A.
 - (b) Formats for Hydro Generating Company provided in Appendix B
 - (c) Formats for Transmission licensee as provided in Appendix C.
 - (d) Formats for Distribution licensee as provided in Appendix D.
- (3) The Generating Companies and licensees shall submit a statement on compliance of directives issued by the Commission in its last tariff order along with formats as stated in clause 4(2) above.
- (4) An application for determination of tariff shall be accompanied by information in the formats as specified in clause 4(2) above for the previous year, current year and the ensuing year. The information for the previous year should be based on audited accounts and in case audited accounts are not available, audited accounts for the year immediately preceding the previous year should be filed along with un-audited accounts for the previous year.
- (5) Every new licensee shall file an application with the Commission, immediately on grant of license, a tariff application along with details as stated in clause 4(2). Every new generating company shall file an application with the Commission, at least three months ahead of commencement of commercial operations.

- (6) The application of tariff along with duly filled up formats and explanations will be treated as a petition.
- (7) Every application for determination of tariff or for continuation for previously determined tariff shall be accompanied with tariff application fee prescribed by the Commission.
- (8) All filings should be in conformity with the stipulations in the licensing Regulations and the conditions of the license.
- (9) The transmission and distribution licensees shall include a detailed statement of voltage-wise technical and commercial losses. The voltage-wise losses shall be distributed according to the energy drawn at the voltage level. The licensees must provide plans for reducing the losses, together with the details of the investment required to achieve the planned reductions. All such plans are required to be submitted year wise, commencing with the ensuing financial year and covering at least the four subsequent years indicating the sources of fund required to execute these plans.
- (10) If there is a revenue gap between the expected revenues from the currently applicable tariff and other charges including miscellaneous charges and the revenue requirement for the ensuing financial year, the generating company and the licensee include a proposal/plan as to how it proposes to bridge the revenue gap.
- (11) In addition to the hard copies, the information shall necessarily be submitted in such electronic form, as the Commission may require.
- (12) The statement referred to in clause 4(2) shall be given separately for each of the separate businesses of the licensee and for each of the separate businesses of the generating company. In case the licensee carries on any business or services other than those licensed under the Act, the licensee shall give separate revenue statements, balance sheet and cash-flow statement together with such details as the Commission may require in respect of such businesses or services.
- (13) The Commission may seek clarification and additional information on the application, and the generating company and licensee shall provide the clarifications and additional information within the date stipulated by the Commission.

- (14) The generating companies and licensees shall intimate the particulars of their officers who would provide the desired information and communicate with the Commission for clarification etc., if any.
- (15) Any delay/ non-submission of the tariff application/information as above may attract penalty / fines as per the relevant provisions of the Act.
- (16) In case the generating company or the licensee does not submit the application for determination of tariff within the time allowed by the Commission, the Commission may consider taking up the matter suo-moto.

5 Publication of tariff application

- (1) After the Commission is provided with the clarifications, the generating company or the licensee shall publish the summary of the proposals, as approved by the Commission for publication, highlighting the salient features for the application, calling for objections/ suggestions from the stake holders and other interested parties in atleast two local newspapers, one each in English and Local Language, having wide circulation in its area of operation.
- (2) The applicant shall also submit within 7 days of publication of the notice an affidavit to the Commission with details of the notice and also file copies of the newspapers wherein notice has been published.
- (3) The tariff application shall be available for sale at the Commission's office and such offices of the generating companies and the licensees as may be directed by the Commission. The consumers should also be provided the facility of procuring of the document(s) by post if their request is accompanied by a demand draft of the appropriate denomination. The document should be posted at the licensee's website in downloadable format for easy accessibility by all stakeholders.
- (4) Admission of petitions from the parties other than those directly affected by the tariff shall be at the discretion of the Commission.

6 Hearing on the application

- (1) Unless otherwise directed by the Commission, the Commission shall hold proceedings on the revenue calculations and tariff proposals given by the

generating company and the licensee and may hear such persons as the Commission may consider appropriate before deciding upon such tariff proposals.

- (2) The procedure for hearing on the tariff application of the generating company and the licensee shall be in the manner as the Commission may specify while directing the applicant licensee to publish the summary of the proposals as mentioned in clause 6(1) above.

7 Order of the Commission

- (1) Within one hundred twenty days of the date of receipt of the application and after considering all the suggestions and objections received from the public, the Commission shall:
 - (a) issue an order accepting the application with such modifications or such conditions as may be specified in that order; or
 - (b) reject the application for reasons to be recorded in writing if such application is not in accordance with the provisions of the Act and the rules and Regulations made there under or the provisions of any other law for the time being in force.

Provided that an applicant shall be given a reasonable opportunity of being heard before rejection of his application.

- (2) The Commission shall determine tariff in accordance with the provisions and objectives of the Act, the Conduct of Business Regulations and any other prevalent policies or Regulations, as the case may be.
- (3) The Commission shall within seven days of making the order send a copy of the order to the State Government, concerned generating company and the licensee and also post the same in its website.

8 Publication of Tariff Order and its availability

- (1) All orders determining tariff shall indicate the period for which it shall be in force and in the absence of such mention, the order shall be considered valid till next determination or revision of Tariff is done by the Commission.

Provided that, on the application filed by the licensee or generating company for continuation of the tariff on a provisional basis beyond the period stipulated in

the order, the Commission may agree in writing on provisional basis, the continuation of the tariff if it concludes that the grounds for continuation are justified.

- (2) The generating company and the licensee shall publish in at least two daily newspapers, one each in English and local language, having wide circulation in the area of supply and make available to the public, on request, the tariff schedule for the supply of electricity. Such tariff shall take effect only after seven days from the date of such publication.

9 Review of Tariff Order

- (1) All applications for the review of tariff shall be in the form of petition accompanied by the prescribed fee. A petition for review of tariff can be admitted by the Commission under the following conditions:
 - (a) the review petition is filed within sixty days from the date of the tariff order, and / or
 - (b) there is an error apparent on the face of the record.
- (2) On being satisfied that there is a need to review the tariff of any generating company or the licensee, the Commission may on its own initiate process of review of the tariff of any generating company or the licensee. The Commission may also, in its on motion review any tariff order to correct any clerical error or any error apparent on the face of the record.

10 Amendment to Tariff

- (1) The tariff determined and notified as above may not be amended more frequently than once in any financial year except that tariff rates shall be adjusted in accordance with any adjustment formulae, including variable cost adjustment formula, incorporated in the tariff order or in any order of the Commission.

Provided that the consequential orders, which the Commission may issue to give effect to the subsidy by the State Government may provide in terms of the appropriate sections of the Act shall not be construed as amendment of the tariff notified.

CHAPTER – 3

PROCEDURE FOR DETERMINATION OF TARIFF

11 Guidelines for determination of tariff

The Commission shall be guided in determination of tariff by the following:

- (1) The principles and guidelines specified by the Central Electricity Regulatory Commission for determination of tariff applicable to a generating company or transmission licensee from time to time.
- (2) National Electricity Policy and National Tariff Policy as laid down by the Government of India guidelines laid down in Section 61 and Section 62(3) of the Electricity Act, 2003.

12 Application for determination of tariff

- (1) An integrated utility or a generating company or a transmission licensee, or a distribution licensee, as the case may be, may make an application before the Commission for determination of tariff in respect of completed units of the generating stations, the lines / sub stations of the transmission system or for the areas of supply for the distribution system.
- (2) In the case of existing generating station or the existing transmission system, the integrated utility or generating company or the transmission licensee, as the case may be shall make an application for determination of tariff as per the formats given in Appendices A to C to these Regulations. For distribution licensee, these shall be as per the ARR formats given in Appendix D to these Regulations. The Commission may make appropriate modifications from time to time in the formats, as it deems fit.
- (3) (a) In case of a generating station or a transmission system or part thereof declared under commercial operation on or after the notified date of these Regulations an application for determination of tariff shall made in two stages, namely:
Stage I: An integrated utility or a generating company or a transmission licensee may make an application as per the formats specified by the Commission for determination of provisional tariff in advance of the anticipated date of completion of the project based on the capital expenditure actually incurred upto the end of the month preceding to the date of making of the application, accompanied by annual accounts of the financial year ending prior to the date of application duly audited and certified by the statutory auditors, and the provisional tariff shall be charged

from the date of commercial operation of the respective unit of the generating station or the transmission system.

Stage II: An integrated utility or a generating company or a transmission licensee shall make a fresh application in the same format, as above, for determination of final tariff based on the actual capital expenditure incurred upto the date of commercial operation of the generating station or the transmission system, duly audited and certified by the statutory auditors.

- (b) An integrated utility or a distribution licensee shall file the Annual Revenue Requirement (ARR) only once in a year before the Commission during the control period.

13 Core business

For the purpose of these Regulations, core business means the regulated activities of generation or any regulated business as per section 12/14 of the Act and does not include any other business or activity of an integrated utility or a generating company or a transmission licensee or a distribution licensee.

14 Charging of permissible tariff

An integrated utility, a generating company or a licensee shall not charge tariff in excess of the tariff fixed by the Commission. If any integrated utility or a generating company or a licensee recovers a price or charge exceeding the tariff determined by the Commission, the excess amount shall be recoverable by the person who has paid such price or charge along with interest equivalent to the Bank rate without prejudice to any other liability incurred by the integrated utility or generating company or licensee. Implementation of any tariff other than that approved by the Commission shall be treated as non-compliance of the Commission's order and directions.

15 Excess or under recovery with respect to norms / targets

- (1) The generating company or the licensee, as the case may be, shall retain 50 % of the amount arising from over achievement of the norms / targets laid down by the Commission from time to time. This gain shall be retained in a special reserve for absorbing the impact of any future losses by the distribution licensee.
- (2) The generating company or the licensee, as the case may be, shall bear the entire loss on account of its failure to achieve the norms / targets laid down by the Commission from time to time.

16 Cross Subsidy

- (1) The Cross Subsidy for a consumer category means the difference between the average per unit rate based on tariff schedule of the Commission for that category and the combined average cost of supply per unit expressed in percentage terms as a portion of the combined average cost of supply.
- (2) In the first phase, the Commission shall determine the tariff so that it progressively reflects the combined average cost of supply of Electricity and also reduce cross subsidies within a reasonable period. In the second phase, the Commission shall consider moving towards category-wise cost of supply as a basis for determination of tariff.

17 Tax on income

- (1) Tax on income of an integrated utility or a generating company or the transmission licensee or the distribution licensee, as the case may be, from its core business, shall be computed as an expense and shall be recovered from the beneficiaries or consumers.
- (2) Under - recovery or over - recovery of any amount from the beneficiaries or the consumers on account of such tax, having been passed on to them shall be adjusted every year on the basis of income-tax assessment under Income Tax Act, 1961, as certified by the statutory auditors. An integrated utility or the generating company or the transmission licensee / distribution licensee, as the case may be, may make such adjustments directly. Provided that
 - (a) tax on any income, other than core business, shall not constitute a pass through component in tariff and the tax on such other income shall be borne by the integrated utility or generating company or the transmission / distribution licensee, as the case may be.
 - (b) the generating station - wise profit before tax in the case of integrated utility or the generating company, and the area of supply-wise profit before tax for the transmission and distribution licensee respectively estimated for a year in advance shall constitute the basis for distribution of the corporate tax liability to all the generating stations and the transmission and distribution licensees respectively,
 - (c) the benefit of tax - holiday as applicable in accordance with provisions of Income Tax Act, 1961 shall be passed on to the beneficiaries,
 - (d) in the absence of any equitable basis, the credit for carry forward losses and unabsorbed depreciation shall be given in the proportion as provided in sub-clause (b) above.
 - (e) income-tax allocated to the thermal generating station shall be charged to

the beneficiaries in the same proportion as annual fixed charges; income tax allocated to the hydro - generating station shall be charged to the beneficiaries in the same proportion as annual capacity charges and in the case of intra-state transmission, the sharing of income - tax shall be in the same proportion as annual transmission charges.

18 Extra Rupee Liability

Extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign debt and actual foreign debt, as the case may be, in the relevant year shall be permissible provided it arises directly due to Foreign Exchange Rate Variation. The integrated utility or the generating company or the transmission license / or distribution licensee shall recover the foreign exchange rate variation on a year to year basis as income or expense for the period in which it arises.

19 Regulatory Asset

In extraordinary circumstances, the Commission may allow creation of regulatory Asset in case the Revenue gap is very substantial and is on account of one-time factor beyond the control of the integrated utility or generating company or the licensee and its full recovery in a single year will result in tariff shock to consumers. The Regulatory Asset so created along with carrying cost shall be liquidated in a maximum of 3 years' period immediately following the year in which it is created.

20 Periodicity of Tariff determination and revision thereof

- (1) No tariff or any part thereof shall ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of the Fuel and Power Cost Adjustment formula as specified by the Commission.
- (2) The orders, which the Commission may issue to give effect to the subsidy which the State Government may grant from time to time, shall not be construed as amendment to tariff. The Distribution licensee shall make appropriate adjustments for the subsidy amount as the Commission may direct.
- (3) In accordance with the principles of multi-year tariffs, the Commission shall define the periodicity for tariff determination that will apply for a number of years during a control period as follows:

Function	Control period
Generation	3 years from April, 2011
Transmission	3 years from April, 2011
Distribution	3 years from April, 2011

Note: For example if the tariff determination period is for 2010-11, the Control Period shall be 2010-11, 2011-12 and 2012-13.

21 Review and Truing up

- (1) The Commission shall undertake a review along with next Tariff Order, of the expenses and revenues approved by the Commission in the current year Tariff Order. While doing so, the Commission shall consider variations between approvals and revised estimates / pre-actual of the sale of electricity, income and expenditure for the relevant year and permit necessary adjustments / changes in case such variations are for adequate and justifiable reasons. Such an exercise shall be called 'Review'.
- (2) After audited accounts of the year are made available, the Commission shall undertake a similar exercise as in clause (1) above based on the final actual figures as per the audited accounts. This exercise based on the audited accounts shall be called 'Truing up'.

The truing up exercise for any year shall not ordinarily be considered after more than one year gap after 'Review'.
- (3) The Revenue gap of next year shall be adjusted as a result of Review and Truing up exercises.
- (4) While approving adjustments towards revenue / expenses in future years, arising out of Review / Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses / revenues, Carrying costs shall be limited to the interest rate approved for working capital borrowings.
- (5) For any revision of approvals, the licensee shall satisfy the Commission that the revision is necessary for the reasons beyond its control. In case additional supply is required to be made to any particular category, the licensee may, at any time during the year, make an application to the Commission for its approval, duly explaining the need for such change of consumer mix and additional supply of power and also indicating the manner in which the licensee proposes to meet the cost for such change of consumer mix and additional supply of power. The Commission may consider according approval to such proposals provided the cost of additional supply of power is met by the beneficiary category.

22 Right to vary terms and conditions

The terms and conditions for determination of tariff specified in these Regulations are in the nature of general framework on the basis of which the tariff shall be determined. The Commission reserves its right to vary these terms and conditions, as and when deems fit.

CHAPTER – 4

POWER PROCUREMENT AND PURCHASE

23 Applicability

The Regulations in this chapter shall apply to electricity purchase and procurement by a distribution licensee from a generating company or a licensee or from any other source through agreement or arrangement for purchase of power for power distribution within the state.

24 Power Procurement Plan

(1) The Distribution Licensee shall purchase and procure electricity required for the Licensed Business of the Distribution Licensee in an economical and efficient manner and under a transparent power purchase and procurement process and generally based on the principles of purchase of electricity at the least cost.

(2) The power purchase by a Distribution Licensee may be classified by the Commission as short-term power purchase and long term power purchase on terms as may be decided by the Commission from time to time.

The Commission may, from time to time, issue guidelines, practice directions and orders governing the short term purchases and long term purchases which the Distribution Licensee can undertake for the purpose of the Licensed Business,

(a) The Distribution Licensee shall satisfy the Commission as to the need for additional power procurement on a long-term basis,

(b) The Distribution Licensee shall not enter into a binding or enforceable contractual commitment of such long term power purchase till the Commission by a general or special order approves the procurement of electricity by the Distribution Licensee.

(3) Unless otherwise approved by the Commission by a general special order, a long term power purchase or procurement by the Distribution Licensee shall be done through a competitive procurement process approved by the Commission.

(4) (a) The Distribution Licensee shall satisfy the Commission that the electricity procured under long term power purchase otherwise than through a competitive bidding process or any short term power purchase is economical in the prevalent circumstances and that the Distribution licensee has made prudent and best efforts to minimize the cost of purchase.

(b) The Commission may not permit any such long term purchase if the manner, or method proposed for such procurement of electricity is not

conducive to the objective of least cost purchase or for any other reason the purchase is not economical or efficient.

- (5) The short-term power purchase by the Distribution Licensee may be undertaken in such manner as the Commission may from time to time direct by a general or special order.
- (6) The Distribution Licensee shall forecast the demand for electricity for his Licensed Business and formulate proposals in coordination with the generating companies, Transmission Licensees, other distribution licensees, trading licensees, authorities and other concerned persons and submit to the Commission for approval.

25 Estimation of Energy Sales

- (1) The Licensee shall submit actual recorded restricted demand (in MW), unrestricted demand (in MW) and sale of electricity (in MU) for different categories of consumers in its area of supply for Previous Year revised estimates for the Current Year and forecast for the Ensuing Year. If the category wise unrestricted/ restricted demand is not available, these figures may be supplied for the area as whole.
- (2) The Commission shall examine the estimates of sales for reasonableness based on changes in number of consumers, consumption, losses and demand of electricity in previous years and anticipated growth in the next year and any other factors and approve sale of electricity to consumers after considering the relevant factors.
- (3) The Licensee shall assess and forecast sales to any un-metered category services such as agricultural, rural domestic etc on the basis of the consumption norms for agricultural pump sets or on any other basis determined by the Commission.

26 T&D Losses

- (1) The licensee shall give information of total T&D losses in previous year and Current Year and the basis on which such losses have been worked out.
- (2) The licensee shall also propose a loss reduction programme for the Ensuing year as well as for the next three years giving details of the measures proposed to be taken for achieving the same.
- (3) Based on the information furnished and field studies carried out and the loss reduction programme proposed by the licensee, the Commission shall fix a target for reduction of T&D losses for the period specified by the Commission.
- (4) The licensee shall, conduct regular energy audit to substantiate its estimation of T&D losses. The licensee shall also furnish six monthly energy audit reports to the Commission.
- (5) In the absence of energy audit, the Commission may not accept the claim of the licensee

and may proceed to fix the loss levels on the basis of any other information available and its own judgment.

27 Estimation of Energy Requirement

- (1) Based on the energy sales and the transmission and distribution losses approved by the Commission for the relevant years, the quantum of energy required to meet the estimated sales shall be worked out.
- (2) The licensee shall procure power from approved sources and through other contractual obligations. Additional energy required after taking into account the availability of energy from such approved sources, shall be procured based on the ranking of all sources of supply.
- (3) For purchase of energy from sources outside the State, the transmission loss level agreed to in the power purchase agreement (PPA) or worked out from energy accounts of RLDC/SLDC shall be accepted.

28 Cost of Power Purchase

- (1) The cost of power purchased from Central Generating Companies shall be worked out based on the tariff determined by the Central Electricity Regulatory Commission.
- (2) The cost of power purchased from nuclear power station of NPCIL shall be worked out on the basis of tariff notified by the Department of Atomic Energy under the Atomic Energy Act, 1961.
- (3) The cost of power purchased from other generating companies and other licensees shall be worked out in accordance with the provisions of Regulations.

29 Variation in Power Purchase Cost

- (1) Any power purchase by the licensee over and above the requirement of power approved by the Commission shall be considered by the Commission and if the variations are for reasons beyond the reasonable control of the licensee, the resultant additional cost due to purchase of such power shall be adjusted in next years^o ARR.
- (2) UI charges may be allowed by the Commission if the licensee has purchased power through UI and the power is purchased in a judicious and economic manner.

30 Cost of generation

While determining the cost of own generation for each thermal / gas / heavy fuel / hydro electric generating stations located within the state, the Commission shall be guided as per as feasible, by the principles and methodologies of CERC, as amended time to time.

31 Transmission charges

While determining the transmission charges for use of transmission network of each transmission licensee, the Commission shall be guided, as per as feasible by the principles and methodologies specified by CERC, as amended from time to time.

CHAPTER – 5 THERMAL POWER GENERATING STATIONS

32 Definitions (Additional)

Unless the context otherwise requires for the purposes of this chapter:

- (1) **'Additional Capitalisation'** means the capital expenditure actually incurred after the date of commercial operation of a generating station and admitted by the Commission after prudent check subject to the provisions of Regulation 35;
- (2) **'Auxiliary Energy Consumption'** or **'Aux'** in relation to a period means the quantum of energy consumed by the auxiliary equipment of the generating station and transformer losses within the generating station which shall be expressed as a percentage of the sum of gross electrical energy generated at generator terminals of all the units of the generating station.
- (3) **'Availability'** in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during the period expressed as a percentage of the installed capacity of the station minus normative auxiliary power consumption in MW and shall be computed in accordance with the following formula:

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

where:

- IC = installed capacity of the generating station in MW
 DC_i = Averaged declared capacity for the ith day of the period in MW
 N = No. of days during the period; and
 Aux_n = Normative Auxiliary Energy Consumption as a percentage of the gross generation,

- (4) **'Beneficiary'** in relation to generating station means the person buying the power generated at such a generating station on payment of Annual Fixed Charges,
- (5) **'Block'** in relation to a combined cycle thermal generating station includes combustion turbine generator (s), associated waste heat recovery boiler (s), connected steam turbine - generator and auxiliaries; .
- (6) **'Cut off date'** means date of the first financial year closing after one year of the date of commercial operation of the generating station.
- (7) **'Date of Commercial Operation'** or **'COD'**, in relation to a unit, means the date declared by the integrated utility or generating company after demonstrating the "Maximum Continuous Rating" (MCR) or Installed Capacity (IC) through a successful trial run after notice to the beneficiaries; and in relation to the generating station, the date of commercial operation means the date of

commercial operation of the last unit or block of the generation station.

- (8) **'Declared Capacity' or 'DC'** 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 the fuel.

Note: In case of a gas turbine generating station or a combined cycle generating station, the generating station shall declare the capacity of the units and modules on gas fuel and liquid fuel separately and these shall be scheduled separately. Total declared capacity and the total scheduled generation for the generating station shall be the sum of the declared capacity and the scheduled generation for gas fuel and liquid fuel for the purpose of computation of availability and Plant Load Factor respectively.

- (9) **'Existing Generating Station'** means a generating station declared under Commercial Operation from a date prior to the notified date of the Tariff Regulations as per Regulation 1(2).
- (10) **'Gross Calorific Value' or GCV** in relation to a thermal power generation means the heat produced in k-Cal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic metre of gaseous fuel, as the case may be.
- (11) **'Gross Station Heat Rate' or 'GHR'** means the heat energy input in k/Cal required to generate one kWh of electrical energy at generator terminal,
- (12) **'Infirm Power'** means electricity generated prior to commercial operation of the generating unit or a generating station.
- (13) **'Installed Capacity' or "IC"** means the summation of the name plate capacities of all units of a generating station or the capacity of a generating station (reckoned at the generator terminals) as approved by the Commission from time to time.
- (14) **'Maximum Continuous Rating' or 'MCR'** in relation to a unit of a thermal power generating station means the maximum continuous out-put at the generator terminals, guaranteed by the manufacturer at rated parameters; and in relation to a unit or a block of combined cycle thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water / steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions.
- (15) **'Operation and Maintenance Expenses' or 'O&M Expenses'** means the expenditure incurred on operation and maintenance of the generating station and includes expenditure on manpower, repairs, spares, consumables, utility expenses, insurance, overheads etc.

- (16) **'Original Project Cost'** means the actual expenditure incurred by the integrated utility / generating company as per original scope of the project upto the first financial year closing, after one year from the date of commercial operation of the last unit, as admitted by the Commission for the determination of generation tariff;
- (17) **'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 in relation to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \frac{\sum_{i=1}^N SGI}{\left\{ x IC \times (100 - Aux_n) \right\}} \%$$

where

IC = installed capacity of the generating station in MW

SGi = Scheduled generation in MW for the i th time block of the period

N = No. of time blocks during the period; and

Aux_n = Normative Auxiliary Energy Consumption as a percentage of the gross generation.

- (18) **'Project'** means generating station
- (19) **'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.

- (20) **'Small Gas Turbine Power Generating Station'** means and includes gas turbine / combined cycle generating stations with gas turbine in the capacity range of 50 MW and below.
- (21) **'Unit'** in relation to a thermal power generating station means steam - generator, turbine generator and auxiliaries or in relation to a combined cycle thermal power generating station means turbine generator and auxiliaries.

33 **Applicability**

- (1) The Regulations specified in this chapter shall apply in determining the tariff for supply of electricity to a distribution licensee from conventional sources of generations.

Provided that determination of tariff for supply of electricity to a distribution licensee from non-conventional sources of generation shall be in accordance with such terms and conditions as stipulated in relevant orders of the Commission.

- (2) The Commission shall be guided by the terms and conditions contained in this chapter 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 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 of such agreement / arrangements 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;
- (d) where the distribution licensee is engaged in the business of generation/ electricity in determining the transfer price at which electricity is supplied by the generation business of the distribution licensee to his Retail Supply Business:

Provided that the Commission may deviate from the norms contained in this chapter 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 shall be recorded in writing:

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

- (3) Notwithstanding anything contained in this chapter the Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government.

34 Tariff determination

- (1) Tariff in respect of a generating station under these Regulations shall 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 chapter shall apply in like manner to stages or units, as the case may be, as to generating stations.
- (2) 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 submits such statement to the Commission along with the application for determination of tariff.

35 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.
- (2) The annual capacity (fixed) charges shall consist of:
 - (a) interest on loan capital
 - (b) Depreciation
 - (c) Return on equity
 - (d) Operation and Maintenance expenses, and
 - (e) Interest on working capital
- (3) The energy (variable) charges shall cover fuel cost
- (4) Where the existing Power Purchase Agreement (including any changes, in the norms or parameters, made in the Power Purchase Agreement following renegotiation between the integrated utility and concerned generating company) lay down different parameters, such parameters shall continue to govern the parties for the term of the contract, but not for any renewal of the contract or any extension of the term of the contract subsequent to commencement of these Regulations. Upon expiry of the existing term of PPA the parties shall be governed by the provisions contained in these Regulations as amended from time to time.

36 Norms of Operation

The norms of operation as given here under shall apply:

(1) Target availability for recovery of full capacity (fixed) charges:

- (a) (i) Target Plant load factor for all new thermal power generating stations: 80%
- (ii) Target Plant load factor for existing Diesel/Heavy Fuel based power generating stations: 60%
- (b) 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) Target Plant Load Factor for incentive:

- (a) (i) Target load factor for all thermal power generation stations: **80%**
- (ii) Target load factor for all existing Diesel/Heavy Fuel based power generating stations: **60%**
- (b) Where the existing Power Purchase Agreement (including any changes, in the norms of parameters, made in the Power Purchase Agreement following renegotiation between the integrated utility and the concerned generating company) lay down a different parameter of PLF for the recovery of full fixed charges, such a parameter shall continue to govern the parties for the term of the contract, but not for any renewals of the contract or any extension of the term of the contract subsequent to the commencement of these Regulations. Upon expiry of the term of the PPA, the parties shall be governed by the provisions of these Regulations as amended from time to time.

(3) Gross Station Heat rate:

- (a) **Coal based thermal power generating stations;** other than those covered under sub-clause (b) and (c) below.

	200/210/250 MW sets	500 MW and above sets
During stabilization period	2600 K Cal / kWh	2550 K Cal / kWh
Subsequent period	2500 K Cal / kWh	2450 K Cal / kWh

Note:

- (i) In respect of 500 MW and above units where the boiler feed pumps are electrically operated, the gross station heat rate shall be 40 K Cal / kWh lower than the station heat rate indicated above.
- (ii) For generating stations having combination of 200/210/250 MW sets and 500 MW and above sets, the normative gross station heat rate shall be the weighted average station heat rate. For coal unit sizes

smaller than 210 MW, the Commission may allow a different normative heat rate based on scrutiny of past operational performance.

- (iii) Where existing Power Purchase Agreement (including any changes, in the norms of parameters, made in the Power Purchase Agreement following renegotiation between the integrated utility and the concerned generating company) lay down a different parameter of Heat Rate, such a parameter shall govern the parties for the term of the contract, but not for any renewals of the contract or any extension of the term of the contract. Upon expiry of the term of the PPA, the parties shall be governed by the provisions of these Regulations as amended from time to time.

(b) Diesel/heavy Fuel based Generating Stations:

The gross heat rate of the diesel generating unit at standard reference conditions as per the latest version of ISO 63046 shall be (a) the following values or (b) guaranteed heat rate corresponding to MCR, whichever is less:

Type of D.C. Engine	Gross heat rate in Kcal/kWh
(i) Medium speed 4 - stroke	2000
(ii) Low speed 2 - stroke	1900

Note: The gross heat rate indicated above shall remain applicable for various loading conditions of the station. Generally, the heat rate of DG unit does not vary significantly between 70% and 100%. In case, station load comes down to 70% or less, some D.G. unit (s) can be shut down maintaining higher loading of the working DG sets.

(c) Gas Turbine / combined cycle generating stations:

(i) Existing generating stations

The normative heat rates shall be specified by the Commission duly studying the past performance and the performance of similar technology / size machines owned by other utilities outside the State, including Central Power Sector Units, Private Power Stations and State Electricity Boards etc. Till the completion of the study, the normative heat rate shall be 2100 K Cal / kWh under closed cycle operation.

(ii) Generating Stations declared under commercial operation:

	Advance class Machines	E/EA/FC/E Class Machine
Open cycle	2685 K Cal/kWh	2830 K Cal/kWh
Combined cycle	1850 K Cal/kWh	1950 K Cal/kWh

(iii) Small Gas Turbine Power Generating Stations: The normative heat rates shall be as specified by the Commission. For setting the normative heat rates, the Commission shall study the past performance and the performance of similar technology / size machines owned by other utilities outside the State, including Central Power Sector Units, Private Power Institutions, State Electricity Boards etc.

(4) Secondary fuel oil consumption

	During stabilization period	Subsequent period
Coal based thermal power generating stations	4.5.ml / kWh	1.0 ml / kWh

Note: Where the existing Power Purchase Agreement (including any changes, in the norms of parameters, made in the Power Purchase Agreement following renegotiation between the integrated utility and the concerned generating company) lay down a different parameter for secondary fuel consumption, such a parameter shall govern the parties for the term of the contract but not for any renewal of contract or any extension of the term of the contract subsequent to the commencement of these Regulations. Upon expiry of the term of the existing PPA, the parties shall be governed by the provisions of these Regulations as amended from time to time.

Lubricating oil consumption for diesel / heavy fuel generating stations

Lubricating oil consumption shall not exceed the following values:

Type of D.C. Engine	Lubricating oil (incl. Cylinder Consumption in g/kWh (gross)
(i) Medium speed 4 - stroke	1.0
(ii) Low speed 2 - stroke	1.2

(5) Auxiliary Energy Consumption:

(a) Coal Based generating stations

		With Natural Draft cooling or Without cooling tower
(i)	200MW series	8.50%
(ii)	500 MW & above	
	Steam driven boiler feed pumps	6.00%
	Electrically driven feed pumps	8.50%

Provided further that for thermal generating stations with inducted draft cooling towers the norms shall be further increased by 0.5%

(b) Heavy fuel based Power Project

		With Cooling Tower	Without cooling tower
(i)	Medium speed four stroke engine	4%	4.50%
(ii)	Medium speed four stroke engine	3%	3.50%

(c) Gas turbine / combined cycle generating stations

(i)	Combine Cycle	3%
(ii)	Open Cycle	1%

- (i) During the stabilization period, the normative auxiliary consumption shall be reckoned at 0.5% more than the norms indicated at (a), (b) and (c) above.
- (ii) Where the existing Power Purchase Agreement (including any changes, in the norms of parameters, made in the PPA following renegotiation between the integrated utility and the concerned generating company) lay down a different parameter for auxiliary consumption, such a parameter shall govern the parties for the term of the contract but not for any renewal of contract or any extension of the term of the contract subsequent to the commencement of these Regulations. Upon expiry of the term of the PPA, the parties shall be governed by the provisions of these Regulations as amended from time to time.

- (6) **Stabilization period:** In relation to a generation unit, the stabilization period shall be reckoned commencing from the date of commercial operation of that unit, as follows, namely:

(a) Coal based generating stations	180 days
(b) Gas turbine/combined cycle generating stations	90 days
(c) Diesel/heavy Fuel based Generating Stations	60 days

37 Capital Cost

Subject to prudent check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for the determination of final tariff. The final tariff shall be based on the admitted capital expenditure actually incurred upto the date of commercial operation of the generating station and shall include capitalised initial spares subject to following ceiling norms as a percentage of the original project cost as on the cut off date:

(i)	Coal based / generating station	2.5%
(ii)	Gas turbine / combined cycle generating station	4.0%
(iii)	Diesel/Heavy Fuel based Generating Station	5.0%

Provided:

- (1) where the Power Purchase Agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such a ceiling for determination of tariff.
- (2) in case of existing generating station, the capital cost admitted by the Commission prior to the notified date of these Regulations as per Regulation-1(2) of these Regulations shall form the basis for determination of tariff. The capital cost of the unbundled generating stations shall be the asset value as per the opening balance sheet.
- (3) The Commission shall scrutiny the project cost estimates by limiting to the reasonableness of the capital cost, financial plan, interest during construction, use of efficient technology and such other matters for determination of tariffs.
- (4) An application for the review of the capital cost may be forwarded to the Commission along with a copy of the detailed Project Report by the Project Sponsor's technical advisers.

38 Additional capitalization

- (1) The following actual capital expenditure **incurred after the date of commercial operation and upto the cut off date**, which is within the original scope of work, may be admitted by the commission subject to prudent check:
 - (a) deferred liabilities;

- (b) works deferred for execution;
- (c) procurement of initial capital spares in the original scope of work subject to the ceiling specified under Regulation 37;
- (d) liabilities to implement award of arbitration or for compliance of the order or decree of a court of law; and
- (e) on account of change in law.

Provided that:

- (i) the original scope of work along with the estimates of expenditure shall be submitted along with the application for determination of provisional tariff;
 - (ii) a list of 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.
- (2) Subject to the provisions of clause (3), below the capital expenditure of the following nature actually incurred **after the cut off date** may be admitted by the Commission after prudent check:
- (a) deferred liabilities relating to works / services within the original scope of work;
 - (b) liabilities to implement award of arbitration or compliance of the order or decree of a court.
 - (c) on account of change of law;
 - (d) any additional work or services which have become necessary for efficient and successful operation of generating station but not included in the original project cost,
 - (e) Deferred work relating to ash pond or ash handling system in the original project cost.
- (3) Any other expenditure on minor items / assets like normal tools and tackles, personal computers, furniture, air - conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machines, heat converters, carpets, mattresses etc, bought after cut off date shall not be considered for additional Capitalisation for determination of tariff with effect from the date of notification of these Regulations by the Commission.

Note:The above list is only illustrative but not exhaustive.

- (4) Impact of additional Capitalisation in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after cut off date.

Note:

- (a) 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 scope of original work shall be serviced in the normative debt- equity ratio specified in Regulation 39.
- (b) Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the project cost except such items as are listed under clause (3) above
- (c) 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 39.
- (d) Any expenditure admitted by the Commission for determination of tariffs on renovation and modernisation and life extension shall be serviced on normative debt - equity ratio specified in Regulation 39 after writing off the original amount from the original project cost, if any replacement of existing assets is involved.

39 Debt - equity ratio

- (1) In case of all generating stations, the debt - equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. The Commission may in appropriate cases consider equity higher than 30% for purpose of determination of tariff, where the integrated utility / generating company is able to establish to the satisfaction of the Commission that the deployment of equity more than 30% is in the interest of general public.

Provided that

- (a) in case of a generating station, where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff
 - (b) in case of existing projects the actual debt: equity ratio shall be used for tariff determination. However any expansion shall be governed by clause (1) above.
- (2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity and foreign exchange rate variation.

40 Computation of capacity (Fixed) charges

The capacity (fixed) charges shall be computed on the following basis and their recovery shall be related to target availability:

(1) Interest on Capital

- (a) Interest on loan capital shall be computed loan - wise on the loans indicated in Regulation 39.
- (b) In the case of existing projects, the actual debt-equity ratio shall be used for tariff determination and interest on loans shall be paid at actuals. However, any expansion shall be governed as per Regulation 39.
- (c) The integrated utility / generating company shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing shall be borne by the beneficiaries.
- (d) The changes to the loan terms and conditions shall be effected from the date of such swapping and benefit passed on to the beneficiaries.
- (e) In case of any dispute, any of the parties may approach the Commission with proper application. However, pending receipt of the orders of the Commission on the application, the beneficiaries shall not withhold any payment of the integrated utility / generating company during the pendency of any dispute relating to the swapping of the loan.
- (f) In case any moratorium period is availed by the integrated utility / generating company, depreciation provided in the tariff during the period of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- (g) The integrated utility / generating company shall not make any profit on account of refinancing of loan and interest thereon.
- (h) The integrated utility / generating company, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice versa at its own cost and gains or losses as a result of such swapping shall accrue to the generating company.

Provided that the beneficiaries shall be liable to pay interest for loan initially contracted, whether on floating or fixed rate of interest.

(2) Depreciation

(a) Depreciation

For purpose of tariff, depreciation shall be computed in the following manner:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually, based on the straight-line method over the useful life of the asset and at rates prescribed by the Central Electricity Regulatory Commission
The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical capital cost of the asset. The 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. The historical capital cost of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Central Government / Central Electricity Regulatory Commission
- (iii) On repayment of entire loan, the remaining depreciable value of the asset shall be spread over the balance useful life of the asset.
- (iv) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.

Note: Where existing Power Purchase Agreement (including any change in the norms or parameters, made in the Power Purchase Agreement following renegotiation between the integrated utility and concerned generating company) lay down a different parameter of depreciation such a parameter shall continue to govern as per the terms of the contract, but not for any renewal of contract or any extension of the term of the contract. Upon expiry of the term of the existing Power Purchase Agreement, the parties shall be governed by the provisions of these Regulations as amended from time to time.

(3) Return on Equity

- (a) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 39
- (b) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per sub-clause (c) of this Regulation:

Provided that in case of projects commissioned on or after 1st April, 2009,

an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

- (c) The rate of return equity shall be computed by grossing up the base rate with the normal tax rate for the year of 2008-2009 applicable to the concerned generating company or the transmission licensee, as the case may be:

Provided that the return on equity with the respect to the actual tax rate applicable to the generating company or the transmission 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

- (d) 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 sub-clause (c) of this Regulation.

Illustration:-

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

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

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

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

(4) Operation and Maintenance Expenses

The normative operation and maintenance expenses shall be as follows:

- (a) The Commission shall, for the purpose of fixing normative rates of operation and maintenance expenses, study the past performance and the performance of similar technology / size machines owned by other utilities outside the State including Public State Units, Private Power Institutions and State Electricity Boards etc.

- (b) The normative rates shall be fixed as under.
 - (i) Coal based generating stations:
 - For generating stations having a combination of 200/210/250 MW sets and 500 MW sets and above, the weighted average value of operation and maintenance expenses shall be adopted.
 - For smaller units less than 210 MW, the Commission shall specify rates to be adopted by the generating station on completion of the study as indicated under sub-clause (a) above.
 - (ii) For Diesel, Heavy Fuel and Gas Turbine / combined cycle generating stations (other than small gas turbine generating stations), the Commission shall fix separate rates based on weighted average of the operation and maintenance expenses separately.
 - For the stations having warranty spares
 - For those stations which are not having warranty spares.
 - (i) For small gas turbine power generating stations the Commission shall fix separate rates which are having spares without warranty,
- (c) The operation and maintenance expenses include employee costs, Repair and Maintenance (R&M) and Administrative and General (A&G) expenses.

(5) Interest on Working capital

- (a) **Working capital for purposes of calculation of interest shall be:**
 - (i) **For Coal based / generating stations:**
 - cost of coal for three months corresponding to the target availability;
 - Cost of secondary fuel oil for two months corresponding to target Availability;
 - Operation and Maintenance expenses for one month;
 - Maintenance spares at 1% of the historical cost escalated at 6 % per annum from the date of commercial operation; and
 - Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability.
 - (ii) **Heavy Fuel Based / Gas Turbine / Combined cycle generating stations:**
 - Fuel cost for two months corresponding to the target availability duly taking into account the mode of operation of the

- generating station on gas and liquid fuel,
 - Liquid fuel stock for 1 month
 - Operation and maintenance expenses for one month
 - Maintenance spares at 1% of the historical cost escalated at 6% per annum from the date of commercial operation,
 - Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on target availability,
- (b) **Rate of interest on working capital.** The rate of interest on working capital shall be equal to the short - term Prime Lending Rate of State Bank of India on 1st April of the year in which the generating station or a unit there of is declared under commercial operation. Interest on working capital shall be payable on normative basis notwithstanding that the integrated utility or generating company has not taken working capital loan from any outside agency.
- (2) **Capacity charges:** Full capacity charges shall be recoverable at target availability specified under Regulation 36(1). 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.
- (3) **Payment of capacity charges** shall be on monthly basis in proportion to the allocated capacity.

41 Energy Charges

- (1) Energy (variable) charges shall cover fuel costs and shall be worked out on the basis of ex-bus energy delivered / sent out from the generating station as per the following formula:

Energy charges (Rs.) = Rate of energy charges in Rs. / kWh X scheduled energy delivered (ex-bus) for the month in kWh)

Where, 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 energy in Rs. / kWh and shall be computed as under:

$$REC = \frac{100 (P_p \times Q_p)_n + P_s \times (Q_s)_n}{10(Aux)} \text{ (Rs. / kWh)}$$

where,

P_p = Price of primary fuel (coal / gas / liquid fuel) 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 terminal 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 / based generating stations) and gross

calorific value of coal / gas / liquid fuel as fired. Ps= Price of secondary fuel oil in Rs. / ml.

(Qs)_n= Normative quantity of secondary fuel oil in ml / kWh as per Regulation 36 (4), (Aux)_n= Normative Auxiliary Energy Consumption as % of gross generation as per Regulation 36 (5).

(2) Adjustment of rate of energy charge (REC) on account of variation in price or heat rate of fuels:

Initially Gross Calorific value of coal / gas 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 gross calorific value of coal / gas / liquid fuel received and burnt and landed cost incurred by the integrated utility / generating company for procurement of the coal / oil / gas / liquid fuel as the case may be. No separate petition shall be filed before the Commission for fuel price adjustment. In case of any dispute, an appropriate application shall be made before the Commission for its orders.

(3) Landed cost of coal

The landed cost of coal shall include price of coal corresponding to the grade / quality of coal inclusive of royalty, taxes and duties as applicable, transportation cost by rail / road or any other means and, for the purpose of computation of energy charges, it shall be arrived at after considering normative transit and handling losses as percentage of quantity of coal dispatched by the coal supply company during the month as follows:

Pit heat generating station	-	0.3%
Non - pit heat generating station-		0.8%

42 Charges for Unscheduled Interchange (UI)

(1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through unscheduled Inter-change (UI) charges. UI for a generating station shall be equal to its actual generation minus its scheduled generation. UI for a beneficiary shall be equal to its actual total drawal minus its total scheduled drawal. UI shall be worked out for each 15 minutes time block.

(a) Charges for all UI transactions shall be based on average frequency of the time block as per CERC (Unscheduled Interchange charges and related matters) (Amendment) Regulations, 2010 and the following are the prevailing rates.

Average frequency of time block (Hz)		UI Rate (paise per kWh)
Below	Not below	
	50.20	0.00
50.20	50.18	15.50
50.18	50.16	31.00
50.16	50.14	46.50
50.14	50.12	62.00
50.12	50.10	77.50
50.10	50.08	93.00
50.08	50.06	108.50
50.06	50.04	124.00
50.04	50.02	139.50
50.02	50.00	155.00
50.00	49.98	170.50
49.98	49.96	186.00
49.96	49.94	201.50
49.94	49.92	217.00
49.92	49.90	232.50
49.90	49.88	248.00
49.88	49.86	263.50
49.86	49.84	279.00
49.84	49.82	294.50
49.82	49.80	310.00
49.80	49.78	325.50
49.78	49.76	341.00
49.76	49.74	356.50
49.74	49.72	372.00
49.72	49.70	387.50
49.70	49.68	403.00
49.68	49.66	450.00
49.66	49.64	497.00
49.64	49.62	544.00
49.62	49.60	591.00
49.60	49.58	638.00
49.58	49.56	685.00
49.56	49.54	732.00
49.54	49.52	779.00
49.52	49.50	826.00
49.50		873.00

(Each 0.02 Hz step is equivalent to 15.5 Paise/ kwh in the 50.2-49.7 Hz. frequency range and 47.0 paise/kwh in the 49.7-49.50 Hz frequency range)

(b) Additional Unscheduled Interchange Charges

- (i) The Additional Unscheduled Interchange Charge for over-drawal of electricity for each time-block when grid frequency is below 49.5 Hz and up to 49.2 Hz shall be equivalent to 40% of the Unscheduled Interchange Charge 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz. The Additional Unscheduled Interchange Charge for under-injection of electricity for each time-block when grid frequency is below 49.5 Hz and up to 49.2 Hz shall be equivalent to 20% of the Unscheduled Interchange Charge of 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz.

Provided that the Additional Unscheduled Interchange Charge for over drawal of electricity for each time-block when grid frequency is below 49.2 Hz shall be equivalent to 100% of the Unscheduled Interchange Charge 873.0 Paise/Kwh corresponding to the grid frequency of below 49.5 Hz. The Additional Unscheduled Interchange Charge for under-injection of electricity for each time-block when grid frequency is below 49.2 Hz shall be equivalent to 40% of the Unscheduled Interchange Charge of 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz.

- (ii) The additional Unscheduled Interchange Charge for under-injection of electricity during the time-block when grid frequency is blow 49.5 Hz and up to 49.2 Hz for the generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be equivalent to 20% of the UI Cap Rate of 403.0 Paise/kWh.

Provided that the Additional Unscheduled Interchange Charge for under-injection of electricity during the time-block when grid frequency is below 49.2 Hz for the generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be equivalent to 40% of the UI Cap Rate of 403.0 Paise/kWh. (2) (a)

- (2) (a) Any generation upto 105% of the declared capacity in any time block of 15 minutes and upto 101% of the average declared capacity over a day shall not be construed as gaming, and the integrated utility or generating company 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 excess 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.
- (c) Sale of infirm power: In firm power shall be accounted as unscheduled interchange (UI) and paid for from the regional/state UI pool account as the applicable frequency linked UI rate. Any revenue earned by the generating company from sale of Infirm power shall be applicable for reduction in capital cost and shall not be treated as revenue.

43 Incentive

Incentive shall be payable to the generation company at a flat rate of 25 paise / kWh for ex-bus scheduled energy corresponding to schedule generation in excess of ex-bus energy corresponding to target Plant Load Factor.

44 Rebate

For payment of bills for capacity charges and energy charges through a letter of credit on presentation, a rebate of 2% shall be allowed. If the payments are made by a mode other than through a letter of credit but within a period of one month of presentation of bills by the integrated utility / generating company, a rebate of 1% shall be allowed.

45 Late payment surcharge

In the case of payment of bills for capacity charges and energy charges by the beneficiary or beneficiaries is delayed beyond a period of one month from the date of billing, late payment surcharge at the rate of 1.25% per month or part thereof shall be levied by the integrated utility / generating company.

46 Scheduling

The methodology of scheduling and calculation of availability shall be as follows:

- (a) (i) The integrated utility / generating company shall make an advance declaration of the capability of its generating station which shall be actually made available to the Transmission Licensee / Distribution Licensee.
- (ii) The capability declared, referred to as the declared capability, shall

form the basis for generation scheduling.

- (b) The electricity shall be deliverable at ex-bus MW for the next day either as one figure for the whole day or as different figures for different periods of the day.
- (c) While declaring or revising its capacity, the integrated utility / generating company shall ensure that the declared capability during non-peak hours is not less than during other hours. Exception to this rule shall be allowed in the case of tripping / re-synchronisation of units as a result of forced outage of units.
- (d) Generation scheduling shall be done according to operation procedure stipulated in the Indian Electricity Grid Code / State Electricity Grid Code.
- (e) As per the declaration of the integrated utility / generating company, the State Load Despatch Centre shall communicate their shares to the beneficiaries against which they can submit their requirements.
- (f) Based on the requirement of the beneficiaries, the State Load Despatch Centre shall prepare the economically optimal generation schedules and drawal schedules, taking into account technical limitations on verifying the generation and transmission system constraints, and communicate the same to the integrated utility / generating company and also to the beneficiaries. The State Load Despatch Centre shall also formulate a procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).
- (g) The scheduled generation and actual generation shall be at ex-bus at the generating station. For the beneficiaries, the scheduled and actual net deliveries shall be at their respective receiving points.
- (h) For the net drawal schedules of the beneficiaries, the transmission losses shall be apportioned to their drawal scheduled for the time being. A refinement may however be suggested by the Commission in future depending on the preparedness of the respective State Load Despatch Centre.
- (i) In the case of forced outage of a unit, the State Load Despatch Centre shall revise the schedules on the basis of revised declared capability. The revised declared capability and the revised schedules shall be effective from the fourth time block, counting the time block in which revision is advised by the integrated utility or generating company to be the first one.
- (j) In the case of any bottle-neck in evacuation of power due to any constraint, outage, failure or limitation of the transmission system, associated switchyard and sub-station owned by the State Transmission Utility or any

other transmission licensee involved in intra-state transmission (as certified by the State Load Despatch Centre) necessitating in reduced generation, the SLDC shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottle-neck in evacuation of power has taken place to be the first one. During the first, second and third time blocks of such an event, the scheduled generation of the generating station shall be deemed to have been revised to be equal to actual generation and the scheduled drawals of beneficiaries shall be deemed to have been revised to be equal to their actual drawls.

- (k) In the case of grid disturbance, the scheduled generation of all the generating stations and scheduled drawls of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation / drawal for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the SLDC.
- (l) Revision of declared capability by the integrated utility / generating company / companies and requisition by beneficiary(ies) for the remaining period of the day shall also be permitted with advance notice. Revised schedules / declared capability in such cases shall become effective from the 6th block, counting the time block in which request for revision has been received in the SLDC to be the first one.
- (m) If, at any point of time, the SLDC observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own and in such cases, the revised schedules shall come into effect from the fourth time block, counting the time block in which the revised schedule is issued by the SLDC to be the first one.
- (n) Generation schedules and drawal schedules issued / revised by the SLDC shall become effective from the designated time block.
- (o) For any revision of scheduled generation, including post fact deemed revision; there shall be a corresponding revision of scheduled drawals of the beneficiaries.
- (p) A procedure for recording communication of changes to schedules duly taking into the time factor shall be evolved by the State Transmission Utilities in consultation with the SLDCs as well as other stakeholders, and it shall be to the extent possible in line with the prevailing practices at the national level.
- (q) In the case of a generating station, contracting to supply power to two or more states, the scheduling, metering and energy accounting shall be carried out by the Regional Load Despatch Centre.

47 Demonstration of Declared Capability

- (1) The integrated utility / generating company shall demonstrate the declared capability of its generating station as and when asked by the SLDC. In the event of the generating company failing to do so, the capacity charges due to the integrated utility / generating company 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, the penalty shall be multiplied in geometrical progression.
- (3) The operating log books of the generating station shall be made available for review by the SLDC. These books shall contain the record of machine operation and maintenance.

48 Metering and Accounting

Metering arrangements, including installation, testing the operation and maintenance of meters and collections, transportation and processing of data required for accounting of energy exchanges and average frequency on 15 minute time block basis shall be the responsibility of the State Transmission Utilities / State Load Despatch Centres. All the concerned entities (in whose premises the special energy meters are installed) shall fully cooperate with the STUs / SLDCs and extend necessary assistance by taking weekly meter readings and transmit them to SLDCs. The SLDCs shall in turn forward necessary data / schedules to the regional level in line with the Regulations framed by Central Electricity Regulatory Commission. UI accounting procedures within the state shall be governed by the orders of the Commission.

In case of a generating station, contracting to supply power to two or more states, the scheduling, metering and energy accounting shall be carried out by the Regional Load Despatch Centre.

49 Billing and payment of capacity charges

The billing and payment of capacity charges shall be done on a monthly basis as under:

- (1) Each beneficiary shall pay the capacity charges in proportion to its percentage share in installed capacity of the generating station.
 - (a) The beneficiaries could be the various distribution licensees or the Trading Companies.
 - (b) If the capacity remains unutilized during day-to-day operation, the SLDC shall advise all beneficiaries in the region or other SLDCs so that such capacity may be utilized through bilateral arrangements either with or the

concerned generating company or beneficiary(ies) under intimation to the SLDCs.

- (c) The information regarding un-requisitioned capacity shall be made available by the SLDCs through their respective websites.
- (2) The capacity charges shall be paid by the beneficiary(ies) to the generating company every month in accordance with the following formulae:

Total capacity charges payable to the generating company for

1 st Month	$(1 \times \text{ACC } 1) \div 12$
2 nd Month	$(2 \times \text{ACC } 2 + 1 \times \text{ACC } 1) \div 12$
3 rd Month	$(3 \times \text{ACC } 3 + 2 \times \text{ACC } 2) \div 12$
4 th Month	$(4 \times \text{ACC } 4 + 3 \times \text{ACC } 3) \div 12$
5 th Month	$(5 \times \text{ACC } 5 + 4 \times \text{ACC } 4) \div 12$
6 th Month	$(6 \times \text{ACC } 6 + 5 \times \text{ACC } 5) \div 12$
7 th month	$(7 \times \text{ACC } 7 + 6 \times \text{ACC } 6) \div 12$
8 th Month	$(8 \times \text{ACC } 8 + 7 \times \text{ACC } 7) \div 12$
9 th Month	$(9 \times \text{ACC } 9 + 8 \times \text{ACC } 8) \div 12$
10 th Month	$(10 \times \text{ACC } 10 + 9 \times \text{ACC } 9) \div 12$
11 th Month	$(11 \times \text{ACC } 11 + 10 \times \text{ACC } 10) \div 12$
12 th Month	$(12 \times \text{ACC } 12 + 11 \times \text{ACC } 11) \div 12$

Note: ACC 1 to ACC 12 are the amounts of Annual capacity charges corresponding to availability for the cumulative period upto the end of 1st to 12th Months each respectively.

CHAPTER-6 HYDRO POWER GENERATING STATIONS

50 Definitions (Additional)

Unless the context otherwise requires for the purpose of this chapter:

- (i) **‘Additional Capitalisation’** means the capital expenditure actually incurred after the date of commercial operation of the station and admitted by the Commission after prudent check subject to provisions of Regulation 56.
- (ii) **‘Auxiliary Energy Consumption’** in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station and shall be expressed at the integrated utility’s or generating company’s terminals of all units of the generation station;
- (iii) **‘Beneficiary’** in relation to generating station means the person buying power generated at such generating station on payment of Annual Fixed Charges.
- (iv) **‘Capacity Index’** means the average of the daily capacity indices over one year;
- (v) **‘Cut off date’** means the date of first financial year closing after one year of the date of commercial operation of the generating station.
- (vi) **‘Daily Capacity Index’** means the declared capacity expressed as a percentage of the maximum available capacity for the day and shall be mathematically expressed as here-under:

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

Daily Capacity Index shall be limited to 100%.

- (vii) **‘Date of commercial operation’** or ‘COD’ in relation to a unit means the date declared by the integrated utility / generating station after demonstrating the Maximum Continuous Rating (MCR) or installed capacity through a successful trial run after notice to the beneficiaries and in relation to the generating station, the date of commercial operation of the last unit or block of the generating station.
- (viii) **‘Declared Capacity or DC’ means :**
 - (a) for run-of river power station with pondage and storage type power stations, the declared capacity means the ex-bus capacity in MW expected to be available from the generating station during the peak hours of the next day, as declared by the integrated utility / generating company, taking into account the availability of water, optimum use of water and the availability

of machines. For this purpose, the peak hours shall not be less than 3 hours within a 24 hour period; and

- (b) In the case of purely run-of-river power stations, the declared capacity 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;
- (ix) **‘Deemed Generation’** means the energy which a generating station was capable of generating but could not generate due to conditions of grid or power system, beyond the control of the generating station resulting in spillage of water.
- (x) **‘Design Energy’** means the quantum of energy, which could be generated in a 90% dependable year with 95% installed capacity of the generating station;
- (xi) **‘Existing generating station’** means a generating station declared under commercial operation from the date prior to the notified date of tariff Regulations by the Commission as per Regulation 1(2).
- (xii) **‘Installed Capacity’** or **‘IC’** means the summation of the name plate capacities of all the units of a generating station or the capacity of a generating station (received at the generator terminals) as approved by the Commission from time to time.
- (xiii) **‘Infirm Power’** means electricity generated prior to the commercial operation of the unit of a generating station.
- (xiv) **‘Maximum Available Capacity’** means the following:
 - (a) Run-of-river power stations with pondage and storage type power stations; The maximum capacity in MW, the generating station can generate with all generating units running, under the prevailing conditions of water levels and flows, over the peak hours of the next day.
Explanation: The peak hours for the purpose shall not be less than 3 hours within a 24 hour period.
 - (b) Purely run-of-river power stations: The generating station can generate maximum capacity in MW, with all units running, under the prevailing conditions of water levels and flows over the next day.
- (xv) **‘Primary Energy’** means the quantum of energy generated upto the design energy on per year basis at the generating station;
- (xvi) **‘Project’** means a generating station and includes 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;

- (xvii) **‘Operation and Maintenance Expenses’** or ‘O&M Expenses’ means the expenditure incurred on operation and maintenance of the generating station and includes expenditure on man-power, repairs, spares, consumables, utility expenses, insurance and overheads.
- (xviii) **‘Original Project Cost’** means the actual expenditure incurred by the integrated utility or generating company as per original scope of the project upto the first financial closing after one year from the date of commercial operation of the last unit as admitted by the Commission for the determination of tariff.
- (xviii) **‘Run-of-river power station with pondage’** means a hydro electric power station with sufficient pondage for meeting the diurnal variation of power demand;
- (xix) **‘Storage type power station’** means a hydro electric power generating station associated with large storage capacity to enable variation of generation of power according to demand;
- (xx) **Saleable Primary Energy** means the quantum of primary energy available for sale (ex-bus);
- (xxi) **‘Secondary Energy’** means the quantum of energy generated in excess of the design energy on per year basis at the generating station;
- (xxii) **‘Saleable Secondary Energy’** means the quantum of secondary energy available for sale (ex-bus);
- (xxiii) **‘Scheduled Energy’** means the quantum of energy to be generated at the generating station over a 24 hour period, as scheduled by the SLDC;

51 Applicability

The Regulations specified in this chapter shall apply in determining the tariff for supply of electricity to a distribution licensee / Integrated Utility from hydro power generating station.

52 Tariff determination

Tariff in respect of a generating station under these Regulations shall be determined for the whole generating station.

In relation to multipurpose hydro electric projects, with irrigation, flood control and power components, the capital cost chargeable to the power component of the project only shall be considerable for determination of tariff.

53 Components of tariff

Tariff for sale of electricity from a hydro power generating station shall comprise of two parts, namely, the recovery of annual fixed charges and energy charges.

54 Norms of operation

(1) Normative capacity index for recovery of full capacity charges:

- (a) During first year of commercial operation of the generating station:
 - (i) Purely Run-of-river Power Stations 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) Purely Run-of-river Power Stations 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 generation 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 hydroelectric power generating station with rotating exciters mounted on generator shaft	0.7% of energy generated
(b)	Surface hydroelectric power generating station with static excitation system	1% of energy generated
(c)	Underground hydro electric power generating station with rotating exciters mounted on the generator shaft	0.9% of energy generated
(d)	Under ground hydro electric power generating station with static excitation system	1.2% of energy generated

(3) Transformation losses

	From generation voltage to Transmission Voltage	0.5% of energy generated
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55 Capital Cost

Subject to prudent check by the commission, the actual expenditure incurred upto completion of the project shall form the basis for the determination of final tariff. The final tariff shall be based on the admitted capital expenditure actually incurred upto the date of commercial operation of the generating station and shall include capitalised initial spares subject to a ceiling norm of 1.5% of the original project cost as on the cut off date:

Provided:

- (1) where the Power Purchase Agreement (PPA) entered into between integrated utility / the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such a ceiling for determination of tariff.
- (2) in case of existing generating station, the capital cost admitted by the Commission prior to the notified date of tariff Regulations by the Commission as per Regulation 1(2) shall form the basis for determination of tariff.

Note: The Commission shall scrutinize the project cost estimates limited to the reasonableness of the capital cost, financial plan, interest during construction, use of efficient technology and such other matters for the purpose of determination of tariffs.

56 Additional Capitalisation

- (1) The following actual capital expenditure incurred within the original scope of work **after the date of commercial operation and upto the cut off** date may be admitted by the commission subject to prudent check:
 - (a) deferred liabilities;
 - (b) works deferred for execution;
 - (c) procurement of initial capital spares within the original scope of work subject to the ceiling specified under Regulation 55
 - (d) liabilities to meet award of arbitration or for compliance of the order or decree of a court of law and
 - (e) on account of change in law.

Provided that:

- (a) the original scope of work along with the estimates of expenditure shall be submitted to the Commission along with the application for provisional tariff.
 - (b) a list of deferred liabilities and works deferred for execution shall be submitted to the Commission along with the application for final tariff after the date of commercial operation of the generating station.
- (2) Subject to the provisions of clause (3) of this Regulation, the capital expenditure of the following nature actually incurred **after the cut off date** may be admitted by the Commission after prudent check:
 - (a) deferred liabilities relating to works /services within the original scope of work

- (b) liabilities to meet award of arbitration or compliance of the order or decree of a court.
 - (c) on account of change of law
 - (d) any additional works/services which have become necessary for efficient and successful operation of the plant but not included in the original capital cost.
- (3) Any other expenditure on minor items / assets like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machines, heat convectors, carpets, mattresses etc, bought after cut off date shall not be considered for additional Capitalisation for determination of tariff with effect from the notified date of the tariff Regulations by the Commission as per Regulation 1(2).

Note: The above list is illustrative but not exhaustive.

- (4) Impact of additional Capitalisation in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after cut off date.

Note:(a) Any expenditure admitted on account of committed liabilities within the original scope of work and expenditure deferred on techno ó economic grounds but falling within the scope of original work shall be serviced in the normative debt-equity ratio specified in Regulation 57.

- (b) 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 ó equity ratio specified in Regulation 57.
- (c) Any expenditure admitted by the Commission for determination of tariffs on renovation and modernisation and life extension shall be serviced on normative debt ó equity ratio specified in Regulation 57.
- (d) 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 except such items as are listed in clause (3) above.

57 Debt equity ratio

- (1) In case of all generating stations, the debt ó equity ratio as on the date of commercial operation shall be 70:30 for determination of tariffs, provided that the commission may in appropriate cases consider equity higher than 30% for purpose of determination of tariff, where the generating company is able to establish to the

satisfaction of the Commission that the deployment of equity more than 30% was in the interest of general public.

Provided that

- (a) in case of a generating station, the actual equity employed is less than 30%, the actual debt and equity employed shall be taken for determination of tariff
 - (b) in case of existing projects the actual debt: equity ratio shall be used for tariff determination. However any expansion shall be governed by clause (1) above.
- (2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity and foreign exchange rate variation.

58 Computation of Annual Charges

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

- (1) **Capacity Charges:** The capacity charges shall be computed in accordance with the following formula:

Capacity charges = (Annual Fixed Charges ó Primary Energy Charges)

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

- (2) **Annual Fixed Charges:** Annual Fixed charges shall consist of;
- (a) Interest on capital
 - (b) Depreciation
 - (c) Return on equity
 - (d) Operation and Maintenance expenses; and
 - (e) Interest on working capital

59 Computation of annual fixed charges

The annual fixed charges shall be computed on the following basis:

(1) Interest on capital

- (a) Interest on loan capital shall be computed loan wise on the loans arrived at in manner indicated in Regulation 57.

- (b) In the case of existing projects, the actual debt equity ratio shall be used for tariff determination. However, any expansion shall be governed by Regulation 57.
- (c) The generating company / integrated utility shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing shall be borne by the beneficiaries.
- (d) The charges on loan terms and conditions shall be reflected from the date of such swapping and benefit shall be passed to the beneficiaries.
- (e) In case of any dispute, any of the parties may approach the Commission with proper application. The beneficiaries shall not, however, withhold payment to the generating company / integrated utility during pendency of the dispute, unless the Commission specifically directs such non-payment, relating to swapping of the loan.
- (f) In case any moratorium period is availed of by the integrated utility / generating company, depreciation provided for in the tariffs during the period of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- (g) The integrated utility or the generating company shall not make any profit on account of swapping of loan and interest thereon.
- (h) The integrated utility or the generating company, may at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest or vice ó versa at its own cost and gains or losses as a result of such swapping shall accrue to the utility / generating company.

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted whether on floating or fixed rate of interest.

(2) Depreciation

For purpose of tariff, depreciation shall be computed in the following manner:

- (a) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (b) Depreciation shall be calculated annually, based on the straight-line method over the useful life of the asset and at rates prescribed by the Central Electricity Regulatory Commission

- (c) The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost for purposes of depreciation while computing 90% of the historical cost of the asset. The historical capital cost for purposes of depreciation of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Central Government / Central Electricity Regulatory Commission
- (d) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (e) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.

(3) Return on Equity

- (a) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 57
- (b) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per sub-clause (c) of this Regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

- (c) The rate of return equity shall be computed by grossing up the base rate with the normal tax rate for the year of 2008-2009 applicable to the concerned generating company or the transmission licensee, as the case may be:

Provided that the return on equity with the respect to the actual tax rate applicable to the generating company or the transmission 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

- (d) 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 sub-clause (c) of this Regulation.

Illustration:-

- (i) In case of the generating company of 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:

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

(4) Operation and Maintenance Expenses

- (a) The operation and maintenance expenses, including insurance, for the existing Hydro electric generating stations which have been in operation for 5 years or more taking the base year as 2009-10, shall be arrived at on the basis of actual operation and maintenance expenses, for the year 2003-04 to 2008-09, based on the audited balance sheets, excluding the abnormal operation and maintenance expenses if any, after prudent check by the Commission.

The average of such normalized O&M expenses after prudent check, for the years 2003-04 to 2008-09 shall be escalated at the rate of 4% per annum to arrive at operation and maintenance expenses for the base year 2005-2006.

- (b) In case of hydro electric stations, which have not been in existence for a period of 5 years, the O&M expenses shall be fixed at 1.5% of the capital cost as admitted by the Commission and shall be escalated at the rate of 4% per annum from the subsequent years to arrive at the O&M expenses for the base year. The base O&M expenses shall be further escalated at the rate of 4% per annum to arrive at the permissible O&M expenses for the relevant year(s).

- (c) In case of hydro electric generating stations declared under commercial operation on or after the notified date of the tariff regulation by the Commission as per Regulation 1 (2), the base O&M expenses shall be fixed at 1.5% of the actual capital cost, as admitted by the Commission in the year of Commissioning and shall be subject to annual escalation of 4% per annum for the subsequent years.
- (d) Operation & Maintenance costs include employee cost, R&M and A&G costs.

(5) Interest on Working Capital

- (a) The working capital shall cover the following:-
 - (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;
 - (iii) Receivables equivalent to two months of fixed charges for sale of energy, calculated on normative capacity index.
- (b) Rate of interest on working capital shall be the short-term prime lending rate of State Bank of India as on 1st April of the year in which the generation unit/station is declared under commercial operation. The interest on working capital shall be payable on normative basis notwithstanding that the integrated utility / generating company has not taken working capital loan from any outside agency.

60 Primary and Secondary Energy Charges

- (1) **Primary Energy Charges** shall be worked out on the basis of paise per KWh/ rate on ex-bus energy scheduled to be sent out from the hydroelectric power generating station.
- (2) **Rate of primary energy** for all hydroelectric power generating stations, except for pumped storage generating stations, shall be equal to average of the lowest variable charges of the central sector thermal power generating station of the concerned region for all months of the previous year.
- (3) **The primary energy charges** shall be computed based on the primary energy rate and saleable energy of the station.

Provided in case the primary energy charge recoverable by applying the above primary energy rate exceeds the annual fixed charges of a generating station, the primary energy rate for such generating station shall be calculated as follows:-

$$\text{Primary Energy Rate} = \frac{\text{Annual Fixed Charges}}{\text{Saleable Primary Energy}}$$

- (4) Primary Energy Charges = Saleable Primary Energy X Primary Energy Rate
 Secondary Energy Charge = Saleable Secondary Energy X Secondary Energy Rate.

Note: Secondary energy rate shall be equal to primary energy rate

61 **Unscheduled Interchange (UI)**

- (1) Variation between actual generation or actual drawal and scheduled generation or scheduled drawal shall be accounted for through unscheduled Interchange (UI) charges. UI for a generating station shall be equal to its actual generation minus its scheduled generation. UI for a beneficiary shall be equal to its total actual drawal minus its total scheduled drawal. UI shall be worked out for each 15 minutes time block.
- (a) Charges for all UI transactions shall be based on average frequency of the time block as per CERC (Unscheduled Interchange charges and related matters) (Amendment) Regulations, 2010 and the following are the prevailing rates.

Average frequency of time block (Hz)		UI Rate (paise per kWh)
Below	Not below	
	50.20	0.00
50.20	50.18	15.50
50.18	50.16	31.00
50.16	50.14	46.50
50.14	50.12	62.00
50.12	50.10	77.50
50.10	50.08	93.00
50.08	50.06	108.50
50.06	50.04	124.00
50.04	50.02	139.50
50.02	50.00	155.00
50.00	49.98	170.50
49.98	49.96	186.00
49.96	49.94	201.50
49.94	49.92	217.00
49.92	49.90	232.50

49.90	49.88	248.00
49.88	49.86	263.50
49.86	49.84	279.00
49.84	49.82	294.50
49.82	49.80	310.00
49.80	49.78	325.50
49.78	49.76	341.00
49.76	49.74	356.50
49.74	49.72	372.00
49.72	49.70	387.50
49.70	49.68	403.00
49.68	49.66	450.00
49.66	49.64	497.00
49.64	49.62	544.00
49.62	49.60	591.00
49.60	49.58	638.00
49.58	49.56	685.00
49.56	49.54	732.00
49.54	49.52	779.00
49.52	49.50	826.00
49.50		873.00

(Each 0.02 Hz step is equivalent to 15.5 Paise/ kwh in the 50.2-49.7 Hz. frequency range and 47.0 paise/kwh in the 49.7-49.50 Hz frequency range)

(b) Additional Unscheduled Interchange Charges

- (i) The Additional Unscheduled Interchange Charge for over-drawal of electricity for each time-block when grid frequency is below 49.5 Hz and up to 49.2 Hz shall be equivalent to 40% of the Unscheduled Interchange Charge 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz. The Additional Unscheduled Interchange Charge for under-injection of electricity for each time-block when grid frequency is below 49.5 Hz and up to 49.2 Hz shall be equivalent to 20% of the Unscheduled Interchange Charge of 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz.

Provided that the Additional Unscheduled Interchange Charge for over drawal of electricity for each time-block when grid frequency is below 49.2 Hz shall be equivalent to 100% of the Unscheduled Interchange Charge 873.0 Paise/Kwh corresponding to the grid

frequency of below 49.5 Hz. The Additional Unscheduled Interchange Charge for under-injection of electricity for each time-block when grid frequency is below 49.2 Hz shall be equivalent to 40% of the Unscheduled Interchange Charge of 873.0 Paise/kWh corresponding to the grid frequency of below 49.5 Hz.

- (ii) The additional Unscheduled Interchange Charge for under-injection of electricity during the time-block when grid frequency is below 49.5 Hz and up to 49.2 Hz for the generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be equivalent to 20% of the UI Cap Rate of 403.0 Paise/kWh.

Provided that the Additional Unscheduled Interchange Charge for under-injection of electricity during the time-block when grid frequency is below 49.2 Hz for the generating stations using coal or lignite or gas supplied under Administered Price Mechanism (APM) as the fuel shall be equivalent to 40% of the UI Cap Rate of 403.0 Paise/kWh.

- (2) (a) Any generation upto 105% of the declared capacity in any time block of 15 minutes and averaging upto 101% of the average declared capacity over a day shall not be construed as gaming, and the integrated utility / generating company shall be entitled to UI charges for such excess of 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 observed by the SLDC, 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 the beneficiaries in the ratio of their capacity share in the generation station.
- (c) **Sale of infirm power:** In firm power shall be accounted as unscheduled interchange (UI) and paid for from the regional/state UI pool account as the applicable frequency linked UI rate. Any revenue earned by the generating company from sale of Infirm power shall be applicable for reduction in capital cost and shall not be treated as revenue.

62 Incentive

(1) Incentive shall be payable in case of all generating stations including new generating stations in the first year of operation, when the capacity index (CI) exceeds 90% for purely 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 upto a maximum capacity index of 100%.

(2) Incentive shall be payable to the integrated utility / generating company in accordance with the following formula:

$$\text{Incentive} = 0.65 \times \text{Annual Fixed Charge} \times (\text{CI}_A - \text{CI}_N) / 100$$

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

Where CI_A is the capacity index achieved and CI_N is the normative capacity index whose values are 90% for purely run-of-river hydro stations 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 met at end of the financial year.

(4) The total incentive payment calculated on annual basis shall be shared by the beneficiaries based on allocated capacity.

(5) Incentive for completion of hydroelectric power generating stations ahead of schedule:

In case of Commissioning of hydro electric power generating station or part thereof ahead of schedule as set out in the first approval of the Central Government or the techno-economic clearance of the Authority, as the case may be, the generating station shall become eligible for incentive for an amount equal to pro rata reduction in interest during construction, achieved on commissioning ahead of schedule. The incentive shall be recovered through tariff in twelve equal monthly installments during the first year of operation of the generating station. In case of delay in Commissioning, as set out in the first approval of the Central Government or the techno-economic clearance of the authority, as the case may be, interest during construction for the period of delay shall not be allowed to be capitalized for determination of tariff, unless the delay is an account of Force Majeure Event (s).

63 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. If the payments are made by a mode other than through a letter of credit but within a period of one month of presentation of bills by the integrated utility / generating company, a rebate of 1% shall be allowed.

64 Late Payment Surcharge

In the case of payment of bills of capacity charges and energy charges by the beneficiary or beneficiaries is delayed beyond a period of one month from the date of billing, late payment surcharge at the rate of 1.25% per month or part thereof shall be levied by the generating company / integrated utility.

65 Scheduling

The methodology of scheduling and calculating capacity index shall be as follows:-

- (1) Integrated utility or the generating company shall make an advance declaration of the capacity of its generating station. The declaration shall be for that capability which can be actually made available for a period of time not less than 3 hours within a 24 hours period for pondage and storage type of stations and for the entire day for purely run-of-river type stations.
- (2) Integrated utility or the generating company shall intimate the declared capacity (MW) for the next day, either as one figure for the whole or different figures for different periods of the day along with maximum available capacity (MW) and total energy (MWh) ex-bus to the SLDC.

The declaration shall 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.

- (3) While making or revising its declaration of capability the integrate utility / generating company shall ensure that the declared capacity during peak hours is not less than that during non-peak hours. Exception to this rule shall be allowed in case of tripping/re-synchronization of units as a result of forced outage of units.
- (4) Generation scheduling shall be done in accordance with the operating procedure as stipulated in the State grid code,
- (5) Based on the declaration of the integrated utility / generating company, the SLDC shall communicate their shares to the beneficiaries out of which they shall give their requirements.

- (6) Based on the requirements given by the beneficiaries and taking into account technical limitations on varying the generation and also taking into account transmission system constraints, if any, the SLDC shall prepare the economically optimal generation schedules and drawl schedules and communicate the same to the integrated utility / generating company and the beneficiaries.

The State Load Despatch Centre shall also formulate a procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).

- (7) The scheduled generation and actual generation shall be at ex-bus at the generating station. For the beneficiaries, the scheduled and actual net deliveries shall be at their respective receiving points.
- (8) For calculating the net drawal schedules of the beneficiaries, the transmission losses shall be apportioned to their drawal schedule for the time being. However a refinement may be specified by the Commission in future, depending upon the preparedness of the SLDC.
- (9) In the case of a forced outage of a unit, the State Load Despatch Centre shall revise the schedules on the basis of revised declared capability. The revised declared capability and the revised schedules shall be effective from the fourth time block, counting the time block in which revision is advised by the integrated utility / generating company to be the first one.
- (10) In the case of any bottleneck in evacuation of power due to any constraint, outage, failure or limitation of transmission system, associated switchyard and sub ó stations owned by the State Transmission Utility or any other transmission licensee involved in inter ó state transmission (as certified by the State Load despatch Centre) necessitating reduced generation, the SLDC shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. During the first, second and third time blocks of such an event, the scheduled generation of the integrated utility / generating station shall be deemed to have been revised to be equal to actual generation and the scheduled drawls of beneficiaries shall be deemed to have been revised to be equal to their actual drawls.
- (11) In the case of grid disturbance, the scheduled generation of all the generating stations and scheduled drawls of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation / drawal for all the time blocks

affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the SLDC.

- (12) Revision of declared capability by the integrated utility / generating company / companies and requisition by beneficiary(ies) for the remaining period of the day shall be permitted with advance notice. Revised schedules / declared capability in such cases shall become effective from the 6th block, counting the time block in which request for revision has been received in the SLDC to be the first one.
- (13) If, at any point of time, the SLDC observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own and in such cases, the revised schedules shall come into effect from the fourth time block, counting the time block in which the revised schedule is issued by the SLDC to be the first one.
- (14) Generation schedules and drawal schedules issued / revised by the SLDC shall become effective from the designated time block irrespective of communication delay.
- (15) For any revision of scheduled generation, including post facto revision, including deemed revision there shall be a corresponding revision of scheduled draws of the beneficiaries.
- (16) A procedure of recording the communication regarding changes to schedules duly taking into account the time factor taken shall be evolved by the State Transmission Utility in consultation with the SLDC as well as other stakeholders, and it shall be to the extent possible in line with the prevailing practices at the national level.
- (17) Purely run-of-river power station: Since variations of generation in such stations may lead to slippage, these shall be treated as must run stations. The maximum available capacity, duly taking into account the overload capability, must be equal to or greater than that required to make full use of the available water.
- (18) 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 capacity, minus auxiliary consumption and transmission losses, corrected for the reservoir level. The State Load Despatch centre shall ensure that generation schedules of such type of stations are prepared and despatched to the stations for optimum utilisation

of available hydro energy except in the event of specific system requirements / constraints.

66 Demonstration of Declared capability

- (1) The integrated utility / generating company may be required to demonstrate the declared capacity of its generating station as and when asked by the SLDC of the State in which the generating station is situated. In the event of the integrated utility / generating company failing to demonstrate the declared capacity, within the tolerance as specified by the State Transmission Utility, the capability charges due to the generating station shall be reduced as a measure of penalty.
- (2) The quantum of penalty for the first mis-declaration for any duration or block in a day shall be the charges corresponding for two days fixed charges. For the second mis-declaration the penalty shall be fixed charges for four days and for subsequent mis-declarations, the penalty shall be multiplied in geometrical progression.
- (3) The operating log books of the generating station shall be made available for review by the SLDC. These books shall contain record of machine operation and maintenance, reservoir level and spillway gate operation etc.

67 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 organized by the State Transmission Utility / State Load Despatch Centres. All the concerned entities (in whose premises the special energy meters are installed) shall fully cooperate with the STU / SLDC and extend necessary assistance by taking weekly meter readings and transmitting them to the SLDC.

The SLDC shall also in turn forward necessary data / schedules to the regional level in line with the Regulations framed by Central Electricity Regulatory Commission. UI accounting procedures shall be in accordance with the orders of the Commission.

Note: In case of a generating station, contracting to supply power to two or more states, the scheduling, metering and energy accounting shall be carried out by the Regional Load Despatch Centre.

68 Billing and payment of capacity charges

Billing and payment of capacity charges shall be done on a monthly basis as follows:

- (1) (a) Each beneficiary shall pay the capacity charges in proportion to its Percentage share in total saleable capacity of the generating station.
The beneficiaries could be various distribution licensees or trading companies.
 - (b) If any capacity remains un-requisitioned during day to day operation, the SLDC shall advise all the beneficiaries in the region and other SLDCs so that such capacity may be requisitioned through bilateral arrangements either with the concerned integrated utility / generating company or the concerned beneficiary (ies) under intimation to SLDC.
The information regarding un-requisitioned capacity shall also be made available by the SLDCs through their respective websites.
- (2) The capacity charges shall be paid by the beneficiary(ies) including those outside the state / region to the integrated utility / generating company every month in accordance with the following formulae and in proportion to their respective shares in the concerned generating station:

ACC 1	=	AFC ó (SPE1+DE 2 nd to 12 months) X Primary Energy Rate
ACC 2	=	AFC ó (SPE2+DE 3 rd to 12 months) X Primary Energy Rate
ACC 3	=	AFC ó (SPE3+DE 4 th to 12 months) X Primary Energy Rate
ACC 4	=	AFC ó (SPE4+DE 5 th to 12 months) X Primary Energy Rate
ACC 5	=	AFC ó (SPE5+DE 6 th to 12 months) X Primary Energy Rate
ACC 6	=	AFC ó (SPE6+DE 7 th to 12 months) X Primary Energy Rate
ACC 7	=	AFC ó (SPE7+DE 8 th to 12 months) X Primary Energy Rate
ACC 8	=	AFC ó (SPE8+DE 9 th to 12 months) X Primary Energy Rate
ACC 9	=	AFC ó (SPE9+DE 10 th to 12 months) X Primary Energy Rate
ACC 10	=	AFC ó (SPE10+DE 11 th to 12 months)X Primary Energy Rate
ACC 11	=	AFC ó (SPE11+DE 12 th month) X Primary Energy Rate
ACC 12	=	(AFC ó SPE 12) X Primary Energy Rate

Where (1) AFC = Annual Fixed Charge

- (i) ACC1, ACC2, ACC3, ACC4, ACC 5, ACC 6, ACC 7, ACC 8, ACC 9, ACC 10, ACC 11 and ACC 12 are the amount of Annual Capacity Charge for the cumulative period upto end of 1st, 2nd, 3rd, í í .. to 12th months of the year respectively.
- (ii) SPE, SPE2, SPE3 í í SPE12 are the ex-bus primary energy values upto 1st, 2nd, 3rd í í 12th months of the years respectively.

$$CC1 = \frac{ACC1 \times DE1}{DE}$$

$$CC2 = ACC2 \times \frac{DE2}{DE}$$

$$CC3 = ACC3 \times \frac{DE3}{DE}$$

$$CC4 = ACC4 \times \frac{DE4}{DE}$$

$$CC5 = ACC5 \times \frac{DE5}{DE}$$

$$CC6 = ACC6 \times \frac{DE6}{DE}$$

$$CC7 = ACC7 \times \frac{DE7}{DE}$$

$$CC8 = ACC8 \times \frac{DE8}{DE}$$

$$CC9 = ACC9 \times \frac{DE9}{DE}$$

$$CC10 = ACC10 \times \frac{DE10}{DE}$$

$$CC11 = ACC11 \times \frac{DE11}{DE}$$

$$CC12 = ACC12 \times \frac{DE12}{DE}$$

Where,

- (i) CC1, CC2, CC3 í í CC12 is the monthly capacity charge upto 1st, 2nd, 3rd í í 12th months of the year respectively.
- (ii) DE = Annual Design Energy
- (iii) DE1, DE2, DE3 í .. DE12 are the ex-bus design energy values upto 1st, 2nd, 3rd í .. 12th month of the year respectively.

(3) Total capacity charges payable to the integrated utility / generating company for the:

1 st Month	=	(CC1)
2 nd Month	=	(CC 2 ó CC 1)
3 rd Month	=	(CC 3 ó CC 2)
4 th Month	=	(CC 4 ó CC 3)
5 th Month	=	(CC 5 ó CC 4)
6 th Month	=	(CC 6 ó CC 5)
7 th Month	=	(CC 7 ó CC 6)
8 th Month	=	(CC 8 ó CC 7)
9 th Month	=	(CC 9 ó CC 8)
10 th Month	=	(CC 10 ó CC 9)
11 th Month	=	(CC 11 ó CC 10)
12 th Month	=	(CC 12 ó CC 11)

CHAPTER-7 INTRA STATE TRANSMISSION

69 Definitions (Additional)

Unless context otherwise requires, for the purpose of this chapter

- (1) **‘Additional Capitalisation’** means the capital expenditure actually incurred after the date of commercial operation of the transmission system and admitted by the Commission after prudent check subject to Regulation 73 provided herein after.
- (2) **‘Allotted Transmission Capacity’** means the transmission of power in MW between specified point(s) of injection and point (s) of drawal allowed to a long ó term customer on the intra ó state transmission system under normal circumstances and the expression òallotment of transmission capacityö shall be construed accordingly.

Allotted Transmission capacity to long ó term transmission customer shall be the sum of the generating capacities allocated from generating station and the contracted power, if any.
- (3) **Availability** in relation to a transmission system for a given period means the time in hours during which period the transmission system is capable to transmit electricity at its rated voltage and shall be expressed in percentage of total hours in the given period and shall be calculated as per the procedure prescribed by the Central Electricity Regulatory Commission.
- (4) **‘Contracted Power’** means the power in MW which the transmission licensee has agreed to carry or is required to carry as per allocation from the generating stations or the long-term agreement between the importing and exporting utility.
- (5) **‘Cut off date’** means the date of first financial year closing after one year of the date of commercial operation of the Transmission System(Lines / Sub Stations)
- (6) **‘Date of Commercial operation’ or ‘COD’** means the date of charging the project or part there-of to its rated voltage level or seven days after the date on which it is declared ready for charging by the transmission licensee but could not be charged for reasons not attributed to the transmission licensee, 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 the implementation agreement or the transmission service agreement or the investment approval, as the case may be, unless mutually agreed to by all the parties;

- (7) **‘Existing Project’** means transmission project declared under commercial operation from a date prior to notified date of these tariff Regulations by the Commission as per Regulation 1(2).
- (8) **‘Implementation Agreement’** means an agreement, contract or memorandum of understanding or any such covenant, entered into between the transmission licensee and the long ó term transmission customer(s) for construction of the project.
- (9) **‘Long term Transmission Customer’** means a person availing or intending to avail access to intra ó state transmission system for a period of twenty ó five years or more.
- (10) **‘Operation and Maintenance expenses’ or ‘O&M expenses’** means the expenditure incurred on operation and maintenance of the transmission system including part thereof, and includes the expenditure on man-power, repairs, spares, consumables, insurance and overheads.
- (11) **‘Original Project Cost’** means the actual expenditure incurred by the transmission licensee, as per the original scope of project upto first financial year closing after one year from the date of commercial operation of the last element, as admitted by the Commission, for the purpose of tariff. In the case of existing stations of bundled / integrated utilities, it will mean the asset value as specified in the opening balance sheet of the successor entity.
- (12) **‘Project’** includes transmission system comprising of specified transmission lines, sub - stations and associated equipment.
- (13) **‘Rated Voltage’** means the manufacturer’s design voltage at which the transmission system is designed to operate or such lower voltage at which the line is charged, for the time being, in consultation with the long ó term transmission customer(s).
- (14) **‘Short – term Transmission Customer’** means a transmission customer other than the long ó term transmission customer.
- (15) **‘Transmission Service Agreement’** means an agreement, contract, memorandum of understanding or any such covenant, entered into between the transmission licensee and the long ó term transmission customer for the operational phase of the project.
- (16) **‘Transmission Licensee’** means a person who has been granted licence for Intra-state transmission of electricity and includes any person deemed to be a transmission licensee for intra ó state transmission of electricity.

- (17) **Transmission System** means a line with associated sub stations or a group of lines inter ó connected together along with associated sub -stations and the term includes equipment associated with transmission lines and sub-stations.

70 Applicability

- (1) The Regulations contained in this chapter 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 õTransmission System Userö on or after the date of notification of these Regulations.

Provided that the Commission may deviate from the norms contained in this chapter 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 chapter 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 Act.

71 Components of Tariff

- (1) The transmission charges for access to and use of the intra-State transmission system of a Transmission Licensee shall comprise the following:
- (a) transmission system access charges; and
 - (b) annual transmission charges.
- (2) **Transmission system access charges**
- (a) Any person who is eligible to apply for access to the intra-State transmission system of a Transmission Licensee shall be entitled to obtain such access and shall be liable to pay the charges for obtaining such access as specified in this Regulation.

Explanation

For the purpose of this Regulation, such person who, being eligible for

transmission open access, has applied for allocation of transmission capacity rights and has agreed to the carrying out of works for obtaining such access shall hereinafter be referred to as the intending Transmission System User, and may include an existing Transmission System User in respect of any increase in allocated transmission capacity rights applied for by such existing user.

- (b) Where the access of the intending Transmission System User to the intra-State transmission system entails works of transmission lines or other transmission assets dedicated to such user, the Transmission Licensee shall be entitled to recover, through the transmission system access charges, all expenses reasonably incurred on such works for providing access to such intending Transmission System User.
- (c) Where the access of the intending Transmission System User entails other works, not covered under Regulation 71.2.2, relating to the intra-State transmission system, the Transmission Licensee shall recover the expenses relating to such works through annual transmission charges, in accordance with Regulation 76.0 below:

Provided however, that the Transmission Licensee and the intending Transmission System User may mutually agree that the expenses incurred on works under this Regulation 71.2.3 shall be recovered from the intending Transmission System User through transmission system access charges, in which case such expenses shall not be recovered through annual transmission charges:

- (d) Where any works for obtaining access has been carried out by the intending Transmission System User, the Transmission Licensee shall be entitled to recover supervision charges at the rate of 15 per cent of the cost of labour employed for carrying out such works and shall not be entitled to recover any other expenses with regard to such works carried out by the intending Transmission System User.
- (e) The works for providing access to the intra-State transmission system shall be maintained by the Transmission Licensee for the duration of the Bulk Power Transmission Agreement between the Transmission Licensee and the Transmission System User:
- (f) Where the Transmission System User has paid for the works carried out to provide him access to the intra-State transmission system of the

Transmission Licensee, the Transmission System User shall be entitled to the depreciated value of such works paid for by him upon termination of the Bulk Power Transmission Agreement:

Provided that where the Transmission System User has carried out the works to provide him access to the intra-State transmission system of the Transmission Licensee, the Transmission System User shall be entitled to retain such works upon termination of the Bulk Power Transmission Agreement.

- (g) The transmission system access charges may be recovered in any one of the following methods, in accordance with the terms of the Bulk Power Transmission Agreement:
 - (i) as a one-time payment by the Transmission System User at the time of obtaining access; or
 - (ii) as a series of payments over the duration of the Bulk Power Transmission Agreement, due regard being given to the Transmission Licensee's cost of capital based on the normative debt: equity ratio as per Regulation 74.0 or
 - (iii) as any combination of (a) and (b) above.

72 Capital cost

- (1) Subject to prudent check by the Commission, the actual capital expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred upto the date of commercial operation of the transmission system and shall include capitalized initial spares subject to a ceiling norm of 1.5% of the original project cost.
- (2) Where the implementation agreement or the transmission service agreement entered into between the transmission licensee and the long term transmission customer provides a ceiling on actual capital expenditure, the capital expenditure for the purpose of determination of tariff shall be limited to such ceiling.
- (3) In the case of existing projects, the project cost admitted by the Commission, prior to the notified date of tariff Regulations by the Commission as per Regulation 1(2) of these Regulations, shall be the basis for determination of tariff.

Note:

The Commission shall scrutinize the project cost estimates. Such scrutiny shall be

limited to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology and such other matters as the Commission may deem necessary for determination of tariff.

73 Additional capitalization

- (1) The following capital expenditure which is within the original scope of work and actually incurred after the date of commercial operation and upto the cut-off date may be admitted by the Commission, subject to prudent check:
 - (a) deferred liabilities
 - (b) works deferred for execution
 - (c) procurement of initial capital spares covered in the original scope of works subject to the ceiling norm specified under Regulation 72
 - (d) liabilities in connection with implementation of award of arbitration or compliance of the order or decree of a court, and
 - (e) on account of change in law

Note:

- (a) original scope of work along with estimates of expenditure shall be submitted to the Commission along with application for provisional tariff.
 - (b) a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for determination of final tariff after the date of commercial operation of the transmission system.
- (2) Subject to clause (3) of this Regulation, the capital expenditure of the following nature actually incurred after the cut-off date may be admitted by the Commission, subject to prudent check.
 - (a) deferred liabilities relating to work / services within the original scope of work
 - (b) liabilities in connection with implementation of award of arbitration or compliance of an order or decree of a court
 - (c) on account of a change in law, and
 - (d) any additional works / services which have become necessary for efficient and successful operation of the project, but not included in the original project cost.
 - (3) Any expenditure incurred on minor items / assets bought after the cut off date like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, TV, washing machine, heat convectors, mattresses, carpets etc. shall not be considered for additional capitalization for

determination of tariff with effect from notified date of the tariff Regulations by the Commission as per Regulation 1(2).

Note: The list of items is illustrative but not exhaustive.

- (4) Impact of additional Capitalization in tariff revision may be considered by the Commission twice in a tariff period including revision of tariff after the cut off date.

Note:

- (a) 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 74.
- (b) Any expenditure on replacement of old asset shall be considered after writing off the entire value of the original asset from the original capital cost.
- (c) 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 on normative debt ó equity ratio specified in Regulation 74.
- (d) Any expenditure admitted by the Commission for determination of tariff on renovation and modernisation or life extension shall be serviced on normative debt - equity ratio specified in Regulation 74 after writing off the original amount of the replaced asset from the original capital cost.

74 Debt-Equity Ratio

- (1) In case of all projects, the debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff, provided that the commission may in deserving case consider equity higher than 30% for purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that the deployment of equity more than 30% was in the interest of general public.

Provided that

- (a) in case of a project, if the actual equity employed is less than 30%, the actual debt and equity employed shall be taken for determination of tariff
- (b) in case of existing projects the actual debt: equity ratio shall be used for tariff determination. However any expansion shall be governed by clause (1) above.

The debt and equity amount arrived at in accordance with clause (1) shall be used for calculation of interest on loan, return on equity and Foreign Exchange Rate Variation.

75 Norms of operation (Target Availability)

(i)	AC System	98%
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Note: Recovery of fixed charges below the level of target availability shall be on pro rata basis. At zero availability, no transmission charges shall be payable.

76 Transmission charges

Annual Transmission charges shall consist the following

(1) Return on equity

- (a) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 74
- (b) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per sub-clause (c) of this Regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

- (c) The rate of return equity shall be computed by grossing up the base rate with the normal tax rate for the year of 2008-2009 applicable to the concerned generating company or the transmission licensee, as the case may be:

Provided that the return on equity with the respect to the actual tax rate applicable to the generating company or the transmission 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 separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

- (d) 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 sub-clause (c) of this Regulation.

Illustration:-

- (i) In case of the generating company of 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:

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

(2) Income tax

Income-tax on the income of the Transmission Business of the Transmission Licensee shall be allowed for inclusion in the aggregate revenue requirement.

The Transmission Licensee shall include an estimate of the income-tax liability of his Transmission Business along with the application for determination of tariff, based on the provisions of the Income-Tax Act, 1961:

Provided that any change in such income-tax liability on account of assessment under the Income-tax Act, 1961 shall be dealt with as being on account of uncontrollable factors:

Provided further that any change in such income-tax liability on account of changes in the provisions of the Income-Tax Act, 1961 shall be dealt with as being on account of uncontrollable factors:

Provided further that any change in such income-tax liability on account of change in income of the Transmission Licensee from the approved forecast shall be attributed to the same controllable or uncontrollable factors as have resulted in the change in income and shall be dealt with accordingly.

The benefits of any income-tax holiday, credit for unabsorbed losses or unabsorbed depreciation on the intra-State transmission system or any part thereof shall be taken into account in calculation of the income-tax liability of the Transmission Business.

(1) Interest on loan capital

- (a) Interest on loan capital shall be computed loan ó wise, on the loans arrived at in the manner indicated in Regulation 74.
- (b) In the case of existing projects, the actual debt-equity shall be used for tariff determination and any expansion thereto shall be governed as per Regulation 74.
- (c) The transmission licensee shall make every effort to refinance the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such refinancing shall be borne by the long-term transmission customers.
- (d) The changes, if any, to the loan terms and conditions shall be reflected from the date of such refinancing and the benefits shall be passed on to the beneficiaries.
- (e) In case of any dispute, any of the parties shall approach the Commission with proper application. The long-term transmission customers shall not withhold any payment, unless ordered by the Commission, to the transmission licensee during pendency of any dispute relating to swapping of loan before the Commission.
- (f) In case any moratorium period is availed by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- (g) The transmission licensee shall not make any profit on account of swapping of loan and interest on loan.
- (h) The Transmission licensee, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest or vice ó versa at its own cost and gains or losses as a result of such swapping shall accrue to the utility / generating company.

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted whether on floating or fixed rate of interest.

(4) Depreciation

For purpose of tariff, depreciation shall be computed in the following manner:

- (a) The value base for the purpose of depreciation shall be the historical cost of the asset.

- (b) depreciation shall be calculated annually, based on the straight-line method over the useful life of the asset and at rates prescribed by the Central Electricity Regulatory Commission, from time to time as given in Annexure 6 A

The residual value of the asset shall be considered as 10% and the depreciation shall be allowed upto a maximum of 90% of the historical capital cost of the asset. 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. The historical capital cost of the asset shall include Additional Capitalization on account of Foreign Exchange Rate Variation as allowed by the Central Government / Central Electricity Regulatory Commission

- (c) on repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (d) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.

(5) Operation and Maintenance Expenses

Norms for operation and maintenance expenses per ckt.km and per bay shall be as under:

- (a) The Commission shall, for the purpose of fixing normative rates for operation & maintenance expenses, study the O&M expenses incurred over the last 4 to 5 years and fix appropriate rates per CKt - km of transmission line and per bay. The norms so fixed for 2010-11 shall be escalated at 4% per annum.
- (b) The total allowable O&M expenses for a transmission licensee shall be calculated by multiplying the numbers of bays and CKt 6 km of line length with the applicable norms for O&M expenses per bay and per CKt-km respectively.

(6) Interest on working capital

- (a) Working capital shall cover the following:
 - (i) Operation and maintenance expenses for one month
 - (ii) Maintenance spares @ 1% of the historical cost escalated at 6% per annum from the date of commercial operation and

- (iii) Receivables equivalent to two months of transmission charges calculated on target availability level.
- (b) Rate of interest on working capital shall be on normative basis and shall be equal to the short term Prime Lending Rate of State Bank of India on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation. The interest on working capital shall be payable on normative basis notwithstanding that the transmission licensee may not have taken working capital loan from any outside agency or taken at different rates and amounts.

77 Non Tariff income

The amount of non tariff income relating to Transmission Business as approved by the Commission shall be deducted from the aggregate revenue requirement in determining the annual transmission charges of the Transmission licensee.

78 Income from other business

Where the transmission licensee has engaged in any other business, the revenues from such business after deduction of direct and indirect costs related to such other business shall be deducted from the aggregate revenue requirement in calculating the annual transmission charges of the Transmission Licensee.

79 Payment of Transmission charges

Full annual transmission charges shall be recoverable at the target availability stipulated in Regulation 75. Payment of transmission charges below the target availability level shall be on pro rata basis. The transmission charges shall be calculated on monthly basis.

80 Sharing of charges for Intra State assets

In case of more than one long-term transmission customer of the State Transmission System, the monthly transmission charges leviable on each long-term transmission

$$\left[\frac{\sum_{i=1}^n (Tci)}{n \cdot 12} \cdot TRSC \right] \times \frac{CL}{SCL}$$

customer shall be computed as per the following formula:

where TC_i = Annual Transmission charges for the i^{th} project in the State computed in accordance with Regulation 76.

n = Number of projects in the region

TRSC = Total recovery of transmission charges for the month from short ó term transmission customers for the regional transmission system in accordance with the directions of the Central Electricity Regulatory Commission (Open Access inter-state Transmission Regulations, 2004).

CL = Allotted Transmission capacity to long-term transmission customer.

SCL = Sum of Allotted Transmission Capacities to all the long ó term transmission customers of the State Transmission System.

81 Transmission losses

The energy losses in the transmission system of the Transmission Licensee, as determined by the State Load Despatch Centre and approved by the Commission, shall be borne by the Transmission System Users pro rata to their usage of the intra-state transmission system:

Provided that any variation between the actual level of transmission losses, as determined by the State Load Despatch Centre and the approved level shall be dealt with, as part of the annual performance review.

Provided also that the Transmission Licensee shall not be permitted to recover, under this Regulation, energy losses arising from theft, pilferage, failure to meter or bill for electricity transmitted.

82 Incentive

(1) The transmission licensee shall be entitled to incentive @ 1% of equity for each percentage point of increase in annual availability beyond the target availability prescribed under Regulation 75 in accordance with the following formula:

$$\text{Incentive} = \text{Equity} \times (\text{Annual availability achieved} \text{ ó target availability}) \div 100$$

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

83 Rebate

For payment of bills of transmission charges through letter of credit on presentation, a rebate of 2% shall be allowed. Where payments are made subsequently, through opening of letter of credit or otherwise, but within a period of one month of presentation of bills by the transmission licensee, a rebate of 1% shall be allowed.

84 Late payment surcharge

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

CHAPTER-8

DISTRIBUTION: WHEELING OF ELECTRICITY

85 Applicability

The Regulations contained in this Chapter shall apply in determination of tariff payable for wheeling of electricity for a Distribution System User who has been allowed open access to the distribution system of a Distribution Licensee in accordance with the Distribution Open Access Regulations. A Distribution system user who is directly connected to a transmission system shall not be required to pay any tariff under this chapter.

86 Separation of Account

Every Distribution Licensee shall maintain separate records for the Distribution Business and shall prepare "Allocation Statement" to enable the Commission determine the tariff pursuant to each such application made by the Distribution Licensee.

87 Determination of Tariff

Every Distribution Licensee shall make a separate application for determination of tariff for:

- (a) Wheeling of electricity
- (b) Retail sale of electricity.

88 Wheeling Charges

The Wheeling Charges of the Distribution Licensee shall provide for the recovery of the aggregate revenue requirement relating to the Distribution Business of the Distribution Licensee for the financial year as reduced by the amount of the Non-Tariff income and income from Other Business.

89 Aggregate Revenue Requirement (ARR)

The ARR requirement calculated shall be as explained in the next chapter for Retail sale of electricity by the Distribution Licensee.

CHAPTER – 9 RETAIL SALE OF ELECTRICITY

90 Definitions (Additional)

- (1) **‘Area of Supply’** means the area within which a distribution licensee is authorized, by virtue of his license, to supply electricity in that area;
- (2) **‘Consumer’** means any person who is supplied with electricity for his own use by a licensee or integrated utility or by any other person engaged in the business of supplying electricity to the public under the Act or any other law for the time being in force and includes any person whose premises is connected for the purpose of receiving electricity with the works of a licensee, integrated utility or such other person as the case may be;
- (3) **‘Distribution licensee’** means a licensee authorized by the Commission to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply.
- (4) **‘Open access customer’** means a consumer permitted by the Commission to receive supply of electricity from a person other than a distribution licensee of his area of supply and the expression includes an integrated utility or a generating company or a licensee who has availed of or intends to avail supply of power through open access.

91 Applicability

These Regulations shall apply for determination of tariff for retail sale of electricity by a distribution licensee (also by an Integrated Utility) to his consumers:

Provided that in case of distribution of electricity in the same area by two or more distribution licensees, the Commission may fix the maximum ceiling of tariff for retail sale of electricity and may be guided by principles contained in these Regulations in fixing such tariff.

92 Terms and conditions for determination of tariff

- (1) While determining the tariff, the Commission shall consider the compliance of the following requirements:
 - (a) environmental standards
 - (b) safety standards
 - (c) different statutory requirements

- (d) requirement of energy conservation through tariff mechanism to encourage optimum and economic utilisation of available electricity and to discourage unnecessary wasteful use of electricity
 - (e) need for reserve capacities to improve system reliability
 - (f) standards and other norms as may be specified or directed by the Commission including incentives and penalty relating to such standards
 - (g) development of market relating to electricity
 - (h) affordability of power and the need for power to different sections of society in the interest of the consumer as well as utility.
 - (i) need to use non-conventional source of energy
 - (j) need to insulate the Consumers from sudden tariff shocks in a year or years
 - (k) existing and future balances available under Consumer Account, Tariff and Dividend Control Account, Undistributed rebates, Development Reserve, Contingency reserve, Deferred Taxation, Reserve along with investment and the income thereon for the existing licensees.
- (2) The Commission may determine different tariff for different categories of consumers on the basis of the following factors or on the basis of any combination of one or more factors:
- (a) Consumer's load factor;
 - (b) power factor;
 - (c) voltage;
 - (d) total consumption of energy during any specified period;
 - (e) the time at which supply is required;
 - (f) geographical position of the area;
 - (g) nature of supply;
 - (h) purpose for which supply is required etc.

The Commission, depending upon available factors / data / information or any other material which it may consider appropriate in each case, may either fix separate rates, impose extra charges, incentives, penalty etc on the basic tariff to the extent necessary keeping in view the overall interest of the consumers, licensees / integrated utility / generating company and / or the Electric system as a whole.

- (3) The Commission shall, at its sole discretion, adopt any or all the above principles, suitably modify the same to the extent required having regard to the facts and merits of each case.

93 Principles for fixation of tariff for a Distribution Licensee

- (1) The tariff for a Distribution Licensee shall be fixed in such a manner that the licensee in a financial year shall ordinarily earn a return, which shall be guided by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 as amended by the CERC from time to time plus permitted incentives minus penalties leviable under the Act / Regulations for that year. The incentives would result from normative targets on Aggregate Technical and Commercial Losses (AT&C) for the licensee. The Commission shall define AT&C targets in line with Multi year Tariff Principles. The definition of equity thus would involve all net worth deployed in the capital of the unit but does not include any revaluation of reserves and subsidies. The paid up equity capital for this purpose shall be the average of the opening and closing balances of paid up equity capital for that year.

The profit for this purpose shall mean the difference between the total income from the business of electricity including income not realised due to the reasons within the control of the licensee and the relevant portion of income including use of its assets and resources pertaining to other than electricity business minus reasonable actual expenditure properly incurred on the business relating to electricity or for other business for which income is being calculated subject to the extent of such income.

The difference between the profit and the permissible return shall be dealt with as follows:

50% shall be retained by the licensee

50% shall go to the consumer account, which will be taken into consideration while fixing Fuel and Power Purchase for the relevant or subsequent years or tariff for the subsequent years.

- (2) Two separate schedules of tariff ó one after factoring in subsidy and the other without accounting for subsidy shall be prepared. The schedule of tariff without subsidy shall be charged by the Integrated Utility in the event of the State government failing to make advance payment of subsidy as per Chapter-10

94 Components of Tariff

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 comprising the following

Aggregate Revenue Requirement:

- (a) Return on equity capital;
- (b) Income-tax;
- (c) Interest on loan capital;
- (d) Depreciation and amortisation of intangible assets;
- (e) Cost of power generation / power purchase;
- (f) Transmission charges;
- (g) Operation and Maintenance expenses;
- (h) Interest on working capital and on consumer security deposits; and
- (i) Contribution to contingency reserves

Revenue requirement from sale of electricity = Aggregate Revenue Requirement, as above, minus

- (j) Non tariff income;
- (k) Income from wheeling of electricity
- (l) Income from other business, to extent specified in these Regulations;
- (m) Receipts on account of cross-subsidy surcharge; and
- (n) Receipts on account of additional surcharge on charges of wheeling

95 Capital Investment Plan

- (1) The Distribution Licensee shall propose in their filings, a detailed capital investment plan, showing separately ongoing projects that will spill into the Ensuing Year and new projects (along with their justification) that will commence in the Ensuing Year.
- (2) The Commission may consider the Distribution Licensee's investment plan for approval and for this purpose may require the Distribution Licensee to provide relevant technical and commercial details. The carrying costs corresponding to the approved investment plan for a given year shall normally be considered for its revenue requirement.
- (3) In presenting the justification for new projects, the Distribution Licensee and the Licensee shall detail the specific nature of the works and outcomes sought to be achieved, and such details must be shown in the form of physical parameters, e.g. new sub stations, lines to be added, meters to be replaced, customer service centers set up etc., so that it is amenable for physical verification. In case of any

significant shortfall in physical implementation, the Commission may require the Distribution Licensee to explain the reasons, and may proportionately reduce the provision, including the interest and the return on equity, made towards revenue requirement, in the next period.

- (4) To meet natural calamities involving substantial investments, the Distribution Licensee may, any time during the tariff year, seek provision for additional capital expenditure and the Commission shall examine and review these provisions in the manner as given in clause (2) above and approve their inclusion in revenue requirement in the next period.

96 Capital cost and capital structure

- (1) The approved investment plan of the Distribution Licensee shall be the basis for determining the relevant components of ARR for each financial year after the notification of these Regulations.
- (2) Investments made prior to and upto the year of the notification of these Regulations shall be considered on the basis of audited accounts or approvals already granted by the Commission.
- (3) Scrutiny of the capital cost estimates by the Commission shall include the reasonableness, financing plan, interest during construction, use of efficient technology, gestation period and such other matters relevant for determination of tariff.
- (4) Swapping of Foreign Debt and Equity to Rupee Debt and Equity shall be permitted provided it does not affect tariff charges adversely. The benefits accruing from such swapping shall be shared between the consumers and the Distribution Licensee in such ratio as may be decided by the Commission.
- (5) Restructuring of capital cost in terms of relative share of equity and loan shall ordinarily not be permitted.

97 Debt-equity ratio

- (1) For the purpose of determination of tariff, debt-equity ratio in case of a new project commencing after the date of notification of these Regulations shall be 70:30. 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 debt and equity shall be considered for determination of tariff.

Provided that the Commission may, in appropriate cases, consider equity higher

than 30% for the purpose of determination of tariff, where the licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of the general public; In case of existing and ongoing projects, the actual debt-equity ratio shall be considered for determination of tariff. However, any expansion shall be governed as per clause (1) above.

- (2) The debt and equity amounts arrived at in accordance with clause (1) and (2) shall be used for all purposes including for determining interest on loan return on equity and Foreign Exchange Rate Variation.

98 Calculation of Aggregate Revenue Requirement (ARR)

(1) Return on equity

- (a) Return on Equity shall be computed on the paid up equity capital and shall be guided by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 as amended by the CERC from time to time. The same principles will apply for distribution business also as far as possible.
- (b) Equity invested in foreign currency shall be allowed a return up to the prescribed limit under clause(1) of this Regulation in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate on the date of declaration of dividends. The difference in actual exchange rate and the provisional exchange rate considered while determining the ARR and Tariff shall be taken into consideration at the time of Truing Up.
- (c) The premium raised by the Distribution Licensee while issuing share capital and investment of internal resources created out of free reserve, if any, shall also be reckoned as paid up equity capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting capital expenditure.

(2) Interest and finance charges on loan

- (a) For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the rate of interest and schedule of repayment as per the terms and conditions of relevant agreements.
- (b) Interest and finance charges on loan capital for new investments shall be computed on the loans, duly taking into account the rate of interest and the

schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall, however, be restricted to the prevailing Prime Lending Rate of the State Bank of India.

- (c) The interest rate on the amount of equity above 30% treated as loan shall be the weighted average rate of interest on loan capital of the generating company / licensee ;

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

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

- (d) Interest charges on security deposits, if any, made by the consumers with the Distribution Licensee, shall be considered at the rate specified by the Commission from time to time.
- (e) In case any moratorium period is availed of, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
- (f) The Commission shall allow obligatory taxes on interest, commitment charges, finance charges and any exchange rate difference arising from foreign currency borrowings, as finance cost.
- (g) Any saving in costs on account of subsequent restructuring of debt shall be shared between the consumers and the Distribution Licensee in such ratio as may be decided by the Commission.

(3) Depreciation

- (a) For the purpose of tariff, depreciation shall be computed in the following manner:
 - (i) The value base for the purpose of depreciation shall be the historical cost of the assets, that is actual expenses limited to approved capital cost where such capital cost has been approved by the Commission.
Provided that land is not a depreciable asset and its cost shall be excluded from the capital cost while computing depreciation.
 - (ii) The historical cost of the asset shall include additional capitalisation.
 - (iii) The historical cost shall include foreign currency funding converted to equivalent rupees at the exchange rate prevalent on the date when foreign currency was actually availed but not later than the date of commercial operation.

- (iv) Depreciation for distribution and other assets not covered by CERC shall be as per Government of India norms of 1994 as may be revised by the Commission from time to time.
 - (v) The total depreciation during the life of the asset shall not exceed 90% of the original cost.
- (b) The Distribution Licensees shall make all efforts for aligning the tenure of long term debt with permissible rate of depreciation to reduce front loading of tariffs.
 - (c) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
 - (d) 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.
- (4) Operation and maintenance expenses**
- (a) "Operation & Maintenance expenses" or "O&M expenses" shall mean repair and maintenance (R&M) expenses, employee's expenses and administrative & general expenses including insurance.
 - (b) While determining the O&M expenses for generation functions within the State, the Commission shall be guided, as far as feasible, by the principles and methodologies of CERC on the matter, as amended from time to time.
 - (c) O&M expenses for distribution functions shall be determined by the Commission as follows:
 - (i) O&M expenses as approved by the Commission for the first time of a year shall be considered as base O&M expenses for determination of O&M expenses for subsequent years;
 - (ii) Base O&M expenses as above shall be adjusted according to variation in the rate of WPI per annum to determine the O&M expenses for subsequent year, where WPI is the Wholesale Price Index on April 1 of the relevant year;
 - (d) O&M expenses of assets taken on lease/hire-purchase and those created out of the consumer's contribution, shall be considered in case the licensee has the responsibility for its operation and maintenance and bears O&M expenses.
 - (e) O&M expenses for gross fixed assets added during the year shall be considered from the date of commissioning on pro-rata basis.

- (f) O&M expenses for integrated utility shall be determined by the Commission on the norms and principles indicated above.

(5) Bad and doubtful debts

The Commission may, after the Distribution Licensee gets the receivables audited, allow a provision for bad debts upto 1% of receivables in the revenue requirement of the Distribution Licensee.

(6) Working capital and interest rate on working capital

- (a) The working capital for distribution business shall be the sum of one month requirement for meeting:

- (i) Power purchase cost.
- (ii) Employees cost.
- (iii) Administration & general expenses and
- (iv) R&M expenses as already being allowed.

- (b) The working capital for integrated utility shall be the sum of one month requirement for meeting :

- (i) Fuel cost.
- (ii) Power purchase cost.
- (iii) Employees cost.
- (iv) Administration & General expenses.
- (v) R&M expenses as already being allowed.

- (c) The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on 1st of April of the relevant year. The interest on working capital shall be payable on normative basis notwithstanding that the Distribution Licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures.

(7) Tax on income

- (a) Obligatory taxes, if any, on the income of the Distribution Licensee from its core / licensed business shall be computed as an expense and shall be recovered from the customers/consumers.

Provided that tax on any income other than the core / licensed business shall not constitute a pass through component in tariff and tax on such other income shall be payable by the Distribution Licensee.

- (b) Tax on income, if actually liable to be paid, shall be limited to tax on return on equity allowed, excluding incentives.

- (c) The Tax on income shall be considered at income tax rate including surcharge, cess, etc as applicable during the relevant year in accordance with the provisions of Income Tax Act, 1961 duly amended from time to time.
- (d) 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 fully passed on to the customers / consumers.

(8) Income from Wheeling Charges:

The amount of any income from which charges as approved by the Commission shall be deducted from Aggregate Revenue Requirement in calculating the revenue requirement from retail sale of electricity of the distribution licensee.

(9) Income from other Business:

Where the Distribution Licensee has engaged in any Other Business, the revenues from such Other Business after deduction of all direct and indirect costs attributed to such Other Business shall be deducted from the aggregate revenue requirement in calculating the revenue requirement from retail sale of electricity of the Distribution Licensee:

Provided that the Distribution Licensee shall follow a reasonable basis for allocation of all joint and common costs between the Distribution Business and the Other Business and shall submit the Allocation Statement to the Commission along with his application for determination of tariff:

Provided further that where the sum total of the direct and indirect costs of such Other Business exceed the revenues from such Other Business or for any other reason, no amount shall be allowed to be added to the aggregate revenue requirement of the Distribution Licensee on account of such Other Business.

Provided also that nothing contained in this Regulation shall apply to a local authority engaged, before the commencement of the Act, in the business of distribution of electricity.

(10) Receipts on account of cross-subsidy surcharge and additional surcharge on charges of wheeling

- (a) The amount received by the Distribution Licensee from a Generating Company or Licensee giving supply of electricity within the area of supply of the Distribution Licensee by way of cross-subsidy surcharge, as approved by the

Commission in accordance with the Distribution Open Access Regulations shall be deducted from the aggregate revenue requirement in calculating the revenue requirement from retail sale of electricity of such Distribution Licensee.

- (b) The amount received by the Distribution Licensee by way of additional surcharge on charges of wheeling, from consumers of such Distribution Licensee who have chosen to receive supply of electricity from a Licensee other than such Distribution Licensee, as approved by the Commission in accordance with the Distribution Open Access Regulations shall be deducted from the aggregate revenue requirement in calculating the revenue requirement from retail sale of electricity of such Distribution Licensee.

(11) Cost of Power Generation - Purchase

- (a) The Distribution Licensee shall be allowed to recover the cost of power purchased from external sources for supply to consumers based on the annual power procurement plan of the Distribution Licensee.
- (b) The power procurement plan shall be prepared based on the sales forecast and taking into consideration the approved level of transmission losses, and approved level of distribution losses.
- (c) The power procurement plan shall be consistent with the long-term power procurement plan of the Distribution Licensee with regard to power purchases from long-term sources of supply.
- (d) Where any short-term power procurement is intended, it shall be in accordance with the Regulations contained in Chapter-4 of these Regulations.
- (e) The Commission shall determine the quantum of electricity to be procured from various sources of supply of the Distribution Licensee, in accordance with the principle of merit order schedule and dispatch, based on a ranking of all approved sources of supply in the order of variable cost or price.
- (f) The Distribution Licensee may be entitled to receive or shall be required to bear, as the case may be, the charges for deviations between scheduled energy drawal and actual energy drawal, in accordance with the Balancing and Settlement Code, as may be published by the State Load Despatch Centre and approved by the Commission:

Provided that the extent of inclusion of such charges in computation of aggregate revenue requirement for the Distribution Licensee shall be

stipulated by the Commission.

(12) Transmission Charges

- (a) The Distribution Licensee shall be allowed to recover transmission charges payable to a Transmission Licensee for access to and use of the intra-State transmission system of such Transmission Licensee in accordance with the tariff approved by the Commission under Chapter 67 of these Regulations.
- (b) The Distribution Licensee shall also be allowed to recover the following expenses, at the approved level:
 - (i) charges for use of intervening transmission facilities;
 - (ii) wheeling charges for use of the distribution system of other Distribution Licensee;
 - (iii) charges for access to and use of an inter-State transmission system, in accordance with tariffs specified by the Central Commission; and
 - (iv) fees and charges of the Regional Load Despatch Centre and State Load Despatch Centre, as may be specified

(13) Fuel Cost Adjustment

- (a) The Distribution Licensee shall pass on adjustments, due to changes in the cost of power generation and power procured due to changes in fuel cost, through the Fuel Adjustment Cost (FAC) formula, as specified below.
- (b) The FAC charge shall be applicable on the entire sale of the Distribution Licensee without any exemption to any consumer.
- (c) The FAC charge shall be computed and charged on the basis of actual variation in fuel costs relating to power procured during any month subsequent to such costs being incurred, in accordance with these Regulations, and shall not be computed on the basis of estimated or expected variations in fuel costs.
- (d) The Distribution Licensee shall submit details in the stipulated format to the Commission on a quarterly basis for the FAC charged and, for this purpose, shall submit such details of the FAC incurred and the FAC charged to all consumers for each month in such quarter, along with the detailed computations and supporting documents as may be required for verification by the Commission:

Provided that where the FAC is being charged for the first time subsequent to the notification of these Regulations, the Distribution Licensee shall

obtain the approval of the Commission prior to levying the FAC charge:

Provided further that the FAC charge applicable to each tariff category of consumers shall be displayed prominently at the cash collection centres and on the internet website of the Distribution Licensee:

Provided that the Distribution Licensee shall put up on his internet website such details of the FAC incurred and the FAC charged to all consumers for each month along with detailed computations.

- (e) The monthly FAC charge shall not exceed 10% of the variable component of tariff, or such other ceiling as may be stipulated by the Commission from time to time:

Provided that any excess in the FAC charge over the above ceiling shall be carried forward by the Distribution Licensee and shall be recovered over such future period as may be directed by the Commission.

- (f) The FAC charge shall be allowed only in respect of approved power purchases of the Distribution Licensee and in respect of power purchases made in accordance with Regulation 25 where the approval of the Commission is not required under these Regulations.

- (g) The total FAC recoverable, as per the formula specified above, shall be recovered from the actual sales in ₹Rupees per kilowatt-hour terms:

Provided that in case of unmetered consumers, FAC shall be recoverable based on estimated sales to such consumers, calculated in accordance with such methodology as may be stipulated by the Commission:

Provided further that where the actual distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of FAC corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total FAC recoverable.

- (h) Calculation of FAC per kWh shall be as per the following formula:

$$\text{FACRs./kWh} = (\text{FAC} / (\text{Metered sales} + \text{Unmetered consumption estimates} + \text{Excess distribution losses})) * 10$$

FORMULA FOR FUEL AND POWER PURCHASE COST ADJUSTMENT

The fuel and power purchase cost adjustment (FAC) formula is given below:

$$\text{FAC (Rs./kWh)} = \frac{\text{Qc(RC2-RC1)+Qo(RO2-RO1)+QPp(Rpp2-Rpp1)+Vz + A}}{(\text{QPg} + \text{QPp}) \times (1-L) \text{ ó PSE}} \times 100$$

Where,

- Qc = Quantity of coal consumed during the adjustment period (in M.T)
 = SHR x QPg (1-TSL)x1000 / GCV
- RC1 = Weighted average rate of coal supplied ex-power station coal yard as approved by the Commission for the adjustment period in Rs. / M.T
- RC2 = Weighted average rate of coal supplied ex-power station coal yard as per actual for the adjustment period in Rs. / M.T
- Qo = Quantity of oil (in KL) consumed during the adjustment period
 = Generation (in MU) X Specific oil Consumption approved by the Commission (ml. / kWh)
- RO1 = Weighted average rate of oil ex-power station (in Rs./KL) approved by the Commission for the adjustment period
- RO2 = Weighted average actual rate of oil ex-power station (in Rs./KL) during the adjustment period in Rs. / M.T
- QPg = Board's own power generation (in MUs) at generator terminal-approved auxilliary consumption.
- QPp = Power purchased from different sources and fed into Board's system (in MUs)
- Rpp1 = Average rate of power purchase as approved by the Commission (in Rs. / kWh)
- Rpp2 = Average rate of power purchase during the adjustment period (in Rs. / kWh)
- Vz = Amount of variable charges on account of change of cost of unknown factors like water charges, taxes or any other unpredictable and unknown factors not envisaged at the time of tariff fixation (subject to prior approval of the Commission)
- A = Adjustment, if any, to be made in the current period to account for any excess / shortfall in recovery of fuel or power purchase cost in the past adjustment period, subject to the approval of the Commission.

- L = T&D loss as approved by the Commission or actual, whichever is lower.
- PSE = Power sold to exempted categories (presently agriculture and BPL consumers)
- SHR = Station Heat Rate as approved by the Commission.
- TSL = Transit and Stacking Loss as approved by the Commission.
- GCV = Weighted average gross calorific value of coal fired at boiler front during the adjustment period (in Kcal / Kg)

CHAPTER – 10
SUBSIDY BY STATE GOVERNMENT

99 Subsidy

- (1) If the State Government requires the grant of any subsidy to any category of consumer 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 with prior approval of the Commission.
- (2) The amount of subsidy agreed to by the State Government shall be provided in the form of grant by the State Government.
- (3) The subsidy shall be passed on to the eligible consumers only in proportion to the extent to which the total requirement of licensee is paid by the State Government.

CHAPTER – 11 MISCELLANEOUS

100 Power to amend and to remove difficulties

(1) Power to amend

The Commission may, at any time as it deems fit, amend, alter or modify any of these Regulations to remove any defect or error noticed by it in performance of its functions.

(2) Power to remove difficulties

If any difficulty arises in giving effect to 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.

(3) Enforcement of orders passed by the Commission-

The Secretary shall have the powers to enforce the compliance of the orders passed by the Commission, by the persons concerned in accordance with the provisions of the Act and these regulations.

101 Repeal and saving

- (1) Save as otherwise provided in these Regulations, the Joint Electricity Regulatory Commission for the States of Manipur & Mizoram (Terms and Conditions for Determination of Tariff) Regulations 2008 is hereby repealed.
- (2) Notwithstanding such repeal, all proceedings and actions taken and orders passed by the Commission or by any authority or Committee under the Regulations or the Orders so repealed, exercising or purporting to exercise jurisdiction under such Regulations or Orders shall be deemed to be as good and valid in law as if it has been so taken and made under the relevant provisions of this Regulations or the Order, as the case may be.

By Order of the Commission

(RICHARD ZOTHANKIMA)

Assistant Secretary,
Joint Electricity Regulatory Commission
for Manipur & Mizoram

APPENDIX-1
Depreciation Schedule

Sl 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	
C	<u>Assets purchased new</u>	
(a)	PI & Machinery in generating stations	
(i)	Hydro electric	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 system	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 surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control 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%

(f)	Switchgear including cable connections	5.28%
(g)	Lightning arrestor	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
(h)	Batteries	5.28%
	Underground cable including joint boxes and disconnected boxex	5.28%
(i)	boxex	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 66KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2KV but not exceeding 66KV	5.28%
(iii)	Lines on steel on reinforced concreat support	5.28%
(iv)	Lines on treated wood support	5.28%
(j)	Meters	
(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)	Any other assets not covered above	5.28%

APPENDIX-II
Timeline for completion of Projects
(Refer to Regulations 40(3), 59(3), 76(1))

1. The completion time schedule shall be reckoned from the date of investment approval by the Board (of the generating company or the transmission licensee), or the CEA clearance as the case may be, up to the date of commercial operation of the units or block or element of transmission project as applicable.
2. The time schedule has been indicated in months in the following paragraphs and tables:

A Thermal Power Projects

(1) Coal/Lignite Power Plant

Unit size 200/210/250/300/330 MW and 125 MW CFBC technology

- (a) 33 months for green field projects. Subsequent units at an interval of 4 months each.
- (b) 31 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 250 MW CFBC technology

- (a) 36 months for green field projects. Subsequent units at an interval of 4 months each.
- (b) 34 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 500/600 MW

- (a) 44 months for green field projects. Subsequent units at an interval of 6 months each.
- (b) 42 months for extension projects. Subsequent units at an interval of 6 months each.

Unit size 660/800 MW

- (a) 52 months for green field projects. Subsequent units at an interval of 6 months each.
- (b) 50 months for extension projects. Subsequent units at an interval of 6 months each.

(2) Combined Cycle Power Plant

Gas Turbine size upto 100 MW (ISO rating)

- (a) 26 months for first block of green field projects. Subsequent blocks at an interval of 2 months each.
- (b) 24 months for first block of extension projects. Subsequent units at an interval of 2 months each.

Gas Turbine size above 100 MW (ISO rating)

- (a) 30 months for first block of green field projects. Subsequent blocks at an interval of 4 months each.
- (b) 28 months for first block of extension projects. Subsequent units at an interval of 4 months each.

B. Hydro Electric Projects

The qualifying time schedule for hydro electric projects shall be as stated in the original concurrence issued by the Central Electricity Authority/Competent Authority under section 8 of the Act.

C. Transmission & Distribution Schemes

Qualifying time schedules in months

Sl.no	Schemes	Plain Area (months)	Hilly Terrain (months)	Very Difficult terrain (month)
1	2	3	4	5
2	220kV SC line	30	40	48
3	132kV line	24	30	36
4	33kV line	20	24	30
5	11kV line	12	18	24
6	LT Dist. sys	12	18	24
7	220kV S/S	30	40	48
8	132kV S/S	24	30	36
9	33kV S/S	20	24	30

Notes:

- (i) In case a scheme having combination of the above mentioned types of projects, the qualifying time schedule of the activity having maximum time period shall be considered for the scheme as a whole.
- (ii) In case a transmission line falls in plain as well as in hilly terrain area/very difficult terrain, the composite qualifying time schedule shall be calculated giving proportional weightage to the line length falling in each area.