

Bhopal, 12<sup>th</sup> December, 2012

No.3410/MPERC/2012. In exercise of powers conferred by Section 181(2)(zd) read with Section 61 of the Electricity Act, 2003 (No.36 of 2003), the Madhya Pradesh Electricity Regulatory Commission hereby makes the following Regulations:

**MADHYA PRADESH ELECTRICITY REGULATORY COMMISSION  
(TERMS AND CONDITIONS FOR DETERMINATION OF GENERATION  
TARIFF) (REVISION-II) REGULATIONS, 2012 {RG-26 (II) OF 2012}**

**PREAMBLE**

**Whereas the first control period of MPERC (Terms and Conditions for Determination of Generation Tariff) Regulation's 2005 (G-26 of 2005) expired on 31<sup>st</sup> March, 2009, the Commission notified revision {RG-26(I) of 2009} of these Regulation dated 30<sup>th</sup> April, 2009 on 08<sup>th</sup> May 2009 to specify the principles and methodologies for the second MYT control period from FY 2009-10 to FY 2011-12. The Commission vide 2<sup>nd</sup> amendment dated 24<sup>th</sup> February, 2012 extended the control period up to March, 2013. In order to specify the terms and conditions of Generation tariff for the next control period of FY 2013-14 to FY 2015-16, these Regulations are being notified.**

**CHAPTER-I  
PRELIMINARY**

**1. Short title and commencement :**

- 1.1** These Regulations shall be called “**Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) (Revision-II) Regulations, 2012. {RG-26 (II) of 2012}**”.
- 1.2 These Regulations shall extend to the whole of the State of Madhya Pradesh.
- 1.3 These Regulations shall come into force from 1.4.2013, and unless reviewed earlier or extended by the Commission, shall remain in force for a period up to 31.03.2016 from the date of commencement:

Provided that where a Project, or a part thereof, has been declared under commercial operation before the date of commencement of these Regulations and whose Tariff has not been finally determined by the Commission till that date, Tariff in respect of such Project or such part thereof, as the case may be, for the period ending 31.3.2013 shall be determined in accordance with the Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2009 and its amendments.

## **2. Scope and extent of application**

2.1 These Regulations shall apply in all cases of determination of generation tariff for a generating station or a unit thereof (other than those based on non-conventional energy sources) under Section 62 of the Electricity Act, 2003 for supply of electricity to a Distribution Licensee, but shall not apply where Tariff has been determined through the transparent process of bidding in accordance with the guidelines issued by the Central Government as per the provisions of Section 63 of the Electricity Act, 2003.

## **3. Norms of Operation to be threshold norms**

3.1 For removal of doubts, it is clarified that the norms of operation specified under these Regulations are the threshold norms and this shall not preclude the Generating Company and Beneficiaries from agreeing to improved norms of operation and in such case the improved norms shall be applicable for determination of Tariff.

## **4. Definitions**

4.1 In these Regulations, unless the context otherwise requires,

- (a) "Act" means the Electricity Act, 2003 (36 of 2003);
- (b) "Accounting Statement" means for each financial year the following statements, namely-
  - (i) Balance sheet, prepared in accordance with the form contained in Part I of Schedule VI to the Companies Act, 1956; together with notes thereto, and such other supporting statements and information as the Commission may direct from time to time;
  - (ii) Profit and loss account, complying with the requirements contained in Part II of Schedule VI to the Companies Act, 1956
  - (iii) Cash flow statement, prepared in accordance with the Accounting Standard on Cash Flow Statement (AS-3) of the Institute of Chartered Accountants of India;
  - (iv) Report of the statutory auditor(s) of the Generating Company;
  - (v) Directors' report and accounting policies; and
  - (vi) Cost records if any, prescribed by the Central Government under Section 209(1)(d) of the Companies Act, 1956,
- (c) "Additional Capitalization" means the capital Expenditure Incurred or Projected to be incurred, after the Date of Commercial operation of the Project and admitted by the Commission after prudent check, subject to provisions of Regulation 20;
- (d) "Auxiliary Energy Consumption (AUX)" in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station and transformer losses within the generating station, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the Units of the generating station,
- (e) "Auditor" means an auditor appointed by the Generating Company in accordance with the provisions of Sections 224, 233B, and 619 of the Companies Act, 1956 (1 of 1956) or any other law for the time being in force.

- (f) “Beneficiary” in relation to a generating station means the person purchasing electricity generated at such a generating station whose Tariff is determined under these Regulations;
- (g) “Block” in relation to a combined cycle thermal generating station includes combustion turbine-generators, associated waste heat recovery boilers, connected steam turbine – generator and auxiliaries;
- (h) “Commission” shall mean the Madhya Pradesh Electricity Regulatory Commission;
- (i) “Change in Law” means occurrence of any of the following events:
  - (i) the enactment, bringing into effect, adoption, promulgation, amendment, modification or repeal of any law; or
  - (ii) change in interpretation of any law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation; or
  - (iii) change by any competent statutory authority, in any consent, approval or Licensee available or obtained for the Project.
- (j) “Cut off date” means 31<sup>st</sup> March of the year closing after two years of the year of commercial operation of the Project, and in case the Project is declared under commercial operation in the last quarter of a year, the Cut off date shall be 31<sup>st</sup> March of the year closing after three years of the year of commercial operation;
- (k) “Day” means the continuous period of 24 hours starting at 0000 hours
- (l) “Date of Commercial Operation (COD)” means
  - (i) in relation to a Unit or Block of the thermal generating station, the date declared by the Generating Company after demonstrating the Maximum Continuous Rating (MCR) or the Installed Capacity (IC) through a successful trial run after notice to the Beneficiaries, from 0000 hour of which scheduling process as per MP Electricity Grid Code is fully implemented, and in relation to the generating station as a whole, the Date of Commercial Operation of the last Unit or Block of the generating station;
  - (ii) in relation to a Unit of hydro generating station, the date declared by the Generating Company after notice to the Beneficiaries, from 0000 hour of which scheduling process as per MP Electricity Grid Code is fully implemented, and in relation to the generating station as a whole, the date declared by the Generating Company after demonstrating peaking capability corresponding to Installed Capacity of the generating station through a successful trial run, after notice to the Beneficiaries;

### **Note**

1. In case the Hydro generating station is not able to demonstrate peaking capability corresponding to the Installed Capacity for the reasons of insufficient reservoir or pond level, the Date of Commercial operation of the last Unit of the generating station shall be considered as the Date of Commercial Operation of the generating station as a whole, provided that it will be mandatory for such hydro generating station to demonstrate peaking capability equivalent to Installed Capacity of the generating Unit or the generating station as and when such reservoir /pond level is achieved.
2. Similar conditions shall be applicable for purely run-of-river hydro generating station if the Unit or the generating station is declared under commercial operation during lean inflow periods when the water is not sufficient for such demonstration.

- (m) “Declared Capacity (DC)” in relation to a generating station means, the capability to deliver ex-bus electricity in MW declared by such generating station in relation to any Time-Block of the Day or whole of the Day, duly taking into account the availability of fuel or water and subject to further qualification in the relevant Regulation;
- (n) “Design Energy” shall mean the quantum of energy which can be generated in a 90% dependable year with 95% Installed Capacity of the hydro generating station;
- (o) “Existing generating project” means the project declared under commercial operation from a date prior to 1.4.2012.
- (p) “Expenditure Incurred” means the fund, whether the equity or debt or both actually deployed and paid in cash or cash equivalent, for creation or acquisition of a useful asset and does not include commitments or liabilities for which no payment has been released.
- (q) “Generating Company” means any Company or body corporate or association or body of individuals, whether incorporated or not, or artificial juridical person, which owns or operates or maintains a generating station;
- (r) “Generation Tariff” shall mean Tariff for ex- bus supply of electricity from a generating station;
- (s) “Gross Calorific Value (GCV)” in relation to a thermal power generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be;
- (t) “Gross Station Heat Rate (GHR)” means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals of a Thermal generating station;
- (u) “Infirm Power” means electricity injected into the grid prior to commercial operation of a Unit or Block of the generating station;
- (v) “Installed Capacity (IC)” means the summation of the nameplate capacities of all the Units of the generating station or the capacity of the generating station (reckoned at the generator terminals), approved by the Commission from time to time;
- (w) “Licensee” means a person who has been granted licence under Section 14 of the Act;
- (x) “Maximum Continuous Rating (MCR)” in relation to a Unit of the thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer at rated parameters, and in relation to a Block of a combined cycle thermal power generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water or steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions;
- (y) “Normative Annual Plant Availability Factor (NAPAF)” in relation to a generating station means the availability factor as specified in Regulation 35 for thermal generating station and in Regulation 49 for hydro generating station.
- (z) “Officer” means an Officer of the Commission;
- (aa) “Operation and Maintenance Expenses (O&M Expenses)” means the expenditure incurred on operation and maintenance of the Project, or part thereof, and includes the expenditure on manpower, repairs, spares, insurance and overheads.
- (bb) “Original Project Cost” means the capital expenditure Incurred by the Generating Company within the original scope of the Project up to the Cut-off date, as admitted by the Commission.
- (cc) “Plant Availability Factor (PAF)” in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the Days during that period expressed as a percentage of the Installed Capacity in MW reduced by the normative Auxiliary Energy Consumption.

- (dd) “Project” means a generating station and in case of a Hydro generating station includes all components of generating facility such as dam, intake water conductor system, power generating station and generating units of the scheme, as apportioned to power generation;
- (ee) “Run-of-river power station” means a Hydro electric power generating station which has no upstream pondage;
- (ff) “Run - of-river power station with pondage” means a hydro electric power generating station with sufficient pondage for meeting the diurnal variation of power demand;
- (gg) “Scheduled Generation (SG)” at any time or for any period or Time Block means schedule of generation in MW or MWh ex-bus, given by the State Load Despatch Centre;
- (hh) “Scheduled Energy” means the quantum of energy scheduled by the State Load Despatch Centre to be injected into the grid by a generating station over a Day;
- (ii) “Secretary” means Commission Secretary;
- (jj) “Storage Type Power Station” means a hydro generating station associated with large storage capacity to enable variation of generation of power according to demand;
- (kk) “Tariff” shall mean the schedule of charges for generation and bulk supply of electricity together with terms and conditions applicable thereof;
- (ll) “Tariff period” shall mean the period for which Tariff principles as determined by the Commission under these Regulations are applicable;
- (mm) “Time Block” shall mean a Block of 15 minutes starting from 0000 hour;
- (nn) “Useful life” in relation to a Unit of a generating station from the COD shall mean the following, namely

(a)	Coal/Lignite based thermal generating station	25 years
(b)	Gas/Liquid fuel based thermal generating station	25 years
(c)	Hydro generating station	35 years

- (oo) “Unscheduled Interchange (UI)” shall mean Unscheduled Interchanges as defined in Indian Electricity Grid Code;
- (pp) “Unit” in relation to a thermal power generating station other than combined cycle thermal 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; and in relation to a hydro generating station means turbine-generator and its auxiliaries;
- (qq) “Year” shall mean financial year.

4.2 Words or expressions occurring in these Regulations and not defined shall bear the same meaning as in the Act.

## **5. Determination of Tariff**

5.1. Tariff in respect of a generating station may be determined for the whole of the generating station or a stage or unit or block of the generating station.

## **6. Principles for Tariff determination**

6.1. The Commission, while specifying the terms and conditions for the determination of Tariff under these Regulations, is guided by the principles contained in Section 61 of the Act.

- 6.2. These Regulations intend to encourage Generating Company to operate on sound commercial principles. The return on equity allowable to Generating Company shall depend upon its performance relative to the benchmark levels of the operating parameters fixed by the Commission. Only prudent capital expenditure shall be considered for inclusion in the asset base.
- 6.3. The Multi-Year Tariff Principles adopted in these Regulations seek to promote competition, adoption of commercial principles, efficient working of the Generating Company and are based on the Central Electricity Regulatory Commission (CERC)'s principles. The operating and cost parameters for the Tariff period have been prescribed after duly considering the past performance, performance of similarly placed Units, fuel, vintage of equipments, nature of operation and capability of achievement in view of past performance for many years. The allowable Tariffs shall be determined in accordance with these norms. The Generating Company is allowed to retain most of the savings as a reward for performance better than those prescribed in these Regulations. This is expected to incentivise the Generating Company for efficient performance and economical use of resources. The Beneficiaries shall also benefit from the efficient performance and economical use of resources by the Generating Company through lowering of Tariffs and improvement in availability and Plant Load Factor of generating stations.
- 6.4. The terms and conditions prescribed in these Regulations are for conventional energy sources.

## **7. Procedure for making applications for determination of Tariffs**

- 7.1. The generating company may make an application for determination of tariff in accordance with Madhya Pradesh Electricity Regulatory Commission (Details to be furnished and fee payable by licensee or by the Generating Company for determination of tariff and manner of making application) Regulations, 2004, as amended from time to time.
- 7.2. The Commission shall, at all times, have the authority, either suo-motu or on a petition filed by any interested or affected party, to determine the Tariff, including terms and conditions thereof, of Generating Company and shall initiate the process of such determination in accordance with the procedure as may be specified:

Provided that the proceedings for such determination of Tariff, including terms and conditions thereof, shall be in the same manner as set out in the Conduct of Business Regulations, as amended from time to time.

- 7.3. The Generating Company shall provide, as part of the application to the Commission, in such formats, in hard and soft copy, as may be required by the Commission. The Generating Company shall necessarily provide details Unit-wise and Station wise as envisaged in the formats to enable the Commission to determine the Tariff, as required.
- 7.4. The Generating Company shall make an application as per these Regulations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the tariff period of the generating station:

The Generating Company is required to furnish all such additional information or particulars or documents as may be considered necessary for the purpose of processing the application:

Provided that in case of an existing project, the application shall be based on admitted capital cost including any additional capitalization already admitted up to 31.3.2013 and estimated additional capital expenditure for the respective years of the tariff period FY 2013-14 to FY2015-16:

Provided further that application shall contain details of underlying assumptions for projected capital cost and additional capital expenditure, where applicable.

- 7.5. Upon receipt of the complete application accompanied by all requisite information, particulars and documents in compliance with all the requirements, the application shall be deemed to have been received and the Commission or the Secretary or the Officer designated for the purpose by the Commission shall intimate to the Generating Company that the application is ready for publication, in such abridged form and manner, as may be specified [Refer MPERC (Details to be furnished and fees payable by Licensee or Generating Company for determination of Tariff and manner of making an application) Regulation 2004 as amended from time to time]. The Generating Company shall put all the details of the petition filed before the Commission on its website not later than 3 working days of its acceptance by the Commission.
- 7.6. The Generating Company shall furnish to the Commission all such books and records (or certified true copies thereof), including the Accounting Statements, operational and cost data, as may be required by the Commission for determination of Tariff.
- 7.7. The Commission may, if deemed necessary, make available to any person, at any time, such information as has been provided by the Generating Company to the Commission including abstracts of such books and records (or certified true copies thereof):

Provided that the Commission may, by order, direct that any information, documents and papers/materials maintained by the Commission, shall be confidential or privileged and shall not be available for inspection or supply of certified copies, and the Commission may also direct that such document, papers or materials shall not be used in any manner except as specifically authorised by the Commission.

## **8. Methodology for Determination of Tariff and True-up**

- 8.1. The Commission shall define Tariff period for the Generating Company from time to time. The principles for Tariff determination shall be applicable for the duration of the Tariff period. The principles that guide Tariff determination for the next Tariff period shall be valid for a period upto 31<sup>st</sup> March, 2016 from 1<sup>st</sup> April, 2013.
- 8.2. Tariff in respect of a Generating Company under these Regulations shall be determined Unit-wise or for a group of Units. However, when a new generating Unit is added after 1.4.2013, the Commission shall determine separate Tariff for such new Unit(s). The Generating Company shall submit separate calculations in respect of each generating station giving break-up for Units prior to 1.4.2013 and Units added thereafter.

- 8.3. For the purpose of Tariff, the capital cost of the Project shall be segregated into stages and by distinct Units forming part of the Project. Where the Stage-wise, Unit-wise break-up of the capital cost of the Project is not available and in case of on-going Projects, the common facilities shall be apportioned on the basis of the capacity of the Units. In relation to Multi-purpose Hydroelectric Projects with irrigation, flood control and power components, the capital cost chargeable to power component of the Project only shall be considered for determination of Tariff.

**Explanation:** “Project” includes a generation station.

- 8.4 A Generating Company shall file a petition at the beginning of the Tariff period. A review shall be undertaken by the Commission to scrutinize and true up the Tariff on the basis of the capital expenditure and additional capital expenditure actually incurred in the Year for which the true up is being requested. The Generating Company shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2013 to 31.3.2016, duly audited and certified by the auditors.
- 8.5 If the Tariff already recovered is more than the Tariff determined after true up, the Generating Company shall refund to the Beneficiaries the excess amount so recovered along with simple interest at the rate equal to State Bank of India’s Base Rate as on 1<sup>st</sup> of April of that year plus 3.50%. Similarly, in case the Tariff already recovered is less than the Tariff determined after true up, the Generating Company shall recover from the Beneficiaries, the less recovered amount along with simple interest at the rate equal to State Bank of India’s Base Rate as on 1<sup>st</sup> of April of that year plus 3.50% subject to adhering to the timelines specified by the Commission for filling of True-up application. In case, it is found that the filling of True-up is delayed due to the reasons attributable to the Generating Company, the under recovery shall not bear any interest.
- 8.6 The Tariff and True-up filing in hard and soft copy shall be in accordance with and in the formats specified in MPERC (Details to be furnished and fees payable by Licensee or Generating Company for determination of Tariff and manner of making an application) Regulations, 2004 as amended from time to time by 15<sup>th</sup> November every year or within 30 days of notification of concerned Regulations, which ever is later.
- 8.7 A Distribution Licensee owning and operating a generating station shall maintain and submit separate accounts of its generation business, licensed business, and other business.

## **9 Submission of Annual Accounts, Reports etc**

- 9.1 The Generating Company shall submit annual accounts and such other information in a form as may be specified by the Commission. In addition to the submission of annual accounts, the Generating Company shall be required to comply with the information requirements of various Regulations and Codes notified by the Commission from time to time.
- 9.2 In the absence of submission of the required information by the Generating Company, the Commission may initiate Suo-motu proceedings.



## **10 Periodicity of Tariff determination**

- 10.1 No Tariff or part of any Tariff may ordinarily be amended, more frequently than once in any financial Year, except in respect of any changes expressly permitted under the terms of these Regulations. The Commission may, after satisfying itself for reasons to be recorded in writing, allow for other revision of Tariff.
- 10.2 Subject to the other provisions of these Regulations, the expenses allowed to be recovered for any year, shall be subject to adjustments in any tariff to be determined for the subsequent period if the Commission is satisfied that such adjustment for the excess amount or shortfall in the amount actually realized or expenses incurred is necessary and the same is not on account of any reason attributable and within the control of the Generating Company.

## **11 Hearings**

- 11.1 The procedure of hearing on the Tariff application shall be as specified in MPERC (Details to be furnished and fees payable by Generating Company for determination of Tariff and manner of making an application) Regulations 2004, as amended from time to time.

## **12 Orders of the Commission**

- 12.1 The Commission, after the petition has been filed, may require the Generating Company to furnish any further information, particulars, documents, public records etc as the Commission may consider appropriate to enable the Commission to check and review the petitioner's calculations, assumptions and assertions.
- 12.2 After receipt of information or otherwise, the Commission may make appropriate orders in accordance with the provisions of the Madhya Pradesh Electricity Regulatory Commission (Details to be furnished and fees payable by Generating Company for determination of Tariff and manner of making an application) Regulations, 2004 as amended from time to time.

## **13 Charging of Tariff other than approved**

- 13.1 Any Generating Company found to be charging a Tariff different from the one approved by the Commission from the Beneficiaries shall be deemed to have not complied with the directions of the Commission and shall be liable to be proceeded against under Section 146 of the Act without prejudice to any other liability incurred by the Generating Company under any other provisions of the Act. In case the amount recovered exceeds the amount allowed by the Commission, the excess amount so recovered shall be refunded to the Beneficiaries who have paid such excess charges, along with simple interest for that period equivalent to the State Bank of India's Base Rate as on 1<sup>st</sup> of April of that year plus 3.50%, besides any other penalty that may be imposed by the Commission.

## **14 Annual review of the Generating Company**

- 14.1 The Generating Company shall submit periodic returns as may be specified, containing operational and cost data to enable the Commission to monitor the implementation of its order.
- 14.2 The Generating Company shall submit to the Commission annual statements of its performance and accounts including latest report of audited accounts.

## **CHAPTER-II**

### **PRINCIPLES & METHODOLOGY FOR DETERMINATION OF TARIFF**

#### **15 Petition for determination of Tariff**

15.1 The Generating Company shall file a petition for determination of Tariff for supply of electricity to a Beneficiary complying with provision of these Regulations and MPERC (Details to be furnished and fee payable by Licensee or Generating Company for determination of Tariff and manner of making application) Regulations 2004 as amended from time to time.

15.2 The Generating Company shall file petition for determination of Tariff based on the principles prescribed by the Commission in these Regulations. These principles shall be implemented from 1<sup>st</sup> April, 2013 and applicable for a period up to 31<sup>st</sup> March, 2016:

Provided that in case of an existing Project, the application shall be based on admitted capital cost including any Additional Capitalization already admitted up to 31.3.2013 and estimated additional capital expenditure for the respective Years of the Tariff period 2013-16.

15.3 In case of the existing Projects, the Generating Company shall continue to provisionally bill the Beneficiaries based on the Tariff approved by the Commission and applicable as on 31.3.2013 for the period starting from 1.4.2013 till approval of Tariff by the Commission in accordance with these Regulations:

Provided that where the Tariff provisionally billed exceeds or falls short of the final Tariff approved by the Commission under these Regulations, the Generating Company, shall refund to or recover from the Beneficiaries, within six months from the date of determination of final Tariff under these Regulations along with simple interest at the rate equal to the State Bank of India's Base Rate as on 1<sup>st</sup> of April of that year plus 3.50%."

15.4 Where application for determination of tariff of an existing or a new project has been filed before the Commission in accordance with Clause 15.1 and Clause 15.2 of this Regulation, the Commission may consider in its discretion to grant provisional tariff upto 95% of the annual fixed cost of the project after prudence check subject to adjustment as per proviso to clause 15.3 of this Regulation after the final tariff order has been issued:

Provided that recovery of capacity charge and energy charge, as the case may be, in respect of the existing or new project for which provisional tariff has been granted shall be made in accordance with the relevant provisions of these Regulations.

## **16 CERC's Principles**

- 16.1 The Commission, while framing these Regulations has been guided by the principles and methodologies specified by the Central Commission (CERC) in its Notification dated 19.01.2009 on terms and conditions of Tariff Regulation, 2009 effective from 1.04.2009.

## **17 Capital Cost**

- 17.1 Capital cost for a Project shall include:

(a) the Expenditure Incurred or Projected to be incurred on original scope of work, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the Date of Commercial operation of the Project, as admitted by the Commission, after prudent check shall form the basis for determination of Tariff.

(b) capitalized initial spares subject to the ceiling norms as specified below:

- (i) Coal-based/lignite-fired thermal generating stations - 2.5% of original Project Cost.
- (ii) Hydro generating stations - 1.5% of original Project Cost.

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to 17.2, such norms shall apply to the exclusion of the norms specified herein.

(c) additional capital expenditure determined under Regulation 20.

- 17.2 Subject to prudent check, the capital cost admitted by the Commission shall form the basis for determination of Tariff:

Provided that, prudent check of capital cost may be carried out based on the benchmark norms specified by the Central Commission from time to time :

Provided further that in cases where benchmark norms have not been specified by the Central Commission, prudent check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of Tariff :

Provided also that the Commission has issued guidelines for vetting of capital cost of hydro-electric Projects by independent agency or expert and the capital cost as vetted by such agency or expert shall be considered by the Commission while determining the Tariff for the new hydro generating station:

Provided also that in case the site of a Hydro generating station is awarded to a developer (not being a State controlled or owned Company), by a State Government by following a two stage transparent process of bidding, any Expenditure Incurred or committed to be incurred by the Project developer for getting the Project site allotted shall not be included in the capital cost :

Provided also that the capital cost in case of such hydro generating station shall include:

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the Project in conformity with National R&R Policy and R&R package as approved; and
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) Project in the affected area :

Provided also that where the power purchase agreement entered into between the Generating Company and the Beneficiaries or the implementation agreement provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of Tariff :

Provided also that in case of the existing Projects, the capital cost admitted by the Commission prior to 1.4.2013 duly trued up by excluding un-discharged liability, if any, as on 1.4.2013 and the additional capital expenditure projected to be incurred for the respective Year of the Tariff period during 2013-16, as may be admitted by the Commission, shall form the basis for determination of Tariff.

## **18 Renovation and Modernisation**

- 18.1 The Generating Company, for meeting the expenditure on Renovation and Modernization (R&M) for the purpose of extension of life beyond the Useful life of the generating station or a Unit thereof, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, consent of Beneficiaries and any other information considered to be relevant by the Generating Company.

- 18.2 Where the Generating Company makes an application for approval of R&M proposal, the approval shall be granted after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.
- 18.3 Any expenditure actually incurred or projected to be incurred as admitted by the Commission after prudent check based on the estimates of Renovation and Modernization expenditure and life extension, and after writing off the original amount of the replaced assets and deducting the accumulated depreciation already recovered from the Original Project Cost, shall form the basis for determination of Tariff.
- 18.4 The Generating Company in case of thermal generating station, may, in its discretion, avail of a special allowance either for a Unit or a group of Units as compensation for meeting the requirement of expenses including Renovation and Modernisation beyond the Useful life of the generating station or a Unit thereof, and in such an event revision of the capital cost shall not be considered and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost :

Provided further that the option once exercised shall be final and shall not be allowed to be changed:

Provided also that such option shall not be available for a generating station for which Renovation and Modernization has been undertaken and the expenditure has been admitted by the Commission before commencement of these Regulations, or for a generating station or Unit which is in a depleted condition or operating under relaxed operational and performance norms. An appropriate reduction in NPAF (Normative Annual Plant Availability Factor) of such a generating Unit whose R&M proposal is approved by the Commission as per Regulation 18.1, shall be considered by the Commission for the Year in which R&M of Unit is undertaken. However, the operational norms for such generating Unit shall be reviewed by the Commission keeping in view the objectives of R&M works. The Generating Company shall file the expected improvement in norms in its DPR of R&M and the envisaged improvement in operational norms shall be applicable for that particular generating Unit after completion of R&M works.

- 18.5 A Generating Company on opting for alternative option in Regulation 18.4 of this Regulation shall be allowed special allowance @ Rs.7.50 lakh/MW/Year in 2013-14 and thereafter escalated @ 7.93 % every Year during the Tariff period in 2013-16, Unit-wise from the next financial Year from the respective date of the completion of Useful life with reference to the COD of respective Units of generating station.

Provided that in respect of a Unit in commercial operation for more than 25 Years as on 1.4.2013, this allowance shall be admissible from the Year 2013-14.

## **19 Sale of Infirm Power**

- 19.1 Infirm Power shall be accounted as Unscheduled Interchange (UI) and paid for from the regional / State UI pool account at the applicable frequency-linked UI rate:

Provided that any revenue earned by the Generating Company from sale of Infirm Power after accounting for the fuel expenses shall be applied for reduction in capital cost.

## **20 Additional Capitalization**

- 20.1 The capital Expenditure Incurred or projected to be Incurred, on the following counts within the original scope of work, after the Date of Commercial operation and up to cut-off date may be admitted by the Commission, subject to prudent check:

- (a) Undischarged liabilities
- (b) Works deferred for execution
- (c) liabilities to meet award of arbitration or for compliance of order or decree of a court,
- (d) Change in Law,
- (e) Procurement of initial capital spares within the original scope of work, subject to the provisions of Regulation 17.1(b)

Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and works deferred for execution shall be submitted along with the application for Tariff.

- 20.2 The capital expenditure of the following nature actually incurred on the following counts after the Cut off date may, in its discretion, be admitted by the Commission, subject to prudent check:

- (a) liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (b) Change in Law.
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;
- (d) In case of Hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the Generating Company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and Expenditure Incurred due to any additional work which has become necessary for successful and efficient plant operation :

Provided that in respect sub-clauses (d) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for Additional Capitalization for determination of Tariff for the Tariff period under these Regulations.

- (e) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receipt system arising due to non-materialisation of full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station.
- (f) Any expenditure which is considered indispensable by the Commission for running the thermal generating station provided that in such case compensation allowance under clause 36.2 shall not be admissible.
- (g) Any undercharged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.

## **21 Debt-equity ratio**

- 21.1 In case of the generating station declared under commercial operation prior to 1.4.2013, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2013 shall be considered. For the purpose of determination of Tariff of new generating station Commissioned or capacity expanded on or after 01.04.2013, debt-equity ratio as on the Date of Commercial operation shall be 70:30. The debt-equity amount arrived in accordance with this clause shall be used for calculation of interest on loan, return on equity and foreign exchange rate variation.
- 21.2 Where equity actually employed is in excess of 30%, the amount of equity for the purpose of Tariff shall be limited to 30% and the balance amount shall be considered as loan. The interest rate applicable on the equity in excess of 30% treated as loan has been specified in Regulation 23. The normative repayment shall also be considered on the equity in excess of 30% treated as loan. Where actual equity employed is less than 30%, the actual equity shall be considered.

## **22 Return on Equity**

- 22.1 Return on equity shall be computed in rupee terms, on the paid up equity capital determined in accordance with Regulation 21.
- 22.2 Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per Regulation 22.3 of this Regulation:

Provided that in case of Projects commissioned on or after 1<sup>st</sup> April, 2013, an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in **Appendix-I** :

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.

- 22.3 The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate for the Year 2012-13 applicable to the Generating Company:

Provided that return on equity with respect to the actual tax rate applicable to the Generating Company, in line with the provisions of the relevant Finance Acts of the respective Year during the Tariff period shall be trued up separately.

- 22.4 Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where t is the applicable tax rate in accordance with Regulation 22.3 of this Regulation.

**Illustration.-**

(i) In case of Generating Company paying Minimum Alternate Tax (MAT) say @ 20.01% including surcharge and cess:

Rate of return on equity =  $15.50 / (1 - 0.2001) = 19.377\%$

(ii) In case of Generating Company paying normal corporate tax say @ 33.99% including surcharge and cess: Rate of return on equity =  $15.50 / (1 - 0.3399) = 23.481\%$

**23 Interest and Finance charges on Loan Capital**

- 23.1 The loans arrived at in the manner indicated in Regulation 21 shall be considered as gross normative loan for calculation of interest on loan.

- 23.2 The normative loan outstanding as on 1.4.2013 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2013 from the gross normative loan.

- 23.3 The repayment for the Year of the Tariff period 2013-16 shall be deemed to be equal to the depreciation allowed for that Year.

- 23.4 Notwithstanding any moratorium period availed by the Generating Company, the repayment of loan shall be considered from the first Year of commercial operation of the Project and shall be equal to the annual depreciation allowed.

- 23.5 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each Year applicable to the Project:

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



Provided further that if the generating station does not have actual loan, then the weighted average rate of interest of the Generating Company as a whole shall be considered.

- 23.6 The interest on loan shall be calculated on the normative average loan of the Year by applying the weighted average rate of interest.
- 23.7 The Generating Company shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the Beneficiaries and the net savings shall be shared between the Beneficiaries and the Generating Company, in the ratio of 2:1.
- 23.8 The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.
- 23.9 In case of dispute, any of the parties may make an application in accordance with the MPERC (Conduct of Business) Regulation, 2004, as amended from time to time:

Provided that the Beneficiaries shall not withhold any payment on account of the interest claimed by the Generating Company during the pendency of any dispute arising out of re-financing of loan.

## **24 Depreciation**

- 24.1 For the purpose of Tariff, depreciation shall be computed in the following manner:
- (a) The value base for the purpose of depreciation shall be the capital cost of the assets as admitted by the Commission
  - (b) The approved/accepted cost shall include foreign currency funding converted to equivalent rupee at the exchange rate prevalent on the date of foreign currency actually availed.
  - (c) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

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

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

- (d) Land other than land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

- (e) Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in **Appendix-II** to these Regulations for the assets of the generating station:

Provided that, the remaining depreciable value as on 31<sup>st</sup> March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance Useful life of the assets.

- (f) In case of the existing Projects, the balance depreciable value as on 1.4.2013 shall be worked out by deducting the cumulative depreciation including Advance Against Depreciation if any as admitted by the Commission upto 31.3.2013 from the gross depreciable value of the assets. The rate of Depreciation shall be continued to be charged at the rate specified in **Appendix-II** till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.
- (g) Depreciation shall be chargeable from the first Year of commercial operation. In case of commercial operation of the asset for part of the Year, depreciation shall be charged on *pro rata* basis.

## **25 Lease/ Hire Purchase Charges**

- 25.1 Lease charges for assets taken on lease by a Generating Company shall be considered as per lease agreement provided they are considered reasonable by the Commission.

## **26 Operation & Maintenance Expenses**

- 26.1 Operation and Maintenance Expenses shall be determined for the Tariff period based on normative O&M expenses specified by the Commission in these Regulations.
- 26.2 The normative operation and maintenance expenses for the generating stations workout by the Commission for existing power stations and new power stations separately.
- 26.3 The Operation and Maintenance expenses including employee expenses, repair and maintenance expenses, and administrative and general expenses, for existing power stations (MPPGCL) are derived by considering the average of these expenditures for previous five years (i.e. FY07 to FY11) as per annual audited accounts. The cost components for employee expenses, repair and maintenance expenses and administrative and general expenses are considered as per Regulations 36.1 and 50.1. The average expenditure of the aforesaid five years is escalated @ 6.14 per annum to arrive Operation and Maintenance expenses for base year i.e. FY2012-13. The operation and maintenance expenses so arrived for FY2012-13 are considered as base expenses and further escalated @7.93% considering a weighted average of Wholesale Price Index and Consumer Price Index in the ratio of 60: 40.

- 26.4 The O&M expenses for each subsequent year shall be determined by escalating the base expenses determined above for FY 2012-13, at the escalation factor 7.93% to arrive at permissible O&M expenses for each year of the Control Period:

Provided that in case, an existing Generating Station has come in operation after 01.04.2012, the O&M expenses shall be as specified at Regulation 36 for New Generating Stations.

- 26.5 In respect of M.P. Power Generating Company Ltd., the employee expenses considered in the Operation and Maintenance expenses are excluding the pension and other terminal benefits. The funding of pension and other terminal benefit in respect of personnel including existing pensioner's of the Board and the pensioner's of M.P. Power Generating Company Ltd. shall be allowed in accordance with MPERC (Terms and Conditions for allowing pension and terminal benefits liabilities of personal of the board and successor entities) Regulation's, 2012 (G-38 of 2012).
- 26.6 Increase in O&M charges on account of war, insurgency or changes in laws, or like eventualities where the Commission is of the opinion that an increase in O&M charges is justified, may be considered by the Commission for a specified period.
- 26.7 Any saving achieved by a Generating Company in any Year shall be allowed to be retained by it. The Generating Company shall bear the loss if it exceeds the targeted O&M expenses for that Year.

## **27 Interest charges on Working Capital**

- 27.1 Rate of interest on working capital to be computed as provided subsequently in these Regulations shall be on normative basis and shall be equal to the State Bank of India's Base Rate as on 1<sup>st</sup> of April of that year plus 3.50%. The interest on working capital shall be payable on normative basis notwithstanding that the Generating Company has not taken working capital loan from any outside agency or has exceeded the working capital loan compared to the working capital required on the normative basis.

## **28 Tax on Income**

- 28.1 Tax on Income streams of the Generating Company shall not be recovered from the Beneficiaries:

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2013 whenever it materializes, shall be recoverable directly from the Beneficiaries.

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

- 29.1 The Generating Company may hedge foreign exchange exposure in respect of the interest on foreign currency loan and repayment of foreign loan acquired for the generating station, in part or full in the discretion of the Generating Company.
- 29.2 Every Generating Company shall recover the cost of hedging of Foreign Exchange Rate Variation corresponding to the normative foreign debt, in the relevant Year on Year-to-Year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against the hedged foreign debt.
- 29.3 To the extent the Generating Company is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant Year shall be permissible provided it is not attributable to the Generating Company or its suppliers or contractors.
- 29.4 The Generating Company shall recover the cost of hedging and Foreign Exchange Rate Variation on Year-to-Year basis as income or expense in the period in which it arises.

## **30 Publication expenses**

- 30.1 The expenses incurred by the petitioner on publication of notice for tariff/true-up petition, as approved by the Commission for inviting comments/suggestions from stakeholders shall be allowed by the Commission while determining the Tariff.

## **31 Non Tariff Income**

- (a) Any income being incidental to the business of the Generating Company derived from sources, including but not limited to the disposal of assets, income from investments, rents, income from sale of scrap other than the de-capitalized/written off assets, income from advertisements, interest on advances to suppliers/contractors, income from sale of ash/rejected coal, and any other miscellaneous receipts other than income from sale of energy shall constitute the non tariff income.
- (b) The amount of Non-Tariff Income relating to the Generation Business as approved by the Commission shall be deducted from the Annual Fixed Cost in determining the Annual Fixed Charge of the Generation Company:

Provided that the Generation Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission from time to time. Non tariff income shall also be Trued-up based on audited accounts.

## **32 Late payment Surcharge**

- 32.1 In case the payment of bills is delayed beyond a period of 60 Days from the date of presentation of bills, Generating Company may levy a late payment surcharge at the rate of 1.25% per month for each day of delay of payment.

## **33 Rebate**

- 33.1 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 payment is made by any other mode but within a period of one month of presentation of bills by the Generating Company, a rebate of 1% shall be allowed.

**CHAPTER-III**  
**THERMAL POWER GENERATING STATIONS**

**34 Components of Tariff**

34.1 Tariff for sale of electricity from a thermal power generating station shall comprise of two parts, namely, the recovery of Annual Capacity (fixed) Charges and Energy (variable) Charges to be worked out in the manner provided hereinafter.

34.2 The annual Capacity (fixed) Charges shall consist of:

- (a) Return on Equity;
- (b) Interest and Financing Charges on Loan Capital;
- (c) Depreciation;
- (d) Lease/Hire Purchase Charges;
- (e) Operation and Maintenance Expenses;
- (f) Interest Charges on Working Capital;
- (g) Cost of Secondary Fuel Oil;
- (h) Special allowance in lieu of R&M or separate compensation allowance, wherever applicable:

Provided that in case of coal based thermal generating stations, expenses on normative secondary fuel oil consumption during the Year shall be included in the Fixed Charge.

34.3 The Energy (variable) Charges shall cover main fuel cost.

**35 Norms of operation**

35.1 The norms of operation as given hereunder shall apply for existing thermal power stations commissioned on or before 31<sup>st</sup> March, 2012:

**(a) Normative Annual Plant Availability Factor (NAPAF)**

<b>Name of Generating Station</b>	<b>Units (MW)</b>	<b>Capacity (MW)</b>	<b>FY13-14 to FY15-16</b>
STPS Sarni PH 1	62.5 X 5	312.5	80.00%
STPS Sarni PH 2	200+210	410.0	75.00%
STPS Sarni PH 3	2 X 210	420.0	75.00%
<b>STPS Complex</b>		<b>1142.5</b>	<b>76.37%</b>
<b>ATPS PH 2</b>	<b>2 X 120</b>	<b>240.0</b>	<b>65.00%</b>
<b>ATPS PH-3</b>	<b>1 x 210</b>	<b>210.0</b>	<b>85.00 %</b>
SGTPS PH 1	2 X 210	420.0	80.00%
SGTPS PH 2	2 X 210	420.0	80.00%
<b>SGTPS Complex (PH1 &amp; PH 2)</b>		<b>840.0</b>	<b>80.00%</b>
<b>SGTPS - (500 MW)</b>	<b>1X500</b>	<b>500.0</b>	<b>85.00%</b>

**(b) Gross Station Heat Rate (Kcal/kWh)**

Name of Generating Station	Units (MW)	Capacity (MW)	FY13-14 to FY15-16
STPS Sarni PH 1	62.5 X 5	312.5	2900
STPS Sarni PH 2	200+210	410.0	2700
STPS Sarni PH 3	2 X 210	420.0	2700
<b>STPS Complex</b>		<b>1142.5</b>	<b>2755</b>
<b>ATPS PH 2</b>	<b>2 X 120</b>	<b>240.0</b>	<b>3200</b>
<b>ATPS PH 3</b>	<b>1 x 210</b>	<b>210.0</b>	<b>2450</b>
SGTPS PH 1	2 X 210	420.0	2600
SGTPS PH 2	2 X 210	420.0	2600
<b>SGTPS Complex (PH 1 &amp; PH 2)</b>		<b>840.0</b>	<b>2600</b>
<b>SGTPS - (500 MW)</b>	<b>1X500</b>	<b>500.0</b>	<b>2425</b>

**(c) Specific Fuel Oil Consumption (ml/kWh)**

Name of Generating Station	Units (MW)	Capacity (MW)	FY13-14 to FY15-16
STPS Sarni PH 1	62.5 X 5	312.5	2.75
STPS Sarni PH 2	200+210	410.0	1.75
STPS Sarni PH 3	2 X 210	420.0	1.75
<b>STPS Complex</b>		<b>1142.5</b>	<b>2.02</b>
<b>ATPS PH 2</b>	<b>2 X 120</b>	<b>240.0</b>	<b>2.00</b>
<b>ATPS PH 3</b>	<b>1 x 210</b>	<b>210.0</b>	<b>1.00</b>
SGTPS PH 1	2 X 210	420.0	1.30
SGTPS PH 2	2 X 210	420.0	1.00
<b>SGTPS Complex (PH 1 &amp; PH 2)</b>		<b>840.0</b>	<b>1.15</b>
<b>SGTPS - (500 MW)</b>	<b>1X500</b>	<b>500.0</b>	<b>1.00</b>

**(d) Auxiliary Energy Consumption (%):**

Name of Generating Station	Units (MW)	Capacity (MW)	FY13-14 to FY15-16
STPS Sarni PH 1	62.5X 5	312.5	9.00%
STPS Sarni PH 2	200+210	410.0	10.00%
STPS Sarni PH 3	2 X 210	420.0	10.00%
<b>STPS Complex</b>		<b>1142.5</b>	<b>9.73%</b>
<b>ATPS PH 2</b>	<b>2 X 120</b>	<b>240.0</b>	<b>10.00%</b>
<b>ATPS PH 3</b>	<b>1 x 210</b>	<b>210.0</b>	<b>9.00%</b>
SGTPS PH 1	2 X 210	420.0	9.00%
SGTPS PH 2	2 X 210	420.0	9.00%
<b>SGTPS Complex (PH 1 &amp; PH 2)</b>		<b>840.0</b>	<b>9.00%</b>
<b>SGTPS - (500 MW)</b>	<b>1 x 500</b>	<b>500.0</b>	<b>6.00%</b>

35.2 Following norms shall be applicable for all the thermal generating Units/ stations for all capacities which are Commissioned on or after 01/04/2012 :

**A. Normative Annual Plant Availability Factor (NAPAF) : 85%**

**B. Gross Station Heat Rate**

Coal-based and lignite-fired Thermal Generating Stations = 1.065 X Design Heat Rate (kCal/kWh)

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

Provided that the design heat rate shall not exceed the following maximum design Unit heat rates depending upon the pressure and temperature ratings of the Units:

<b>Pressure Rating (Kg/cm<sup>2</sup>)</b>	<b>150</b>	<b>170</b>	<b>170</b>	<b>247</b>	<b>247</b>
<b>SHT/RHT (0C)</b>	<b>535/535</b>	<b>537/537</b>	<b>537/565</b>	<b>537/565</b>	<b>565/593</b>
<b>Type of BFP</b>	<b>Electrical Driven</b>	<b>Turbine driven</b>	<b>Turbine driven</b>	<b>Turbine driven</b>	<b>Turbine driven</b>
<b>Max Turbine Cycle Heat rate (kCal/kWh)</b>	<b>1955</b>	<b>1950</b>	<b>1935</b>	<b>1900</b>	<b>1850</b>
<b>Min. Boiler Efficiency</b>					
<b>Sub-Bituminous Indian Coal</b>	<b>0.85</b>	<b>0.85</b>	<b>0.85</b>	<b>0.85</b>	<b>0.85</b>
<b>Bituminous Imported Coal</b>	<b>0.89</b>	<b>0.89</b>	<b>0.89</b>	<b>0.89</b>	<b>0.89</b>
<b>Max Design Unit Heat rate (kCal/kWh)</b>					
<b>Sub-Bituminous Indian Coal</b>	<b>2300</b>	<b>2294</b>	<b>2276</b>	<b>2235</b>	<b>2176</b>
<b>Bituminous Imported Coal</b>	2197	2191	2174	2135	2079

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

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



Provided also that if one or more Units were declared under commercial operation prior to 1.4.2012, the heat rate norms for those Units as well as Units declared under commercial operation on or after 1.4.2012 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the Regulation 35.

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

**C. Specific Fuel Oil Consumption**

Coal-based generating stations : 1.0 ml/kWh

**D. Auxiliary Energy Consumption**

Sr. No.	Power Station	With Natural Draft Cooling Tower or without Cooling Tower
(1)	200 MW series	8.5%
(2)	500 MW & above	
	Steam driven boiler feed pumps	6.0%
	Electrically driven boiler feed pumps	8.5%
(3)	45 MW Series	10%

Provided further that for thermal generating stations with induced drafts cooling towers, the norms shall be further increased by 0.5%.

**36 Operation and Maintenance Expenses of Thermal Power Stations including MPPGCL's**

36.1 The Operation and Maintenance expenses admissible to existing thermal power stations comprise of employee cost, Repair & Maintenance (R&M) cost and Administrative and General (A&G) cost . These norms exclude Pension, Terminal Benefits and Incentive, arrears to be paid to employees, taxes payable to the Government, and fees payable to MPERC. The Generating Company shall claim the rate, rent & taxes payable to the Government, cost of chemicals and consumables, fees to be paid to MPERC and any arrears paid to employees separately as actuals. The claim of pension and Terminal Benefits shall be dealt as per Regulation 26.5.

**O&M Norms for Thermal Generating Units: Rs. In lakh/MW**

Units (MW)	FY13-14	FY14-15	FY15-16
62.5	21.62	23.33	25.18
120	26.71	28.83	31.11
200/210/250	18.19	19.63	21.19
500	13.71	14.80	15.97

Provided that the above norms shall be multiplied by the following factors for additional Units in respective Unit sizes for the Units whose COD occurs on or after 1.4.2012 in the same station:

200/210/250 MW	Additional 5th & 6th Units	0.90
	Additional 7th & more Units	0.85
300/330/350 MW	Additional 4th & 5th Units	0.90
	Additional 6th & more Units	0.85
500 MW and above	Additional 3rd & 4th Units	0.90
	Additional 5th & above Units	0.85

O&M Norms for new Thermal Generating Units commissioned on or after 01.04.2012 :

<b>Rs. in lakhs/MW</b>			
<b>Units (MW)</b>	<b>FY13-14</b>	<b>FY14-15</b>	<b>FY15-16</b>
45	25.90	27.96	30.17
200/210/250	18.42	19.90	21.46
500	13.80	14.90	16.08
600 and above	12.95	13.98	15.09

- 36.2 In case of coal-based or lignite-fired thermal generating station, a separate compensation allowance Unit-wise shall be admissible to meet expenses on new assets of capital nature including in the nature of minor assets, in the following manner from the Year following the Year of completion of 10, 15, or 20 Years of Useful life:

<b>Years of Operation</b>	<b>Compensation Allowance (Rs lakh/MW/Year)</b>
0-10	Nil
11-15	0.19
16-20	0.44
21-25	0.84

### **37 Working Capital**

37.1 The Working Capital for Coal based generating stations shall cover:

- (i) Cost of coal for 45 Days for pit-head generating stations and two months for non-pit-head generating stations, corresponding to the normative availability;
- (ii) Cost of secondary fuel oil for two months corresponding to the normative availability:

Provided that in case of use of more than one secondary fuel oil, cost of fuel oil stock shall be provided for the main secondary fuel oil.

- (iii) Maintenance spares @ 20% of the normative O&M expenses;

- (iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the Normative Annual Plant Availability Factor; and
- (v) Operation and Maintenance expenses for one month.

37.2 The cost of fuel shall be based on the landed cost incurred (taking into account normative transit and handling losses) by the Generating Company and Gross Calorific Value of the fuel as per actual for the preceding three months and no fuel price escalation shall be provided during the Tariff period.

### **38 Expenses on Secondary Fuel Oil Consumption**

38.1 Expenses on Secondary fuel oil in Rupees shall be computed corresponding to normative Specific Fuel Oil Consumption (SFC) specified in Regulation 35, in accordance with the following formula:

$$= \text{SFC} \times \text{LPSFi} \times \text{NAPAF} \times 24 \times \text{NDY} \times \text{IC} \times 10$$

**Where,**

- SFC - Normative Specific Fuel Oil Consumption in ml/kWh
- LPSFi - Weighted Average Landed Price of Secondary Fuel in Rs./ml considered initially
- NAPAF- Normative Annual Plant Availability Factor in percentage
- NDY - Number of Days in a Year
- IC - Installed Capacity in MW

38.2 Initially, the landed cost incurred by the Generating Company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the Year.

The secondary fuel oil expenses shall be subject to fuel price adjustment at the end of the each Year of Tariff period as per following formula:

$$\text{SFC} \times \text{NAPAF} \times 24 \times \text{NDY} \times \text{IC} \times 10 \times (\text{LPSFy} - \text{LPSFi})$$

Where,

LPSFy = The weighted average landed price of secondary fuel oil for the Year in Rs. /ml.

### **39 SLDC/RLDC/NLDC and Transmission Charges**

39.1 SLDC charges and Transmission Charges as determined by the Commission shall be considered as expenses, if payable by the generating station.

39.2 RLDC/NLDC charges as determined by the Central Commission shall also be considered as expenses, if payable by the generating station.

#### 40 Recovery of Annual Capacity (fixed) charges

40.1 The fixed charge shall be computed on annual basis, based on norms specified under these Regulations, and recovered on monthly basis under Capacity Charges .The total capacity charges payable for a generating station shall be shared by its Beneficiaries as per their respective percentage share / allocation in the capacity of the generating station.

40.2 The Capacity Charge (inclusive of incentive) payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae :

- (i) For generating stations in commercial operation for less than ten (10) Years: on 1<sup>st</sup> April of the financial Year:

$$(AFC \times NDM / NDY) \times (0.5 + 0.5 \times PAFM / NAPAF) \text{ (in Rs.)}$$

Provided that in case the Plant Availability Factor achieved during a Year (PAFY) is less than 70%, the total fixed charge for the Year shall be restricted to

$$AFC \times (0.5 + 35 / NAPAF) \times (PAFY / 70) \text{ (in Rs.)}$$

- (ii) For generating stations in Commercial Operation for ten (10) Years or more on 1<sup>st</sup> April of the Year:

$$(AFC \times NDM / NDY) \times (PAFM / NAPAF) \text{ (in Rs.)}$$

Where,

AFC - Annual fixed charge computed for the Year, in Rupees

NDM - Number of Days in the Month

NDY - Number of Days in the Year

PAFY - Plant Availability Factor achieved during a Year, in percent

NAPAF - Normative Annual Plant Availability Factor in percentage

PAFM - Plant Availability Factor achieved during the Month, in percent

40.3 Full Capacity Charges shall be recoverable at Normative Annual Plant Availability Factor (NAPAF) specified in Regulation 35. Recovery of Capacity Charges below the level of Normative Annual Plant Availability Factor (NAPAF) will be on pro rata basis. At zero availability, no Capacity Charges shall be payable.

40.4 The PAFM and PAFY shall be computed in accordance with the following formula:

$$PAFM \text{ or } PAFY = 10000 \times \frac{N}{\sum_{i=1}^N DC_i} / \{ N \times IC \times (100 - AUX) \} \%$$

Where,

AUX= Normative Auxiliary Energy Consumption in percentage.

DC<sub>i</sub> = Average Declared Capacity (in ex-bus MW), subject to Regulation 40.5 below, for the *i*th Day of the period i.e. the month or the Year as the case may be, as certified by the concerned Load Despatch Centre after the Day is over.

IC = Installed Capacity (in MW) of the generating station

N = Number of Days during the period i.e. the month or the Year as the case may be.

**Note :** DC<sub>i</sub> and IC shall exclude the capacity of generating Units not declared under commercial operation. In case of a change in IC during the concerned period, its average value shall be taken.

- 40.5 In case of fuel shortage in a thermal generating station, the Generating Company may propose to deliver a higher MW during peak-load hours by saving fuel during off-peak hours. The concerned Load Despatch Centre may then specify a pragmatic Day-ahead schedule for the generating station to optimally utilize its MW and energy capability, in consultation with the Beneficiaries. DC<sub>i</sub> in such an event shall be taken to be equal to the maximum peak-hour ex-power plant MW schedule specified by the concerned Load Despatch Centre for that Day.
- 40.6 Payment of capacity charges shall be on monthly basis in proportion to allocated/contracted capacity.

#### **41 Energy charges (Variable charges)**

- 41.1 The energy (variable) charges shall cover main fuel costs and shall be payable for the total energy scheduled to be supplied to such Beneficiary during the calendar month on ex-power plant basis, at the specified variable charge rate (with fuel price adjustment).
- 41.2 Energy (variable) Charges in Rupees per kWh on ex-power plant basis shall be determined to three decimal places as per the following formula:
- (i) For coal fired stations

$$ECR = (GHR - SFC \times CVSF) \times LPPF \times 100 / \{CVPF \times (100 - AUX)\}$$

Where,

AUX= Normative Auxiliary Energy Consumption in percentage.

ECR = Energy Charge Rate, in Rupees per kWh sent out.

GHR = Gross Station Heat Rate, in kCal per kWh.

SFC = Specific Fuel Oil Consumption, in ml/kWh

CVSF = Calorific value of Secondary Fuel, in kCal/ml.

LPPF = Weighted average Landed price of Primary Fuel, in Rupees per kg, per liter or per standard cubic meter, as applicable, during the month.

CVPF = Gross Calorific Value of Primary Fuel as fired, in kCal per kg, per liter or per standard cubic meter.

Provided that Generating Company shall provide details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal with details of the variation in energy charges billed to the beneficiaries along with the bills of the respective month:

Provided further that a copy of the bills and details of parameters of actual GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the Generating Company. The details should be available on its website for a period of a quarter on monthly basis.

- 41.3 Variable charge for the month shall be worked out on the basis of ex-bus energy scheduled to be sent out from the generating station in accordance with the following formula:

Monthly Energy Charge (Rs) =

Variable Charge Rate in Rs/kWh X Scheduled Energy (ex-bus) for the month in kWh corresponding to Scheduled Generation.

**Landed Cost of Coal:**

- 41.4 The landed cost of coal shall include price of coal corresponding to the grade and 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, shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal despatched by the Coal Supply Company during the month as given below:

Pit head generating stations : 0.2%  
Non-Pit head generating stations : 0.8%

As per the above provision, it should be ensured that for computing energy charges, quantity of coal as despatched by the Coal Supply Company is taken after accounting for permissible transit and handling losses alone.

- 41.5 The 2X120MW PH-I Unit of ATPS Chachai shall be treated pit head generating Unit and 1X210MW PH-III Unit of ATPS Chachai shall be treated as non-pit head generating Unit based on the Coal linkage as informed by Madhya Pradesh Power Generating Company Limited (MPPGCL). In case of any change in the Coal linkage, MPPGCL shall inform to the Commission for appropriate orders.

## **42 Electricity duty, cess and water charges**

Electricity duty and cess and water charges if payable by the Generating Company for generation of electricity from thermal power stations to the State Government, shall be allowed by the Commission separately and shall be tried-up on actuals.

## **43 Incentive**

43.1 In case of thermal generating stations incentive shall form part of the recovered Capacity (fixed) charges. No Separate incentive shall be provided.

## **44 Unscheduled Interchange (UI) charges**

44.1 All variations between actual net injection and scheduled net injection for generating station, and all variations between actual net drawal and scheduled net drawal for Beneficiaries shall be treated as their respective Unscheduled Interchanges (UI). All Unscheduled Interchanges shall be governed by the Regulations specified from time to time by the Commission.

## **45 Scheduling**

45.1 The methodology of scheduling and availability shall be as specified in the Grid Code approved by the Commission.

## **46 Metering and Accounting**

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

## **47 Billing and payment of Capacity Charges and Energy Charges**

47.1 Bills shall be raised for Capacity Charges, and Energy Charges on monthly basis by the Generating Company in accordance with these Regulations, and applicable payments shall be made by the Beneficiaries directly to the Generating Company.

- 47.2 Payment of the Capacity Charges for a thermal generating station shall be shared by the Beneficiaries of the generating station as per their percentage shares for the month (inclusive of any allocation out of the unallocated capacity) in the Installed Capacity in case of the generating station. Payment of Capacity Charges and Energy Charges for a Hydro generating station shall be shared by the Beneficiaries of the generating station in proportion to their shares (inclusive of any allocation out of the unallocated capacity) in the saleable capacity (to be determined after deducting the capacity corresponding to free energy to home State) as per Note 3 herein.

**Note 1**

Shares / allocations of each Beneficiary in the total capacity of State generating stations shall be as determined by the State Government, inclusive of any allocations out of the unallocated capacity. The shares shall be applied in percentages of station capacity and shall normally remain constant during a month. The total capacity share of any Beneficiary would be sum of its capacity share plus allocation out of the unallocated portion. In the absence of any specific allocation of unallocated power by the State Government, the unallocated power shall be added to the allocated shares in the same proportion as the allocated shares.

**Note 2**

The Beneficiaries may propose surrendering part of their allocated firm share to other Beneficiaries. In such cases, the shares of the Beneficiaries may be prospectively re-allocated by the State Government for a specific period (in complete months) from the beginning of a calendar month. When such re-allocations are made, the Beneficiaries who surrender the share shall not be liable to pay Capacity Charges for the surrendered share. The Capacity Charges for the capacity surrendered and reallocated as above shall be paid by the State to whom the surrendered capacity is allocated. Except for the period of reallocation of capacity as above, the Beneficiaries of the generating station shall continue to pay the full Capacity Charges as per allocated capacity shares.

**Note 3**

FEHS = Free Energy for Home State, in percent shall be taken as 12% (not applicable for generating stations of MPPGCL):

Provided that in cases where the site of a Hydro Project is awarded to a developer (not being a State controlled or owned Company), by a State Government by following a two stage transparent process of bidding, the "Free Energy" shall be taken as 13%, which shall also include energy corresponding to 100 Units of electricity to be provided free of cost every month to every Project affected family for a period of 10 Years from the Date of Commercial Operation of the generating station.



## **Chapter-IV**

### **HYDRO POWER GENERATING STATIONS**

#### **48 Components of Tariff**

48.1 The Tariff for supply of electricity from a hydro power generating station shall comprise of capacity charge and energy charge to be derived in the manner specified in Regulation 53, for recovery of annual fixed cost ( consisting of the components referred to in Regulation 34.2 from (a) to (f ) through the two charges.

#### **49 Norms of operation**

49.1 The norms of operation for Hydro power station shall be as under, namely:

(1) Normative Annual Plant Availability Factor (NAPAF):

(a) Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations shall be determined by the Commission as per the following criteria :

(i) Storage and Pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt : 90%.

(ii) Storage and Pondage type plants with head variation between FRL and MDDL of more than 8%, where plant availability is not affected by silt : Plant-specific allowance to be provided in NAPAF for reduction in MW output capability as reservoir level falls over the months. As a general guideline, the allowance on this account in terms of a multiplying factor may be worked out from the Projection of annual average of net head, applying the formula:

$$(\text{Average head} / \text{Rated head}) + 0.02$$

Alternatively in case of a difficulty in making such Projection, the multiplying factor may be determined as:

$$(\text{Head at MDDL} / \text{Rated head}) \times 0.5 + 0.52$$

(iii) Pondage type plants where plant availability is significantly affected by silt : 85%.

(iv) Run-of-river type plants : NAPAF to be determined plant-wise, based on 10-Day Design Energy data, moderated by past experience where available/relevant.

(b) A further allowance may be made by the Commission in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations.

- (2) In case of a new hydro electric Project the developer shall have the option of approaching the Commission in advance for fixation of NAPAF based on the principles enumerated in sub-clauses 1(a) and 1(b) of this Regulation.
- (3) Based on the above, Normative Annual Plant Availability Factor (NAPAF) of the Hydro stations already in operation shall be as follows for recovery of capacity charges:

Station	Type of Plant	Plant Capacity (MW)	NAPAF
Gandhisagar	Storage	57.5	85%
Pench	Storage	106.7	85%
Rajghat	Storage	22.5	85%
Bargi	Storage	90.0	85%
Banasagar Compelex (excluding Silpara)	Storage	395.0	85%
Silpara	Run of river with pondage	30.0	90%
Birsinghpur	Storage	20.0	85%
Jawahar Sagar	Storage	49.5	85%
R P Sagar	Storage	86.0	85%
Madhi Kheda	Storage	60.0	85%
Sardar Sarovar	Storage	1450.0	85%

- (4) Auxiliary Energy Consumption:
- (a) Surface Hydro generating stations with rotating exciters mounted on the generator shaft - 0.7 % of energy generated
- (b) Surface Hydro generating stations with static excitation system - 1 % of energy generated
- (c) Underground Hydro generating stations with rotating exciters mounted on the generator shaft - 0.9 % of energy generated
- (d) Underground Hydro generating stations with static excitation system - 1.2 % of energy generated

## 50 Operation and Maintenance Expenses of Hydel Power Stations

- 50.1 The Operation and Maintenance expenses admissible to existing hydro power stations comprise of employee cost, Repair & Maintenance (R&M) cost and Administrative and General (A&G) cost . These norms exclude Pension, Terminal Benefits and Incentive, arrears to be paid to employees, taxes payable to the Government, and fees payable to MPERC. The Generating Company shall claim the rate, rent & taxes payable to the Government, cost of chemicals and consumables, fees to be paid to MPERC and any arrears paid to employees separately as actuals. The claim of pension and Terminal Benefits shall be dealt as per Regulation 26.5.

**O&M Norms for Hydel Power Stations:**

<b>Year</b>	<b>O&amp;M Expenses in Rs. in lakh/MW</b>
<b>FY 13-14</b>	11.23
<b>FY 14-15</b>	12.12
<b>FY 15-16</b>	13.09

- 50.2 In case of the Hydro generating stations declared under commercial operation on or after 1.4.2013, the base operating and maintenance expenses( inclusive of Bonus, Pension and other Terminal Benefits) shall be fixed at 1.5% of the capital cost upto Cut off date (excluding cost of Rehabilitation and Resettlement works) as admitted by the Commission, and shall be subject to an annual escalation of 7.93% per annum for the subsequent Years.

**51 Working capital**

- 51.1 The Working Capital shall cover:
- (i) Maintenance spares @ 15% of normative O&M expenses;
  - (ii) Receivables equivalent to two months of fixed cost; and
  - (iii) Operation and Maintenance Expenses for one month.

**52 SLDC/RLDC/NLDC and Transmission Charges**

- 52.1 SLDC Charges and Transmission Charges as determined by the Commission shall be considered as expenses, if payable by the generating stations.
- 52.2 RLDC/NLDC charges as determined by the Central Commission shall also be considered as expenses, if payable by the generating station.

**53 Computation and Payment of Capacity Charges and Energy Charges for Hydro Generating Stations**

- 53.1 The Annual fixed cost of a Hydro generating station shall be computed, based on norms specified under these Regulations, and recovered on monthly basis under capacity charge (inclusive of incentive) and Energy Charge, which shall be payable by the Beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the Home State:

Provided that during the period between the Date of Commercial Operation of the first Unit of the generating station and the Date of Commercial Operation of the generating station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the Capacity Charge and Energy Charge payable during such period.

53.2 The Capacity Charge (inclusive of incentive) payable to a Hydro generating station for a calendar month shall be :

$$\text{AFC} \times 0.5 \times \text{NDM} / \text{NDY} \times (\text{PAFM} / \text{NAPAF}) \text{ (in Rupees)}$$

Where,

AFC = Annual Fixed Cost specified for the Year, in Rupees.

NAPAF = Normative Plant Availability Factor in percentage

NDM = Number of Days in the month

NDY = Number of Days in the Year

PAFM = Plant Availability Factor achieved during the month, in Percentage

53.3 The PAFM shall be computed in accordance with the following formula :

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

Where,

AUX= Normative Auxiliary Energy Consumption in percentage

DC<sub>i</sub> = Declared Capacity (in ex-bus MW) for the ith Day of the month which the station can deliver for at least three (3) hours, as certified by the nodal load dispatch centre after the Day is over.

IC = Installed Capacity (in MW) of the complete generating station

N = Number of Days in the month

53.4 The Energy Charge shall be payable by every Beneficiary for the total energy scheduled to be supplied to the Beneficiary, excluding free energy, if any, during the calendar month, on ex power plant basis, at the computed energy charge rate. Total Energy Charge payable to the Generating Company for a month shall be :

$$\text{(Energy Charge Rate in Rs. / kWh)} \times \{ \text{Scheduled Energy (ex-bus) for the month in kWh} \} \times (100 - \text{FEHS}) / 100.$$

53.5 Energy Charge Rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three decimal places based on the following formula, subject to the provisions of Regulation 53.7 :

$$\text{ECR} = \text{AFC} \times 0.5 \times 10 / \{ \text{DE} \times (100 - \text{AUX}) \times (100 - \text{FEHS}) \}$$

Where,

DE = Annual Design Energy specified for the Hydro generating station, in MWh, subject to the provision in Regulation 53.6 below.

FEHS=Free Energy for Home State, in per cent, as defined in Regulation 47.

53.6 In case actual total energy generated by a hydro generating station during a Year is less than the Design Energy for reasons beyond the control of the Generating Company, the following treatment shall be applied on a rolling basis:

- (i) in case the energy shortfall occurs within ten Years from the Date of Commercial Operation of a generating station, the ECR for the Year following the Year of energy shortfall shall be computed based on the formula specified in Regulation 53.5 with the modification that the DE for the Year shall be considered as equal to the actual energy generated during the Year of the shortfall, till the energy charge shortfall of the previous Year has been made up, after which normal ECR shall be applicable.
- (ii) in case the energy shortfall occurs after ten Years from the Date of Commercial Operation of a generating station, the following shall apply:

Suppose the specified annual Design Energy for the station is DE MWh, and the actual energy generated during the concerned (first) and the following (second) financial Year is A1 and A2 MWh respectively, A1 being less than DE. Then, the Design Energy to be considered in the formula in Regulation (53.5) of this Regulation for calculating the ECR for the third financial Year shall be moderated as  $(A1 + A2 - DE)$  MWh, subject to a maximum of DE MWh and a minimum of A1 MWh.

- (iii) Actual energy generated (e.g. A1, A2) shall be arrived at by multiplying the net metered energy sent out from the station by  $100 / (100 - AUX)$ .

53.7 In case the Energy Charge Rate (ECR) for a Hydro generating station, as computed in Regulation 53.5 above, exceeds eighty paise per kWh, and the actual saleable energy in a Year exceeds  $\{ DE \times (100 - AUX) \times (100 - FEHS) / 10000 \}$  MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only.

Provided that in a Year following a Year in which total energy generated was less than the Design Energy for reasons beyond the control of the Generating Company, the Energy Charge Rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous Year has been made up.

53.8 The concerned Load Despatch Centre shall finalise the schedules for the hydro generating stations, in consultation with the Beneficiaries, for optimal utilization of all the energy declared to be available, which shall be scheduled for all Beneficiaries in proportion to their respective allocations in the generating station.

## **54 Incentive**

54.1 Incentive shall form part of the recovered capacity charge and variable charge. No separate incentive would be provided.

## **55 Scheduling**

55.1 The methodology for scheduling for Hydro generating station shall be as specified in Grid Code, as specified by the Commission.

**56 Metering and Accounting**

56.1 The provisions of Regulation 46 shall apply for hydro power stations also.

**57 Billing and payment**

57.1 The provisions of Regulation 47 shall apply for hydro power stations also.

**58 Electricity duty, cess and water charges**

58.1 Electricity duty and cess and water charges if payable by the Generating Company for generation of electricity from hydro power stations to the State Government, shall be allowed by the Commission separately and shall be trued-up on actuals.

## **CHAPTER-V MISCELLANEOUS**

**59** The proceeds of carbon credit from approved Clean Development Mechanism (CDM) Project shall be shared in the following manner, namely-

- (a) 100% of the gross proceeds on account of CDM to be retained by the Project developer in the first Year after the Date of Commercial Operation of the generating station;
- (b) in the second Year, the share of the Beneficiaries shall be 10% which shall be progressively increased by 10% every Year till it reaches 50%, where after the proceeds shall be shared in equal proportion, by the Generating Company and the Beneficiaries.

### **60 Deviation from norms**

60.1 Tariff for sale of electricity by the Generating Company may also be determined in deviation of the norms specified in these Regulations subject to the conditions that-

- (a) The levelised Tariff over the Useful life of the Project , calculated based on the discounting factor as notified by the CERC from time to time for the Projects under Section 63 of the Act, on the basis of the norms in deviation does not exceed the levelised Tariff calculated on the basis of the norms specified in these Regulations; and
- (b) Any deviation shall come into effect only after approval by the Commission, for which an application shall be made by the Generating Company.

### **61 Power to remove difficulties**

61.1 If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission may, by general or special order, do or undertake or direct the Generating Company to do or undertake things, which in the opinion of the Commission are necessary or expedient for the purpose of removing the difficulties.

### **62 Power to Amend**

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

### **63 Repeal and Savings**

- 63.1 The Regulations namely “Madhya Pradesh Electricity Regulatory Commission (Terms and Conditions for determination of Generation Tariff), Regulations, 2009 {RG-26(I) of 2009}” notified on 08/05/2009 and read with all amendments thereto, as applicable to the subject matter of these Regulations is hereby superceded.
- 63.2 Nothing in these Regulations shall be deemed to limit or otherwise affect the inherent powers of the Commission to make such orders as may be necessary for ends of justice to meet or to prevent abuses of the process of the Commission.
- 63.3 Nothing in these Regulations shall bar the Commission from adopting, in conformity with the provisions of the Act, a procedure, which is at variance with any of the provisions of this Regulation, if the Commission, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient for dealing with such a matter or class of matters.
- 63.4 Nothing in these Regulations shall, expressly or impliedly, bar the Commission dealing with any matter or exercising any power under the Act for which no Regulations have been framed, and the Commission may deal with such matters, powers and functions in a manner it thinks fit.

**By order of the Commission**  
**P.K Chaturvedi, Commission Secretary**



**Timeline for completion of Projects**

(Refer to Regulation 22)

1. The completion time schedule shall be reckoned from the date of investment approval by the Board (of the Generating Company), up to the Date of Commercial Operation of the Units or Block of units.
2. The time schedule has been indicated in months in the following paragraphs and tables:

**A. Thermal Power Projects - Coal/Lignite Power Plant**

**Unit size 200/210/250/300/330 MW and 45MW/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.

**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 Blocks 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 Blocks 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 under Section 8 of the Act.

**Depreciation Schedule**

<b>Sr. No.</b>	<b>Asset Particulars</b>	<b>Depreciation Rate (Salvage Values = 10%)</b>
		<b>Straight Line Method</b>
A	Land under full ownership	0.00%
B	Land under lease	
(a)	for investment in the land	3.34%
(b)	For cost of clearing the site	3.34%
(c)	Land for Reservoir in case of Hydro generating station	3.34%
C	Assets purchased new	
(a)	Plant & 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 systems	5.28%
(c)	Hydraulic works forming part of the Hydro	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
(d)	Building & Civil Engineering works	
(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%
(v)	Roads other than Kutcha Roads	3.34%
(vi)	Others	3.34%
(e)	Transformers, Kiosk, Sub-Station equipment & other fixed apparatus.	
(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%
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
(i)	Overhead lines including cable support	

(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%
(iv)	Lines on treated wood support	5.28%
	Lines	
j	Meters	5.28%
k	Self propelled vehicles	9.50%
l	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring including fittings and Apparatus	6.33%
(iv)	Street Light fittings	5.28%
n	Apparatus let on hire	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
o	Communication equipment	
(i)	Radio and high frequency carrier system	6.33%
(ii)	Telephone lines and telephones	6.33%
p	I. T equipments	15.00%
q	Any other assets not covered above	5.28%