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Notification

In exercise of powers conferred under section 181 of the Electricity Act, 2003 (36 of 2003) read with section 61 thereof and all other powers enabling it in this behalf, and after previous publication, the Karnataka Electricity Regulatory Commission hereby makes the following regulations, namely:

CHAPTER-1
PRELIMINARY

1. Short Title, Extent and commencement

1.1 These Regulations shall be called the Karnataka Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2014.

1.2 These Regulations shall extend to the whole of the State of Karnataka.

1.3 These Regulations shall come into force from 1st day of April, 2014 and unless reviewed earlier or extended by the Commission, and shall remain in force up to 31st day of March, 2019.

2. Scope and Extent of Application;

2.1 These regulations shall apply to;

2.1.1 all the applications filed on or after 1st day of April, 2014 for determination of generation tariff for supply of electricity to a distribution licensee under Section 62 of Electricity Act, 2003, read with section 86, thereof;

2.1.2 the state owned generating stations where the capacity is allocated by the State Government either under Section 132 of the Electricity Act, 2003 or under provisions of the Karnataka Electricity Reforms Act, 1999;

2.1.3 the new generating units / blocks / stations which have achieved or will achieve commercial operation on or after 1st day of April, 2014;

2.1.4 the existing stations which have achieved commercial operation before 1st day of April, 2014 but for which PPAs are yet to be approved by the Commission: Provided that where the tariff negotiated and applied is as per the then applicable orders / regulations, it shall continue to apply till PPA/s is/are approved by the Commission;
2.1.5 (a) the existing stations which have achieved commercial operation during the block period from 1st day of April, 2004 to 31st day of March, 2009 for which PPAs are yet to be approved by the Commission; Provided that the tariff for such stations till 31.3.2009 shall be as determined in accordance with CERC (Terms and Conditions of Tariff) Regulations, 2004; and

(b) the existing stations which have achieved commercial operation during the block period from 1st day of April, 2009 to 31st day of March, 2014 for which PPAs are yet to be approved by the Commission; Provided that the tariff for such stations till 31.3.2014 shall be as determined in accordance with the KERC (Terms and Conditions of Tariff) Regulations, 2009.

2.2 These regulations shall not be applicable to:

2.2.1 (a) Non-conventional energy generating stations and captive power plants selling electricity to the distribution licensees which are governed by the separate set of regulations issued by the Commission from time to time.

(b) Generating stations whose tariff has been discovered through tariff based on competitive bidding in accordance with the guidelines issued by the Central Government and adopted by the Commission under section 63 of the Act.

2.2.2 The existing stations which have achieved commercial operation before 1st day of April, 2014 but for which PPAs are yet to be submitted for approval of the Commission; Provided that the tariff negotiated and applied is as per the then applicable orders / regulations, it shall continue to apply till PPA/s is/are approved by the Commission.

2.2.3 The existing stations from whom purchase of power is being done through concluded contracts till the period of the same expires. Provided that the tariff for such stations shall, for the term of the contracts, continue to be governed as per their agreed terms and conditions.

2.2.4 In respect of supply of electricity to a licensee made through an arrangement which has been accepted by the Commission for the purpose of ERC of ESCOMs. Provided that the generating company and the distributing company which are parties to such an arrangement shall enter into a PPA in accordance with these Regulations and submit the same for the approval of the cases within three months from the date of notification of these regulations.
3 Definitions and interpretations:

In these Regulations, unless the context otherwise requires:

(1) “Act” means the Electricity Act, 2003 (Central Act No; 36 of 2003);
(2) ‘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 prudence check in accordance with the provisions of Regulations 10 of these Regulations;
(3) ‘Authority’ means Central Electricity Authority referred to in Section 70 of the Act;
(4) ‘Auxiliary Energy Consumption’ or ‘AUX’ in relation to a period in case of a generating station means the quantum of energy consumed by the auxiliary equipment of the generating station such as the equipment being used for the purpose of operating the plant and machinery including switchyard of the Generating Station and transformer losses within the generating station, expressed as a percentage of the sum of gross energy generated at the generator terminals of all the units of the generating station;
Provided that auxiliary energy consumption shall not include energy consumed for supply of power to housing colony and other facilities at the generating station and the power consumed for construction, repair, maintenance and other similar activities at the generating station;
(5) ‘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 (Central Act No.1 of 1956); or Chapter X of the Companies Act, 2013 (Central Act No. 18 of 2013) or any other relevant law for the time being in force;
(6) ‘Applicant’ means a Generating Company who has filed an application to the Commission for determination of tariff in accordance with the provisions of the Act and these Regulations and includes a Company whose tariff is subject to review by the Commission either suo-motu or on a petition by any interested or affected person;
(7) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;
(8) ‘Beneficiary’ in relation to a generating station covered under clauses (a) and (b) of sub-section 1 of section 86 of the Act, means a distribution licensee who is purchasing electricity generated at such generating station through a Power
Purchase Agreement either directly or through a trading licensee on payment of fixed charges and by scheduling in accordance with the Grid Code:

Provided that where the distribution licensee is procuring power through a trading licensee, the arrangement should be secured through back to back power purchase agreement and power sale agreement:

Provided further that beneficiary shall also include any person who has allocation in inter State Generating Stations;

(9) ‘Block’ in relation to a Combined Cycle thermal generating station includes combustion turbine – generator(s), associated waste heat recovery boiler(s), and connected steam turbine – generator and auxiliaries;

(10) ‘Capital Cost’ means capital cost as determined in accordance with Regulation 8 of these Regulations;

(11) ‘Commission’ means the Karnataka Electricity Regulatory Commission;

(12) ‘CERC’ means the Central Electricity Regulatory Commission;

(13) ‘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 interpretations; or

iii) change by any competent statutory authority in any consent, approval or license available or obtained for the project;

iv) coming into force or change in any bilateral or multilateral agreement/treaty between the Government of India and any other Sovereign Government having implication for the generating station regulated under these Regulations;

(14) ‘Competitive Bidding’ means a transparent process for procurement of equipment, services and works in which bids are invited by the project developer by open advertisement covering the scope and specifications of the equipment, services and works required for the project, and the terms and conditions of the proposed contract as well as the criteria by which bids shall be evaluated, and shall include domestic competitive bidding and international competitive bidding;

(15) ‘Cut-off Date’ means 31st day of March of the year ending after two years of the year of commercial operation of whole or part of the project and in case the
whole or part of the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st day of March of the year ending after three years of the year of commercial operation;

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalization could not be made within the cut-off date for reasons beyond the control of the project developer;

(16) ‘CTU’ or ‘Central Transmission Utility’, means any Government Company, which the Central Government may notify as the Central Transmission Utility under sub-section (1) of Section 38 of the Act;

(17) ‘Date of Commercial Operation’ or ‘COD’;

(1) Date of commercial operation in case of a generating unit or block of the thermal generating station shall mean 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, if any, and in case of the generating station as a whole, the date of commercial operation of the last generating unit or block of the generating station:

Provided that

(i) where the beneficiaries have been tied up for purchasing power from the generating station, the trial run shall commence after seven days’ notice by the generating company to the beneficiaries and scheduling shall commence from 00:00 hour after completion of the trial run:

(ii) the generating company shall certify to the effect that the generating station meets the key provisions of the technical standards of the Central Electricity Authority (Technical Standards for Construction of Electrical plants and electric lines) Regulations, 2010 and the Grid Code:

(iii) the certificate shall be signed by the CMD/CEO/MD of the generating company subsequent to its approval by the Board of Directors in the format enclosed at Appendix III and a copy of the certificate shall be submitted to the Member Secretary, of the concerned Regional Power Committee and the concerned RLDC/SRLDC before declaration of COD:

(2) Date of commercial operation in relation to a generating unit of hydro generating station including pumped storage hydro generating station shall mean the date declared by the generating company from 00:00 hour after the scheduling process in accordance with the 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:

Provided that:

(i) where the beneficiaries have been tied up for purchasing power from the generating station, scheduling process for a generating unit of the generating station or demonstration of peaking capability corresponding to installed capacity of the generating station through a successful trial run shall commence after seven days’ notice by the generating company to the beneficiaries and scheduling shall commence from 00:00 hour after completion of trial run:

(ii) the generating company shall certify to the effect that the generating station meets the key provisions of the technical standards of Central Electricity Authority (Technical Standards for Construction of Electrical plants and electric lines) Regulations, 2010 and Grid code:

(iii) the certificate shall be signed by the CMD/CEO/MD of the generating company subsequent to its approval by the Board of Directors in the format enclosed at Appendix I and a copy of the certificate shall be submitted to the Member Secretary, of the concerned Regional Power Committee and the concerned RLDC before declaration of COD;

(iv) in case a hydro generating station with pondage or storage, 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, and it will be mandatory for such hydro generating station to demonstrate peaking capability equivalent to the installed capacity of the generating unit or the generating station as and when such reservoir/pond level is achieved:

(v) if a run-of-river hydro generating station or a generating unit thereof is declared under commercial operation during lean inflows period when the water inflow is insufficient for such demonstration of peaking capability, it shall be mandatory for such hydro generating station or generating unit to demonstrate peaking capability equivalent to installed capacity as and when sufficient water inflow is available;
‘Declared Capacity’ or “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 as defined in the Grid Code or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification specified in the relevant regulation;

‘De-capitalization’ for the purpose of the tariff under these regulations, means reduction in Gross Fixed Assets of the project corresponding to the removal/deletion of assets as approved by the Commission;

‘De-Commissioning’ means removal from service of a generating station or a unit thereof after it is certified by the Central Electricity Authority or any other authorized agency, either on its own or on an application made by the project developer or the beneficiaries or both, that the project cannot be operated due to non-performance of the assets on account of technological obsolescence or uneconomic operation or a combination of these factors;

‘Design Energy’ means the quantum of energy, which could be generated in a 90% dependable year with 95% installed capacity of the generating station;

‘Distribution Licensee’ means a Licensee authorized to operate and maintain a distribution system for supplying electricity to the consumers in his area of supply;

‘Day’ means a calendar day consisting of 24 hours period starting at 00:00 hour;

‘ERC’ means the Expected Revenue from Charges that a generating company/Transmission or Distribution licensee is permitted to recover;

‘ESCOMs’ means electricity supply companies, having licence to supply electricity in their area of supply, in the State of Karnataka;

‘Existing Generating Station’ or ‘Existing Project’ means a generating station or project declared to have achieved commercial operation from a date prior to 1st day of April, 2014;

‘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;

‘Extended Life’ means the life of a generating station or unit thereof beyond the period of its useful life, as may be determined by the Commission on case to case basis;

‘Force Majeure’ for the purpose of these regulations means the event or circumstance or combination of events or circumstances including those stated below which partly or fully prevents the generating company to complete the project within the time specified in the Investment Approval, and only if such events or circumstances are not within the control the generating company and
could not have been avoided, had the generating company taken reasonable care or complied with prudent utility practices:

(a) Act of God including lightning, drought, fire and explosion, earthquake, volcanic eruption, landslide, flood, cyclone, typhoon, tornado, geological surprises, or exceptionally adverse weather conditions which are in excess of the statistical measures for the last hundred years; or

(b) Any act of war, invasion, armed conflict or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, terrorist or military action; or

(c) Industry-wide strikes and labour disturbances having a nationwide impact in India;

(30) ‘Financial year’ or ‘FY’ means the period commencing on 1st day of April of a calendar year and ending on 31st day of March of the immediately following calendar year;

(31) ‘Generating Unit’ in relation to a thermal generating station (other than combined cycle thermal generating station) means steam generator, turbine-generator and auxiliaries, or in relation to a combined cycle thermal generating station, means turbine-generator and auxiliaries; and in relation to a hydro generating station means turbine-generator and its auxiliaries;

(32) ‘Grid Code’ means the Karnataka Electricity Regulatory Commission (State Electricity Grid Code) Regulations, 2014 as amended from time to time or subsequent re-enactment thereof:

and

The Central Electricity Regulatory Commission (State Electricity Grid Code) Regulations, 2010 as amended from time to time or subsequent re-enactment thereof;

(33) ‘Gross Calorific Value’ or ‘GCV’ in relation to a thermal 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;

(34) ‘Gross Station Heat Rate’ or ‘GHR’ means the heat energy input in kcal required to generate one kwh of electrical energy at generator terminals of a thermal generating station;

(35) ‘Generating Station’ means any station for generating electricity, including any building and plant with step-up transformer, switch-gear, switch yard, cables or other appurtenant equipment, if any, used for that purpose and the site thereof; a site intended to be used for a generating station, and any building used for
housing the operating staff of a generating station, and where electricity is generated by water-power, includes penstocks, head and tail works, main and regulating reservoirs, dams and other hydraulic works, but does not in any case include any sub-station;

(36) ‘Indian Governmental Instrumentality’ means the Government of India, Governments of State (where the project is located) and any ministry or department or board or agency or other regulatory or quasi-judicial authority controlled by the Government of India or the Government of the State, where the project is located

(37) ‘Infirm Power’ means electricity injected into the grid prior to the commercial operation of a unit or block of the generating station in accordance with the Central Electricity Regulatory Commission (Grant of Connectivity, Long-term Access and Medium-term Open Access in inter-State Transmission and related matters) Regulations, 2009 as amended from time to time;

(38) ‘Installed Capacity’ or ‘IC’ means the summation of the name plate capacities of all the units in the generating station or the capacity of the generating station reckoned at the generator terminals, as may be approved by the Commission from time to time;

(39) ‘Inter-State Generating Station’ or ‘ISGS’ has the same meaning as assigned in the Indian Electricity Grid Code;

(40) ‘Intra-State Generating Station’ has the same meaning as assigned in the State Electricity Grid Code;

(41) ‘Investment Approval’ means approval by the Board of the generating company or Cabinet Committee on Economic Affairs (CCEA) or any other competent authority conveying administrative sanction for the project including funding of the project and the timeline for the implementation of the project: Provided that the date of Investment Approval shall reckon from the date of the resolution/minutes of the Board/approval by the competent authority;

(42) ‘Kilowatt-Hour’ or ‘kWh’ means a unit of electrical energy, measured in one kilowatt or one thousand watts of power produced or consumed over a period of one hour;

(43) ‘Maximum Continuous Rating’ or ‘MCR’ in relation to a unit of the thermal 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/steam injection (if applicable) and corrected to 50 HZ grid frequency and specified site conditions;
(44) ‘New Generating Station’ or ‘New Project’ means a generating station or a project achieving COD or anticipated to achieve COD on or after 1st day of April, 2014;

(45) ‘Normative Annual Plant Availability Factor’ or ‘NAPAF’ in relation to generating station means the availability factor specified in Clause 26 of these Regulations in respect of a thermal generating station and in Clause 27 of these Regulations in respect of a hydro generating station;

(46) ‘Operation and Maintenance Expenses’ or ‘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, consumables, insurance and overheads but excludes fuel expenses and water charges;

(47) ‘Original Project Cost’ means the actual expenditure incurred by the generating company within the original scope of the project up to the cut-off date as admitted by the Commission;

(48) ‘Plant Availability Factor’ or PAF in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during the period expressed as percentage of the installed capacity in MW less the normative auxiliary energy consumption;

(49) ‘Plant Load Factor’ or ‘PLF’ in relation to a thermal generating station or unit for a given period means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

\[ \text{PLF} = \frac{10000 \times \sum_{i=1}^{N} \text{SGi}}{N \times \text{IC} \times [100-\text{AUXn}]} \% \]

Where,

- \( \text{IC} \) = Installed Capacity of the generating station or unit in MW,
- \( \text{SGi} \) = Scheduled Generation in MW for the \( i \)th time block of the period,
- \( N \) = Number of time blocks during the period, and
- \( \text{AUXn} \) = Normative Auxiliary Energy Consumption as a percentage of gross energy generation.

(50) ‘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; and in case of a thermal generating station does not include mining if it is a pit head project and has dedicated captive coal mine;

(51) ‘Prudence Check’ means scrutiny of reasonableness of capital expenditure incurred or proposed to be incurred, financing plan, use of efficient technology, cost and time over-run and such other factors as may be considered appropriate by the Commission for determination of tariff, while carrying out which, the Commission will look into whether the generating company or transmission licensee has been careful in its judgments and decisions for executing the project or has been careful and vigilant in executing the project;

(52) ‘Pumped storage hydro generating station’ means a hydro station which generates power through energy stored in the form of water energy, pumped from a lower elevation reservoir to a higher elevation reservoir;

(53) ‘Run-of-river Generating station’ means a hydroelectric power generating station which has no upstream pondage;

(54) ‘Run-of-river Generating station with pondage’ means a hydroelectric power generating station with sufficient pondage for meeting the diurnal variation of power demand;

(55) ‘Storage Type Generating station’ means a hydroelectric power generating station associated with large storage capacity to enable variation of generation of electricity according to demand;

(56) ‘Scheduled Commercial Operation Date’ or ‘SCOD’ means the date(s) of commercial operation of a generating station or a generating unit or block thereof as indicated in the Investment Approval or as agreed in the power purchase agreement, whichever is earlier;

(57) ‘Scheduled Energy’ means the quantum of energy scheduled by the concerned State Load Despatch Centre to be injected into the Grid by a generating station for a given time period;

(58) ‘Scheduled Generation’ or ‘SG’ at any time or for any period or time block means schedule of ex-bus generation in MW or MWh, given by the concerned Load Despatch Centre.

Note: For an open cycle gas turbine generating station or a combined cycle generating station if the average frequency for any time block is below 49.52 Hz but not below 49.02 Hz and the scheduled generation is more than 98.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 98.5% of the declared capacity, and if the average frequency for any time block is below 49.02 Hz and the scheduled generation is more than 96.5% of the declared capacity, the scheduled generation shall be deemed to have been
reduced to 96.5% of the declared capacity and in such an event of reduction of scheduled generation of gas turbine generating station, the corresponding drawal schedule of beneficiaries shall be corrected in proportion to their scheduled drawal with adjustment of transmission losses on post facto basis;

(59) 'Small gas turbine generating station' means and includes open cycle gas turbine or combined cycle generating station with gas turbines in the capacity range of 50 MW or below;

(60) ‘Start Date or Zero Date’ means the date indicated in the Investment Approval for commencement of implementation of the project and where no date has been indicated, the date of investment approval shall be deemed to be the Start Date or Zero Date;

(61) 'Start-Up Power'; means the Power required for running the Auxiliary equipment for commissioning activities of a new generating station.

(62) ‘State Load Despatch Centre’ or ‘SLDC’ means the centre established by the State Government for the purpose of exercising the powers and discharging the functions specified under Section 31 of the Act;

(63) ‘STU’ means state transmission utility, being the Board or the Government company specified as such by the state government under sub-section (1) of section 39 of the Act;

(64) ‘State’ means the State of Karnataka;

(65) ‘Thermal Generating Station’ means a generating station or a unit thereof that generates electricity using fossil fuels such as coal, lignite, gas, liquid fuel or combination of these as its primary source of energy;

(66) ‘Trial Run’ or ‘Trial Operation’, in relation to a generating station or unit thereof shall mean the successful running of the generating station or unit thereof at maximum continuous rating or installed capacity for a continuous period of 72 hours in case of a thermal generating station or unit thereof and 12 hours in case of a hydro generating station or unit thereof:

Provided that where the beneficiaries have been tied up for purchasing power from the generating station, the trial run shall commence after seven days’ notice by the generating company to the beneficiaries;

(67) ‘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; or in relation to a hydro Generating station means turbine generator and its auxiliaries;

(68) ‘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 including pumped Storage hydro generating stations -35 years

Provided that any extension of life of the projects beyond the completion of their useful life shall be decided by the Commission;

(69) ‘Year’ means a financial year.

The words and expressions used in these regulations and not defined herein but defined in the Act or any other regulation of the Commission shall have the meaning assigned to them under the Act or any other regulation of the Commission.
CHAPTER – 2
TARIFF DETERMINATION, COMPUTATION OF CAPITAL COST AND CAPITAL STRUCTURE

4. Tariff determination

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

Provided that;

(i) Where all the generating units of a stage of a generating station have been declared to be under commercial operation prior to 1st day of April, 2014, the generating company, shall file consolidated petition in respect of the entire generating station for the purpose of determination of tariff for the period from 2014-15 to 2018-19: and

(ii) In case of commercial operation of the generating station being on or after 1st day of April, 2014, the generating company shall file a consolidated petition combining all the units of the generating station which are likely to be commissioned during next six months from the date of application.

4.1.2 For the purpose of determination of tariff, the capital cost of the project may be broken up into stages and distinct units or blocks forming part of the project if required:

Provided that where break-up of the capital cost of the project for different stages or units or blocks is not available and in the case of on-going projects, the common facilities shall be apportioned prorated to the installed capacity of the units:

Provided further that in relation to multi-purpose hydro schemes, with irrigation, flood control and power components, only the capital cost chargeable to the power component of the scheme shall be considered for determination of tariff

4.1.3 Where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through long term power purchase agreement and the balance part of the generation capacity has not been tied up for supplying power to the beneficiaries, the tariff of the generating station shall be determined with reference to the capital cost of the entire project, but the tariff so determined shall be applicable corresponding to the capacity contracted for supply to the beneficiaries.

5 METHODOLOGIES FOR DETERMINATION OF TARIFF

5.1 APPLICATION FOR DETERMINATION OF TARIFF

5.1.1 (a) The generating company may make an application for determination of tariff for a new generating station or unit thereof in accordance with these Regulations, in
respect of the generating station or generating units thereof within 180 days of the anticipated date of commercial operation.

(b) In case of an existing generating station, the application for determination of tariff shall be made not later than 180 days from the date of notification of these regulations based on admitted capital cost including any additional capital expenditure already admitted up to 31st day of March, 2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19.

5.1.2 The generating company shall make an application as per Annexure I to these Regulations, for determination of tariff based on capital expenditure incurred, or projected to be incurred up to the date of commercial operation duly certified by the auditors and additional capital expenditure incurred, or projected to be incurred during the tariff period of the generating station duly certified by the auditors:

Provided that the application shall contain details of underlying assumptions for projected capital cost and additional capital expenditure, wherever applicable

5.1.3 (a) If the application is inadequate in any respect as required under Annexure I of these regulations, the application shall be returned to the generating company for resubmission of the application within one month after rectifying the deficiencies as may be pointed out by the Commission.

(b) Within 30 working days of the receipt of corrected and completed tariff application, the Commission shall notify the Generating Company whether any additional information is required by the Commission to assess the Generating Company's calculations, specifying the date by which such information is to be filed.

5.1.4 The tariff application filed by the Generating Company will be treated as a petition after the Commission decides that all the information and clarification sought for by it have been produced to the satisfaction of the Commission.

5.1.5 (a) If the information furnished in the application is in accordance with the regulations and is adequate for carrying out prudence check of the claims made, the Commission shall consider the suggestions and objections, if any, received from the respondents and any other person including the consumers or consumer associations within one month from the date of filing of the petition. The Commission shall issue the tariff order after hearing the petitioner, the respondents and any other person specifically permitted by the Commission.

(b) The Commission will thereafter follow, as far as may be practicable, the procedure specified in Chapter-2 of the KERC (General and Conduct of Proceedings) Regulations, 2000, for holding hearing on the tariff application and for passing orders thereon.
6. **PUBLICATION OF THE PETITION:**

6.1 The Generating Company shall arrange for publication of the tariff application in the following manner.

6.1 (a) The summary of the tariff application, in such format as may be approved by the Commission, shall be published in two successive issues each of two daily newspapers in English language and two daily newspapers in Kannada language having wide circulation in the area of operation of the generating company. The advertisement shall invite the licensees/interested persons to file their objections and such documents as they seek to rely upon, supported by an Affidavit, in six copies, within 30 working days of the first advertisement and to also indicate whether they would like to be heard in person by the Commission.

(b) The generating company shall also specify in the advertisement that interested persons may inspect the copies of the petition at specified offices of the generating company during normal working hours and/or also obtain the salient features of the petition at such specified place on payment of an amount not exceeding the cost of photocopying, before the last date fixed for filing of objections.

(c) The Generating Company shall also mention in the advertisement that a full set of the application together with supporting materials would be made available to any interested person who may ask for it on payment of an amount not exceeding cost of photocopying.

(d) The generating company shall provide, as part of the application to the Commission, the details in such formats as may be required by the Commission. The generating company shall necessarily provide unit-wise and station-wise details as envisaged in the formats to enable the Commission to determine tariff as required.

(e) The generating company shall furnish to the Commission all such material, books and records including the accounting statements, operational cost data as may be required by the Commission for determination of tariff.

(f) The generating company shall host 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. The generating company shall also host the information on the observations made by the Commission and the replies submitted to the Commission thereon, within three working days of submission of replies to the Commission.

6.2 In case of new projects, the generating company may be allowed tariff by the Commission based on the projected capital expenditure, from the anticipated COD in accordance with Regulation 4 of these regulations: Provided that:

(i) if the date of commercial operation is delayed beyond 180 days from the date of issue of tariff order in terms of Regulation 5.1 (5) of these regulations, the tariff granted shall be deemed to have been withdrawn and the generating company shall be required
to file a fresh application for determination of tariff after the date of commercial operation of the project:

(ii) where the capital cost considered in the tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure exceeds the actual capital cost incurred on year to year basis by more than 5%, the generating company shall refund to the beneficiaries, the excess tariff recovered corresponding to such excess capital cost, as approved by the Commission along with interest at 1.20 times of the bank rate as prevalent on 1st day of April of the relevant year:

(iii) where the capital cost considered in the tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure, falls short of the actual capital cost incurred on year to year basis by more than 5%, the generating company shall be entitled to recover from the beneficiaries, the shortfall in the tariff corresponding to the shortfall in capital cost, as approved by the Commission along with interest at 0.80 times of bank rate as prevalent on 1st day of April of relevant year.

6.3 In case of existing projects, the generating company may be allowed tariff by the Commission based on the admitted capital cost as on 1st day of April, 2014 and projected additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19 in accordance with the Regulation 4:

Provided that:

(i) the generating company, shall continue to bill the beneficiaries at the tariff approved by the Commission and applicable as on 31st day of March, 2014 for the period starting from 1st day of April, 2014 till approval of tariff by the Commission in accordance with these regulations:

(ii) where the capital cost considered in tariff determination by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure submitted by the generating company exceeds the actual capital cost incurred on year to year basis by more than 5%, the generating company shall refund to the beneficiaries, the excess tariff recovered corresponding to such excess capital cost, as approved by the Commission along with interest at 1.2 times of the bank rate as prevalent on 1st day of April of the relevant year:

(iii) where the capital cost considered in tariff determination by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure submitted by the generating company, falls short of the actual capital cost incurred on year to year basis by more than 5%, the generating company shall be
entitled to recover from the beneficiaries, the shortfall in the tariff corresponding to the shortfall in capital cost, as approved by the Commission along with interest at 0.80 times of bank rate as prevalent on 1st day of April of the relevant year.

7. **Truing up of Capital Expenditure and Tariff.**

7.1 The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including any additional capital expenditure incurred up to 31st day of March, 2019, as admitted by the Commission after prudence check at the time of truing up:

Provided that the generating company, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.

7.2 The Commission shall carry out truing up of tariff of the generating station based on the performance of following Controllable parameters:

i) Station Heat Rate;

ii) Secondary Fuel Oil Consumption;

iii) Auxiliary Energy Consumption; and

iv) Re-financing of Loan.

7.3 The Commission shall carry out truing up of tariff of the generating station based on the performance of following Uncontrollable parameters:

i) Force Majeure;

ii) Change in Law; and

iii) Primary Fuel Cost.

7.4 The financial gains by a generating company on account of controllable parameters shall be shared between generating company and the beneficiaries on monthly basis with annual reconciliation. The financial gains computed as per following formulae in case of a generating station on account of operational parameters as shown in item (i) to (iii) of Regulation 7.2 of these Regulations shall be shared in the ratio of 60:40 between the generating station and the beneficiaries:

\[
\text{Net-Gain} = (\text{ECRN} - \text{ECRA}) \times \text{Scheduled Generation}
\]

Where,
ECRN—Normative Energy Charge Rate computed on the basis of norms specified for Station Heat Rate, Auxiliary Consumption and Secondary Fuel Oil Consumption.

ECRA – Actual Energy Charge Rate computed on the basis of actual SHR, Auxiliary Consumption and Secondary Fuel Oil Consumption for the month.

Provided that the financial gains on account of item (iv) of Regulation 7.2 of these Regulations shall be shared in accordance with Regulation 17.7 of these regulations.

7.5 The financial gains and losses by a generating company, on account of uncontrollable parameters shall be passed on to the beneficiaries of the generating company.

7.6 The Commission shall carry out the trueing up of grossed up rate of return on equity in accordance with Regulation 16.5 of these Regulations.

7.7 The generating company shall make an application, as per Annexure I to these regulations, for carrying out trueing up of a generating station or a unit or block thereof by 31.10.2019;

7.8 The generating company shall submit for the purpose of trueing up, details of actual capital expenditure and additional capital expenditure incurred for the period from 01.04.2014 to 31.03.2019, duly audited and certified by the auditor.

7.9 Where after trueing up, the tariff recovered exceeds the tariff approved by the Commission under these regulations, the generating company shall refund to the beneficiaries, the excess amount so recovered as specified in this regulation 7.11.

7.10 Where after trueing up, the tariff recovered is less than the tariff approved by the Commission under these regulations, the generating company shall recover from the beneficiaries, the under-recovered amount as specified in this regulation 7.11.

7.11 The amount under-recovered or over-recovered, along with simple interest at the rate equal to the bank rate as on 1st day of April of the relevant year, shall be recovered or refunded by the generating company, in six equal monthly installments starting within three months from the date of the tariff order issued by the Commission after the trueing up exercise.

8. Computation of Capital Cost and Capital Structure;

Capital Cost:
8.1 The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.

8.1.1 The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) interest during construction and financing charges, on the loans, (i) being equal to 70% of the funds deployed, where the actual equity is 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 where the actual equity is less than 30% of the funds deployed;

(c) increase in cost in contract packages as approved by the Commission;

(d) interest during construction and incidental expenditure during construction as computed in accordance with Regulation 8.2 of these Regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 9 of these Regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 10.3 of these Regulations;

(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 12.1 of these Regulations.

8.1.2 The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1<sup>st</sup> day of April, 2014 duly trued up by excluding liability, if any, as on 1<sup>st</sup> day of April, 2014;

(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 10; and

(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 11.

8.1.3 The capital cost in case of an existing or a new hydro generating station shall also 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.

8.1.4 The capital cost with respect to a thermal generating station, incurred or projected to be incurred on account of the Perform, Achieve and Trade (PAT) Scheme of Government of India will be considered by the Commission on a case to case basis and shall include:

(a) cost of plan proposed by developer in conformity with norms of the PAT Scheme; and

(b) sharing of the benefits accrued on account of the PAT Scheme

8.1.5 The following shall be excluded or removed from the capital cost of the existing and new projects:

(a) The assets forming part of the project, but not in use;

(b) de-capitalized of Asset;

(c) In case of a hydro generating station, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a two stage transparent process of bidding; and

(d) the proportionate cost of land which is being used by the generating station based on renewable energy for generating power:

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

8.1.6 Prudence Check of Capital Expenditure: The following principles shall be adopted for prudence check of capital cost of the existing or new projects:

(a) In case of a thermal generating station, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified or to be specified by the CERC from time to time:

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

Provided further that in cases where benchmark norms have been specified, the generating company shall submit the reasons for exceeding the benchmark norms of capital cost, to the satisfaction of the Commission for allowing cost above the benchmark norms.

(b) The Commission may issue new guidelines or revise the existing guidelines for vetting of capital cost of hydro-electric projects by an independent agency or an expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff for the hydro generating station.

(c) The Commission may issue new guidelines or revise the existing guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects in accordance with the tariff policy issued by the Central Government under section 3 of the Act from time to time which shall be considered for prudence check.

(d) Where the power purchase agreement entered into between the generating company and the beneficiaries provides for ceiling of actual capital expenditure, the Commission shall take into consideration such ceiling for determination of tariff for prudence check of capital cost.

8.2 Interest during construction (IDC), Incidental Expenditure during Construction (IEDC)-

8.2.1 Interest during Construction (IDC):

(a) Interest during construction shall be computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds up-to SCOD.

(b) In case of additional costs on account of IDC due to delay in achieving the SCOD, the generating company shall be required to furnish detailed justification with supporting documents for such delay including prudent phasing of funds:

Provided that if the delay is not attributable to the generating company and is due to uncontrollable factors as specified in Regulation 8.3 of these regulations, IDC may be allowed after due prudence check:
Provided further that only IDC on actual loan may be allowed beyond the SCOD to the extent, the delay is found beyond the control of generating company after due prudence and taking into account prudent phasing of funds.

8.2.2 Incidental Expenditure during Construction (IEDC):

(a) Incidental expenditure during construction shall be computed from the zero date and after taking into account pre-operative expenses up to SCOD:

Provided that any revenue earned during construction period up to SCOD on account of interest on deposits or advances, or any other receipts may be taken into account for reduction in incidental expenditure during construction.

(b) In case of additional costs on account of IEDC due to delay in achieving the SCOD, the generating company shall be required to furnish detailed justification with supporting documents for such delay including the details of incidental expenditure during the period of delay and liquidated damages recovered or recoverable corresponding to the delay:

Provided that if the delay is not attributable to the generating company and is due to uncontrollable factors as specified in regulation 8.3, IEDC may be allowed after due prudence check;

Provided further that where the delay is attributable to an agency or contractor or supplier engaged by the generating company, the liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost.

(c) In case the time over-run beyond the SCOD is not admissible after due prudence, the increase in capital cost on account of cost variation corresponding to the period of time over run may be excluded from capitalization irrespective of price variation provisions in the contracts with supplier or contractor of the generating company.

8.3 Controllable and Uncontrollable factors:

The following shall be considered as controllable and uncontrollable factors leading to cost escalation impacting Contract Prices, IDC and IEDC of the project:

8.3.1 The “controllable factors” shall include but shall not be limited to the following:

(a) Variations in capital expenditure on account of time and/or cost overruns on account of land acquisition issues;
(b) Efficiency in the implementation of the project not involving approved change in scope of such project, change in statutory levies or force majeure events; and

(c) Delay in execution of the project on account of contractor, supplier or agency of the generating company.

8.3.2 The “uncontrollable factors” shall include but shall not be limited to the following:

i. Force Majeure events; and

ii. Change in law.

Provided that no additional impact of time overrun or cost over-run shall be allowed on account of non-commissioning of the generating station or associated transmission system by the SCOD, as the same should be recovered through Implementation Agreement between the generating company and the transmission licensee:

Provided further that if the generating station is not commissioned on the SCOD of the associated transmission system, the generating company shall bear the IDC or transmission charges if the transmission system is declared under commercial operation by the Commission in accordance with second proviso of Clause 3 of Regulation 4 of CERC Generation Tariff Regulations, 2014, till the generating station is commissioned:

Provided also that if the transmission system is not commissioned on SCOD of the generating station, the transmission licensee shall arrange the evacuation from the generating station at its own arrangement and cost till the associated transmission system is commissioned

9. Initial Spares:

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost up-to cut-off date, subject to the following ceiling norms:

(a) Coal-based/lignite-fired thermal generating stations - 4.0%

(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%

(c) Hydro generating stations including pumped storage hydro generating stations - 4.0%

Provided that:
(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) where the generating station has any transmission equipment forming part of the generation project, the ceiling norms for initial spares for such equipment shall be as per the ceiling norms specified for transmission system under these regulations:

10. **Additional Capitalization and De-capitalization:**

10.1 The capital expenditure in respect of a new project or an existing project incurred or projected to be incurred, on account of the following within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

   (i) Un-discharged liabilities recognized to be payable at a future date;

   (ii) Works deferred for execution;

   (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 9;

   (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

   (v) Change in law or compliance of any existing law:

    Provided that the details of works, asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

10.2 The capital expenditure incurred or projected to be incurred in respect of the new project on account of the following within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:

   (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

   (ii) Change in law or compliance of any existing law;

   (iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and
Any liability for works executed prior to the cut-off date, after prudence check of the details of such un discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments, etc.

10.3 The capital expenditure, in respect of an existing generating station incurred or projected to be incurred on account of the following after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by the appropriate Government Agencies or statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal/lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, and up-gradation of capacity for the technical reason such as increase in fault level;

(viii) 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) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;
(ix) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full linkage in respect of thermal generating station as a result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring minor items or assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, 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 with effect from 1st day of April, 2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernization (R&M), repairs and maintenance under Operation & Maintenance expenses and Compensation Allowance, such expenditure cannot be claimed under this regulation.

10.4 In case of de-capitalization of assets of a generating company, the original cost of such asset as on the date of de-capitalization shall be deducted from the value of gross fixed asset, and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year when such de-capitalization takes place, duly taking into consideration the year in which it was capitalized.

11. Renovation and Modernization:

11.1 The generating company for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the originally recognized useful life, for the purpose of tariff 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, and any other information considered to be relevant by the generating company.

11.2 Where the generating company makes an application for approval of its proposal for renovation and modernization, 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.

11.3 In case of a gas/liquid fuel based open/combined cycle thermal generating station, any expenditure which has become necessary for renovation of gas turbines/steam turbine after 25 years of operation from its COD and an expenditure necessary due to obsolescence or non-availability of spares for efficient operation of the stations shall be allowed:

Provided that any expenditure included in the Renovation and Modernization on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence, from the R&M expenditure to be allowed.

11.4 Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on the estimates of renovation and modernization expenditure and life extension, and after deducting the accumulated depreciation already recovered from the original project cost, shall form the basis for determination of tariff.

12. Sale of Infirm Power, Special Allowance for Coal-based/Lignite fired Thermal Generating station, Compensation Allowance:

12.1 Sale of Infirm Power:

Supply of infirm power shall be accounted as deviation and shall be paid for from the regional deviation settlement fund accounts in accordance with the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2014, as amended from time to time or any subsequent re-enactment thereof:

Provided that any revenue earned by the generating company from supply of infirm power after accounting for the fuel expenses shall be applied in adjusting the capital cost accordingly.

12.2 Special Allowance for Coal-based/Lignite fired Thermal Generating stations:

12.2.1 In case of a coal-based/lignite fired thermal generating station, the generating company, instead of availing Renovation and Modernization may opt to avail a “special allowance” in accordance with the norms specified in this regulation, as compensation for meeting the requirement of expenses including renovation and
modernization 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 allowed and the applicable operational norms shall not be relaxed but the special allowance shall be included in the annual fixed cost:

Provided that such option shall not be available for a generating station or unit 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.

12.2.2 The Special Allowance shall be at the rate of Rs. 7.5 lakh/MW/year for the year 2014-15 and thereafter escalated at the rate of 6.35% every year during the tariff period 2014-15 to 2018-19, unit wise from the next financial year from the respective date of the completion of useful life with reference to the date of commercial operation of the respective unit of generating station:

Provided that in respect of a unit in commercial operation for more than 25 years as on 1st day of April, 2014, this allowance shall be admissible from the year 2014-15:

Provided further that the special allowance for the generating station, which, at its option, has already availed of a special allowance in accordance with the norms specified in clause (4) of Regulation 11 of Karnataka Electricity Regulatory Commission (Terms and Conditions of Tariff Determination) Regulations, 2009, shall be allowed Special Allowance by escalating the special allowance allowed for the year 2013-14 at the rate of 6.35% every year during the tariff period 2014-15 to 2018-19.

12.2.3 In the event of granting special allowance by the Commission, the expenditure incurred or utilized from special allowance shall be maintained separately by the generating station and details of the same shall be made available to the Commission as and when directed to furnish details of such expenditure.

12.3 Compensation Allowance:

12.3.1 In case of a coal-based or lignite-fired thermal generating station or a unit thereof, a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 10 of these regulations, and in such an event, revision of the capital cost shall not be allowed on account of compensation allowance but the compensation allowance shall be allowed to be recovered separately.
12.3.2 The Compensation Allowance shall be allowed at the following rates from the year following the year of completion of 10, 15, or 20 years of useful life:

<table>
<thead>
<tr>
<th>Years of Operation</th>
<th>Compensation Allowance (Rs lakh/MW/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>Nil</td>
</tr>
<tr>
<td>11-15</td>
<td>0.20</td>
</tr>
<tr>
<td>16-20</td>
<td>0.50</td>
</tr>
<tr>
<td>21-25</td>
<td>1.00</td>
</tr>
</tbody>
</table>

13. Debt-Equity Ratio:

13.1 For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

(i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt - equity ratio.

Explanation.-

(1) The premium, if any, raised by the generating company, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station.

(2) The generating company shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station.

(3) In case of a generating station declared under commercial operation prior to 1st day of April, 2014, debt equity ratio allowed by the Commission for
determination of tariff for the period ending 31st day of March, 2014 shall be considered.

(4) In case of the generating station declared under commercial operation prior to 1st day of April, 2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31st day of March, 2014, the Commission shall approve the debt: equity ratio based on actual information provided by the generating company.

(5) Any expenditure incurred or projected to be incurred on or after 1st day of April, 2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in this regulation 13.1.
CHAPTER-3
TARIFF STRUCTURE


14.1 The tariff for supply of electricity from a thermal generating station shall comprise of two parts, namely, capacity charge (for recovery of annual fixed cost consisting of the components as specified in Regulation 15.1 (A) of these regulations) and energy charge (for recovery of primary and secondary fuel cost and limestone cost where applicable).

14.2 The tariff for supply of electricity from a hydro generating station shall comprise of capacity charge and energy charge to be derived in the manner specified in Regulation 22 and 23 of these Regulations for recovery of annual fixed cost (consisting of the components referred to in regulation 15.1(A)) through the two charges.


15.1 The Capacity charges shall be derived on the basis of annual fixed cost.

(A) The annual fixed cost (AFC) of a generating station shall consist of the following components:

(a) Return on equity;

(b) Interest on loan capital;

(c) Depreciation;

(d) Interest on working capital; and

(e) Operation and maintenance expenses:

Provided that special allowance in lieu of renovation and modernization expenditure where opted in accordance to Regulation 12.2 and/or separate compensation allowance in accordance to Regulation 12.3, wherever applicable shall be recovered separately and shall not be considered for computation of working capital.

(B) Energy Charges: Energy charges shall be derived on the basis of the landed fuel cost (LFC) of a generating station (excluding hydro) and shall consist of the following cost:

(a) Landed Fuel Cost of primary fuel; and

(b) Landed Cost of secondary fuel oil consumption:
Provided that any refund of taxes and duties along with any amount received on account of penalties from fuel supplier shall have to be adjusted in fuel cost.

(C) Landed Fuel Cost: The landed fuel cost of primary fuel and secondary fuel for tariff determination shall be based on actual weighted average cost of primary fuel and secondary fuel of the three preceding months, and in the absence of landed costs for the three preceding months, latest procurement price of primary fuel and secondary fuel for the generating station, before the start of the tariff period in case of existing stations and immediately preceding three months in case of new generating stations shall be taken into account.

16. COMPUTATION OF ANNUAL FIXED COST

Return on Equity:

16.1 Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 13.

16.2 Return on equity shall be computed at the base rate of 15.50% for thermal generating stations and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

(i) in case of projects commissioned on or after 1st day of April, 2014, an additional return of 0.50% shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(iv) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
16.3 Tax on Return on Equity:

The base rate of return on equity as allowed by the Commission under these Regulations 16.1 and 16.2 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company. The actual tax on income of other income stream (i.e., income of non-generation) shall not be considered for the calculation of “effective tax rate”.

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

\[
\text{Rate of pre-tax return on equity} = \frac{\text{Base rate}}{1 - t}
\]

Where

“t” is the effective tax rate calculated in accordance with clause (3) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation, and the corresponding tax thereon. In case of generating company paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.

Illustration:-

(i) In case of a generating company paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess:

Rate of return on equity = \(\frac{15.50}{1 - 0.2096}\) = 19.610%

(ii) In case of a generating company paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation for FY 2014-15 is Rs 1000 crore.

(b) Estimated Advance Tax for the year on the above is Rs 240 crore.

(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore/Rs 1000 Crore = 24%

(d) Rate of return on equity = \(\frac{15.50}{1 - 0.24}\) = 20.395%
16.5 The generating company, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to the beneficiaries on year on year basis.

17. Interest on loan capital

17.1 The loans arrived at in the manner indicated in regulation 13 shall be considered as gross normative loan for calculation of interest on loan.

17.2 The normative loan outstanding as on 1st day of April, 2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31st day of March, 2014 from the gross normative loan.

17.3 The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment shall not exceed cumulative depreciation recovered up-to the date of de-capitalisation of such asset.

17.4 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 depreciation allowed for the year or part of the year.

17.5 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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.
17.6 The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

17.7 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.

17.8 The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

17.9 In case of dispute, any of the parties may make an application in accordance with the Karnataka Electricity Regulatory Commission (General Conduct of Proceedings) Regulations, 2000, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

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:

18. Depreciation

18.1. Depreciation shall be computed from the date of commercial operation of a generating station or an unit thereof. In case where a single tariff needs to be determined for all the units of a generating station, the depreciation shall be computed from the effective date of commercial operation of the generating station taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station for which single tariff needs to be determined.

18.2. The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station, weighted average life for the generating station shall be applied. 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.

18.3. 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 development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

18.4. Land other than the land held under lease and the land for reservoir in case of a 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.

18.5. 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 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

18.6. In the case of existing projects, the balance depreciable value as on 1st day of April, 2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up-to 31st day of March, 2014 from the gross depreciable value of the assets.

18.7. The generating company shall submit the details of proposed capital expenditure during the last five years of the useful life project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during such period.

18.8. In case of de-capitalization of assets in respect of a generating station or an unit thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful service period.

19. Interest on Working Capital:

19.1. The working capital shall cover in the case of:

   (a) Coal-based/lignite-fired thermal generating stations
(i) Cost of coal or lignite and limestone towards stock, if applicable, required for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;

(ii) Cost of coal or lignite and limestone required for 30 days for generation corresponding to the normative annual plant availability factor;

(iii) Cost of secondary fuel oil required for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 20;

(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and

(vi) Operation and maintenance expenses for one month.

(b) Open-cycle Gas Turbine/Combined Cycle thermal generating stations

(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;

(iii) Maintenance spares @ 30% of operation and maintenance expenses specified in Regulation 20;

(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel; and

(v) Operation and maintenance expenses for one month.
(c) Hydro generating station including pumped storage hydro-electric generating station:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 20; and

(iii) Operation and maintenance expenses for one month.

19.2. The cost of fuel in cases covered under sub-clauses (a) and (b) of these regulation 19.1 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 three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.

19.3. Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st day of April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof is declared under commercial operation, whichever is later.

19.4 Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken loan for working capital from any outside agency.

20. Operation and Maintenance Expenses:

20.1. Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations,

<table>
<thead>
<tr>
<th>Year</th>
<th>200/210/250 MW sets</th>
<th>300/330/350 MW sets</th>
<th>500 MW sets</th>
<th>600 MW and above sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>23.90</td>
<td>19.95</td>
<td>16.00</td>
<td>14.40</td>
</tr>
<tr>
<td>2015-16</td>
<td>25.40</td>
<td>21.21</td>
<td>17.01</td>
<td>15.31</td>
</tr>
<tr>
<td>2016-17</td>
<td>27.00</td>
<td>22.54</td>
<td>18.08</td>
<td>16.27</td>
</tr>
<tr>
<td>2017-18</td>
<td>28.70</td>
<td>23.96</td>
<td>19.22</td>
<td>17.30</td>
</tr>
<tr>
<td>2018-19</td>
<td>30.51</td>
<td>25.47</td>
<td>20.43</td>
<td>18.38</td>
</tr>
</tbody>
</table>
Provided that the above norms shall be multiplied by the following factors for arriving at norms of O&M expenses for additional units in respective units’ sizes for the units whose COD occurs on or after 1.4.2014 in the same station:

<table>
<thead>
<tr>
<th>Size of Generating Stations</th>
<th>Additional $n^{th}$ Units Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>200/210/250 MW</td>
<td>Additional 5$^{th}$ &amp; 6$^{th}$ Units: 0.9</td>
</tr>
<tr>
<td></td>
<td>Additional 7$^{th}$ &amp; more Units: 0.85</td>
</tr>
<tr>
<td>300/330/350 MW</td>
<td>Additional 4$^{th}$ &amp; 5$^{th}$ Units: 0.9</td>
</tr>
<tr>
<td></td>
<td>Additional 6$^{th}$ &amp; more Units: 0.85</td>
</tr>
<tr>
<td>500 MW and above</td>
<td>Additional 3$^{rd}$ &amp; 4$^{th}$ Units: 0.9</td>
</tr>
<tr>
<td></td>
<td>Additional 5$^{th}$ &amp; above Units: 0.85</td>
</tr>
</tbody>
</table>

(b) Open Cycle Gas Turbine/Combined Cycle generating stations:

<table>
<thead>
<tr>
<th>Year</th>
<th>Gas Turbine/Combined Cycle generating stations other than small gas turbine power</th>
<th>Small gas turbine power generating stations</th>
<th>Advance F Class Machines</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>14.67</td>
<td>33.43</td>
<td>26.55</td>
</tr>
<tr>
<td>2015-16</td>
<td>15.59</td>
<td>35.70</td>
<td>28.36</td>
</tr>
<tr>
<td>2016-17</td>
<td>16.57</td>
<td>38.13</td>
<td>30.29</td>
</tr>
<tr>
<td>2017-18</td>
<td>17.67</td>
<td>40.73</td>
<td>32.35</td>
</tr>
<tr>
<td>2018-19</td>
<td>18.72</td>
<td>43.50</td>
<td>34.56</td>
</tr>
</tbody>
</table>

(c) Generating Stations based on coal rejects:

<table>
<thead>
<tr>
<th>Year</th>
<th>O &amp; M Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>29.10</td>
</tr>
<tr>
<td>2015-16</td>
<td>30.94</td>
</tr>
<tr>
<td>2016-17</td>
<td>32.88</td>
</tr>
<tr>
<td>2017-18</td>
<td>34.95</td>
</tr>
<tr>
<td>2018-19</td>
<td>37.15</td>
</tr>
</tbody>
</table>

20.2 The Water Charges and capital spares for thermal generating stations shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check for which the details regarding the same shall be furnished along with the petition:

Provided further that the generating station shall submit the details of year-wise actual expenditure on capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of
additional capitalisation or consumption of stores and spares and renovation and modernization.

20.3 Hydro generating stations:

(a) Operation and maintenance expenses, for the existing generating stations which have been in operation for 5 years or more in the base year of 2007-08, shall be derived on the basis of actual operation and maintenance expenses for the years 2003-04 to 2007-08, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission.

(b) The normalized operation and maintenance expenses after prudence check, for the years 2003-04 to 2007-08, shall be escalated at the rate of 5.17% to arrive at the normalized operation and maintenance expenses at the 2007-08 price level respectively and then averaged to arrive at normalized average operation and maintenance expenses for the 2003-04 to 2007-08 at 2007-08 price level. The average normalized operation and maintenance expenses at 2007-08 price level shall be escalated at the rate of 5.72% to arrive at the operation and maintenance expenses for year 2009-10.

(c) The operation and maintenance expenses for the year 2009-10 shall be escalated further at the rate of 5.72% per annum to arrive at permissible operation and maintenance expenses for the subsequent years of the tariff period.

(d) In case of the hydro generating stations, which have not been in commercial operation for a period of five years as on 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works). Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @5.17% per annum up to the year 2007-08 and then averaged to arrive at the O&M expenses at 2007-08 price level. It shall be thereafter escalated @ 5.72% per annum to arrive at operation and maintenance expenses in respective year of the tariff period.

(e) In the case of hydro generating stations, which have not been in commercial operation for a period of three years as on 1.4.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) for the first year of commercial operation.
Further, in such cases, operation and maintenance expenses in the first year of commercial operation shall be escalated @ 6.04% per annum up to the year 2013-14 and then averaged to arrive at the O&M expenses at 2013-14 price level. It shall be thereafter escalated @ 6.64% per annum to arrive at operation and maintenance expenses in respective year of the tariff period.

(f) In the case of hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations of 200 MW or more respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years.

21. Computation and Payment of Capacity Charges and Energy Charges for Thermal Generating Stations:

21.1. The fixed cost of a thermal generating station shall be computed on annual basis, based on the norms specified under these regulations, and recovered on monthly basis under capacity charge. The total capacity charge 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.

21.2. The capacity charges payable to a thermal generating station for a calendar month shall be calculated in accordance with the following formulae:

\[ CC1 = \frac{AFC}{12} \times \frac{PAF1}{NAPAF} \text{ subject to ceiling of } \frac{AFC}{12} \]

\[ CC2 = \left( \frac{AFC}{6} \times \frac{PAF2}{NAPAF} \right) - CC1 \]

\[ CC3 = \left( \frac{AFC}{4} \times \frac{PAF3}{NAPAF} \right) - (CC1 + CC2) \]

\[ CC4 = \left( \frac{AFC}{3} \times \frac{PAF4}{NAPAF} \right) - (CC1 + CC2 + CC3) \]

\[ CC5 = \left( \frac{AFC \times 5}{12} \times \frac{PAF5}{NAPAF} \right) - (CC1 + CC2 + CC3 + CC4) \]

\[ CC6 = \left( \frac{AFC}{2} \times \frac{PAF6}{NAPAF} \right) - (CC1 + CC2 + CC3 + CC4 + CC5) \]

\[ CC7 = \left( \frac{AFC \times 7}{12} \times \frac{PAF7}{NAPAF} \right) - (CC1 + CC2 + CC3 + CC4 + CC5 + CC6) \]

\[ CC8 = \left( \frac{AFC \times 2}{3} \times \frac{PAF8}{NAPAF} \right) - (CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7) \]
CC9 = \((AFC \times \frac{3}{4}) \times \frac{PAF9}{NAPAF}\) subject to ceiling of \((AFC \times \frac{3}{4})\) – \((CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7 + CC8)\)

CC10 = \((AFC \times \frac{5}{6}) \times \frac{PAF10}{NAPAF}\) subject to ceiling of \((AFC \times \frac{5}{6})\) – \((CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7 + CC8 + CC9)\)

CC11 = \((AFC \times \frac{11}{12}) \times \frac{PAF11}{NAPAF}\) subject to ceiling of \((AFC \times \frac{11}{12})\) – \((CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7 + CC8 + CC9 + CC10)\)

CC12 = \((AFC) \times \frac{PAFY}{NAPAF}\) subject to ceiling of \((AFC)\) – \((CC1 + CC2 + CC3 + CC4 + CC5 + CC6 + CC7 + CC8 + CC9 + CC10 + CC11)\)

Where,

- AFC = Annual fixed cost specified for the year, in Rupees.
- NAPAF = Normative annual plant availability factor in percentage.
- PAFN = Per cent Plant availability factor achieved up-to the end of the \(n^{th}\) month.
- PAFY = Per-cent Plant availability factor achieved during the Year

CC1, CC2, CC3, CC4, CC5, CC6, CC7, CC8, CC9, CC10, CC11 and CC12 are the Capacity Charges of 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th months respectively.

Provided that in the case of a generating station or an unit thereof, under shutdown due to Renovation and Modernisation, the generating company shall be allowed to recover part of AFC, which shall include O&M expenses and interest on loan only.

21.3 The PAFM up to the end of a particular month and PAFY shall be computed in accordance with the following formula:

\[
P_{AFM} \text{ or } P_{AFY} = 10000 \times \sum D_{C_i} / \{N \times IC \times (100 - AUX)\} \%
\]

Where,

- AUX = Normative auxiliary energy consumption in percentage
D C \_i = \text{Average declared capacity (in ex-bus MW), for the } i^{th} \text{ day of the period i.e. the month or the year as the case may be, as certified by the concerned load dispatch centre after the day is over.}

IC = \text{Installed Capacity (in MW) of the generating station}

N = \text{Number of days during the period.}

\textbf{Note:} D C \_i \text{ 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.}

21.4. Incentive to a generating station or an unit thereof shall be payable at a flat rate of 50 paise/kWh for ex-bus scheduled energy corresponding to scheduled generation in excess of ex-bus energy corresponding to Normative Annual Plant Load Factor (NAPLF) as specified in regulation 26 B;

21.5. The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable), and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charges rate of the month (with fuel and limestone price adjustment). Total Energy charge payable to the generating company for a month shall be:

\[(\text{Energy charge rate in Rs./kWh}) \times (\text{Scheduled energy (ex-bus) for the month in kWh})\]

21.6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined up to three decimal places in accordance with the following formulae:

\textbf{(a) For coal based and lignite fired stations:}

\[\text{ECR} = \frac{\{(\text{GHR} - \text{SFC} \times \text{CVSF}) \times \text{LPPF} / (\text{CVPF} + \text{SFC} \times \text{LPSFi} + \text{LC} \times \text{LPL})\} \times 100}{(100 - \text{AUX})}\]

\textbf{(b) For gas and liquid fuel based stations:}

\[\text{ECR} = \frac{\text{GHR} \times \text{LPPF}}{\{\text{CVPF} \times (100 - \text{AUX})\}}\]

Where,

AUX = \text{Normative auxiliary energy consumption in percentage.}

CVPF = \text{(a) Weighted Average Gross calorific value of coal as received, in Kcal per kg for coal based stations}
(b) Weighted Average Gross calorific value of primary fuel as received, in Kcal per kg, per standard cubic meter or per litre, as applicable for lignite, gas and liquid fuel based stations.

(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to the blending ratio.

CVSF = Calorific value of secondary fuel, in Kcal per ml.

ECR = Energy charges rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in Kcal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to the blending ratio)

SFC = Normative Specific fuel oil consumption, in ml per kWh.

LPSFi = Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month.

Provided that energy charges rate for a gas/liquid fuel based station shall be adjusted for open cycle operation based on certification of the Member Secretary of the respective Regional Power Committee for the open cycle operation during the month.

21.7. The generating company shall provide to the beneficiaries of the generating station, the details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure-I to these regulations:

Provided that the details of the blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month:

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, 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 on monthly basis for a period of three months.

21.8. The landed cost of fuel for the month shall include price of fuel corresponding to the grade and quality of fuel 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 charge, and in case of coal/lignite shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal or lignite dispatched by the coal or lignite supply company during the month as given below:

Pithead generating stations: 0.2%

Non-pithead generating stations: 0.8%

Provided also that in the case of pit head stations if coal or lignite is procured from sources other than the pit head mines and is transported to the station through rail, transit loss of 0.8% shall be applicable:

Provided also that in case of imported coal, the transit and handling losses shall be 0.2%;

21.9. The landed price of limestone shall be taken based on the procurement price of limestone for the generating station, inclusive of royalty, taxes and duties as applicable and transportation cost for month.

21.10. In case of part or full use of alternative source of fuel supply by coal based thermal generating stations other than as agreed by the generating company and beneficiaries in their power purchase agreements for supply of contracted power on account of shortage of fuel or optimization of economical operation through blending, the use of alternative source of fuel supply shall be permitted:

Provided that in such cases, prior permission from beneficiaries shall not be a precondition, unless otherwise agreed specifically in the power purchase agreement:

Provided further that the weighted average price of use of alternative source of fuel shall not exceed 30% of base price of fuel computed as per these regulations 21.11:

Provided also that where the energy charge rate based on weighted average price of use of fuel including alternative source of fuel exceeds 30% of base energy charge rate as approved by the Commission for that year or energy charge rate based on weighted average price of use of fuel including alternative sources of fuel exceeds
20% of energy charges rate based on weighted average fuel price for the previous month, whichever is lower shall be considered and in that event, prior consultation with the beneficiary shall be made not later than three days in advance.

21.11. The Commission through specific tariff orders to be issued for each generating station shall approve the energy charges rate at the beginning of the tariff period. The energy charges so approved shall be the base energy charges rate at the beginning of the tariff period. The base energy charges rate for subsequent years shall be the energy charges computed after escalating the base energy charge rate approved at the beginning of the tariff period by escalation rates for payment purposes as notified by the Commission from time to time for under competitive bidding guidelines.

21.12. The tariff structure as provided in this regulation may be adopted by the Department of Atomic Energy, Government of India for the nuclear generating stations by specifying annual fixed cost (AFC), normative annual plant availability factor (NAPAF), installed capacity (IC), normative auxiliary power consumption (AUX) and energy charges rate (ECR) for such stations.

22. Computation and Payment of Capacity charge and Energy Charge for Hydro Generating Stations:

22.1. The fixed cost of a hydro generating station shall be computed on annual basis, based on the norms specified under these regulations, and shall be recovered on monthly basis under capacity charge (inclusive of incentive) and energy charges, which shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, i.e., 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 a generating station and the date of commercial operation of such 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 charges payment during such period.

22.2. The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be:

\[ AFC \times 0.5 \times \frac{NDM}{NDY} \times \left(\frac{PAFM}{NAPAF}\right) \] (in Rupees)

Where,

\[ AFC = \text{Annual fixed cost specified for the year, in Rupees} \]
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

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

\[
\text{PAFM} = \frac{10000 \times \sum DC_i}{N \times IC \times (100 - \text{AUX})} \%
\]

Where

- **AUX** = Normative auxiliary energy consumption in percentage
- **DCi** = Declared capacity (in ex-bus MW) for the \( i \)th 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

22.4. The energy charges 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 charges rate. Total energy charges payable to the generating company for a month shall be:

\[
(\text{Energy charges rate in Rs. / kWh}) \times (\text{Scheduled energy (ex-bus) for the month in kWh}) \times \frac{(100 - \text{FEHS})}{100}
\]

22.5. Energy charges 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 in Regulation 22.7:

\[
\text{ECR} = \frac{\text{AFC} \times 0.5 \times 10}{\text{DE} \times (100 - \text{AUX}) \times (100 - \text{FEHS})}
\]

Where,

- **DE** = Annual design energy specified for the hydro generating station, in MWh, subject to the provision in Regulation 22.6.
22.6. In case, the 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 station, the following treatment shall be applied on a rolling basis on an application filed by the generating company:

(a) 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 22.5 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:

Provided that in case actual generation from a hydro generating station is less than the design energy for a continuous period of 4 years on account of hydrology factor, the generating station shall approach CEA with relevant hydrology data for revision of design energy of the station.

(b) In case, the energy shortfall occurs after ten years from the date of commercial operation of a generating station, the following principle 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 years is A1 and A2 MWh respectively, A1 being less than DE. Then, the design energy to be considered in the formula in clause (5) of these regulations 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.

(c) Actual energy generated (e.g. A1, A2) shall be arrived at by multiplying the net metered energy sent out from the station by \( \frac{100}{100 – AUX} \).

22.7. In case, the energy charge rate (ECR) for a hydro generating station, computed as per clause (5) of this regulation exceeds ninety paise per kWh, and the actual saleable energy in a year exceeds \( \text{DE} \times (100 – AUX) \times (100 – \text{FEHS}) / 10000 \) MWh, the Energy charges for the energy in excess of the above shall be billed at ninety paise per kWh only:

Provided that in the 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 charges rate shall be reduced to ninety paise per kWh after the energy charges shortfall of the previous year has been made up.

22.8. In cases of hydro generating stations located in the State of Jammu and Kashmir, any expenditure incurred for payment of water usage charges to the State Water Resources Development Authority, Jammu under Jammu & Kashmir Water Resources (Regulations and Management) Act, 2010 shall be payable by the beneficiaries as additional energy charge in proportion of the supply of power from the generating stations on month to month basis:

Provided further that the provisions of this clause shall be subject to the decision of the Hon’ble High Court of Jammu & Kashmir in OWP No. 604/2011 and shall stand modified in accordance with the decision of the High Court;

23. Pumped Storage Hydro Generating Stations:

23.1. The fixed cost of a pumped storage hydro generating station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis as capacity charge. The capacity charge shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, i.e., 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 a generating station and the date of commercial operation of such generating station, the annual fixed cost shall be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charges payment during such period.

23.2. The capacity charges payable to a pumped storage hydro generating station for a calendar month shall be:

\[ \text{(AFC x NDM / NDY) (in Rupees), if actual generation during the month is } \geq 75\% \text{ of the Pumping Energy consumed by the station during the month and } \{(\text{AFC x NDM / NDY}) \times \{\text{(Actual Generation during the month during peak hours/ 75% of the Pumping Energy consumed by the station during the month) (in Rupees)}\}, \text{ if actual generation during the month is } < 75\% \text{ of the Pumping Energy consumed by the station during the month.} \]

Where,

AFC = Annual fixed cost specified for the year, in Rupees

NDM = Number of days in the month
NDY = Number of days in the year

Provided that there would be adjustment at the end of the year based on actual generation and actual pumping energy consumed by the station during the year.

23.3. The energy charges shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary in excess of the design energy plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir, at a flat rate equal to the average energy charges rate of 20 paisa per kWh, excluding free energy, if any, during the calendar month, on ex power plant basis.

23.4. Energy charges payable to the generating company for a month shall be: 

\[
\text{Energy Charges} = 0.20 \times \left( \text{Scheduled Energy (ex-bus for the month in kWh)} - (\text{Design Energy for the month (DEm)} + 75\% \text{ of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month})) \times (100 - \text{FEHS}) / 100. \right.
\]

Where,

DEm = Design energy for the month specified for the hydro generating station, in MWh

FEHS = Free energy for home State, in per cent, as defined in regulation 30.2, Note-3, if any.

Provided that in case, the Scheduled energy in a month is less than the Design Energy for the month plus 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir of the month, then the energy charges payable by the beneficiaries shall be zero.

23.5. The generating company shall maintain the record of daily inflows of natural water into the upper elevation reservoir and the reservoir levels of upper elevation reservoir and lower elevation reservoir on hourly basis. The generator shall be required to maximize the peak hour supplies with the available water including the natural flow of water. In case, it is established that generator is deliberately or otherwise without any valid reason, is not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power to its potential or wasting natural flow of water, the capacity charges of the day shall not be payable by the beneficiary. For this purpose, outages of the unit(s)/station including planned outages and the forced outages up to 15% in a year shall be construed as the valid reason for not pumping water from lower elevation reservoir to the higher elevation during off-peak period or not generating power using energy of pumped water or natural flow of water.
Provided that the total capacity charges recovered during the year shall be adjusted on pro-rata basis in the following manner in the event of total machine outages in a year exceeding 15%:

\[(\text{ACC})_{\text{adj}} = (\text{ACC})_R \times \frac{100 - \text{ATO}}{85}\]

Where,

- \((\text{ACC})_{\text{adj}}\) – Adjusted Annual Capacity Charges
- \((\text{ACC})_R\) – Annual Capacity Charges recovered
- ATO - Total Outages in percentage for the year including forced and planned outages

Provided further that the generating station shall be required to declare its machine availability daily on day ahead basis for all the time blocks of the day in line with the scheduling procedure of Grid Code;

23.6. 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 the beneficiaries in proportion to their respective allocations in the generating station.

24. Deviation Charges:

24.1. Variations between actual net injection and scheduled net injection for the generating stations, and variations between actual net drawal and scheduled net drawal for the beneficiaries shall be treated as their respective deviations and charges for such deviations shall be governed by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related matters) Regulations, 2014, as amended from time to time or any subsequent re-enactment thereof.

24.2. Actual net deviation of every Generating Station and Beneficiary shall be metered on its periphery through special energy meters (SEMs) installed by the State Transmission Utility (STU), and computed in MWh for each 15-minute time block by the State Load Despatch Centre (SLDC).
CHAPTER-4
OPERATIONAL NORMS

25.1. Recovery of capacity charges, energy charges, and incentive by the generating company shall be based on the achievement of the operational norms specified in the regulations 26 to 29.

25.2. The Commission may on its own revise the norms of Station Heat Rate specified in Regulation 26 in respect of any of the generating stations for which relaxed norms have been specified.

26. Norms of operation for thermal generating station

The norms of operation as given hereunder shall apply to thermal generating stations:

A. Normative Annual Plant Availability Factor (NAPAF):

   (a) All thermal generating stations, except those covered under clauses (b) - 85%

   Provided that in view of shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed.

   The above provision shall be reviewed based on actual performance after 3 years from 1st day of April, 2014.

   (b) Lignite fired Generating Stations using Circulatory Fluidized Bed Combustion (CFBC) Technology and Generating stations based on coal rejects:

      (1) First Three years from COD – 75%

      (2) For fourth year after completion of three years of COD – 80%

B. Normative Annual Plant Load Factor (NAPLF) for Incentive:

   All thermal generating stations, except those covered under clauses (b).- 85%

C. Gross Station Heat Rate:

   (a) Existing Thermal Generating Station

   (i) Existing Coal-based Thermal Generating Stations,

<table>
<thead>
<tr>
<th>200/210/250 MW sets</th>
<th>500 MW sets (Sub-critical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2450 Kcal/KWh</td>
<td>2375 Kcal/KWh</td>
</tr>
</tbody>
</table>
Note 1:
In respect of 500 MW and above units where the boiler feed pumps are electrically operated, the gross station heat rate shall be 40 kCal/kWh lower than the gross station heat rate specified above.

Note 2
For the generating stations having combination of 200/210/250 MW sets and 500 MW and above sets, the normative gross station heat rate shall be the weighted average gross station heat rate of the combinations.

(ii) Lignite-fired Thermal Generating Stations:
For lignite-fired thermal generating stations, the gross station heat rates specified under sub-clause (i) for coal-based thermal generating stations shall be applied with correction, using multiplying factors as given below:

(1) For lignite having 50% moisture: 1.10
(2) For lignite having 40% moisture: 1.07
(3) For lignite having 30% moisture: 1.04
(4) For other values of moisture content, multiplying factor shall be prorated for moisture content between 30-40% and 40-50% depending upon the rated values of multiplying factor for the respective range given under sub-clauses (1) to (3) above.

(b) New Thermal Generating Station achieving COD on or after 1st day of April, 2014

(I) Coal-based and lignite-fired Thermal Generating Stations

= 1.045 X Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero per cent 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:
Pressure Rating (Kg/cm²) | 150 | 170 | 170 | 247
---|---|---|---|---
SHT/RHT (0°C) | 535/535 | 537/537 | 537/565 | 565/593
Type of BFP | Electrical Driven | Turbine Driven | Turbine Driven | Turbine Driven
Max Turbine Heat Rate (kCal/kWh) | 1955 | 1950 | **1935** | 1850
Min. Boiler Efficiency
Sub-Bituminous Indian Coal | 0.86 | 0.86 | 0.86 | 0.86
Bituminous Imported Coal | 0.89 | 0.89 | 0.89 | 0.89
Max Design Unit Heat Rate (kCal/kWh)
Sub-Bituminous Indian Coal | 2273 | 2267 | 2250 | 2151
Bituminous Imported Coal | 2197 | 2191 | 2174 | 2078

Provided further that in case pressure and temperature parameters of a unit are different from the 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 where the boiler efficiency is below 86% for Sub-bituminous Indian coal and below 89% for bituminous imported coal, the same shall be considered as 86% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal for computation of station heat rate:

Provided also that maximum turbine cycle heat rate shall be adjusted for the type of dry cooling system:

Provided also that if one or more generating units were declared under commercial operation prior to 1st day of April, 2014, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1st day of April, 2014 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the regulation 26(C) (a) (i):

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in this regulation 26 (C)(a)(ii)
Provided also that for Generating stations based on coal rejects, the Commission shall approve the Design Heat Rate on case to case basis.

**Note:** In respect of generating 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)** Thermal Generating Station having COD on or after 1st day of April, 2009 till 31st day of March, 2014

(i) Coal-based and lignite-fired Thermal Generating Stations = 1.045 X Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating 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 heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 09-10 to FY 13-14.

**d)** Gas-based / Liquid-based thermal generating unit(s)/ block(s) having COD on or after 1st day of April, 2009.

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

= 1.071 X Design Heat Rate of the unit/block for Liquid Fuel (kCal/kWh)

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

Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 09-10 to FY 13-14.

**D) Secondary fuel oil consumption:**

(a) Coal-based generating stations other than at (c) below: 0.50 ml/kWh

(b) (i) Lignite-fired generating stations except stations based on CFBC Technology: 2ml/kWh
(ii) Lignite-fired generating stations based on CFBC Technology: 1.00ml/kWh

(c) Generating Stations based on Coal Rejects: 2 ml/kWh

(E) Auxiliary Energy Consumption:

(a) Coal-based generating stations except at (b) below:

With Natural Draft cooling tower or without cooling tower:

(i) 200 MW series - 8.5%

(ii) 300/330/350/500 MW and above

(1) Steam driven boiler feed pumps - 5.25%

(2) Electrically driven boiler feed pumps - 7.75%

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

Provided further that Additional Auxiliary Energy Consumption as follows may be allowed for plants with Dry Cooling Systems:

<table>
<thead>
<tr>
<th>Type of Dry Cooling System</th>
<th>(% of gross generation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct cooling air cooled condensers with mechanical draft fans</td>
<td>1%</td>
</tr>
<tr>
<td>Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

(b) Gas Turbine /Combined Cycle generating stations:

(i) Combined Cycle: 2.5%

(ii) Open Cycle: 1.0%

(c) Lignite-fired thermal generating stations:

(i) All generating stations with 200 MW sets and above:

The auxiliary energy consumption norms shall be 0.5 percentage point more than the auxiliary energy consumption norms of coal-based generating stations at (E) (a) above.
Provided that for the lignite fired stations using CFBC technology, the auxiliary energy consumption norms shall be 1.5 percentage point more than the auxiliary energy consumption norms of coal-based generating stations at (E) (a) above.

(d) Generating Stations based on coal rejects: 10%

27. Norms of operation for hydro generating stations:

27.1. The following Normative annual plant availability factor (NAPAF) shall apply to hydro generating stations:

(a) 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%

(b) In the case of storage and pondage type plants with head variation between full reservoir level and minimum draw down level is more than 8% and when plant availability is not affected by silt, the month wise peaking capability as provided by the project authorities in the DPR (approved by CEA or the State Government) shall form basis of fixation of NAPAF.

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

(d) Run-of-river type plants: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past data where available/relevant.

27.2. 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.

27.3. A further allowance of 5% may be allowed for difficulties in North East Region.

27.4. Based on the above, The Normative annual plant availability factor (NAPAF) of the hydro generating stations already in operation shall be calculated.

27.5. In the case of Pumped storage hydro generating stations, the quantum of electricity required for pumping water from down-stream reservoir to up-stream reservoir shall be arranged by the beneficiaries duly taking into account the transmission and distribution losses etc. up to the bus bar of the generating station. In return, beneficiaries shall be entitled to equivalent energy of 75% of the energy utilized in pumping the water from the lower elevation reservoir to the higher elevation reservoir from the generating
station during peak hours and the generating station shall be under obligation to supply such quantum of electricity during peak hours:

Provided that in the event of the beneficiaries failing to supply the desired level of energy during off-peak hours, there will be pro-rata reduction in their energy entitlement from the station during peak hours:

Provided further that the beneficiaries may assign or surrender their share of capacity in the generating station, in part or in full, or the capacity may be reallocated by the State Government, and in that event, the owner or assignee of the capacity share shall be responsible for arranging the equivalent energy to the generating station in off-peak hours, and be entitled to corresponding energy during peak hours in the same way as the original beneficiary was entitled.

27.6. Auxiliary Energy Consumption (AUX):

(a) Surface hydro generating stations:

(i) with rotating exciters mounted on the generator shaft : 0.7%

(ii) with static excitation system : 1.00%

(b) Underground hydro generating stations

(i) with rotating exciters mounted on the generator shaft : 0.9%

(ii) with static excitation system: 1.2%.
CHAPTER – 5
SCHEDLING, ACCOUNTING AND BILLING

28. Scheduling:

   The methodology for scheduling and dispatch for the generating station shall be as specified in the Grid Code.

29. Metering and Accounting:

   The provisions of the Grid Code shall be applicable.

30. Billing and Payment of charges:

   30.1. Bills shall be raised for capacity charge and energy charge on monthly basis by the generating company in accordance with these regulations, and payments shall be made by the beneficiaries directly to the generating company.

   30.2. Payment of the capacity charge 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 of the generating station. Payment of capacity charge and energy charge 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 sector generating stations shall be as determined by the State Government, inclusive of any allocation made out of the unallocated capacity. The shares shall be applied in percentages of installed capacity and shall normally remain constant during a month. Based on the decision of the State Government the changes in allocation shall be communicated by the Member-Secretary, State Power Committee in advance, at least three days prior to the beginning of a calendar month, except in case of an emergency calling for an urgent change in allocations out of unallocated capacity. The total capacity share of a 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 any other ESCOM. In such cases, depending upon the technical feasibility of power transfer and specific agreements reached by the generating company with the other ESCOM for such transfers, 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 ESCOM(s) 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. Any such reallocation and its reversion shall be communicated to all concerned by the Member Secretary, State Power Committee in advance, at least three days prior to such reallocation or reversion taking effect.

**Note 3,**

FEHS = Free Energy for home State, in percent and shall be taken as 13% or actual whichever is less.

Provided that in cases where the site of a hydro project is awarded to a developer, by the State Government by following a two stage transparent process of bidding, the “free energy” shall be taken as 13%, in addition to 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:

Provided further that the generating company shall submit detailed quantification of 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

**31. Rebate:**

**31.1.** For payment of bills of the generating company through letter of credit on presentation or through NEFT/RTGS within a period of 2 days of presentation of bills by the generating company, a rebate of 2% shall be allowed.

**31.2.** Where payments are made on any day after 2 days and within a period of 30 days of presentation of bills by the generating company, a rebate of 1% shall be allowed.
32. Late payment surcharges:

In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary, beyond a period of 60 days from the date of billing, a late payment surcharge at the rate of 1.50% per month shall be levied by the generating company.
33. Sharing of CDM Benefits: The proceeds of carbon credit from an approved 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%, thereafter the proceeds shall be shared in equal proportion, by the generating company, and the beneficiaries.

34. Norms to be ceiling norms:

Norms specified in these regulations are the ceiling norms and shall not preclude the generating company, and the beneficiaries from agreeing to the improved norms and in case, improved norms are agreed to, such improved norms shall be applicable for determination of tariff.

35. Deviation from norms:

35.1 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 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 upon submission of complete workings with assumptions to be provided by the generator at the time of filing of the application; 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.

Explanation:- For the purpose of calculating the levelised tariff referred to in sub-clause (a) of clause (1), the discounting factor shall be as notified by the Commission from time to time.

36. Deferred Tax liabilities with respect to previous tariff period:

The deferred tax liability before 1st day of April, 2009 shall be recovered from the beneficiaries, as and when the same gets materialised. No claim on account of
deferred tax liability arising from 1st day of April, 2009 up to 31st day of March, 2014 shall be made from the beneficiaries.

37. Foreign Exchange Rate Variation and Hedging:

37.1 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 in full in the discretion of the generating company.

37.2 As and when the petitioner enters into any hedging transaction based on its approved hedging policy, the petitioner should communicate to the beneficiaries concerned about its hedging decision within thirty days of entering into such hedging transaction(s).

37.3 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.

37.4 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.

37.5 Every 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.

38. Recovery of cost of hedging or Foreign Exchange Rate Variation:

Recovery of cost of hedging or foreign exchange rate variation shall be made directly by the generating company, from the beneficiaries, without making any application before the Commission:

Provided that in case of any objections by the beneficiaries, to the amounts claimed on account of cost of hedging or foreign exchange rate variation, the generating company or the beneficiaries as the case may be, may make an appropriate application before the Commission for its decision.

39. Application fee and the publication expenses:
39.1. The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company, directly from the beneficiaries.

39.2. The following fees and charges shall be reimbursed directly by the beneficiaries in proportion of their allocation in the generating stations;

(a) Fees and charges paid by the generating companies under the Karnataka Electricity Regulatory Commission (Fees) Regulations, 2004, as amended from time to time or any new regulations made in lieu thereof;

39.3. The Commission may, for the reasons to be recorded in writing and after hearing the affected parties, allow reimbursement of any other fee or expenses, as may be considered necessary.

40. Power to Relax.

The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.

41. Power to Remove Difficulty:

If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision or take such action not inconsistent with the provisions of the Act or provisions of other regulations specified by the Commission, as may appear to be necessary for removing the difficulty in giving effect to the objectives of these regulations.
Appendix-I

Timeline for completion of Projects

(Refer to Regulation 24)

1. The completion time schedule shall be reckoned from the date of investment approval by the Board (of the generating company or the transmission licensee), or the CCEA clearance as the case may be, up to the date of commercial operation of the units or block or element of transmission project as applicable.

2. The time schedule has been indicated in months in the following paragraphs and tables:

A. Thermal Power Projects

Coal/Lignite Power Plant

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

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

(b) 31 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 250 MW CFBC technology

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

(b) 34 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 500/600 MW

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

(b) 42 months for extension projects. Subsequent units at an interval of 6 months each.

Unit size 660/800 MW

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

**Combined Cycle Power Plant**

Gas Turbine size up to 100 MW (ISO rating)

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

(b) 24 months for first block of extension projects. Subsequent units at an interval of 2 months each.

Gas Turbine size above 100 MW (ISO rating)

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

(b) 28 months for first block of extension projects. Subsequent units at an interval of 4 months each.

**B. Hydro Electric Projects**

The qualifying time schedule for hydroelectric projects shall be as stated in the original concurrence issued by the Central Electricity Authority under section 8 of the Act.
### Appendix-II

**Depreciation Schedule**

<table>
<thead>
<tr>
<th>Sr No</th>
<th>Asset Particulars</th>
<th>Depreciation Rate (Salvage Value =10 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SLM</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>Land under full ownership</td>
<td>0.00%</td>
</tr>
<tr>
<td>B</td>
<td>Land under lease</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>For investment in the land</td>
<td>3.34%</td>
</tr>
<tr>
<td>(b)</td>
<td>For cost of clearing the site</td>
<td>3.34%</td>
</tr>
<tr>
<td>(c)</td>
<td>Land for reservoir in case of Hydro generating station</td>
<td>3.34%</td>
</tr>
<tr>
<td>C</td>
<td>Assets purchased new</td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>P1 &amp; Machinery in generating stations</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Hydro electric</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Steam electric NHRB &amp; waste heat recovery boilers</td>
<td>5.28%</td>
</tr>
<tr>
<td>(iii)</td>
<td>Diesel electric and gas plant</td>
<td>5.28%</td>
</tr>
<tr>
<td>b.</td>
<td>Cooling towers and circulating water systems</td>
<td>5.28%</td>
</tr>
<tr>
<td>c.</td>
<td>Hydraulic works forming part of the Hydro generating stations</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and siphons</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Reinforced concrete pipelines and surge tanks, steel Pipe lines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works</td>
<td>5.28%</td>
</tr>
<tr>
<td>d.</td>
<td>Building &amp; Civil Engineering works</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Offices and showrooms</td>
<td>3.34%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Containing thermo-electric generating plant</td>
<td>3.34%</td>
</tr>
<tr>
<td>(iii)</td>
<td>Containing hydro-electric generating plant</td>
<td>3.34%</td>
</tr>
<tr>
<td>(iv)</td>
<td>Temporary erections such as wooden structures</td>
<td>100%</td>
</tr>
<tr>
<td>(v)</td>
<td>Roads other than Kutcha roads</td>
<td>3.34%</td>
</tr>
<tr>
<td>(vi)</td>
<td>Others</td>
<td>3.34%</td>
</tr>
<tr>
<td>e.</td>
<td>Transformers, Kiosk, sub-station equipment &amp; other fixed apparatus (including plant)</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Transformers including foundations having rating of 100 KVA and over</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Others</td>
<td>5.28%</td>
</tr>
<tr>
<td>f.</td>
<td>Switchgear including cable connections</td>
<td>5.28%</td>
</tr>
<tr>
<td>g.</td>
<td>Lightning arrestor</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Station type</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Pole Type</td>
<td>5.28%</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Percentage</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>(iii)</td>
<td>Synchronous condenser</td>
<td>5.28%</td>
</tr>
<tr>
<td>h.</td>
<td>Batteries</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Underground cable including joint boxes and disconnected boxes</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Cable duct system</td>
<td>5.28%</td>
</tr>
<tr>
<td>i.</td>
<td>Overhead lines including cable support</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Lines on fabricated steel operating at terminal voltages higher than 66 KV</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV</td>
<td>5.28%</td>
</tr>
<tr>
<td>(iii)</td>
<td>Lines on steel on reinforced concrete support</td>
<td>5.28%</td>
</tr>
<tr>
<td>(iv)</td>
<td>Lines on treated wood support</td>
<td>5.28%</td>
</tr>
<tr>
<td>j.</td>
<td>Meters</td>
<td>5.28%</td>
</tr>
<tr>
<td>k.</td>
<td>Self propelled Vehicles</td>
<td>9.50%</td>
</tr>
<tr>
<td>l.</td>
<td>Air conditioning Plants</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Static</td>
<td>5.28%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Portable</td>
<td>9.50%</td>
</tr>
<tr>
<td>m.</td>
<td>Office furniture and furnishing</td>
<td>6.33%</td>
</tr>
<tr>
<td>(i)</td>
<td>Office equipment</td>
<td></td>
</tr>
<tr>
<td>(ii)</td>
<td>Internal Wiring including Fittings and apparatus</td>
<td>6.33%</td>
</tr>
<tr>
<td>(iii)</td>
<td>Street Light fittings</td>
<td>6.33%</td>
</tr>
<tr>
<td>n.</td>
<td>Apparatus let on hire</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Other than motors</td>
<td>9.50%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Motors</td>
<td>6.33%</td>
</tr>
<tr>
<td>o.</td>
<td>Communication equipment</td>
<td></td>
</tr>
<tr>
<td>(i)</td>
<td>Radio and high frequency carrier system</td>
<td>6.33%</td>
</tr>
<tr>
<td>(ii)</td>
<td>Telephone lines and telephones</td>
<td>6.33%</td>
</tr>
<tr>
<td>p.</td>
<td>I.T Equipment including software</td>
<td>15%</td>
</tr>
<tr>
<td>q.</td>
<td>Any other assets not covered above</td>
<td>5.28%</td>
</tr>
</tbody>
</table>
APPENDIX – III

(For Coal based Generating Stations)

It is to certify that the **(Name of the Station)** has fulfilled all the key provisions as prescribed below in accordance with Regulation 3(17) of KERC (Terms and Conditions of Tariff), Regulations, 2014.

1. All documents as prescribed in Regulation 3(8) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations - 2010 have been retained at site and are available at site.

2. All requirements as per Regulation 5 of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010 have been complied.

3. The unit operating capability shall be in conformity to Regulation 7(1), 7(2), 7(3) and 7(4) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010.

4. All requirements as per Regulation 8 of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations 2010 have been complied for the Steam Generator.

5. All requirements as per Regulation 9(2), 9(4), 9(9), 9(15), 9(16), 9(18) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations 2010 have been complied for the Steam Turbine Generator.

   Name:

   (CMD/CEO/MD)
It is to certify that the **(Name of the Station)** has fulfilled all the key provisions as prescribed below in accordance with Regulation 3(17) of KERC (Terms and Conditions of Tariff), Regulations, 2014.

1. All documents as prescribed in Regulation 3(8) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations - 2010 have been retained at site and are available at site.

2. All requirements as per Regulation 5 of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010 have been complied.


4. All requirements as per Regulation 17 and Regulations 9(2), 9(4), 9(9), 9(15), 9(16), 9(18) of the CEA Technical Standards for Construction of Electric Plants and electric Lines Regulations 2010 have been complied for the Steam Turbine.

    **Name:**

    **(CMD/CEO/MD)**
(For Hydro based Generating Stations)

It is to certify that the (Name of the Station) has fulfilled all the key provisions as prescribed below in accordance with Regulation 3 (17) of KERC (Terms and Conditions of Tariff), Regulations, 2014.

1. All documents as prescribed in Regulation 3(8) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations - 2010 have been retained at site and are available at site.

2. All requirements as per Regulation 30(1), 30(2) and 30(5) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations –2010 have been complied.

3. The unit operating capability shall be in conformity to Regulation 32 (1), 32(3), 32(4), 32(6) and 32(8) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations – 2010.

4. All requirements as per Regulation 33(6), 33(7), 33(8) of the CEA Technical Standards for Construction of Electric Plants and Electric Lines Regulations 2010 have been complied for the hydraulic Turbine.

Name:

(CMD/CEO/MD)