

**ODISHA ELECTRICITY REGULATORY COMMISSION
UNIT – VIII, BHUBANESWAR – 751012**

NOTIFICATION

The 8th September, 2014

No. OERC/RA/AMEND. REGU. – 8/2013 (Vol-I)/1251 - In exercise of powers conferred by Section 61 read with 62 (1) (a), 86(1) (a) (b) and Clauses (zd), (ze), (zf), (zg), (zh) of Section 181 of the Electricity Act, 2003 (Act 36 of 2003) and all other powers enabling it in that behalf, the Odisha Electricity Regulatory Commission hereby makes the following Regulations, namely:

CHAPTER - 1

PRELIMINARY

SHORT TITLE AND COMMENCEMENT

- 1.1 These Regulations shall be called **“Odisha 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 Odisha.
- 1.3 The Commission in specifying these Regulations shall be guided by the principles contained in Sections 61 and 62 of the Act to encourage competition, efficiency, economical use of resources, good performance and optimum investments.
- 1.4 These Regulations shall come into force on the date of publication in the Official Gazette, and unless reviewed earlier or extended by the Commission shall remain in force till 31.03.2019:

Provided that, where the Commission has, at any time prior to the notification of these Regulations, approved a Power Purchase Agreement (PPA) or arrangement between a generating company and a Beneficiary, or has adopted the tariff contained therein for supply of electricity from an existing generating station then the tariff for supply of electricity by the generating company to the Distribution Licensee shall be in accordance with such PPA or arrangement for such period as may be so approved or adopted by the Commission, to the extent of existing Installed Capacity as contained in the PPA.

SCOPE AND EXTENT OF APPLICATION

- 1.5 These Regulations shall be applicable to all existing and future Generating Stations supplying power to GRIDCO (The State designated entity to procure power for DISCOMs) / distribution licensees of the State under long term agreement except generating stations which are subject to the jurisdiction of the Central Commission and also such renewable energy generating stations located in the State whose tariff is decided by the Commission under relevant Regulations and orders.
- 1.6 Subject to the provisions of the Act, Rules and Policies, any new generating station which comes up in future and proposes to supply electricity to a distribution licensee

of the State shall be subjected to the norms prescribed under these Regulations by the Commission, unless it proposes to supply electricity through bidding in accordance with the guidelines issued by the Central Government as per provisions of Section 63 of the Act.

DEFINITIONS AND INTERPRETATION

1.7 In these Regulations, unless the context otherwise requires-

- (a) **‘Act’** means the Electricity Act, 2003 (36 of 2003);
- (b) **“Additional Capitalisation”** 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, subject to provisions of Regulation 3.3 and 3.4;
- (c) **“Auxiliary Energy Consumption”** or **“AUX”** in relation to a period in case of a generating station means the quantum of energy consumed by auxiliary equipment 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 works at the generating station;
- (d) **“Auditor”** means an auditor appointed by the generating company, in accordance with the provisions of sections 224, 223B and 619 of the Companies Act, 1956 (1 of 1956), as amended from time to time or Chapter X of the Companies Act, 2013 (18 of 2013) or any other law for the time being in force;
- (e) **“Beneficiary”** in relation to a generating station means the person purchasing electricity generated at such a generating station whose tariff is determined under these regulations;
- (f) **“Capital Cost”** means the capital cost as defined in Regulation 3.1 and 3.2;
- (g) **“Change in Law”** means occurrence of any of the following events:
 - (i) The enactment, bringing into effect, adoption, promulgation, amendment, modification or repeal of any law; or
 - (ii) Change in interpretation of any law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation; or
 - (iii) Change by any competent statutory authority, in any consent, approval or licence available or obtained for the project.
- (h) **“Commission”** means the Odisha Electricity Regulatory Commission referred to in sub-section (1) of the Section 82 of the Act;
- (i) **“Cut-off Date”** means 31st March of the year closing after two years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation;

- (j) **“Date of Commercial Operation” or “COD”** means
- (i) In relation to a unit or block of the thermal generating station, the date declared by the generating company after demonstrating the maximum continuous rating (MCR) or the installed capacity (IC) through a successful trial run after notice to the beneficiaries, from 0000 hour of which scheduling process as per the Odisha Grid Code (OGC) is fully implemented, and in relation to the generating station as a whole, the date of commercial operation of the last unit or block of the generating station;
 - (ii) In relation to a unit of hydro generating station including pumped storage hydro generation station, the date declared by the generating company from 0000 hour of which, after notice to the beneficiaries, scheduling process in accordance with the Odisha Grid Code is fully implemented, and in relation to the generating station as a whole, the date declared by the generating company after demonstrating peaking capability corresponding to installed capacity of the generating station through a successful trial run, after notice to the beneficiaries:

Provided that 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:

Note

In case the 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, provided that it will be mandatory for such hydro generating station to demonstrate peaking capability equivalent to installed capacity of the generating unit or the generating station as and when such reservoir /pond level is achieved.

In case of purely run-of-river hydro generating station if the unit or the generating station is declared under commercial operation during lean inflows period when the water is not sufficient for such demonstration, it shall be mandatory for such hydro generating station or unit to demonstrate peaking capability equivalent to installed capacity as and when sufficient inflow is available.

- (k) **“Day”** means the 24 hour period starting at 0000 hour;
- (l) **“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 or whole of the day, duly taking into account the availability of fuel or water, and subject to further qualification in the relevant regulation;
- (m) **“Design Energy”** means the quantum of energy which can be generated in a 90% dependable year with 95% installed capacity of the hydro generating station;
- (n) **“Existing Generating Station”** means a generating station declared under commercial operation from a date prior to 01.04.2014;
- (o) **“Existing Project”** means the project declared under commercial operation

from a date prior to 01.04.2014;

- (p) **“Expenditure Incurred”** means the fund, whether the equity or debt or both, actually deployed and paid in cash or cash equivalent, for creation or acquisition of a useful asset and does not include commitments or liabilities for which no payment has been released;
- (q) **“Financial Statement”** means for each financial year, the following statements, namely-
- (i) Balance sheet, prepared in accordance with the form contained in Part I of Schedule III to the Companies Act, 2013 as amended from time to time;
 - (ii) Profit and loss account, complying with the requirements contained in Part II of Schedule III to the Companies Act, 2013;
 - (iii) Cash flow statement, prepared in accordance with the Accounting Standard on Cash Flow Statement (AS-3) of the Institute of Chartered Accountants of India;
 - (iv) Report of the statutory auditors;
 - (v) Cost records prescribed by the Central Government under Section 148 of the Companies Act, 2013;
- Together with notes thereto, and such other supporting statements and information as the Commission may direct from time to time;
- Provided further that the Commission may, from time to time, specify regulatory accounts to be maintained by a local authority under the Act.
- (r) **“Financial Year”** means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
- (s) **‘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;
- (t) **“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;

- (u) **‘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;
- (v) **“Grid Code”** means the Odisha Grid Code (OGC) Regulations, 2006 as amended from time to time or subsequent re-enactment thereof;
- (w) **“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;
- (x) **“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;
- (y) **“Infirm Power”** means electricity injected into the grid prior to the commercial operation of a unit or block of the generating station;
- (z) **“Installed Capacity”** or **“IC”** means the summation of the name plate capacities of all the units of the generating station or the capacity of the generating station (reckoned at the generator terminals), approved by the Commission from time to time;
- (aa) **“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 generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturer with water or steam injection (if applicable) and corrected to 50 Hz grid frequency and specified site conditions;
- (bb) **“Normative Annual Plant Availability Factor”** or **“NAPAF”** in relation to a generating station means the availability factor specified in Regulation 5.3 (a) for thermal generating station and in Regulation 5.4 (a) for hydro generating station;
- (cc) **“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, maintenance spares, consumables, insurance and overheads but excludes fuel expenses and water charges;
- (dd) **“Original Project Cost”** means the capital expenditure incurred by the generating company, within the original scope of the project up to the cut-off date as admitted by the Commission;
- (ee) **“Plant Availability Factor (PAF)”** in relation to a generating station for any period means the average of the daily declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity in MW reduced by the normative auxiliary energy consumption.

- (ff) **“Plant Load Factor” or ‘(PLF)’** in relation to 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:

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

Where,

IC = Installed Capacity of the generating station or unit in MW,

SG_i = Scheduled Generation in MW for the *i*th time block of the period,

N = Number of time blocks during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross energy generation;

- (gg) **“Project”** means a generating station. In case of a hydro generating station, “Project” 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 thermal generating stations does not include mining if it is a pit head project and also dedicated captive coal mine;
- (hh) **“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;
- (ii) **“Run-of-River Generating Station”** means a hydro generating station which does not have upstream pondage;
- (jj) **“Run of River Generating Station With Pondage”** means a hydro generating station with sufficient pondage for meeting the diurnal variation of power demand;
- (kk) **“Scheduled Energy”** means the quantum of energy scheduled by the concerned Load Despatch Centre to be injected into the grid by a generating station over a day ;
- (ll) **“Scheduled Generation” or “SG”** at any time or for any period or time-block means schedule of generation in MW or MWh ex-bus, given by the concerned Load Despatch Centre;
- (mm) **“Storage Type Generating Station”** means a hydro generating station associated with large storage capacity to enable variation of generation of electricity according to demand;
- (nn) **“Trial Run”** in relation to 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 continuous period of 72 hours in case of unit of a thermal generating station or unit thereof and 12 hours in case of a unit 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.

- (oo) **“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 including pumped storage hydro generation station means turbine-generator and its auxiliaries;
- (pp) **“Useful Life”** in relation to a unit of a generating station from the COD shall mean the following, namely:-
 - (i) Coal/Lignite based thermal generating station - 25 years
 - (ii) Hydro generating station including pumped storage hydro generation station - 35 years
- (qq) **“Year”** means a financial year.

1.8 The words and expressions used in these regulations and not defined herein but defined in the Act shall have the meaning assigned to them under the Act.

1.9 All proceedings under these Regulations shall be governed by the OERC (Conduct of Business) Regulations, 2004.

CHAPTER - 2

PROCEDURE FOR TARIFF DETERMINATION

TARIFF DETERMINATION

2.1 Notwithstanding anything contained in these Regulations, the Commission shall at all times have the authority, either on suo motu basis or on a Petition filed by the applicant, to determine the tariff, including terms and conditions thereof, of any generating company.

2.2 Tariff in respect of a generating station may be determined for the whole of the generating station or a unit or units of the generating station:

Provided that tariff shall be determined unit wise till the time tariff cannot be determined for the whole of the generating station or for units as per the condition mentioned in proviso below :

Provided that tariff shall be determined for units after the cut-off date of the last unit in the units or after the capital cost of the last unit in the units is finalized, whichever is earlier:

Provided that tariff shall be determined for the whole of the generating station after the cut-off date of the last unit in the generating plant or after the capital cost of the last unit in the generating plant is finalized, whichever is earlier.

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

Provided that 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 have 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.

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

Provided that where break-up of the capital cost of the project for different units are not available and in case of on-going projects, the common facilities shall be apportioned on the basis of the installed capacity of the units.

2.4 The commission, if need arises, due to insufficiency of data, explanation, information etc provided by the petitioner, may issue provisional tariff for the whole of the generating station or a unit or units of the generating station till such time final tariff is determined.

TARIFF FILING

2.5 The generating company may make an application for determination of tariff, in respect of the units of the generating station completed or projected to be completed within six months from the date of application.

2.6 The generating company shall make an application as per Formats prescribed by the

Commission with necessary information and explanations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the tariff period of the generating station. If commission so desires, the commission can get the capital expenditure verified by an independent agency appointed by the Commission, the cost of such verification shall be borne by the generating company or as directed by the commission.

Provided that in case of an existing project, the application shall be based on admitted capital cost including any additional capitalization already admitted up to 31.03.2014 and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19:

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

Provided further that any estimated additional capitalization will be as per Regulation 3.3 and 3.4 of this regulation.

- 2.7 The existing generation plants of OHPC and OPGC may make an application as per the Format prescribed by the Commission for determination of tariff as per annual schedule, by November 30th of every year for determination of tariff in respect of the units of the generating station completed or projected to be completed within six months from the date of application.

Provided that the OHPC and OPGC shall make an application as per the prescribed Format with necessary information and explanations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the period for which application for determination of tariff is filed of the generating station:

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

Provided further that any estimated additional capitalization will be as per Regulation 3.3 and 3.4.

- 2.8 The tariff filing shall be in such form and in such manner as may be prescribed by the Commission from time to time.
- 2.9 Every application for determination of tariff or for continuation of previously determined tariff shall be accompanied by a fee as specified by the commission for filing of petitions or applications before the Commission, as amended from time to time.
- 2.10 The Commission may seek clarification and additional information on the application and the applicant shall provide clarifications and additional information within the date stipulated by the Commission.
- 2.11 True up for any period shall be governed by the provisions of the regulation under which the tariff for that year was determined.

TRUING UP OF CAPITAL EXPENDITURE AND TARIFF

- 2.12 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 additional capital expenditure incurred up to 31.03.2019, as admitted by the Commission after

prudence check at the time of truing up.

Provided that the generating company, may in its discretion make an application before the Commission one more time prior to 2018-19 for revision of tariff.

Provided that the generating company, shall make an application, as per the Format prescribed by the Commission with necessary information and explanations, for carrying out truing up exercise in respect of the generating station or a unit thereof

The generating company, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 01.04.2014 to 31.03.2019, duly audited and certified by the auditors

Provided that where after the truing 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 along with simple interest at the rates specified in the proviso to this regulation.

Provided that where after the truing 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 along with simple interest at the rates specified in the proviso to this regulation.

Provided that the amount under-recovered or over-recovered, along with simple interest at the rates specified in this regulation, 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 truing up exercise at the rate equal to the Monthly average SBI Base Rate during previous twelve months from the date of the tariff order issued by the Commission after the truing up exercise plus 300 basis points.

- 2.13 The existing generation plants of OHPC and OPGC may file an application each year for truing up of its generating stations of the previous year(s), with respect to the capital expenditure including additional capital expenditure incurred up to last day of the previous year(s) and determination of revenue gap/surplus for the ensuing year, within the time limit as specified by the Commission.

Provided that the applicant shall submit to the Commission, information in such form as may be prescribed by the Commission, together with the Audited Accounts, extracts of books of account and such other details as the Commission may require to assess the reasons for and extent of any variation in financial performance from the approved forecast of Aggregate Revenue Requirement and expected revenue from tariff and charges.

CHAPTER - 3

COMPUTATION OF CAPITAL COST AND CAPITAL STRUCTURE

CAPITAL COST OF THE PROJECT

3.1 Capital cost for a Project shall include :

- (a) The expenditure incurred or projected to be incurred, including Interest During Construction (IDC) & Incidental Expenditure During Construction (IEDC) and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan –
 - (i) Being equal to 70% of the funds deployed in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan or
 - (ii) Being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;

Provided that any revenue earned during construction period up to COD 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) Capitalised initial spares subject to the ceiling norms specified as under:
 - (i) Coal-based thermal generating stations – 2.0% of original project cost
 - (ii) Hydro generating stations including pumped storage hydro-electric generating station - 1.0 % of original project cost
- (c) Additional capital expenditure determined under Regulation 3.3 and 3.4 of these Regulation

Provided that the assets forming part of the Project, but not in use shall be taken out of the capital cost.

3.2 The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff.

Provided further that prudence check may include scrutiny of the reasonableness of the capital expenditure, interest during construction, pre-operative expenses, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff;

Provided also that where the power purchase agreement entered into between the generating company and the beneficiaries provide for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff;

Provided also that the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or 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:

Provided also that in case the site of a Hydro Generating Station is awarded to a developer (not being a State controlled or owned company) by the State Government

by following a transparent process of bidding, any expenditure incurred or committed to be incurred including the premium payable to the State Government by the project developer for getting the project site allotted, shall not be included in the capital cost:

Provided also that the capital cost in case of such hydro Generating Station shall include:

- (a) Cost of approved Rehabilitation and Resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and
- (b) Cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) project in the affected area.

ADDITIONAL CAPITALISATION

3.3 The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (a) Undischarged liabilities;
- (b) Works deferred for execution;
- (c) Procurement of initial capital spares within the original scope of work, subject to the provisions under Regulation 3.1(b) of these Regulations;
- (d) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (e) Change in law; and
- (f) Any additional works/services, which have become necessary for efficient and successful operation of a generating station but not included in the original capital cost

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

Provided further that the assets forming part of the project but not put to use, shall not be considered.

3.4 The capital expenditure incurred or projected to be incurred, on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

- (a) Liabilities to meet award of arbitration or for compliance of the order or decree of a court.
- (b) Change in law.
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work.
- (d) Any additional works/services, which have become necessary for efficient and successful operation of a generating station but not included in the original capital cost
- (e) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds

from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation

- (f) Any undercharged liability towards final payment/withheld payment due to contractual exigencies for work executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payment etc.
- (g) Expenditure on account of creation of infrastructure for supply of reliable power to rural households within a radius of five kilometers of the power station if, the generating company does not intend to meet such expenditure as part of its Corporate Social Responsibility.

Provided that in respect of sub-regulation (e) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff.

SALE OF INFIRM POWER

- 3.5 Supply of infirm power shall be accounted as deviation and shall be paid for from the regional or State 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.

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

DEBT-EQUITY RATIO

- 3.6 For a project declared under commercial operation on or after 01.04.2014, 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 also that in case of a generating station where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Provided further that 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-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.

- 3.7 In case of the generating station declared under commercial operation prior to 01.04.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.03.2014 shall be considered.
- 3.8 Any expenditure incurred or projected to be incurred on or after 01.04.2014 as may be admitted by the Commission as additional capital expenditure for determination of

tariff, and renovation and modernisation expenditure for life extension the normative debt-equity ratio shall be considered to be 70:30 for determination of tariff:

Provided that in case of a generating station where equity employed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan;

Provided also that in case of a generating station where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

RENOVATION AND MODERNIZATION

- 3.9 The generating company, for meeting the expenditure on renovation and modernization (R&M) for the purpose of extension of life beyond the useful life of the generating station or a unit thereof, shall make an application before the Commission for approval of the proposal with a Detailed Project Report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, record of consultation with beneficiaries and any other information considered to be relevant by the generating company.
- 3.10 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.
- 3.11 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.

CHAPTER - 4

COMPUTATION OF TARIFF

COMPONENTS OF TARIFF

- 4.1 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 specified in Regulation 4.3) and energy charge (for recovery of primary and secondary fuel cost).
- 4.2 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 from Regulation 4.37 till Regulation 4.50, for recovery of annual fixed cost (consisting of the components referred to in Regulation 4.3) through these two charges.

ANNUAL FIXED COST

- 4.3 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;
 - (e) Operation and maintenance expenses;
- 4.4 The Annual Fixed Cost for OHPC and OPGC will be determined by the Commission by taking into account the notification(s) issued by the Government of Odisha from time to time.

RETURN ON EQUITY

- 4.5 Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulations 3.6, 3.7 and 3.8:
- 4.6 Return on equity shall be computed @ 16% of the equity amount.

TAX ON INCOME

- 4.7 Income tax of the Generating Company shall be recovered from the beneficiaries. This will exclude income tax on other income streams (income from non-generation and non-transmission business).
- 4.8 The actual assessment of income tax should take into account benefits of tax holiday and the credit for carry forward losses applicable as per the provisions of the Income Tax Act 1961 and shall be passed on to the consumers.

INTEREST ON LOAN CAPITAL

- 4.9 The loans arrived at in the manner indicated in Regulation 3.6, 3.7 and 3.8 shall be considered as gross normative loan for calculation of interest on loan.
- 4.10 The normative loan outstanding as on 01.04.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.03.2014 from the

gross normative loan.

- 4.11 The loan repayment for each year of the tariff period 2014-15 to 2018-19 shall be deemed to be equal to the depreciation allowed for that year.
- 4.12 Notwithstanding any moratorium period availed by the generating company the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.
- 4.13 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:
Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:
Provided further that if the generating station, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered;
- 4.14 The interest on loan shall be calculated on the normative average loan of the respective years by applying the weighted average rate of interest.
- 4.15 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 1:1.
- 4.16 The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.
- 4.17 In case of dispute, any of the parties may make an application in accordance with the Conduct of Business Regulations, as amended from time to time:
Provided that the beneficiaries shall not withhold any payment on account of the interest claimed by the generating company during the pendency of any dispute arising out of re-financing of loan

DEPRECIATION

- 4.18 Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof. The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
- 4.19 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.
Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:
Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.
- 4.20 Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
- 4.21 Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-A 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 15 years from date of commercial operation shall be spread over the balance useful life of the assets.

Provided that for existing plants of OHPC as per the directions of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of the assets.

Provided, further that for existing plants of OPGC, the applicable depreciation rate shall be as determined by commission from time to time.

4.22 In case of the existing projects, the balance depreciable value as on 01.04.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.03.2014 from the gross depreciable value of the assets.

4.23 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.

Provided that in case of multiple units of a generating station weighted average life for the generating station shall be applied.

INTEREST ON WORKING CAPITAL

4.24 The working capital shall cover :

(a) For Coal-based thermal generating stations

(i) Cost of coal, if applicable, for 1 month for pit-head generating stations and two months for non-pit-head generating stations, for generation corresponding to the normative annual plant availability factor;

(ii) Cost of secondary fuel oil for one month 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;

(iii) Maintenance spares @ 20% of operation and maintenance expenses specified in Regulation 4.28;

(iv) Receivables equivalent to one month of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and

(v) Operation and maintenance expenses for one month.

(b) For hydro generating stations 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 4.28;

(iii) Operation and maintenance expenses for one month.

4.25 The cost of fuel in cases covered under sub-regulation (a) of Regulation 4.24 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 of the preceding three months and no fuel price escalation shall be provided during the tariff period.

- 4.26 Rate of interest on working capital shall be on normative basis and shall be equal to the SBI Base Rate plus 300 basis points as on 1.4.2014 or on 1st April of the year in which the generating station or a unit thereof, is declared under commercial operation, whichever is later.

Provided that for the existing generation plants of OHPC and OPGC the rate of interest on working capital shall be on normative basis and shall be equal to the SBI Base Rate plus 300 basis points as on 1st April of the year for which the application for determination of tariff is being made.

- 4.27 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.

OPERATION AND MAINTENANCE EXPENSES

- 4.28 Normative operation and maintenance expenses shall be as follows, namely:

- (a) Coal based (including those based on CFBC technology) generating stations, other than the generating stations referred to in sub-regulation (d) below:

Year	(Rs. in lakh/MW)			
	Below 300 MW sets	300/330/350 MW sets	500 MW sets	600 MW and above sets
2014-15	23.90	19.95	16.00	14.40
2015-16	25.40	21.21	17.01	15.31
2016-17	27.00	22.54	18.08	16.27
2017-18	28.70	23.96	19.22	17.30
2018-19	30.51	25.47	20.43	18.38

Provided that the above norms shall be multiplied by the following factors for additional units in respective unit sizes for the units whose COD occurs on or after 01.04.2014 in the same station:

- (i) Below 300 MW
 Additional 5th & 6th units 0.90
 Additional 7th & more units 0.85
- (ii) 300/330/350 MW
 Additional 4th & 5th units 0.90
 Additional 6th & more units 0.85
- (iii) 500 MW and above
 Additional 3rd & 4th units 0.90
 Additional 5th & above units 0.85
- (b) In case of coal-based thermal generating station a separate compensation allowance unit-wise shall be admissible to meet expenses on new assets of capital nature including minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:

Years of Operation	Compensation Allowance (Rs lakh/MW/year)
0-10	Nil
11-15	0.15
16-20	0.35
21-25	0.65

- (c) Hydro generating station: In case of the hydro generating stations declared under commercial operation on or after 01.04.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for the subsequent years.
- (d) O&M norms for the existing plants of OPGC and OHPC will be as determined by the commission from time to time.
- (e) The water charges as paid by the thermal generating stations shall be allowed separately basing on the actual consumption.

Provided that water charges paid to the govt. by the generating station shall be reimbursed by the beneficiaries depending upon their share.

COMPUTATION AND PAYMENT OF CAPACITY CHARGE AND ENERGY CHARGE FOR THERMAL GENERATING STATIONS

4.29 The fixed cost of a thermal generating station shall be computed on annual basis, based on 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.

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

$$CC1 = (AFC/12)(PAF1 / NAPAF) \text{ subject to ceiling of } (AFC/12)$$

$$CC2 = ((AFC/6)(PAF2 / NAPAF) \text{ subject to ceiling of } (AFC/6)) - CC1$$

$$CC3 = ((AFC/4) (PAF3 / NAPAF) \text{ subject to ceiling of } (AFC/4)) - (CC1+CC2)$$

$$CC4 = ((AFC/3) (PAF4 / NAPAF) \text{ subject to ceiling of } (AFC/3)) - (CC1+CC2+CC3)$$

$$CC5 = ((AFC \times 5/12) (PAF5 / NAPAF) \text{ subject to ceiling of } (AFC \times 5/12)) - (CC1+CC2 +CC3 +CC4)$$

$$CC6 = ((AFC/2) (PAF6 / NAPAF) \text{ subject to ceiling of } (AFC/2)) - (CC1+CC2 +CC3+CC4 + CC5)$$

$$CC7 = ((AFC \times 7/12) (PAF7 / NAPAF) \text{ subject to ceiling of } (AFC \times 7/12)) - (CC1+CC2 +CC3 +CC4 + CC5 + CC6)$$

$$CC8 = ((AFC \times 2/3) (PAF8 / NAPAF) \text{ subject to ceiling of } (AFC \times 2/3)) - (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7)$$

$$CC9 = ((AFC \times 3/4) (PAF9 / NAPAF) \text{ subject to ceiling of } (AFC \times 3/4)) - (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7+ CC8)$$

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

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

$$CC12 = ((AFC) (PAFY / NAPAF) \text{ subject to ceiling of } (AFC)) - (CC1+CC2 +CC3 +CC4 + CC5 + CC6 + CC7 + CC8 + CC9 + CC10 + CC11)$$

Provided that in case of generating station or unit thereof as the case may be, 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.

Where,

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

NAPAF = Normative Annual Plant Availability Factor in percentage.

PAFN = Percent Plant Availability Factor achieved upto the end of the nth month.

PAFY = Percent 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.

- 4.31 The PAFM upto the end of a particular month and PAFY shall be computed in accordance with the following formula:

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

Where,

AUX=Normative auxiliary energy consumption in percentage.

DC_i = Average declared capacity (in ex-bus MW), for the ith day of the period i.e. the month or the year as the case may be, as certified by the SLDC after the day is over.

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

N= Number of days during the period.

Note: DC_i 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.

- 4.32 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 charge rate of the month (with fuel and limestone price adjustment). Total Energy charge payable to the generating company for a month shall be:

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

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

For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF=Gross calorific value of coal as fired in kCal per kg for coal based stations

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

ECR = Energy charge 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.

SFC = Specific fuel oil consumption in ml per kWh.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per liter or per standard cubic meter, 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 blending ratio)

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

Provided that 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 Format prescribed by the Commission.

Provided further that the details of 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, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be provided by company to the beneficiaries.

- 4.34 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 that in case of imported coal, the transit and handling losses shall be 0.2%.

- 4.35 The computation and payment of capacity charge and energy charge for existing plants of OPGC will be as determined by the commission from time to time.

COMPUTATION AND PAYMENT OF CAPACITY CHARGE AND ENERGY CHARGE FOR HYDRO GENERATING STATIONS OTHER THAN PUMPED STORAGE HYDRO GENERATING STATIONS

- 4.36 The fixed cost of a hydro generating station shall be computed on annual basis, based on norms specified under these regulations, and recovered on monthly basis under capacity charge (inclusive of incentive) and energy charge, which shall be payable by the beneficiaries in proportion to their respective allocation in the saleable capacity of the generating station, that is to say, in the capacity excluding the free power to the home State:

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating

station, the annual fixed cost shall provisionally be worked out based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge and energy charge payment during such period.

- 4.37 The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be

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

Where,

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

NAPAF = Normative plant availability factor in percentage

NDM = Number of days in the month

NDY = Number of days in the year

PAFM = Plant availability factor achieved during the month, in percentage

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

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

Where,

AUX = Normative auxiliary energy consumption in percentage

DC_i = Declared capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least three (3) hours, as certified by the nodal load dispatch centre after the day is over.

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

N = Number of days in the month

- 4.39 The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month on ex power plant basis, at the computed energy charge rate. Total Energy charge payable to the generating company for a month shall be :

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

- 4.40 Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis, for a hydro generating station, shall be determined up to three decimal places based on the following formula, subject to the provisions of Regulation 4.42:

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

DE = Annual design energy specified for the hydro generating station, In MWh, subject to the provision in Regulation 4.413 below.

FEHS = Free energy for home State, in per cent, as defined in Regulation 5.7, if any.

- 4.41 In case actual total energy generated by a hydro generating station during a year is less than the design energy for reasons beyond the control of the generating company, the following treatment shall be applied on a rolling basis:

- (i) In case the energy shortfall occurs within ten years from the date of commercial operation of a generating station, the ECR for the year following

the year of energy shortfall shall be computed based on the formula specified in Regulation 4.40 with the modification that the DE for the year shall be considered as equal to the actual energy generated during the year of the shortfall, till the energy charge shortfall of the previous year has been made up, after which normal ECR shall be applicable;

- (ii) In case the energy shortfall occurs after ten years from the date of commercial operation of a generating station, the following shall apply:

Suppose the specified annual design energy for the station is DE MWh, and the actual energy generated during the concerned (first) and the following (second) financial years is A1 and A2 MWh respectively, A1 being less than DE. Then, the design energy to be considered in the formula in Regulation 4.40 of this Regulation for calculating the ECR for the third financial year shall be moderated as $(A1 + A2 - DE)$ MWh, subject to a maximum of DE MWh and a minimum of A1 MWh.

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

- 4.42 In case the energy charge rate (ECR) for a hydro generating station, as computed in Regulation 4.40 above, exceeds eighty paise per kWh, and the actual saleable energy in a year exceeds $\{ DE \times (100 - AUX) \times (100 - FEHS) / 10000 \}$ MWh, the Energy charge for the energy in excess of the above shall be billed at eighty paise per kWh only:

Provided that in a year following a year in which total energy generated was less than the design energy for reasons beyond the control of the generating company, the energy charge rate shall be reduced to eighty paise per kWh after the energy charge shortfall of the previous year has been made up.

- 4.43 The concerned Load Despatch Centre shall finalise the schedules for the hydro generating stations, in consultation with the beneficiaries, for optimal utilization of all the energy declared to be available, which shall be scheduled for all beneficiaries in proportion to their respective allocations in the generating station.
- 4.44 The computation and payment of capacity charge and energy charge for existing plants of OHPC will be as determined by the commission from time to time.

COMPUTATION AND PAYMENT OF CAPACITY CHARGE AND ENERGY CHARGE FOR PUMPED STORAGE HYDRO GENERATING STATIONS

- 4.45 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, that is to say, in the capacity excluding the free power to the home State:

Provided that during the period between the date of commercial operation of the first unit of the generating station and the date of commercial operation of the generating station, the annual fixed cost shall be worked out provisionally based on the latest estimate of the completion cost for the generating station, for the purpose of determining the capacity charge payment during such period.

- 4.46 The capacity charge payable to a pumped storage hydro generating station for a calendar month shall be:

(AFC x NDM / NDY) (in Rupees), if actual Generation during the month is $\geq 75\%$ of the Pumping Energy consumed by the station during the month and

$\{(AFC \times NDM / NDY) \times (\text{Actual Generation during the month during peak hours} / 75\% \text{ of the Pumping Energy consumed by the station during the month})\}$, if actual Generation during the month is $< 75\%$ 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

4.47 The energy charge 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 charge rate of 20 paise per kWh, excluding free energy, if any, during the calendar month, on ex power plant basis.

4.48 Energy charge payable to the generating company for a month shall be:

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

Where,

DEm = Design energy for the month specified for the hydro generating station, in MWh, subject to the provision below.

FEHS = Free energy for home State, in per cent, as defined in Regulation 6.5, if any.

4.49 Provided further 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.

4.50 The Generator 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 the 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 further that the total capacity charges recovered during the year shall be adjusted on prorata basis in the following manner in the event of total machine outages in a year exceeds 15%:

$(ACC)_{adj} = (ACC) R \times (100 - ATO) / 85$

Where,

(ACC)adj – Adjusted Annual capacity Charges

(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.

4.51 **Deviation Charges:** (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.

(2) Actual net deviation of every Generating Stations and Beneficiaries 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.

CHAPTER - 5

NORMS OF OPERATION

- 5.1 Recovery of capacity charge, energy charge and incentive by the generating company shall be based on the achievement of the operational norms specified in this Chapter.
- 5.2 The Commission may on its own revise the norms of Station Heat Rate specified in this Chapter in respect of any of the generating stations at its discretion.

NORMS OF OPERATIONS FOR THERMAL POWER GENERATION STATIONS

- 5.3 The norms of operation as given hereunder shall apply to thermal generating station:
- (a) Normative Annual Plant Availability Factor (NAPAF)
- (i) The Normative Annual Plant Availability Factor for all thermal generating stations, except those covered under (ii) below is 85%
- (ii) The Normative Annual Plant Availability Factor for existing Thermal Generating Stations of OPGC Ltd will be as determined by the commission from time to time
- (b) Normative Annual Plant Load Factor (NAPLF) for Incentive
- (i) NAPLF for all thermal generating stations except those covered under (ii) below is 85%.
- (ii) The Normative Annual Plant Load Factor for existing Thermal Generating Stations of OPGC Ltd will be as determined by the commission from time to time.
- (c) Gross Station Heat Rate
- (i) The Gross Station Heat Rate for all existing coal based thermal generating stations, except those covered under (ii) below is

Below 500 MW Sets	500 MW Sets & above
2450 KCal/kWh	2375 kCal/kWh

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) The Gross Station Heat Rate for existing Thermal Generating Stations of OPGC Ltd will be as determined by the commission from time to time
- (iii) The Gross Station Heat Rate for all coal based thermal generating stations achieving COD on or after 01.04.2014, is to be calculated based on the following formula:

$$= 1.045 \times \text{Design Heat Rate (kCal/kWh)}$$

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

Provided that the design heat rate shall not exceed the 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 (0C)	535/535	537/537	537/565	565/593
Type of BFP	Electrical Driven	Turbine driven	Turbine driven	Turbine driven
Max Turbine Cycle 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 above ratings, the maximum design unit heat rate of the nearest class shall be taken:

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

Provided also that if one or more units were declared under commercial operation prior to 01.04.2014, the heat rate norms for those units as well as units declared under commercial operation on or after 01.04.2014 shall be lower of the heat rate norms arrived at by above methodology and the norms as per the Regulation 5.3 (b) (i).

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

- (d) Secondary fuel oil consumption
- (i) The secondary fuel oil consumption for all existing coal based thermal generating stations who have achieved CoD before 01.04.2014 except as mentioned (iii) below is 1 ml /Kwh.
 - (ii) The Secondary fuel oil consumption for all coal based thermal generating stations, who have achieved CoD on or after 01.04.2014 is 0.50 ml/kWh.
 - (iii) The Secondary fuel oil consumption for existing Thermal Generating Stations of OPGC Ltd. will be as determined by the commission from time to time
- (e) Auxiliary Energy Consumption
- (i) The Auxiliary Energy Consumption for all coal based thermal generating stations, except those covered under (ii) below is

	With Natural Draft cooling tower or without cooling tower who have achieved CoD on or after 01.04.2014	With Natural Draft cooling tower or without cooling tower who have achieved CoD before 01.04.2014
Below 500 MW	8.5%	8.5%
500 MW & above series		
Steam driven boiler feed pumps	5.25%	6.0%
Electrically driven boiler feed pumps	7.75%	8.5%

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

- (ii) The Auxiliary Energy Consumption for existing Thermal Generating Stations of OPGC Ltd will be as determined by the commission from time to time.

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

- (a) Normative annual plant availability factor (NAPAF) for hydro generating stations:

- (i) Storage and Pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt - 90%
- (ii) Storage and Pondage type plants with head variation between FRL and MDDL of more than 8%, where plant availability is not affected by silt: 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.
- (iii) Pondage type plants where plant availability is significantly affected by silt - 85%
- (iv) Run-of-river type plants: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant.
- (v) 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.
- (vi) In case of a new hydro electric project the developer shall have the option of approaching the Commission in advance for fixation of NAPAF based on the principles enumerated in Regulation 5.4.
- (vii) The Normative annual plant availability factor (NAPAF) for existing Hydro Generating Stations of OHPC Ltd will be as determined by the commission from time to time

- (b) Auxiliary Energy Consumption (AUX) for hydro generating stations:

- (i) Surface hydro generating stations

With rotating exciters mounted on the generator shaft	0.70%
With static excitation system	1.00%

- (ii) Underground hydro generating stations

With rotating exciters mounted on the generator shaft	0.90%
With static excitation system	1.20%

CHAPTER - 6

SCHEDULING, ACCOUNTING AND BILLING

SCHEDULING

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

METERING AND ACCOUNTING

- 6.2 The provisions of the Grid Code shall be applicable.

BILLING AND PAYMENT OF CHARGES

- 6.3 Bills shall be raised for capacity charge, energy charge Fuel Surcharge Adjustments and Incentive on monthly basis by the generating company, and payments shall be made by the beneficiaries directly to the generating company, subject to adjustments at the end of the year.
- 6.4 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.
- 6.5 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.

Note 1

Shares / allocations of each beneficiary in the total capacity of State generating stations shall be as determined by the State Government, inclusive of any 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. 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 other beneficiaries. In such cases, the shares of the beneficiaries may be prospectively reallocated by the State Government for a specific period (in complete months) from the beginning of a calendar month. When such reallocations 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 beneficiary 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 and notified by the SLDC in advance, at least three days prior to such reallocation or reversion taking effect.

Note 3

Free energy for home State, in percent and shall be taken as notified by the Commission from time to time

LATE PAYMENT SURCHARGE

- 6.6 In case the payment of any bill for charges payable under these regulations is delayed by a beneficiary beyond a period of 30 days from the date of receipt of the bill, a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company.

REBATE

- 6.7 The bills of the generating company on presentation for payment through letter of credit or through NEFT/RTGS within a period of 2 working days, a rebate of 2% shall be allowed.
- 6.8 Where payments are made on any day after 2 working days and within a period of 30 days of presentation of bills by the generating company, a rebate of 1% shall be allowed.

INCENTIVE

- 6.9 Incentive to a generating station or 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.
- 6.10 The incentive applicable and payable to the existing plants of OPGC and OHPC will be as determined by commission from time to time.

CHAPTER - 7

OTHER PROVISIONS

SHARING OF CDM BENEFITS

- 7.1 The proceeds of carbon credit from 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%, where after the proceeds shall be shared in equal proportion, by the generating company, and the beneficiaries.

NORMS OF OPERATION TO BE CEILING NORMS

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

DEVIATION FROM NORMS

- 7.3 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
 - (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-regulation (a) of Regulation 7.3, the discounting factor shall be as notified by the Commission from time to time.

FOREIGN EXCHANGE RATE VARIATION

- 7.4 The generating company, may hedge foreign exchange exposure in respect of the interest on foreign currency loan and repayment of foreign loan acquired for the generating station, in part or full in the discretion of the generating company.
- 7.5 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.
- 7.6 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.
- 7.7 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.

RECOVERY OF COST OF HEDGING FOREIGN EXCHANGE RATE VARIATION

- 7.8 Recovery of cost of hedging and 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, may make an appropriate application before the Commission for its decision.

APPLICATION FEE AND THE PUBLICATION EXPENSES

- 7.9 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.

REIMBURSEMENT OF FEES, CHARGES AND EXPENSES

- 7.10 Fees and charges paid by the generating companies under the prevailing Regulation/ Notification on Fees for filing of petitions or applications before the Commission, as amended from time to time, shall be reimbursed directly by the beneficiaries in proportion of their allocation in the generating stations.
- 7.11 The generating company shall be entitled to recover the fees and charges as mentioned in Regulation 7.10 of this regulation which have been paid till the notification of these regulations.
- 7.12 The Commission may, in its discretion and for the reasons to be recorded in writing and after hearing the affected parties, allow reimbursement of any fee or expenses as may be considered necessary.

POWER TO RELAX

- 7.13 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.

POWER TO REMOVE DIFFICULTY

- 7.14 If any difficulty arises in giving effect to the provisions of these regulations, the Commission may, by order, make such provision 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.

By Order of the Commission

**Sd/-
(G. K. Dhall)
SECRETARY**

Depreciation Schedule

Sl. No.	Asset Particulars	Depreciation Rate (Salvage value=10%)
A.	Land under full ownership	0%
B.	Land under lease	
a	for investment in the land	3.34%
b	For cost of clearing the site	3.34%
c	Land for reservoir in case of hydro generating station	3.34%
C.	Assets purchased new	
a	Pl & Machinery in generating stations	
(i)	Hydro electric	5.28%
(ii)	Steam electric NHRB & waste heat recovery boilers	5.28%
(iii)	Diesel electric and gas plant	5.28%
b	Cooling towers & circulating water systems	5.28%
c	Hydraulic works forming part of the Hydro-	
(i)	Dams, Spillways, Weirs, Canals, Reinforced concrete flumes and syphons	5.28%
(ii)	Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge tanks, hydraulic control valves and hydraulic works	5.28%
d	Building & Civil Engineering works of a	
(i)	Offices and showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erections such as wooden structures	100.00%
(v)	Roads other than Kutcha roads	3.34%
(vi)	Others	3.34%
e	Transformers, Kiosk, sub-station equipment & other fixed apparatus (including plant	
(i)	Transformers including foundations having rating of 100 KVA and over	5.28%
(ii)	Others	5.28%
f	Switchgear including cable connections	5.28%
g	Lightning arrestor	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
h	Batteries	
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
i	Overhead lines including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 KV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 KV but not exceeding 66 KV	5.28%
(iii)	Lines on steel on reinforced concrete support	5.28%

Sl. No.	Asset Particulars	Depreciation Rate (Salvage value=10%)
(iv)	Lines on treated wood support	5.28%
j	Meters	5.28%
k	Self propelled vehicles	9.50%
l	Air Conditioning Plants	
(i)	Static	5.28%
(ii)	Portable	9.50%
m(i)	Office furniture and furnishing	6.33%
(ii)	Office equipment	6.33%
(iii)	Internal wiring including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
n	Apparatus let on hire	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
o	Communication equipment	
(i)	Radio and high frequency carrier system	6.33%
(ii)	Telephone lines and telephones	6.33%
p	I. T equipments	15.00%
q	Any other assets not covered above	5.28%