Consultative Paper on Draft BERC (Terms and Conditions for Tariff determination from Renewable Energy sources) Regulations, 2025.

1. The State Commissions are empowered to specify terms and conditions for the determination of tariff under section 61 of the Electricity Act, 2003. Section 61 (h) provides that while specifying the terms and conditions for determination of tariff, the Commission shall also consider "the promotion of co-generation and generation of electricity from renewable source of energy."

   Further, Section 62 (1) (a) of the Electricity Act, 2003 stipulates that the appropriate Commission shall determine the tariff in accordance with the provisions of the Act for supply of electricity by a generating company to a distribution licensee.

   The Commission is mandated to determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the state under section 86 (1) (a) of the Electricity Act, 2003.

   The Commission is also mandated to promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also to specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee as per under section 86 (i) (e) of the Act.

   Clause 6.4 of the National Tariff Policy provides for preferential tariff to be determined by the Commission for new and renewable source of energy.

2. Earlier, this Commission had notified BERC (Terms and Conditions for Tariff Determination from Renewable Energy sources) Regulations, 2022 on 08.02.2022, which was inforce for the control period of 3 years from FY 2022-23 to FY 2024-25.

3. Further, CERC has notified CERC (Terms and Conditions for determination of Tariff from Renewable Energy Sources) Regulations, 2024 on 12.06.2024.

In pursuance of the above, Commission has also decided to initiate a suo-motu proceedings to bring out a new Regulation namely, BERC (Terms and conditions for Tariff determination from Renewable Energy Sources) Regulations, 2025 for the control period of 3 years from FY 2025-26 to FY 2027-28 by adopting the changes specified in the CERC(Terms and conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024. Further to this, BERC (Terms and Conditions for Tariff Determination from Renewable Energy sources) Regulations, 2022 is also proposed to be repealed.

4. The draft of the above Regulation is uploaded on the Commission's website www.berc.co.in for inviting Comments/ Suggestions/ Objections from general public and all stakeholders on or before 11.9.2025 addressed to The **Secretary, Bihar Electricity Regulatory Commission, Vidyut Bhawan-II, J.L Nehru Path, Patna-800021.** The Commission is scheduled to hear the matter on **16.9.2025 at 11.30 A.M** in the Court room of BERC.

Sd/-

Secretary

Bihar Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2025

In exercise of powers conferred under Sections 61,66,86(1)(e) read with Section 181 (2) (zd) of the Electricity Act, 2003 (36 of 2003), and all other powers enabling it in this behalf, and after previous publication, the Bihar Electricity Regulatory Commission hereby makes the following regulations, namely:

1. Short title and commencement

(i) These Regulations may be called the Bihar Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2025.

(ii) 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 for a period of 3 years from the date of commencement.

(iii) These Regulations shall extend to the whole of the State of Bihar.

2. Definitions and Interpretation

1) In these regulations, unless the context otherwise requires,

(a) **'Act'** means the Electricity Act, 2003 (36 of 2003);

(b) '**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;

(c) **'Biomass'** means wastes produced during agricultural and forestry operations (for example straws and stalks) or produced as a by-product of processing operations of agricultural produce (e.g., husks, shells, de- oiled cakes,); wood produced in dedicated energy plantations or recovered from wild bushes or weeds; and the wood waste produced in some industrial operations;

(d) **'Biomass gasification'** means a thermochemical process that converts solid biomass into a combustible gas mixture consisting of a mixture of carbon monoxide(CO), hydrogen (H2) and methane (CH4);

(e) **'Biogas'** means renewable energy source produced from the decomposition of organic matter by anerobic bacteria, resulting in a flammable gas mixture primarily composed of methane and carbon dioxide.

(f) **'Capital cost'** means the capital cost of a project as referred to in Regulations 12, 26, 27, 28, 29, 30 & 31 ;

(g) '**Commission**' means the Bihar Electricity Regulatory Commission referred to in sub-section (1) of section 82 of the Act;

(h) **'Conduct of Business Regulations'** means the Bihar Electricity Regulatory Commission (Conduct of Business) Regulations 2005, as amended from time to time.

(i) **'Control Period'** means the period during which the norms for determination of tariff specified in these regulations Shall remain valid;

(j) **'Floating solar project'** means a solar PV power project where the arrays of photovoltaic panels on a structure of the project float on top of a body of water, such as artificial basin or lake, with the help of floater, anchoring and mooring system;

(k) **'Grid Code'** means the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2024 as amended from time to time or any subsequent re-enactment thereof read with Bihar Electricity Regulatory Commission (Bihar Electricity Grid Code) Regulations 2010, as amendment from time to time or any subsequent re-enactment thereof.

(l) **'Gross calorific value'** or '**GCV**' in relation to a fuel used in a generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one liter of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be;

(m) **'Gross station heat rate'** or 'Gross **SHR**' means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals of a generating station;

(n) **'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). In case of Solar PV power projects and Floating solar.

Project Installed Capacity shall be sum of name plate capacities (Nominal AC power) of the inverters of the project;

(o) **'Inter-connection point'** shall mean interface point of renewable energy generating facility with the

transmission system or distribution system, where the energy is injected, as the case maybe, and include:

I. in relation to wind power projects, solar PV power projects, renewable hybrid energy projects and renewable energy with storage Projects, line isolator on outgoing feeder on HV side of the pooling sub-station; and

II. in relation to small hydro projects, biomass gasifier-based power projects, non-fossil fuel-based co-generation projects and solar thermal power projects, line isolator on outgoing feeder on HV side of generator transformer.

(p) **'MNRE'** means the Ministry of New and Renewable Energy of the Government of India;

(q) **'Municipal solid waste'** or '**MSW**' means and includes commercial and domestic trash or garbage discarded by households, business or institutions in a municipal or notified area in either solid or semi-solid form and excludes industrial hazardous wastes, but includes treated bio-medical wastes;

(r) **'Non-fossil fuel-based co-generation project'** means a generating station that uses the process in which more than one form of energy (such as steam and electricity) are produced in a sequential manner by use of biomass;

(s) **'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;

(t) **'Project'** means a generating station or an evacuation system up to inter- connection point, as the case may be, and in case of a small hydro 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;

(u) **'Pumped storage hydro project'** means a hydro power project which generates power through water stored as potential energy, pumped from a lower elevation reservoir to a higher elevation reservoir;

(v) **'Refuse derived fuel'** or **'RDF'** means segregated combustible fraction of solid waste other than chlorinated plastics in the form of pellets or fluff produced by drying, de-stoning, shredding, dehydrating, and compacting combustible components of solid waste that can be used as fuel;

(w) **'Renewable energy'** or '**RE**' means the electricity generated from renewable energy sources;

(x) **'Renewable energy project'** means a generating station that produces electricity from renewable energy sources;

(y) **'Renewable energy source'** means renewable source of energy such as water, wind, sunlight, biomass, bagasse, municipal solid waste and other such sources as approved by the MNRE;

(z) **'Renewable energy with storage project'** means a combination of renewable energy project with storage or a combination of renewable hybrid energy project with storage at the same inter-connection point;

(aa) **'Renewable hybrid energy project'** means a renewable energy project that produces electricity from a combination of renewable energy sources, connected at the same inter-connection point;

(bb) **'Small hydro project'** means a hydro power project with an installed capacity up to and including 25 MW or as defined the Government of India, from time to time at a single

location;

(cc) 'Solar PV power project' means a project that uses sunlight for direct conversion into electricity through photovoltaic technology and is based on technologies such as crystalline silicon or thin film or any other technology as approved by MNRE;

(dd) 'Solar thermal power project' means a project that uses sunlight for direct conversion into electricity through concentrated solar power technology and is based on line focus or point focus principle;

(ee) 'State Nodal Agency' means the Bihar Renewable Energy Development Agency ('BREDA') or such other entity as may be designated by the Commission from time to time.

(ff) 'Storage' means energy storage system utilizing methods and technologies like, solid state batteries, flow batteries, pumped storage, compressed air, fuel cells, hydrogen storage or any other technology, to store various forms of energy and to deliver the stored energy in the form of electricity;

(gg) 'Tariff period' for renewable energy projects will be same as their Useful Life and tariff period shall be considered from the date of commercial operation of such power projects.

(hh) 'Useful Life' in relation to project, including dedicated evacuation system, from the date of commercial operation of such project, shall mean the following: -

S.No	RE Project	Useful Life (Years)
1.	Wind energy power project	25
2.	Bio mass power project with Rankine cycle technology	25
3.	Non-fossil fuel cogeneration project	25

4.	Small Hydro Plant	40
5.	Municipal Solid Waste (MSW)/ and	20
6.	Refuse Derived Fuel (RDF) based power project	25
7.	Solar PV/Solar thermal power project	25
8	Biomass Gasifier based power project	25
9	Biogas based power project	25

(ii) 'Year' means a financial year.

(2)Save as aforesaid and unless repugnant to the context or if the subject matter otherwise requires, words and expressions used in these regulations and not defined, but defined in the Act, or the Indian Electricity Grid Code or Bihar Electricity Grid code or the Central Electricity Regulatory Commission (Terms and conditions of Tariff) Regulations, 2024 shall have the meanings assigned to them respectively in the Act or the Indian Electricity Grid Code or Bihar Electricity Grid code or the Central Electricity Regulatory Commission (Terms and condition Tariff) Regulations, 2024.

3. Scope and extent of application

These regulations shall apply to cases where tariff for a grid connected generating station or a unit thereof commissioned during the Control Period and based on renewable energy sources, is to be determined by the Commission under Section 62 read with Section 86 of the Act:

Provided that in cases of Biomass power based on Rankine cycle, non- fossil fuel-based cogeneration projects, Solar

PV power projects, Solar Thermal power projects, Floating Solar projects, renewable hybrid energy projects, renewable energy with storage projects, Biomass gasifier, Biogas power project, Municipal solid waste and Refuse derived fuel-based power projects, these regulations shall apply subject to the fulfillment of eligibility criteria specified in Regulation 4 of these Regulations.

4. Eligibility Criteria

(a) Wind power project –The project that uses new wind turbine generators and is located at sites, on-shore or off-shore, approved by State Nodal Agency or Appropriate Government.

(b) Small hydro project – The project that uses new plant and machinery and is located at sites approved by State Nodal Agency or Appropriate Government.

(c) Biomass power project with Rankine cycle technology – The project that uses new plant and machinery, is based on Rankine cycle technology, and does not use any fossil fuel.

d) Non-fossil fuel based co-generation project – The project that uses new plant and machinery, and is based on topping cycle mode of co-generation. **Topping cycle mode of co-generation –** Any facility autosensing-fossil fuel input for the power generation and also utilizes the thermal energy generated for useful heat applications in other industrial activities simultaneously:

Provided that for the co-generation facility to qualify under topping cycle mode, the sum of useful power output and one half the useful thermal output be greater than 45% of the facility's energy consumption, during crushing season. **Explanation-** For the purposes of this clause.

(i) **'Useful power output'** is the gross electrical output from the generator. There will be an auxiliary consumption in the cogeneration plant itself (e.g. electricity Consumption in running the boiler feed pump, the FD/ID fans and other electrical appliances which are necessarily required to run in course of production of electricity, as being an essential component of the generation system (cycle) as per technological requirement. In order to compute the net power output, it would be necessary to subtract the auxiliary consumption from the gross output. For simplicity of calculation, the useful power output is defined as the gross electricity (kWh) output from the generator.

(ii) **'Useful Thermal Output'** is the useful heat (steam) that is provided to the process by the cogeneration facility.

(iii) **'Energy Consumption'** of the facility is the useful energy input that is supplied by the fuel (normally bagasse or other such biomass).

(iv) **'Topping Cycle** means a co-generation process in which thermal energy produces electricity followed by useful heat application.

(v) Solar Power project, floating solar project and solar thermal power project – The project is based on technologies approved by MNRE.

Provided that floating solar project installed with existing renewable energy project other than ground mounted- Solar PV project shall be treated as renewable hybrid energy project.

(vi) Renewable hybrid energy project– The rated capacity of generation from one renewable energy source is at least 25% of the rated capacity of generation from other renewable energy source(s), which operate at the same point of interconnection.

Provided that energy is injected into grid at the same interconnection point and metering is done at such common interconnection point accordingly.

(vii) Biomass gasifier based power project– The project uses new plant and machinery, and has a grid connected system that uses 100% producer gas engine, coupled with gasifier technologies approved by MNRE.

(viii) Biogas based power project – The project uses new plant and machinery and has a grid connected system that uses 100% biogas fired engine, coupled with biogas technology for Co-digesting agriculture residues, manure and other bio-waste as approved by MNRE.

(ix) Municipal solid waste based power projects– The project uses new plant and machinery based on Rankine cycle technology, and uses municipal solid waste as fuel for producing electricity.

(x) Refuse derived fuel based power projects – The project uses new plant and machinery based on Rankine cycle technology, and uses refuse derived fuel for producing electricity.

Chapter 1: General Principles

5. Control Period

The Control Period or Review Period under these Regulations shall be of three (3) years, of which the first year shall be the financial year 2025-26.

The tariff determined as per these Regulations for the RE projects commissioned during the Control Period, shall continue to be applicable for the entire duration of the Tariff Period as specified in Regulation 6 below.

Provided that the revision in Regulations for next Control Period shall be undertaken six months prior to the end of the Control Period and in case Regulations for the next Control Period are not notified until commencement of next Control Period, the tariff norms as per these Regulations shall continue to remain applicable until notification of the revised Regulations subject to adjustments as per revised Regulations.

6. Tariff Period

a) The Tariff Period for Renewable Energy power projects will be same as their Useful Life as defined in Regulation 2 (hh) of these Regulations.

b) Tariff period under these Regulations shall be considered from the date of start of commercial operation of the renewable energy generating stations.

c) Tariff determined as per these Regulations shall be applicable for Renewable Energy power projects, for the duration of the Tariff Period as stipulated under Clause(a) and(b).

7. Competitive Bidding for procurement of power generated by grid connected RE Projects

(a) Notwithstanding anything contained in these Regulations, the Commission shall adopt the tariff, if such tariff has been determined through a transparent process of bidding in accordance with the guidelines issued by the Central Government, as envisaged under Section 63 of the Act.

(b) The tariff shall generally be determined through a transparent process of competitive bidding in accordance with the Guidelines issued by the Central Government under Section 63 of the Act, inter-alia for the following types of RE Projects:

i) Solar PV power projects;

ii) Solar Thermal power projects;

iii)Floating Solar power projects;

iv) Renewable hybrid energy projects;

v) Renewable with Storage projects;

The Commission may adopt the tariff for a RE Power Project where such tariff has been determined through a transparent process of competitive bidding in accordance with the Guidelines issued by the Central Government under Section 63 of the Act subject to its prudence check under section 86(1)(b) of the Act.

Project Specific tariff

(1) Further, the Project Specific Tariff, under section 62 of the Act may be determined on case to case basis by the Commission for following types of projects:

(i) Biomass Projects, Biomass gasifier based power projects, and biogas based power projects – if a project developer opts for project specific tariff;

(ii) Solar PV power projects, floating solar projects and Solar Thermal Power Projects;

(iii) Municipal solid waste based power projects and refuse derived fuel based municipal solid waste power projects – if a project developer opts for project specific tariff;

(iv) Renewable energy with storage projects;

(v) Other hybrid projects include renewable–renewable or renewable–conventional sources, for which renewable technology is approved by MNRE;

(vi) Any other new renewable energy technologies approved by MNRE.

Determination of Project specific tariff for generation of electricity from such renewable energy sources shall be in accordance with such terms and conditions as stipulated under relevant Regulations/ Orders of BERC/CERC.

Provided that the financial norms as specified under these Regulations, except for capital cost, shall be ceiling norms while determining the project specific tariff.

(2) A petition for determination of project specific tariff shall be accompanied by such fee as may be determined by Regulations and shall be accompanied by:

a) Information in forms 1.1, 1.2, 2.1 and 2.2 as the case may be, and as appended in the regulations.

b) Detailed project report outlining technical and operational details, site specific aspects, premise for capital cost and financing plan etc.

c) A statement of all applicable terms and conditions and expected expenditure for the period for which tariff is to be determined.

d) A statement containing full details of calculation of any subsidy and incentive received, due or assumed

to be due from the Central Government and/or State Government. This statement shall also include the proposed tariff calculated without consideration of the subsidy and incentive.

e) Consent from the beneficiary for procurement of power from renewable energy project, unless such requirement has been exempted by the Central or State Government; and

f) Following documents in case of a petition for determination of project specific tariff by renewable energy projects, where tariff from such renewable energy sources is generally determined through a competitive bidding process in accordance with provisions of Section 63 of the Act:

i. Rationale for opting project specific tariff instead of competitive bidding; and

ii. Competitiveness of the proposed tariff vis-à-vis tariff discovered through competitive bidding/ tariff prevalent in the market.

e) Any other information that the Commission requires the petitioner to submit.

(3) The proceedings for determination of tariff shall be in accordance with the BERC (Conduct of Business) Regulations, 2005 and other extant applicable Regulations.

8. Petition and proceedings for determination of tariff

(1) The generic tariff shall be determined by the Commission on annual basis in accordance with these Regulations for the following types of renewable energy projects, for which norms have been specified under the Regulations:

a) Biomass power project based on Rankine cycle technology;

b) Non-fossil fuel based cogeneration projects.

c) Biomass gasifier power project.

d) MSW/RDF power projects.

The generic tariff determined for a particular type of RE project for the year in which an RE project is commissioned, shall be applicable for such RE Project of same type and shall remain valid for the tariff period.

9. Tariff Structure

The tariff for renewable energy sources shall consist of the following components:

(a) Return on equity;

(b) Interest on loan;

(c) Depreciation;

(d) Interest on working capital;

(e) Operation and Maintenance expenses;

For renewable energy projects having fuel cost component, like biomass power projects with Rankine cycle technology, biomass gasifier based power projects, biogas based power projects, non-fossil fuel based co-generation projects and refuse derived fuel based power projects, single part tariff with two components, fixed cost component and fuel cost component, shall be determined.

10. Tariff Design

(1) The generic tariff shall be determined, on levelized basis, considering the year of commissioning of the project, for the tariff period of the project:

Provided that for renewable energy projects having single part tariff with two components, fixed cost component shall be determined on levelized basis considering the year of commissioning of the project while fuel cost component shall be determined

on year of operation basis in the Tariff Order to be issued by the Commission.

(2) For the purpose of levelized tariff computation, discount factor equivalent to post-tax weighted average cost of capital shall be considered.

(3) The above principles shall also apply for project specific tariff.

11. Treatment for Over-Generation

In case a renewable energy project, in a given year, generates energy in excess of the capacity utilization factor or plant load factor, as the case may be specified under these Regulations, the renewable energy project may sell such excess energy in the market under bilateral or collective transactions, provided that the first right of refusal for such excess energy shall vest with the concerned beneficiary. In case the concerned beneficiary purchases the excess energy, the tariff for such excess energy shall be equal to the tariff applicable for that year.

12. Dispatch principles for electricity generated from Renewable Energy Sources:

(1) All renewable energy power plants except for biomass power plants with installed capacity of 10 MW and above, and non-fossil fuel based cogeneration plants shall be treated as 'MUST RUN' power plants and shall not be subjected to 'merit order dispatch' principles.

(2) The biomass power generating station with an installed capacity of 10 MW and above and all non-fossil fuel based co-generation projects shall be subjected to scheduling and dispatch code as specified under extant Bihar Electricity Grid Code (BEGC) and BERC (Deviation Settlement

Mechanism and Related Matters) Regulations including amendments thereto.

(3) Scheduling of wind and solar energy shall be governed asper the aforesaid provisions of Bihar Electricity Grid Code (BEGC) and BERC (Deviation Settlement Mechanism and Related Matters) Regulations including amendments thereto.

Chapter 2: Financial Principles

13. Capital Cost

Norms for capital cost, as specified in relevant chapters of these regulations, shall be inclusive of land cost, pre-development expenses, all capital works including plant & machinery, civil work, erection, commissioning, financing cost, interest during construction, and evacuation infrastructure up to inter-connection point.

Provided that for project specific tariff determination, the generating company shall submit the break-up of capital cost items along with its petition in the manner specified under Regulation 8.

14. Debt Equity Ratio

a. For determination of generic tariff and project specific tariff, the debt equity ratio shall be considered as 70:30.

Provided that, for project specific tariff, where the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan;

Provided further that for project specific tariff where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff;

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

Provided also that debt equity ratio shall be considered after deducting the amount of Grant or capital subsidy, if any, received for the project for arriving at the amount of debt and equity; and 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 utilized for meeting the capital expenditure of the renewable energy project.

b. The project developer shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the renewable energy project.

15. Loan Tenure and Interest on Loan

(1) Loan Tenure

For determination of generic tariff and project specific tariff, loan tenure of 15 years shall be considered.

(2) Interest on Loan

(a) The loans arrived at in the manner indicated in Regulation 14 shall be considered as gross normative loan for calculation for interest on loan. For project specific tariff, the normative loan outstanding as on 1st of April of every year shall be worked out by deducting the cumulative repayment up to 31st March of previous year from the gross normative loan.

(b) For the purpose of computation of tariff, normative interest

rate of two hundred (200) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months shall be considered.

(c) Notwithstanding any moratorium period availed by Project developer, 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.

16. Depreciation

a. The value base for the purpose of depreciation shall be the capital cost of the project admitted by the Commission. The salvage value of the project shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the project:
Provided that, no depreciation shall be allowed to the extent of grant or capital subsidy received for the project.

b. Depreciation rate of 4.67 % per annum for first 15 years and remaining depreciation to be spread during remaining useful life of the RE projects considering the salvage value of the project as 10% of project cost shall be considered.

c. Depreciation shall be computed from the first year of commercial operation;
Provided that, for determination of project specific tariff, in case of commercial operation of the project for part of the year, depreciation shall be computed on pro-rata basis.

17. Return on Equity

a. The value base for equity shall be as determined under Regulation 14.

b. The normative Return on Equity shall be 14%. The normative Return on Equity shall be grossed up by the latest available notified Minimum Alternate Tax (MAT) rate for the first 20 years of the Tariff Period and by the latest available notified Corporate Tax rate for the remaining Tariff Period.

18. Interest on Working Capital

a. The Working Capital requirement in respect of solar PV power projects, floating solar projects, solar thermal power projects, municipal solid waste based power projects and refuse derived fuel based power projects and renewable energy with storage projects shall be computed in accordance with the following:

i. Operation and Maintenance expenses for one month;

ii. Receivables equivalent to 45 days of tariff for sale of electricity calculated on normative Capacity Utilization Factor; and

iii. Maintenance spares equivalent to 15% of Operation and Maintenance expenses.

b. The Working Capital requirement in respect of biomass power projects with Rankine cycle technology, biomass gasifier based power projects and non-fossil fuel based co-generation projects shall be computed in accordance with the following:

i. Fuel costs for four months equivalent to normative Plant Load Factor; however, in case of non-fossil fuel co-generation, fuel cost for one month will be considered.

ii. Operation and Maintenance expense for one month;

iii. Receivables equivalent to 45 days of tariff for sale of electricity calculated on the plant load factor; and

iv. Maintenance spares equivalent to 15% of Operation and Maintenance expenses.

c. In case of renewable hybrid energy projects, the Working Capital requirement shall be sum of the Working Capital requirement determined as per norms applicable for respective renewable energy sources, in proportion to their rated capacity in the project.

d. Interest on Working Capital shall be at interest rate equivalent to the normative interest rate of three hundred and twenty five (325) basis points above the average State Bank of India Marginal Cost of Funds based Lending Rate (MCLR) (one-year tenor) prevalent during the last available six months.

19. Calculation of capacity utilization factor and plant load factor:

The number of hours in a year for calculation of capacity utilization factor and plant load factor, as the case may be, shall be considered as 8766.

20. Operation and Maintenance Expenses

a. 'Operation and Maintenance or O&M expenses' shall comprise of repair and maintenance (R&M), establishment including employee expenses, and administrative and general expenses.

b. Operation and Maintenance expenses shall be determined for the Tariff Period of the project based on normative O&M expenses specified in these regulations for the first year of the Control Period.

c. Normative O&M expenses allowed during first year of the Control Period i.e. financial year 2022-23 under these regulations shall be escalated at the rate of 3.84% per annum for the Tariff Period.

21. Rebate

a. For payment of bills of the generating company through revolving and valid letter of credit on presentation or through National Electronic Fund Transfer (NEFT) or Real Time Gross Settlement (RTGS) payment mode within a period of 5 days of presentation of bills, a rebate of 1.5% on bill amount shall be allowed.

   Explanation: In case of computation of '5 days', the number of days shall be counted consecutively without considering any holiday. However, in case the last day or 5^{th} day is official holiday, the 5^{th} day for the purpose of rebate shall be construed as the immediate succeeding working day.

b. Where payments are made on any day after 5 days within a period of one month from date of presentation of bills by the generating company, a rebate of 1% shall be allowed.

22. Late payment surcharge

In case the payment of any bill for charges payable under the regulations is delayed beyond a period of 45 days from the date of presentation of bills, a late payment surcharge at the rate of 1.5% per month shall be levied by the generating company.

23. Subsidy or incentive by the Central or the State Government

a. The Commission shall take into consideration any incentive, grant or subsidy from the Central or State Government, including accelerated depreciation benefit, availed by the project, while determining the tariff under these regulations:

   Provided that the following principles shall be considered for ascertaining income tax benefit on account of accelerated depreciation, if availed, for the purpose of tariff determination:

i) Assessment of benefit shall be based on normative capital cost, accelerated depreciation rate and corporate income tax rate as per relevant provisions of Income Tax Act, 1961 as amended from time to time; and

ii) Capitalization of renewable energy projects during second half of the fiscal year.

iii) Per unit benefit shall be derived on levelized basis at discount factor equivalent to weighted average cost of capital.

b. Any grant, subsidy or incentives availed by renewable energy project, which is not considered at the time of determination of tariff, shall be deducted by the beneficiary in subsequent bills after receipt of such grant, subsidy or incentive in suitable instalments or within such period as may be stipulated by the Commission.

c. In case the Central or State Government or their agencies provide any generation-based incentive, which is specifically over and above the tariff, such incentive shall neither be taken into account while determining the tariff nor be deducted by the beneficiary in subsequent bills raised by the particular Renewable energy project.

24. Statutory Charges

The renewable energy project developer shall recover from the beneficiaries, the statutory charges imposed by the State and Central Government such as water cess, electricity duty on auxiliary consumption subject to maximum of normative auxiliary consumption.

Chapter 3: Parameters for biomass power projects based on Rankine cycle technology

26. Capital Cost

a. The normative capital cost for first year of the Control Period i.e. financial year 2025-26 shall be as under:

Biomass power projects based on Rankine cycle technology	Capital Cost (₹ lakhs/ MW)
Project (other than rice straw and juliflora (plantation) based project) with water-cooled condenser	638
Project (other than rice straw and Juliflora (plantation) based project) with air-cooled condenser	685
For rice straw and juliflora (plantation) based project with water-cooled condenser	697
For rice straw and juliflora (plantation) based project with air-cooled condenser	744

b. The capital cost for biomass power projects based on Rankine cycle technology as specified for first year of the Control Period shall remain valid for the entire duration of the Control Period unless reviewed earlier by the Commission.

27. Plant Load Factor

For the purpose of determination of tariff, the Plant Load Factor Shall be considered as 80%.

28. Auxiliary Consumption

The normative auxiliary consumption shall be as follows: -

a) For projects using water-cooled condenser:10%

b) For projects using air-cooled condenser: 12%

29. Station Heat Rate

The Station Heat Rate shall be:

a) For projects using travelling grate boilers: 4200 KCal/KWh

b) For projects using AFBC boilers: 4125 KCal/KWh

30. Operation and Maintenance expenses

Normative O&M Expenses for the first year of the Control Period i.e. financial year 2025-26 shall be ₹56.05 lakhs per MW and shall be escalated at the rate at the rate specified in Regulation 20 of these Regulations for the Tariff Period.

31. Use of Fossil Fuel

The use of fossil fuels shall not be allowed:

Provided that for biomass power projects based on Rankine cycle technology commissioned on or before 31.03.2017, use of fossil fuels to the extent of 15% in terms of gross calorific value on annual basis, shall be allowed for the Useful Life of the project from the date of commercial operation.

32. Gross Calorific Value

The gross calorific value of biomass fuel, for the purpose of determination of tariff, shall be at 3100 KCal/kg.

33. Fuel Cost

Biomass fuel price during first year of the Control Period i.e. financial year 2025-26 shall be ₹4472.72/ MT and shall be escalated at the rate of 3.45% per annum to arrive at the base price for subsequent years of the Control Period, unless reviewed earlier by Commission. For the purpose of determining levelized tariff, a normative escalation factor of 3.45% per annum shall be applicable on biomass fuel price.

Chapter 4: Parameters for non-fossil fuel based co-generation Projects

34. Capital Cost

Normative capital cost for the non-fossil fuel based co-generation projects shall be ₹ 562 lakhs/MW for the first year of Control Period i.e. financial year 2025-26 and will remain valid for the entire duration of the Control Period unless reviewed by the Commission.

35. Plant Load Factor

The plant load factor shall be considered as 53% for the computation of tariff.

36. Auxiliary Consumption

The auxiliary consumption shall be considered as 8.5% for the computation of tariff.

37. Station Heat Rate

The Station Heat Rate of 3600 KCal/ KWh for power generation component alone shall be considered for computation of tariff for non-fossil fuel based co-generation projects.

38. Gross Calorific Value

The gross calorific value for bagasse shall be considered as 2250 KCal/kg. For the use of biomass fuels other than bagasse, gross calorific value as per SHR specified under Regulation 37 shall be applicable.

39. Fuel Cost

a. The price of bagasse for first year of the Control Period i.e. financial year 2025-26 shall considered as ₹2859.32/ MT and shall be escalated at the rate of 3.45% per annum to arrive at the base price for subsequent years of the Control Period, unless specifically reviewed by Commission. For the purpose of determining levelized tariff, a normative escalation factor of 3.45% per annum shall be applicable on bagasse prices.

b. For use of biomass other than bagasse in non-fossil fuel based co- generation projects, the biomass prices as specified under Regulation 33 shall be applicable.

40. Operation and Maintenance expenses

Normative O&M expenses during the first year of the Control Period, i.e. financial year 2025-26, shall be ₹29.60 lakhs per MW and shall be escalated at the rate specified in Regulation 20 of these Regulations for Tariff Period.

Chapter 5: Parameters for biomass gasifier based power projects

41. Capital Cost

Normative capital cost for biomass gasifier based power projects shall be ₹677 lakhs/MW during first year of Control Period i.e. financial year 2025-26 and will remain valid for the entire duration of the Control Period unless reviewed earlier by the Commission.

42. Plant Load Factor

Plant load factor for determination of tariff shall be considered as 85%.

43. Auxiliary Consumption

The auxiliary consumption shall be considered as 10% for the determination of tariff.

44. Specific fuel consumption

Normative specific fuel consumption shall be 1.25 kg per kWh.

45. Operation and Maintenance expenses

Normative O&M expenses for the first year of the Control period i.e. financial year 2025-26 shall be ₹ 74.02 lakhs per MW and shall be escalated at the rate specified in Regulation 20 of these Regulations for Tariff Period.

46. Fuel Cost

Biomass fuel price for biomass gasifier-based power projects shall be the same as for biomass power project based on Rankine cycle technology as mentioned.

Chapter 6: Parameters for municipal solid waste based power projects and refuse derived fuel based power projects.

47. Capital Cost

Capital Cost. —The capital cost for the power projects which use MSW based on Rankine Cycle Technology shall be ₹1500 Lakhs/MW and for refuse derived fuel based Power Plant shall be ₹900 Lakhs/MW

47. Plant Load Factor

a. Plant load factor for determining tariff for municipal solid waste based power project sand refuse derived fuel-based power projects shall be:

Sl. No.	Plant load factor	MSW	RDF
a)	During stabilization period	65%	65%
b)	During the remaining period of the first year (after stabilization period)	65%	65%
c)	2nd year onwards	75%	80%

b. The stabilization period shall not be more than 6 months from the date of commercial operation of the project.

48. Auxiliary Consumption

The auxiliary consumption for determination of tariff shall be considered as 15%.

49. Station Heat Rate

The Station Heat Rate for determination of tariff shall be considered as 4200 Kcal/KWh.

50. Operation and Maintenance Expenses

Normative O&M expenses for the first year of the Control period i.e. financial year 2025-26 shall be ₹75.67 lakhs per MW for RDF and 126.10 lakhs per MW for MSW project sand shall be escalated at the rate specified in Regulation 19 of these Regulations for Tariff Period

51. Gross Calorific Value

a. The gross calorific value of RDF for the purpose of determination of tariff shall be at 2500 Kcal/kg.

b. The gross calorific value of MSW shall be determined by the Commission on a case to case basis while determining the project specific tariff.

52. Fuel-Cost

a. Price of refuse derived fuel during financial year 2025-26 shall be considered as ₹2620.49 per MT and shall be escalated at the rate of 3.45% per annum to arrive at the base price for subsequent years of the Control Period, unless specifically reviewed by Commission. For the purpose of determining levelized tariff,
a normative escalation factor of 3.45% per annum shall be applicable.

Fuel cost shall be considered as nil for municipal solid waste:

Provided that the Commission may consider allowing transportation cost of such fuel while determining the project specific tariff.

Chapter 7: Parameters for solar PV power projects, solar thermal power projects and floating solar projects

53. Capital Cost

The Commission shall determine only project specific capital costs considering the prevailing market trends.

54. Capacity Utilization Factor

The Commission shall only approve capacity utilisation factors for project specific tariffs:

Provided that the minimum capacity utilization factor for solar PV power projects shall be 19%:

Provided further that the minimum capacity utilization factor for solar thermal power projects shall be 23%:

Provided also that the minimum capacity utilisation factor for floating solar projects shall be 19%.

55. Operation and Maintenance expenses

The Commission shall determine only project specific O&M expenses considering the prevailing market trends.

56. Auxiliary Consumption

The Commission shall only approve auxiliary consumption for project specific tariffs:

Provided that the maximum auxiliary consumption for solar PV power projects shall be 0.75%;

Provided further that the maximum auxiliary consumption for solar thermal power projects shall be 10%;

Provided also that the maximum auxiliary consumption for floating solar projects shall be 0.75%.

Chapter 8: Parameters for renewable energy with storage project

57. Capital Cost

The Commission shall determine only project specific capital costs for renewable energy with storage projects considering the prevailing market trends.

58. Storage Efficiency

(1) The Commission shall approve the storage efficiency only for project specific tariffs:

Provided that the minimum efficiency for storage based on the technology of solid state batteries shall be 85%:

(2) Efficiency of the storage component of renewable energy with a storage project shall be measured as the ratio of output energy received from storage and input energy supplied to the storage component of such project on an annual basis.

59. Operation and Maintenance expenses

The Commission shall determine only project specific O&M expenses considering the prevailing market trends.

60. Tariff determination for Energy Storage

The tariff for renewable energy with storage project shall be a composite tariff or differential tariff based on the time of day, determined for energy supplied from the Project, including the energy supplied from the storage facility:

Provided that such tariff may be determined for the supply of power on round the clock basis or for time periods as agreed by the Project Developer and Beneficiary.

Chapter 9: Parameters for Renewable Hybrid Energy Projects

61. Capital Cost

The capital cost shall be determined on a project specific basis considering the prevailing market trends.

62. Capacity Utilization Factor

(1) The Commission shall determine only project specific capacity utilisation factor in respect of renewable hybrid energy projects, taking into consideration the proportion of rated capacity of each renewable energy source, as the case may be,
and applicable capacity utilisation factor for such renewable energy sources, as the case may be.

Provided that the minimum capacity utilization factor for renewable hybrid energy projects shall be 30% when measured at the inter-connection point, where the energy is injected into the grid.

63. Operation and Maintenance expenses

The Commission shall determine only project specific O&M expenses considering the prevailing market trends.

64. Tariff

The tariff for a renewable hybrid energy project shall be a composite levelised tariff for the project as a whole by factoring in the tariff components up to the minimum of the useful life of the RE technologies combined for such RE hybrid Project:

Provided that, in case any of the RE technologies combined for the RE hybrid project is left with a further useful life, the levelised tariff for the remaining useful life of such RE technology shall be determined separately by factoring in the tariff components for the remaining useful life.

Chapter 10: Miscellaneous

65. Deviation from norms

Tariff for electricity generated from a generating station based on renewable energy sources, may also be agreed between the generating company and beneficiary, in deviation from the norms specified in these regulations:

Provided that the levelized tariff of the project calculated on the basis of the norms specified in these regulations shall be the ceiling levelized tariff.

66. Guidelines of Competent Authority

Policy/guidelines issued by the Ministry of Power, Government of India, MNRE, State Government and any other competent authority in this regard from time to time shall prevail.

67. Power to Relax.

The Commission may by general or special order, for reasons to be recorded in writing, and after giving an opportunity of hearing to the parties likely to be affected may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.

68. Power to remove difficulties

If any difficulty arises in giving effect to the provisions of these regulations, the commission may, be general or specific order, make such provisions not inconsistent with the provisions of the Act, as may appear to be necessary for removing the difficulty.

69. Power to Amend

The Commission may from time to time add, vary, alter, modify or amend any provisions of these regulations on its own motion or on any application made before it by an interested person.

70. Repeal and savings.

Save as otherwise provided in these regulations, Bihar Electricity Regulatory Commission (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2017 and its amendments are hereby repealed.

By Order of the Commission

Sd/-

Secretary